On or Off?
That is the Question

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The research question

- The paper examines the determinants of the choice between on-market and off-market buybacks in Australia
- The literature has abundant explanations for why companies repurchase shares
- As far as we are aware there has been no research on why companies choose one method over another
- Some of the empirically verified motivations for repurchases – tax effects, undervaluation, free cash flows, executive stock options are shown to have differential impact on on- and off-market repurchases

The Australian environment

- Contrast the US and Australia:
- US and Australia tax on-market repurchases as capital gains
- US taxes self-tender offers as capital gains→ Repurchase price > Market price
- Off-market repurchases in Australia have special tax arrangements
  - Australia has a dividend imputation system
  - Part of the repurchase price can be a dividend
  - The rest is a capital gain
  - Often results in very large tax benefits for participants
- → Repurchase Price < Market Price

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Hypothesis development

- Franking (tax) credits are attached to the dividend component of an off-market buyback. Firms with very large excess franking credits will be more likely to undertake an off-market buyback.
- We develop a simple model of the costs of undertaking a buyback where buying back a large proportion of shares is cheaper via an off-market repurchase
- Undervaluation is less likely to influence decision to undertake off-market because buying back at a discount is not a credible signal

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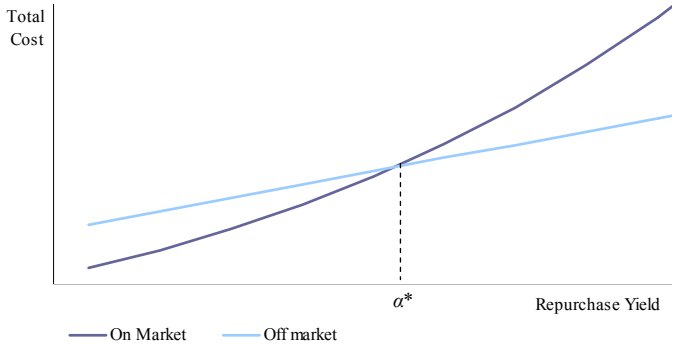
The model

Figure 1: Buyback cost comparison



$$Cost_{On\text{-}Market} = \alpha (VC^{\eta} + B)$$

$$Cost_{Off\text{-}Market} = A + \alpha (VC - D) + \alpha FCD$$

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Three hypotheses

1. *Firms that have accumulated excess franking credits are more likely to undertake an off-market buyback*
2. *Firms are more likely to choose an off-market buyback rather than an on-market buyback when they intend to repurchase a greater proportion of outstanding shares.*
3. *Firms are more likely to choose an on-market buyback rather than an off-market buyback when they are undervalued.*

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Data

- The data set contains 106 on-market buybacks, 36 off-market buybacks and 12 observations where companies undertook both on and off-market buybacks in the calendar year over 1997-2007
- All on-market and off-market buybacks for the largest 75 listed industrials
- Supplemented with extra off-market buybacks

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Descriptive statistics

			Buybacks			Average repurchase yield (%)		Average transaction size ($m)	
Year	Buyback firms	Buyback %	On-market	Off-market	Total	On- market	Off -market	On- market	Off -market
1997	1	1%	1	0	1	6.6%	-	$159.1	-
1998	3	4%	3	0	3	1.9%	0.0%	16.7	$0.0
1999	11	13%	9	3	12	5.2%	26.6%	124.3	162.2
2000	13	15%	10	4	14	3.6%	6.2%	330.5	164.5
2001	12	14%	9	3	12	1.5%	26.1%	22.0	300.8
2002	16	19%	13	3	16	2.8%	23.0%	37.4	89.2
2003	17	21%	15	4	19	2.6%	7.0%	60.8	598.7
2004	13	17%	10	5	15	4.6%	10.0%	86.1	709.2
2005	19	26%	17	4	21	2.3%	3.7%	104.1	460.1
2006	21	32%	20	4	24	2.0%	17.9%	351.7	777.6
2007[a]	16	25%	11	6	17	4.2%	5.0%	718.7	767.7
Totals			118	36	154	3.0%	12.4%	$201.7	$494.8

Selected summary statistics on the frequency, volume and value of off-market and on-market buybacks undertaken by a sample of 48 large Australian industrial companies during the period 1997-2007. Dollar amounts expressed in AUD millions. Data sourced from AspectHuntley, Australian Government Board of Taxation Review (2007) and company announcements. *Buyback firms* is the number of firms who conducted a share repurchase during the calendar year. *Buyback %* equals Buyback firms / Firms. *On-market* counts all firms that repurchased stock in an on-market transaction during the calendar year, even if they are part of a single buyback program completed over consecutive years. For a given year and firm, the number of shares repurchased via an on-market buyback equals the sum of all shares repurchased in the calendar year through on-market transactions. The on-market buyback transaction value is approximated as the number of shares bought back multiplied by the financial year-end stock price. *Off-market* counts all firms that completed an equal access off-market repurchase during the calendar year. Selective buybacks are not considered. Off-market buyback transaction values are sourced from ASX company announcements. *Average repurchase yield* is the average repurchase yield per buyback undertaken during that year, where repurchase yield is the number of shares repurchased in the transaction / ordinary shares outstanding. *Average transaction size* is the average transaction size of each buyback undertaken during the year, where transaction size is defined as the dollar value of shares repurchased. [a] Includes all buybacks that were completed up to 30 September 2007.

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Results: univariate

Panel A: Full sample 1997-2007

Total observations: 142	*Off-market (N = 36)*		*On-market (N = 106)*					
	Median	Mean	Median	Mean	Median P-Value		Mean P-Value	
FAB DUMMY	1.000	0.528	0.000	0.321	0.064	*	0.027	**
REPO YIELD	0.073	0.124	0.017	0.031	0.000	***	0.000	***
MB	2.175	2.702	1.828	2.289	0.265		0.231	
SIZE	21.872	21.483	21.921	21.706	0.813		0.489	
LEVERAGE	0.215	0.212	0.272	0.264	0.032	**	0.016	**
FCF	0.024	0.020	0.013	0.009	0.159		0.540	
RETURN	0.017	0.070	0.127	0.177	0.159		0.120	
OPTIONS	0.008	0.018	0.015	0.018	0.129		0.914	
EPSΔ	4.750	11.002	3.650	11.781	0.920		0.912	

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Results: univariate

Panel B: Restricted sample 2002-2007

Total observations: 96	*Off-market (N = 23)*		*On-market (N = 63)*					
	Median	Mean	Median	Mean	Median P-Value		Mean P-Value	
FAB DUMMY	1.000	0.652	0.000	0.270	0.007	***	0.001	***
REPO YIELD	0.046	0.084	0.016	0.030	0.000	***	0.000	***
MB	2.793	3.190	1.778	2.102	0.032	**	0.003	***
SIZE	22.589	22.008	22.078	21.868	0.391		0.731	
LEVERAGE	0.239	0.215	0.265	0.260	0.205		0.102	
FCF	0.034	0.055	0.021	0.029	0.172		0.243	
RETURN	0.052	0.127	0.179	0.202	0.240		0.343	
OPTIONS	0.007	0.015	0.014	0.019	0.139		0.320	
EPSΔ	7.100	15.413	4.800	15.924	0.647		0.963	

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Results: mutlivariate logistic

Variable	Predicted sign	Panel A (1997-2007) Coefficient	Δ Prob.	T-Stat	
CONSTANT	NA	-13.304		-2.139	**
FAB DUMMY (H1)	+	1.383	16.79%	2.450	**
REPO YIELD (H2)	+	29.375	47.58%	3.603	***
MB (H3)	+	0.332	5.23%	1.931	*
SIZE	?	0.447		1.700	*
LEVERAGE TARGET	?	-4.114	3.89%	-1.806	*
FCF	?	6.127	5.26%	2.738	***
RETURN	?	-1.073	2.22%	-1.427	
OPTIONS	?	-36.075	3.66%	-2.482	**
EPSΔ	?	-0.009	1.95%	-1.450	
Dependent Variable = 1 if company did off-market buyback, Dependent Variable = 0 if company did on-market buyback. Convergence achieved after 6 iterations					
Mean dependent variable		0.254			
Log likelihood		-49.8			
McFadden R^2		0.380			
Observations with Dependent = 0		106			
Observations with Dependent = 1		36			

Conclusions

- Our results provide empirical support for all three hypotheses.
- The view that the incentive to distribute franking credits is a major motivation to undertake an off-market buyback in Australia is supported
- Support for investor-level taxes as an important component of the corporate payout decision
- The decision to repurchase off-market is primarily driven by market frictions such as taxes and the costs of undertaking the buyback


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