

Share Buybacks and Shareholder Equity

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ABSTRACT

Off market share buybacks by Australian companies have involved complicated tax arrangements which generally lead to participation only by low marginal tax rate shareholders. This has led to many commentators raising questions in the financial press about equitable treatment of shareholders. We develop a simple model which enables us to derive a method of assessing whether buyback terms are equitable across shareholder groups which is then used to examine the Australian data. Definitive results hinge upon the contentious issue of the market value ascribed to franking credits, but it appears that buyback characteristics have meant a transfer of corporate value in favour of low marginal tax rate shareholders at the expense of high marginal tax rate shareholders.

KEYWORDS: Buybacks, Repurchases, Taxation

JEL Classification: G32, G35, H20

Introduction

Off market share buybacks, structured to achieve certain tax advantages, have been popular in Australia in recent years, but have also attracted much criticism from commentators in the financial press, such as Sellars-Jones (2006). Underpinning that criticism has been the complaint that such buybacks favour one group of shareholders to the detriment of others. This important issue of shareholder equity arises because of the unusual tax treatment applied to Australian buybacks which also leads to the unusual outcome of buybacks occurring at a substantial discount to the prevailing market price.

In this paper we develop a theoretical framework which enables us to analyse this criticism and devise a method of empirically testing it. On examining the empirical evidence, we find that the criticism has validity, although that conclusion hinges upon the vexed question of the market valuation of franking credits. This conclusion raises several questions about the merits of this form of capital management by Australian companies, on the grounds of shareholder equity.

In section one of the paper we provide information on how these off market buybacks are structured and on the extent of usage. In section two we outline in more detail the cause of concerns about equity of shareholder treatment. Section three contains our analytical model which generates a simple test for assessing whether equitable treatment prevails. Section four presents data on the characteristics of Australian off market buybacks completed to date and undertakes a test of the hypothesis that inequitable treatment of different shareholder groups occurs. Section five concludes by raising policy issues resulting from our findings.

1. *The Structure and Use of Off Market Buybacks*

One of the most prominent trends in recent decades has been the rise of share repurchases as an important method of cash distribution to shareholders. In the US, Grullon and Michaely (2002) show that share repurchases grew at an average rate of 26.1% over the period 1980 – 2000 and surpass ordinary dividends in the dollar value of cash distributed to shareholders from 1999 onwards. The history of repurchases in Australia is much shorter and essentially begins with the First Corporations Simplification Bill of December 1995 after which the growth in repurchases in Australia escalated. For a comprehensive overview of the laws governing share buybacks in Australia see Mitchell and Robinson (1999) and Lamba and Ramsay (2005).

Companies can repurchase shares in the ordinary course of trading on the stock exchange. These repurchases are known as on-market repurchases. This paper focuses upon off market buybacks which take the form of equal access repurchases. An equal access buyback is one in which the company makes an offer to repurchase shares from all eligible shareholders at a price which is either fixed by the company or determined by a tender process. Other forms off market repurchases include selective buybacks and minimum holding buybacks. Selective buybacks are those where shares are acquired at a specified price from specified shareholders, to the exclusion of others, while minimum holding buybacks aim to buy back all of a holder's shares if the number of shares held is less than a "marketable" parcel. Brown (2004) provides more detail.

The peculiar feature of off market buybacks in Australia is that they typically specify that some part of the repurchase price is to take the form of a dividend to which is attached franking (tax) credits. The remainder is regarded as the capital component (or sale price for capital gains tax purposes, subject to some adjustment described below).

A company seeking to undertake an equal access repurchase where some part of the payment made is to be treated as a dividend must seek a ruling from the Commissioner of Taxation regarding the tax treatment to be applied, prior to announcing the buyback. The dividend and capital component breakdown is determined in accordance with two sections of the Income Tax Assessment Act (ITAA) 1936 by reference to how the company accounts for the off-market buyback. Section 159GZZZP provides that when the buyback occurs off-market the difference between the purchase price and the portion of the buyback price (if any) which is debited against the share capital account is taken to be a dividend paid by the company to the seller on the day the buyback occurs. The calculation of capital gains or losses (for noncorporate shareholders¹) arising from the sale of shares under the buyback is determined under Section 159GZZZQ.² As a consequence of this treatment the deemed dividend portion can be “fully franked”, which means that Australian resident shareholders are entitled to an income tax credit representing the Australian corporate tax paid by the company in respect of the profits from which the deemed dividend is derived³. As a result of this treatment the residual capital

¹ Prior to July 2003 (when the intercorporate rebate was abolished) resident corporate shareholders entitled to the intercorporate dividend rebate on the dividend arising from the buyback generally did not incur a capital gain, but could claim a capital loss only if the cost base of the shares exceeded the repurchase price.

² Subsection 159GZZZQ(2) is applied to establish the sale price of the shares for the capital gains tax calculation.

³ Australia operates under a dividend imputation system, where dividends may have franking credits attached to them that allow shareholders to claim the tax paid at the company level as a credit against

component can be quite low. This may result in participating shareholders selling their shares into the buyback at a capital loss (depending on the cost base).

In 1997 the Australian Tax Office gave the first approval for an off market repurchase with a deemed dividend component. The Commissioner of Taxation gave approval to a proposal by the Commonwealth Bank of Australia to undertake an off market buyback in which a relatively small portion (41 percent) of the buyback price was deemed to be the capital component (or sale price for capital gains tax purposes) with the remainder being deemed to be a franked dividend. The company thus distributed \$164.5million of previously undistributed franking credits to shareholders participating in the buyback.

Since then there have been (up to mid 2006) around 46 equal access buybacks⁴ with only 10 of these not involving a franked dividend component. Table 1 provides details from a sample of cases over the period 1997 to 2004 to illustrate salient characteristics. In early cases, the buyback price was set at the time the buyback was announced, but in most recent cases, particularly for the larger buybacks, the buyback price has been determined by means of a Dutch auction tender process as shown in column 9 of Table 1. Shareholders have been invited to submit tenders to sell shares into the buyback at a range of prices, although generally there is some provision for non-competitive offers of small quantities for sale at the price established in the tender.

One important consequence of the tax treatment permitted for buybacks, is that the price resulting from the tender has, in most cases where a franked dividend

their personal income tax liability. Australian resident individuals, complying superannuation funds, registered organisations and life assurance companies may use distributed franking credits to offset their tax liabilities.

⁴ Selective buybacks are not included in this total. Firms that used the buyback as a means of privatising, or those that were delisted from the exchange within a month of completing the buyback are also not counted in the total.

component was involved, led to a buyback price less than the prevailing market price. In the case of Dutch auctions the indicative price range specified at the announcement of the buyback generally has an upper limit below the current market price of the shares. Columns 5 and 6 of Table 1 illustrate the size of the discounts relative to market price which have occurred, using the share price on the announcement date and the share price on the ex-date of the buyback respectively.⁵ For the sample of companies shown in Table 1 a large portion of the companies executed the buyback at a substantial discount to market price. For example, in the CBA 1999 buyback illustrated in Table 1, the share price was \$24.81 at the time of announcement and \$26.15 when the tender period closed, but the buyback price was set at \$23.78. This is in distinct contrast to the typical result found overseas, where the buyback price is at a premium to the market price.

⁵ The ex-date is the date on which the shares first trade without the entitlement to participate in the buyback.

Table 1. Buyback Characteristics

ASX Code	Date announced	Final Buyback Price	Capital component (\$)	Discount Market Price at		Shares bought back as % of		Dutch Vs fixed
				t=0	ex-date	Shares issued	Shares sought	
CBA	12/11/1997	\$17.08	\$7.00	-0.1%	1.6%	4.0	100	Fixed
CBA	10/02/1999	\$23.78	\$9.00	4.2%	6.3%	2.9	100	Fixed
SEV	11/03/1999	\$5.00	\$5.00	-13.6%	1.8%	20.4	100	Dutch
CBA	30/09/1999	\$27.00	\$27.00	-11.8%	-11.0%	2.2	74	Dutch
WOW	14/02/2000	\$4.92	\$2.45	3.9%	3.0%	8.7	100	Fixed
LLC	18/08/2000	\$19.88	\$7.00	2.6%	1.6%	17.2	69	Fixed
CBA	13/02/2001	\$27.84	\$10.00	7.2%	6.5%	2.0	100	Fixed
IAG	2/03/2001	\$2.72	\$1.78	2.5%	1.4%	9.6	100	Fixed
BOQ	6/04/2001	\$6.45	\$3.15	-3.0%	1.7%	5.9	100	Fixed
WOW	30/04/2001	\$8.70	\$2.88	3.1%	4.7%	3.7	100	Fixed
IAG	6/05/2002	\$3.05	\$1.78	11.3%	10.0%	7.0	70	Fixed
SEV	27/08/2002	\$5.80	\$2.03	-13.7%	-12.8%	13.4	67	Dutch
WOW	24/02/2003	\$11.40	\$2.88	-1.2%	0.3%	4.4	68	Dutch
TLS	3/10/2003	\$4.20	\$1.50	15.8%	14.1%	1.9	92	Dutch
SEV	24/10/2003	\$5.80	\$3.48	-0.2%	2.2%	13.4	67	Dutch
FGL	6/11/2003	\$4.00	\$1.81	8.7%	8.9%	7.6	88	Dutch
CBA	11/02/2004	\$27.50	\$11.00	13.2%	14.6%	1.5	91	Dutch
IAG	30/04/2004	\$4.40	\$1.78	9.5%	7.0%	5.6	94	Dutch
WBC	6/05/2004	\$14.50	\$4.00	16.7%	14.6%	2.1	96	Dutch
TLS	27/09/2004	\$4.05	\$1.50	13.8%	12.7%	3.0	100	Dutch
BHP	5/10/2004	\$12.57	\$3.47	15.3%	16.0%	4.8	100	Dutch

This table shows characteristics of a sample of equal access repurchases over 1997-2004. Column 3 shows the final buyback price and column 4 lists the component of the buyback price that was deemed to be capital. Column 5 (6) "discount/market price" measure the ratio of the discount of the final buyback price to the market price where the market price is given by the share price on the announcement date (ex-date). Note that a negative figure in this column indicates that the final offer price was at a premium to the market price. Column 7 gives the shares bought back as a percentage of shares outstanding. Column 8 gives the shares bought back as a percentage of the number of shares that company was seeking to buy back. Column 9 indicates whether the offer price was fixed or determined by Dutch auction.

The company is able to buyback the shares at a discount because for some shareholders, the tax effects of the buyback make participation in it preferable to holding or selling the shares at the prevailing market price.

Consider, for example, a complying superannuation fund with a 15 per cent marginal tax rate which, several years earlier, had purchased a share for \$5 and which now has a market price of \$10. As shown in Table 2, sale of that share on the market would generate a net after tax cash flow of \$9.500, once tax at 15 per cent had been paid on two-thirds of the \$5 capital gain, as required for superannuation funds under

Australian tax law. (For investors holding the stock for less than one year the entire capital gain would be taxable and the calculations in Table 2 would be amended accordingly).

Suppose, as also shown in Table 2, that the buyback price is \$7.929 of which \$2.00 is deemed to be the sale price for tax purposes and \$5.929 is deemed to be a dividend franked at a 30 per cent tax rate. By participating, the superannuation fund with a 15 per cent tax rate makes a capital loss of \$3.00 which when offset against other realised capital gains in the portfolio reduces tax payable by \$0.300. The franked dividend receipt implies assessable income of $\$5.929/0.7 = \8.470 , tax credits received of \$2.541 and tax assessed of \$1.271, giving a tax refund of \$1.271. The net cash flow is thus also \$9.500 making the superannuation fund shareholder indifferent between participating in the buyback at a buyback price of \$7.929 and selling on market for \$10.00.

Table 2: The Buyback Participation Decision

	15 % tax rate (superfund)		45 % tax rate	
	On-market sale	Buyback participation at \$7.929	On-market sale	Buyback participation at \$7.929
Sale Price	10.000	2.000	10.000	2.000
Purchase Price	5.000	5.000	5.000	5.000
Capital Gain	5.000	-3.000	5.000	-3.000
Tax on gain	0.500	-0.300	1.125	-0.675
Cash amount of Dividend		5.929		5.929
Tax payable/redeemable on dividend		-1.271		1.271
Net After Tax Cash Flow	9.500	9.500	8.875	7.334

The examples assume that the share has been held for more than one year such that the shareholder is eligible for a concessionary rate on the capital gains. Superannuation funds (individual shareholders) are taxed on $2/3$ ($1/2$) of the gain at marginal tax rate t_p . Capital losses are assumed to be used to offset other capital gains. A franked dividend of \$D generates a net tax payment (rebate) of $\$D(t_p - t_c)/(1 - t_c)$, where t_c is the corporate tax rate

2. *Shareholder participation and equity*

Concerns about shareholder equity in off market buybacks arise because the tax consequences mean that it is not attractive for some shareholders to participate. Consider, for example, the consequences for an individual shareholder with a 45 per cent tax rate who participates in the buyback described in Table 2. Although the shareholder is taxed on only 50 percent of the capital gain, the tax benefit on the capital loss is higher (than for the 15 per cent tax rate shareholder) at \$0.675 because of the more concessional tax treatment of capital gains for individuals and the higher marginal tax rate of 45 per cent, but the shareholder will need to pay tax of \$1.271 on the franked dividend. Consequently the after tax cash flow is \$7.334 which is less than the \$8.875 after tax received if the share had been sold at the market price.

Consequently, only low marginal tax rate entities, such as superannuation funds, find it worthwhile to participate. For high marginal tax rates the additional tax payable on the franked dividend component in the buyback, means that a better option is to hold the share or sell on the open market for a concessional tax capital gain. Buyback information booklets distributed to shareholders generally explain the tax consequences of this choice for shareholders with different tax situations.

The issue of equity which arises, and creates concern among commentators, is that participants in the buy-back are receiving franking credits at the expense of non-participants. While governments might legitimately engage in redistributive actions from high to low income earners, company boards are expected to treat all shareholders equally.

But shareholders do have different characteristics, and buybacks may create value for all, by targeting specific tax benefits to those best able to utilise them, at a cost to

those recipients which is given by the buy-back discount. Whether the buyback terms involve a cost-benefit ratio transferring value between shareholder groups is thus a question of particular interest.

One way to check might be to examine the stock market response when a buyback is announced. In this regard, figure 1 (reproduced from Brown (2005)), tells an interesting story. It shows the average share price response around the buyback announcement date (by calculating for each company announcing a buyback how its stock price changed relative to the market index) from 20 days prior to 20 days after the announcement of the buyback.

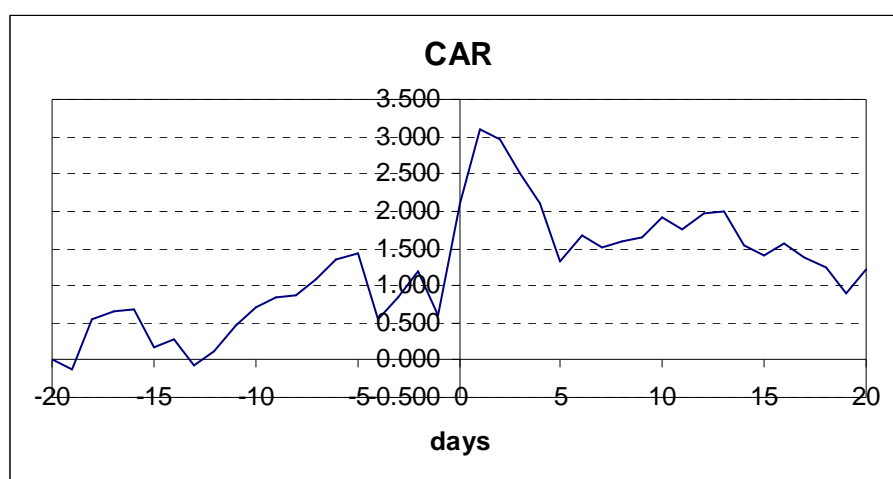


Figure 1: Cumulative abnormal returns for 36 buybacks over 1997-2004

Source: Brown (2006). The appendix contains the sample of companies used in the analysis.

On average, investors think that buybacks are a good idea. The abnormal returns shown for the 36 companies included in the sample used for constructing Figure 1 average 1.5 percent on the announcement date and 1.0 percent on the day after the announcement. Even after a subsequent drop-off (argued by Brown (2006) to reflect the end of a temporary market demand by institutions purchasing stock to participate in, and gain the tax advantages of, the buyback) the average cumulative abnormal returns are in excess of one per cent.

All shareholders are better off because of the higher share price arising from the announcement. Unfortunately (for addressing the question of interest), this may reflect a view that some form of cash payout is good news, not that the method chosen is the best possible, or even desirable. Because the buyback leads to different shareholders being treated differently, some may be capturing an excessive share of the benefits from the cash (plus franking credit) payout at the expense of others. The outcome in each buyback will depend upon the relative size of franked dividend to the discount to market price involved in the buyback.

Brown and Efthim (2006) find that the size of the discount of the offer price to the current share price is significantly positively related to the proportion of the buyback price designated a franked dividend. This is to be expected since the larger discount and consequent lower capital component convey larger tax benefits to certain shareholders who would be willing to sell shares into the buyback to gain access to those tax benefits.

Using only those buybacks which involved a franked dividend from the same sample of 36 buybacks over 1996 to 2004 as is used to produce Figure 1, Figure 2 plots the discount to market price against the capital component (both measured as a ratio to market price). In this figure we have used the share price measured at the announcement date as the market price, although the precise choice of date around the announcement date does not affect the results substantially. The lower the capital component of the buyback price, the greater the tax benefits to participating shareholders (both in terms of distributed franking credits and a lower sale price for capital gains tax calculations) and hence the higher the discount at which the company can offer to buy back the shares. This is reflected in the negative relationship between the discount and capital component evident in Figure 2. The few cases where a

premium occurs are generally buybacks by small companies with some unique features.

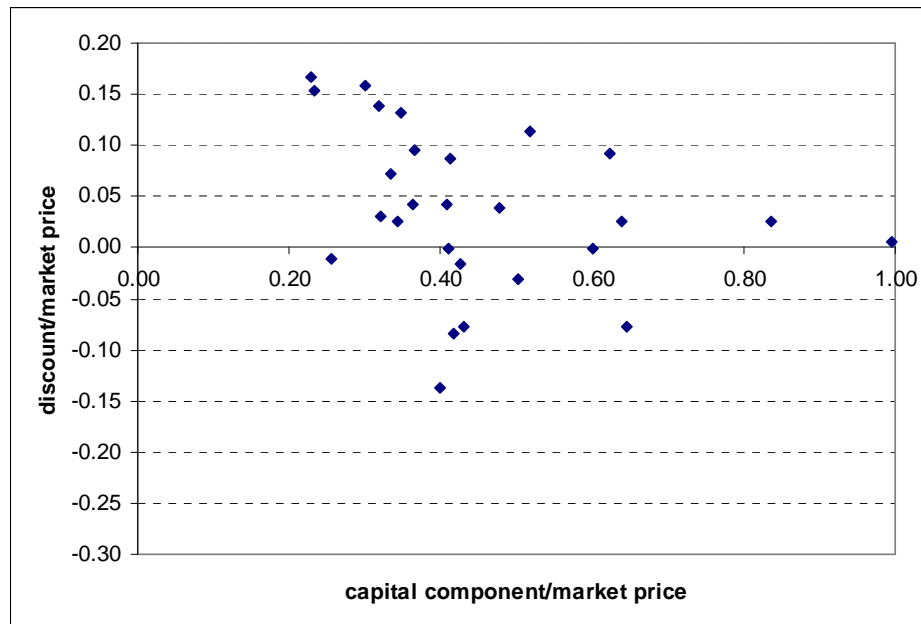


Figure 2. The relationship between buyback discounts and capital components

In the following section we outline a method which enables us to abstract from the information effects which give rise to the share price response on the announcement date. This enables us to compare whether there is a transfer of value from one group of shareholders to another.

3. *Analysis*

Our analysis is based on noting that the market value of a company which has a stock of undistributed franking credits can be viewed as consisting of two components. First, there is the value attributable to future cash flows (including generation of new franking credits) of the company. Second, there is the value attributable to the market valuation of the existing currently undistributed stock of franking credits.

This approach is consistent with the Monkhouse (1993) model of an imputation-tax adjusted CAPM. That formal, one-period, model generates an expression for the market value of equity of a company (Monkhouse's equation (8)). At the start of the period, the equity value is equal to the (discounted value of the) expected cash flow of the company (after interest and company tax payments) plus the market valuation of franking credits distributed with dividends, plus the market valuation of franking credits undistributed at the end of the period.

Our analysis is consistent with the Monkhouse model if it is assumed that cash distributed now, due to the buyback, would have been invested at the required rate of return on equity, and if it is assumed that subsequent dividend policy is unchanged. Making those assumptions enables us to significantly simplify the algebra and provide a method for calculating the impact of an off-market share buyback on different groups of shareholders. We also assume, for simplicity, that the buyback is of the fixed price type.

Assume that the company has $(n_c + n_n)$ shares on issue at a current market price of p , where n_c are those held by shareholders on low tax rates who value franking credits and will participate in a buyback and n_n are those held by shareholders on high tax rates who do not wish to participate.

The value of the company is:

$$V = p(n_c + n_n) = V_A + \gamma FC \quad (1)$$

where V_A is the value of the company ignoring its stock of undistributed franking credits, FC is the stock of undistributed franking credits of the company, and γ is the market valuation of franking credits. (In the context of the Monkhouse (1993), one

period model, V_A corresponds to the end of period, after company tax, cash flow plus the market valuation of franking credits distributed as part of dividend policy).

The buyback at a discount to market price of $\$x$ with some part of the buyback deemed to be a franked dividend involves the purchase of α of the n_c shares at a price of $(p-x)$ and involves distribution of β of the franking credits. The aggregate discount on shares repurchased is $x \alpha n_c$ and the market valuation of franking credits distributed is $\gamma \beta FC$.

It is assumed that the announcement of the buyback does not convey any information to the market which would cause a change in V_A . In practice such an announcement will have valuation effects (as Figure 1 indicates) – but the objective of this analysis is to assess the effects of the type of buyback on different groups of shareholders. Alternatively, at the expense of more complicated algebra, we could compare the outcome of this buyback with a straight return of capital where it is assumed that both have the same effect on V_A .

After the buyback, the company value is reduced to V^* by the cash outflow and decline in undistributed franking credits to be:

$$V^* = V_A - (p-x) \alpha n_c + \gamma(1- \beta)FC \quad (2)$$

Substituting for V_A from equation (1) gives :

$$V^* = p(n_c + n_n) - (p-x) \alpha n_c - \gamma \beta FC \quad (3)$$

With $n_n + (1- \alpha) n_c$ shares now on issue, the new share price is:

$$p^* = p + (x \alpha n_c - \gamma \beta FC)/(n_n + (1- \alpha) n_c) \quad (4)$$

which is greater than p if the aggregate discount $(x \alpha n_c)$ is greater than the value of the franking credits distributed $(\gamma \beta FC)$.

Non-participating shareholders will benefit if the aggregate discount is higher than the market valuation previously given to the franking credits which have now been distributed. In that case the market price of their (unchanged number of) shares will have increased. They will be worse off if the aggregate discount is less than the market valuation previously placed on the franking credits distributed, causing a fall in the share price.

The outcome for participating shareholders appears somewhat more difficult to assess, since they will have sold only a fraction (α) of their shares into the buyback. It would thus appear possible that in cases where the share price falls, they could be overall worse off, due to the decline in value of their remaining shares. However, for such shareholders, it is necessary to consider the after tax position, which includes the tax benefits arising from capital losses and franking credits generated by the buyback. Since the buyback triggers an overall reduction in tax liabilities to the cost of the government, shareholders in aggregate must be better off. Thus, if non-participating shareholders are worse off, those who participate must be better off.

This analysis provides a method of testing whether the buyback terms treat the two groups of shareholders equally which we use in the next section.

4. *The Results*

The analysis of the previous section shows that, abstracting from information effects, the share price will be higher after a buyback if the aggregate value of the buyback discount exceeds the prior market valuation of the franking credits distributed. The intuition is straightforward. The value given up by remaining shareholders is less than

the benefit received from the company repurchasing (and cancelling) shares at a below-market price.

For example, if 1000 shares are bought back at a discount of \$1.00 per share and there are \$1,200 of franking credits distributed which the market values only at, say, \$600, the remaining shareholders are \$400 better off and the share price will increase.

Thus to assess the impact of buybacks on non-participating shareholders, and the equity implications of their design, we need information for each buyback on the aggregate discount involved, the total of franking credits distributed, and the valuation factor (γ) associated with undistributed franking credits.

Table: 3 Buybacks: Aggregate discounts and Franking Credit Distributions

ASX Code	Date announced	Amount Spent (\$m)	Total discount (\$m) using market price at		Franking credits distributed (\$m)
			t=0	Ex date	
CBA	12/11/1997	650.63	-0.38	10.32	164.56
CBA	10/02/1999	650.77	28.19	43.79	173.35
SEV	11/03/1999	325.00	-39.00	5.85	0.00
CBA	30/09/1999	553.14	-58.33	-55.03	0.00
WOW	14/02/2000	491.96	20.00	15.20	105.85
LLC	18/08/2000	1754.94	46.79	28.25	487.29
CBA	13/02/2001	699.96	54.31	48.30	192.23
IAG	2/03/2001	404.16	10.40	5.94	59.86
BOQ	6/04/2001	24.97	-0.74	0.43	5.47
WOW	30/04/2001	348.21	11.21	17.05	99.83
IAG	6/05/2002	298.47	38.16	33.27	53.26
SEV	27/08/2002	193.87	-23.40	-22.06	54.01
WOW	24/02/2003	531.91	-6.07	1.87	170.37
TLS	3/10/2003	1000.57	188.20	164.38	275.67
SEV	24/10/2003	193.87	-0.33	4.35	33.23
FGL	6/11/2003	668.43	63.50	65.17	156.84
CBA	11/02/2004	532.42	81.12	91.00	136.91
IAG	30/04/2004	413.96	43.28	31.05	105.64
WBC	6/05/2004	558.58	112.10	95.15	173.35
TLS	27/09/2004	750.40	120.43	109.32	202.49
BHP	5/10/2004	2271.61	410.23	431.91	704.98

Table 3 provides information on the aggregate discount and total of franking credits distributed for a number of buybacks undertaken by large Australian companies. It can be seen that if undistributed franking credits are fully valued by the market ($\gamma =$

1), non-participating shareholders were in all cases worse off. The total of franking credits far exceeds the aggregate discount involved. For the sample of 36 off-market equal access repurchases conducted over 1996 to 2004 (used in Figure 1) the total aggregate discount (using the announcement date share price) is \$1069.7 m and the franking credits distributed total \$3477.9m.

Unfortunately, the other piece of information needed to complete the analysis, which is the franking credit valuation factor (γ), is highly contentious. Empirical studies have led to conflicting results that place the value of γ at anything from close to unity (Walker and Partington (1999)) to close to zero (Cannavan, Finn and Gray (2004)). Access pricing regulators (such as the ACCC) attempting to determine the cost of capital for regulated industries have tended to adopt a value of around 0.5.

If franking credit valuation were 50 per cent (so that the market valuation of franking credits is obtained by dividing the last column of Table 2 by two) the story is somewhat more mixed, but non-participating shareholders are still worse off in the majority of cases.

5. *Conclusion*

Corporate decisions to pay-out funds by way of an off-market buyback, appear to have been structured to favour low marginal tax rate investors. High tax rate investors do not reap as much of the benefit from the pay-out decision as they would if, for example, the buyback price were set lower. Abstracting from the announcement effects of a higher share price, high tax rate investors are worse off because the buyback structure transfers corporate value towards low tax rate shareholders.

Moreover, most recent buybacks have been announced with a sufficiently long lead time to the actual buyback date which enables low tax rate investors, who are not

currently shareholders, to purchase shares after the announcement and participate in the tax benefits. While that participation induced demand for shares may cause a temporary spike in the share price, and the increased resulting competition in the tender process may lead to a higher final discount, the data in Table 3 suggests that high tax rate shareholders suffer losses unless the market valuation of undistributed franking credits (γ) is below 0.5.

The trade-off between the value of the undistributed franking credits and the discount to market price is implicitly acknowledged in how companies structure the Dutch auction process adopted for many large off-market buybacks. For example in the February 2006 off-market buyback BHP Billiton announced that it would “[not proceed with the off-market buyback unless the discount at which the shares can be repurchased represents at least an 8 percent discount to the volume weighted average price of BHP Billiton Limited shares over the 5 trading days up to and including the closing date of the buyback.”⁶ BHP Billiton also argued that “[a]ll shareholders ...including those not participating....benefit [because of the] [p]urchase of shares at a discount of at least 8%”.

This example points to several areas for future research following on from the analysis of this paper. First, explicit modelling of the tender process and the forces determining the discount which emerges is warranted to determine whether the tender process leads to an outcome which reduces the likelihood of inequitable treatment of shareholders. Second, analysis of the factors which lead to companies setting the size of the franked dividend component of a buyback (and thus influencing the size of the discount which emerges from the tender process) would be valuable in enhancing our

⁶ BHP Billiton news release to the ASX.
<http://www.asx.com.au/asx/statistics/announcementSearch.do?method=searchByCode&issuerCode=BHP&timeFrameSearchType=Y&year=2006>

understanding of corporate capital management. Third, further research clarifying the extent to which undistributed franking credits are impounded into stock market values is called for.

Our results also suggest two issues of immediate policy relevance. Why the terms of buybacks, particularly the capital component, appear to be set to provide greater benefits to one group of investors (primarily superannuation funds) than others is a question well worth asking. So also is the question of why the Australian Tax Office permits such convoluted tax arrangements for buybacks.

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Appendix

Sample of 36 off-market repurchases over 1996 to 2004.

Name	ASX Code	Date announced	Final Offer Price	Capital component
Gympie Gold Limited	GYM	28/10/1996	\$0.55	\$0.55
CBA	CBA	12/11/1997	\$17.08	\$7.00
CBA	CBA	10/02/1999	\$23.78	\$9.00
Seven Network	SEV	11/03/1999	\$5.00	\$5.00
Aurion Gold (Goldfields Limited)	AOR	17/03/1999	\$1.75	\$1.75
Wattyl	WYL	17/05/1999	\$4.61	\$1.93
Carlton Investments Limited	CIN	30/09/1999	\$12.50	\$5.00
CBA	CBA	30/09/1999	\$27.00	\$27.00
Gowing Brothers	GOW	7/10/1999	\$1.95	\$0.75
Woolworths	WOW	14/02/2000	\$4.92	\$2.45
GUD Holdings	GUD	8/08/2000	\$1.85	\$1.85
Lend Lease Corporation Ltd	LLC	18/08/2000	\$19.88	\$7.00
Ansell (Pacific Dunlop)	ANN/PDP	2/10/2000	\$1.60	\$1.60
Port Douglas Reef Resorts Limited	PDR	23/10/2000	\$0.18	\$0.18
Capral Aluminium	CAA	13/02/2001	\$2.19	\$1.50
CBA	CBA	13/02/2001	\$27.84	\$10.00
IAG (NRMA)	IAG	2/03/2001	\$2.72	\$1.78
Bank of Qld	BOQ	6/04/2001	\$6.45	\$3.15
Woolworths	WOW	30/04/2001	\$8.70	\$2.88
Santos	STO	17/10/2001	\$6.17	\$2.63
TAB Limited	TAB	21/03/2002	\$2.74	\$2.35
Insurance Australia Group (Ltd)	IAG	6/05/2002	\$3.05	\$1.78
Seven Network 2	SEV	27/08/2002	\$5.80	\$2.03
Software Communication Group Limited	SOF	15/10/2002	\$0.08	\$0.08
Woolworths	WOW	24/02/2003	\$11.40	\$2.88
Telstra	TLS	3/10/2003	\$4.20	\$1.50
Seven Network	SEV	24/10/2003	\$5.80	\$3.48
Fosters	FGL	6/11/2003	\$4.00	\$1.81
Mayne Group	MAY	30/01/2004	\$3.55	\$3.55
CBA	CBA	11/02/2004	\$27.50	\$11.00
Lemarne Corp	LMC	24/02/2004	\$2.52	\$1.51
Insurance Australia Group (IAG)	IAG	30/04/2004	\$4.40	\$1.78
Westpac Banking Corp	WBC	6/05/2004	\$14.50	\$4.00
Telstra	TLS	27/09/2004	\$4.05	\$1.50
BHP Billiton	BHP	5/10/2004	\$12.57	\$3.47
Ansell	ANN	12/10/2004	\$9.20	\$9.20