Graduate Student Research Day 2012
Florida Atlantic University

COLLEGE OF BUSINESS

Impact of Economic Conditions on the Motives and Performance of Share Repurchase Announcements

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I compare and contrast the differences in performance and in motivations for share repurchases between recession and expansion periods by focusing on three main hypotheses: undervaluation, agency cost of excess cash, and management's compensation. After examining a sample of 9141 share repurchase announcements (7289 in expansion and 1852 in recession) between January, 1999 and December 2010, I find that Recession firms are significantly more undervalued and earn significantly higher announcement abnormal return than Expansion firms. Reducing the agency problem of excess cash is a motivation for firms announcing share repurchases during recession; however reducing agency problem does not appear to be a motive for firms announcing share during the expansion periods. In both periods, compensation motives give executives a preference of share repurchases over dividends. However, only in expansion, executives are able to disguise such motives. In recession, investors are better able to detect when a share repurchase could be aimed at increasing management's compensation, and these announcements earn significantly lower announcement returns.

Impact of Economic Conditions on the Motives and Performance of Share Repurchase Announcements

Presented by Arjan Premti

Abstract

- I compare and contrast the differences in performance and in motivations for share repurchases between recession and expansion periods by focusing on three main hypotheses: undervaluation, agency cost of excess cash, and management's compensation. After examining a sample of 9141 share repurchase announcements (7289 in expansion and 1852 in recession) between January, 1999 and December 2010, I find that firms announcing their repurchase programs during recession periods are significantly more undervalued and earn significantly higher announcement abnormal return than expansion announcing firms. Reducing the agency problem of excess cash is a motivation for firms announcing share repurchases during recession; however reducing agency problem does not appear to be a motive for firms announcing share during the expansion periods. In both periods, compensation motives give executives a preference of share repurchases over dividends. However, only in expansion, executives are able to disguise such motives. In recession, investors are better able to detect when a share repurchase could be aimed at increasing management's compensation, and these announcements earn significantly lower announcement returns.

Introduction

- Share repurchases have experienced tremendous growth in recent years due to three main reasons:
    1. Flexibility over dividends (no commitment)
    2. Unlike payment of dividends, repurchases don’t decrease price
    3. Avoid EPS dilution of the exercise of stock options
- Note that reasons 2 & 3 could help management compensation

Prior Hypotheses

- Motivations for share repurchases:
  1. Signaling of undervaluation
  2. Reducing agency problem of free cash
  3. Employee compensation
  4. Moving towards an optimal capital structure (increase lev.)
  5. Takeover defense
  6. Tax advantages (capital gains vs. dividend tax).

Motivation

- Motivations for repurchases are not mutually exclusive.
- Dittmar (2000) finds that these motivations change over time and Dittmar & Dittmar (2008) find that GDP growth determines frequency of repurchases
- This paper analyses how the motivations and performance of share repurchase announcements change over the business cycle
- Focus on undervaluation, agency cost of excess cash, and compensation hypotheses

Hypotheses: Undervaluation

- During recessions, due to panic there should be a higher chance of undervaluation in the market
- During recessions cash is more valuable due to risk of distress- companies will only distribute cash if they have a strong reason
  - **H1.A:** Firms that repurchase shares during a recession period should be more undervalued that firms that repurchase shares during an expansionary period.
- Recession announcements send a signal of high undervaluation and that there are no distress worries.
  - **H1.B** During a recession, companies repurchasing shares should earn a higher announcement return than firms repurchasing in an expansion period

Hypotheses: Agency Cost of Cash

- During a recession firms need to be extra safe
  - **H2.A:** During a recession, companies repurchasing shares should have higher cash reserves than companies repurchasing in normal times.
- During recession firms experience a decline in investment opportunities which leads to higher agency costs
  - **H2.B:** We should expect a positive relationship between the announcement return and cash, but this positive relationship should be significantly stronger during recession periods.

Hypotheses: Executive Compensation

- Lie (2000) shows that high FCF should not be related to repurchases.
- Jensen (1986): companies with high FCF should increase dividends
- In expansion, firms might dislike dividend commitment in case FCF declines in the future
- In recession it is easier to spot firms that use repurchases to help management compensation – especially companies with high FCF
  - H3.A: Normally we should expect a negative or no relationship between the announcement return and the level of FCF, however during the recession periods this relationship should be significantly more negative.

Executive Compensation (Cont.)

- During recessions managers face lower compensations and lower share prices (cheaper repurchases)
  - H3.B: During a recession, the likelihood of a company repurchasing shares increases with the increase of the number of stock options outstanding and with the decrease of diluted EPS.

Data and Methodology

- Repurchase announcements between 1999-2010 from SDC
- CRSP returns – 9141 announcements (E 7289, R 1852)
- COMPUSTAT data – 3882 announcements (E 3089, R 793)
- Match with the closest non-repurchasing competitor – 1274 pairs (E 988, R 286).
- Market Model to calculate abnormal returns (-30,-1), (0,1), (2,30)
- Proxies: Undervaluation (Runup, Assets), Agency cost (FCF, Cash, Tobin's Q), Compensation (Diluted EPS, Stock Options)

Methodology (cont.)

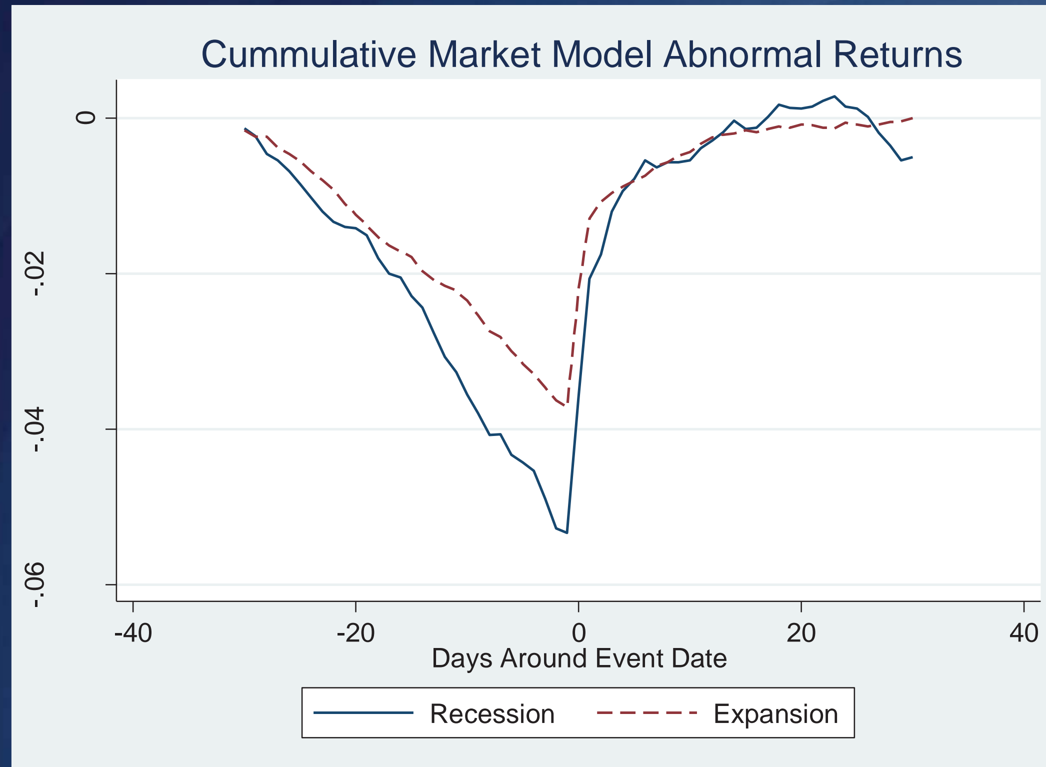
- Univariate – t-tests for means
- Cross-sectional regression to measure factors that affect performance
- Logit on paired sample to measure factors that affect the likelihood of repurchase
  - $Ln(P(D=1)/(1-P(D=1))) = \alpha + \beta 1FCF + \beta 2Cash + \beta 3Runup + \beta 4SO + \beta 5Q + \beta 6\Delta EPS + \beta 7(FCF*R) + \beta 8(Cash*R) + \beta 9(Runup*R) + \beta 10(SO*R) + \beta 11(Q*R) + \beta 12(\Delta DEPS*R)$

Methodology (cont.)

CAR = α +β1Runup + β2LogTA + β3LogQ + β4TenderOffer + β5Recession + B6CASH + β7RecCASH + β8FCF + β9RecFCF

Variable	Explanation	Testing Hypothesis	Predicted Sign
CAR	is the abnormal return in the announcement window		
Runup	is the CAR in the 30 days prior to the repurchase announcement	Control Variable	
LogTA	is the natural logarithm Total Assets	Control Variable	
LogQ	is the natural logarithm Tobin's Q	Control Variable	
TenderOffer	is a dummy variable which equals 1 if the announcement was a Tender Offer, and 0 otherwise	Control Variable	
Recession	is a dummy variable which equals 1 if the announcement happened in a recession, and 0 otherwise	H1.B	+
CASH	is Cash and Cash Equivalents divided by Total Assets	H2.B	+
RecCASH	is an interaction term between Recession dummy and Cash	H2.B	+
FCF	is the Free Cash Flow divided by Total Assets	H3.A	0 or -
RecFCF	is an interaction term between Recession dummy and FCF	H3.A	-

Results



Results (Cont.)

- **Cross-sectional, Univariate**
  - Consistent with undervaluation hypotheses (H1.A & H1.B), Recession firms are significantly smaller ($p=0.04$), lower Runup ($p=0.0$), have significantly higher announcement return ($p=0.0$)
  - Consistent with the agency hypothesis (H2.A), Recession firms hold higher cash ($p=0.0$)

Results (Cont.)

	CAR	VIF	
Runup	**-0.0267***** **(0.0008)**	1.03	
LogTA	**-0.00271***** **(0.0005)**	1.22	
LogQ	**-0.0201***** **(0.0000)**	1.31	
TenderOffer	**0.0405***** **(0.0000)**	1.01	
Recession	**0.0212***** **(0.0000)**	2.44	**H1.B +**
CASH	**0.0216**** **(0.0203)**	1.68	
RecCASH	**0.0407**** **(0.0149)**	2.45	**H2.B +**
FCF	0.0104 (0.5201)	1.64	
RecFCF	**-0.251***** **(0.0000)**	1.73	**H3.A -**
_cons	**0.0392***** **(0.0000)**		
N	3882		
R^2	0.072		

Matched Sample Results

Univariate Results:

- In both periods, the closest competitors do not earn abnormal returns in windows (-30,-1), (0,2), (3,30) – there is no spillover effect
- The main difference between the 2 periods is that Recession firms have significantly higher cash than competitors (H2.A)

Logit Results

Independent Variables	Model 1	Model 2
Constant	-0.0650813	-0.109819
	(0.365)	(0.187)
Free Cash Flow/Total Assets	**2.23493*** **	**2.3251*** **
	(0.000)	**(0.000)**
Cash and Equivalents/Total Assets	0.16024	0.192896
	(0.498)	(0.415)
Stock Options Outstanding	**0.003686***	**0.003764***
	(0.089)	**(0.083)**
Tobin's Q	-0.0611386	-0.0603534
	(0.107)	(0.115)
Change in Diluted EPS	0.013726	
	(0.380)	
Diluted EPS Decreased		0.0849191
		(0.361)
CAR (-30, -1)	**-1.1876*** **	**-1.1497*** **
	(0.000)	**(0.000)**
Recession*(Free Cash Flow/Total Assets)	-0.414313	-0.462778
	(0.649)	(0.614)
Recession*(Cash and Equivalents/Total Assets)	**1.06808** **	**1.05348** **
	(0.030)	**(0.033)**
Recession*(Stock Options Outstanding)	0.0060627	0.0061697
	(0.261)	(0.255)
Recession*(Tobin's Q)	**-0.22474** **	**-0.23408** **
	(0.011)	**(0.016)**
Recession*(Change in Diluted EPS)	-0.0071143	
	(0.855)	
Recession*(Diluted EPS Decreased)		0.0085797
		(0.960)
Recession*(CAR (-30,-1))	-0.386949	-0.402109
	(0.456)	(0.440)
Pseudo R-sq	0.023	0.023

H3.B +

H3.B -

Logit Results

- Stock Options is significantly positive (Compensation hypothesis), but no difference between the 2 periods
- Unlike Bens et al. (2003) and inconsistent with H3.B, I don't find evidence that managing Diluted EPS is a motive for share repurchases
- Tobin's Q is significantly negative (Agency cost hypothesis)
- Inconsistent with Lie (2000), I find that FCF increases the likelihood of repurchase while Cash only affects the likelihood of a repurchase during recession (shows management's preference of repurchases over dividends)

Summary of Results

Variable	Recession	Expansion
CAR (-30,-1)	More Undervalued	Less Undervalued
CAR (0,1)	Higher	Lower
FCF	Increases Likelihood Decreases CAR (0,1)	Increases Likelihood CAR (0,1) Unaffected
CASH	Increases Likelihood Strongly Iincreases CAR (0,1)	Likelihood Unaffected Increases CAR (0,1)
Stock Options	Increase Likelihood	Increase Likelihood
Diluted EPS	Doesn't Affect Likelilhood	Doesn't Affect Likelihood

Conclusion

- Recession repurchasing firms are significantly more undervalued and have significantly higher announcement CAR
- Repurchases in recession are aimed at reducing agency cost, while repurchases in expansion are less consistent with agency cost and more consistent with dividend substitution
- Investors can spot when recession repurchases are aimed at compensation, and those firms earn lower returns
- Expansion firms are rewarded for reducing agency cost of excess cash, recession firms are rewarded at a higher rate
- Managing Diluted EPS does not motivate share repurchases