FIN 521: Case 4: Blaine Kitchenware

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Question 1

Payout policy and capital structure affect firm value because market is not perfect. Under M&M, they are irrelevant to firm value since they does not affect future cash flow and systematic risk of the firm. However, in reality, there exists corporate tax, agency cost, and cost of financial distress. They make payout policy and capital structure are relevant to firm value.

Question 2

The current capital structure and payout policies of the firm are not appropriate since there are lots of benefits from using debt. Of course, increasing leverage makes firm's revenue risky, but on the current status, compensation from increasing leverage is much larger since the current amount of debt is zero. Most of firms which uses debt has larger market-to-book ratio, and larger ROE than Blaine Kitchenware. Assuming that industrial background among the firms are negligible, it justifies the argument that Blaine should raise debt. It is reasonable to increase D/V ratio to 17.09%, which is the average D/V ratio of other firms. Considering kitchenware industry is in steady state, payout ratio over 50% might not be too large. However, considering the firm's strategy: acquiring independent manufacturer to expand business, it is needed to retain certain amount of earnings.

Question 3

a) 1) From exhibit 3 of the case, we can find cash, enterprise value, debt, and equity of the firm at 2006. Table 1 shows the balance sheet before announcement.

Asset		Liabilities	
Cash	230,866	Debt	0
Enterprise Value	728,730	Equity	959,596

Table 1: Balance sheet before announcement

2) After the announcement but before any debt issuance or repurchase is made, under perfect market, the balance sheet does not change because the announcement itself does not affect capital structure and systematic risk of the firm. Therefore, the balance sheet after announcement is same as Table 1.

3) After the firm issue 100,000(thousand dollars) amount of debt, debt increases and cash also increases on balance sheet. Therefore, the balance sheet of the firm changes to Table 2. Equity value and enterprise value does not change.

4) After repurchase, 300,000 amount of cash decreases, and the same value of equity also decreases. Although market value of equity decreased, because the same amount of cash also decreased, therefore,

Question 3 continued on next page...

Asset		Liabilities	
Cash	330,866	Debt	100,000
Enterprise Value	728,730	Equity	959,596

Table 2: Balance sheet after issuing debt(Perfect market)

enterprise value does not change. Furthermore, since number of shares also decreased, stock price also does not change. Stock price before repurchase is \$16.25 per share, so the number of share

Asset		Liabilities	
Cash	30,866	Debt	100,000
Enterprise Value	728,730	Equity	659,596

Table 3: Balance sheet after repurchase(Perfect market)

repurchased is equal to $300,000/16.25 = 18,461$, and the number outstanding share is decreased to $59,052 - 18,461 = 40,591$. Hence, the new share price is equal to $659,596/40,591 = 16.25$, which is same as the price before repurchase.

b) 1) Before the announcement, the balance sheet is same as Table 1.

2) Unlike answers in question a)-2), the balance sheet does change because there is tax benefit if debt is issued and cash is decreased, and equity value reflects the benefit. Increase in equity value would be same as present value of tax benefit from issuing debt and decrease in cash. Present value of tax shield from debt is calculated by multiplying interest expense to corporate tax rate, and discounting at cost of debt. Assuming Blaine's credit rating is Baa, corporate bond yield is equal to 6.72%. Therefore, interest tax shield at each fiscal year is calculated as $100,000 \times 6.72\% \times 30.76\% = 2,067.072$. Therefore, present value of income tax shield from issuing debt is equal to $\frac{2,067.072}{0.06} = 34,451.2$. Assuming amount of cash on balance sheet grows at risk-free rate, if the firm does not repurchase stock, it should pay $200,000 \times 5.10\% \times 30.76\% = 3,137.52$ for tax every year. (We used 30-year US treasury rate as risk-free rate.) Therefore, by using perpetuity formula, the present value of tax benefit from cash deducting is equal to $\frac{3,137.52}{0.06} = 52,292$. Hence, after the announcement of stock repurchase, equity value would increase by $34,451.2 + 52,292 = 86,743.2$. Since other accounts are constant, enterprise value would also increase by 86,743.2 thousand dollars. Table 4 represents balance sheet after the announcement under market in which corporate tax exists. Since the number of outstanding share in 2006 is 59,052 and it remains constant after the announcement, stock price per share would increase to $1,046,339.2/59,052 = \$17.72$.

3) Like question a)-3), issuance of debt increases both debt and cash by 100,000. Table 5 represents the balance sheet after issuance of debt. It does not affect enterprise value.

Question 3 continued on next page...

Asset		Liabilities	
Cash	230,866	Debt	0
Enterprise Value	815,473.2	Equity	1,046,339.2

Table 4: Balance sheet after announcement(Imperfect market)

Asset		Liabilities	
Cash	330,866	Debt	100,000
Enterprise Value	815,473.2	Equity	1,046,339.2

Table 5: Balance sheet after issuing debt(Imperfect market)

4) The repurchase of stock makes cash and equity decrease by 300,000. Table 6 represents the result after repurchase of shares. The repurchase does not make stock price change because the information of repurchase was already reflected before the actual repurchase. The amount of share repurchased

Asset		Liabilities	
Cash	30,866	Debt	100,000
Enterprise Value	815,473.2	Equity	746,339.2

Table 6: Balance sheet after repurchase(Imperfect market)

is equal to $300,000/17.72 = 16,931$. Therefore, the number of outstanding share decreases to 42,121. Since the new equity value is equal to 746,339, the new share price is equal to $746,339/42,121 = 17.72$, which is same as the price before repurchase.

Question 4

a) Table 7 shows balance sheet before and after repurchase. The * mark indicates accounts which changes after repurchase. We assumed that the firm uses cash first and liquidates marketable securities to repurchase shares. Since cash and marketable securities decreases, current asset and total asset also decreases. On liabilities, long-term debt increases by 100,000 by the issuance, and shareholder's equity decreases by 300,000 by repurchase. Table 8 shows income statement before and after repurchase. Since cash and marketable securities decreases, other income(which is interest income from its position) also decreases. Since debt is issued, interest expense is added to the income statement. Consequently, because EBT changes, income tax also changes, and net income changes.

b) Table 9 represents EPS, ROE, and market to book ratio before and after repurchase. All of three increases

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if the firm repurchases stocks.

c) Table 10 represents interest coverage and debt to equity ratio of the firm. Since there is no interest expense before repurchase, interest coverage is infinity. After repurchase, interest coverage becomes about 10.99. Regarding this value, the firm is able to cover interest expense. Debt to equity ratio becomes -0.47 to 0.37.

d) Before repurchase, the founding family's ownership share is equal to 62% of total outstanding share, which is about 36,612 shares. After repurchase, since the total outstanding share decreases to 42,121, proportion of family's ownership increases to 87%.

e) Table 11 shows total cash flow for investors. The total cash flow decreases since interest income from cash and marketable securities decreases. The amount of decrease in cash flow is equal to 6,035. However, by repurchasing shares, price per share increases, therefore equity investors can get capital gain from increase of share price.

f) Table 12 shows equity value, share price, market-to-book, and enterprise value of the firm. After repurchase, equity value decreases, but the amount of decrease is less than 300,000. Although equity value decreases, since number of outstanding share also decreases, in result, price per share increases. Market-to-book ratio increases from 1.96 to 3.96, and enterprise value increases by about 90,000.

g) From e), total cash flow decreases after repurchase. Of course, it is negative effect of repurchase, but since enterprise value increases much more than decrease in cash flow, it is better to repurchase share.

Question 5

a) If the firm pays dividend instead of stock repurchase, ignoring investor-level tax difference between capital gain and dividend, the only thing which changes is number of outstanding shares. Unlike stock repurchase, number of shares remains constant to 59,052 if the firm pays dividend. Since number of shares is different, price per share and EPS will also be different. Price per share will be decline to $746,339/59,052 = 12.64$, and EPS will be decline to $40,876/59,052 = 0.69$. Others will not change.

b) If the firm repurchase 12 million shares with price \$25 per share, number of outstanding share will be $59,052 - 12,000 = 47,052$. Therefore, price per share will be $746,339/47,052 = 15.86$, and EPS will be $40,876/47,052 = 0.87$.

Question 6

Dubinski should recommend repurchase to Blaine's board since there are lots of advantage from share repurchase. The main advantage of share repurchase is increase in enterprise value and price per share

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because of tax shield. However, considering the firm's strategy: acquiring small independent manufacturers, repurchase share using cash would make future cost of capital.

Assets:	2006	2006(New)
Cash & Cash Equivalents*	66,557	0
Marketable Securities*	164,309	30,866
Accounts Receivable	48,780	48,780
Inventory	54,874	54,874
Other Current Assets	5,157	5,157
Total Current Assets	**339,678**	**139,678**
Property, Plant & Equipment	174,321	174,321
Goodwill	38,281	38,281
Other Assets	39,973	39,973
Total Assets	**592,253**	**392,253**
Liabilities & Shareholders' Equity:		
Accounts Payable	31,936	31,936
Accrued Liabilities	27,761	27,761
Taxes Payable	16,884	16,884
Total Current Liabilities	**76,581**	**76,581**
Long-Term Debt*		100,000
Other liabilities	4,814	4,814
Deferred Taxes	22,495	22,495
Total Liabilities	103,890	203,890
Shareholders' Equity*	488,363	188,363
Total Liabilities & Shareholders' Equity	**592,253**	**392,253**

Table 7: Balance sheet before and after repurchase

Operating Results:	2006	2006(New)
Revenue	342,251	342,251
Less: Cost of Goods Sold	249,794	249,794
Gross Profit	92,458	92,458
Less: Selling, General & Administrative	28,512	28,512
Operating Income	63,946	63,946
Plus: Depreciation & Amortization	9,914	9,914
EBITDA	73,860	73,860
EBIT	63,946	63,946
Plus: Other Income (expense)	13,506	1,806
Less: Interest Expense*		6,720
Earnings Before Tax	77,451	59,031
Less: Taxes*	23,821	18,156
Net Income	53,630	40,876
Dividends	28,345	28,345

Table 8: Income statement before and after repurchase

	2006	2006(New)
Net Income	53,630	40,876
Number of share	59,052	42,121
EPS	**0.91**	**0.97**
Net Income	53,630	40,876
Book Value of Equity	488,363	188,363
ROE	**0.11**	**0.22**
Market Value of Equity	959,596	746,339
Book Value of Equity	488,363	188,363
Market-to-Book Ratio	**1.96**	**3.96**

Table 9: EPS, ROE, Market-to-Book ratio

	2006	2006(New)
EBITDA	73,860	73,860
Interest Expense	0	6,720
Interest Coverage	∞	**10.99**
Net Debt	(230,866)	69,134
Book Value of Equity	488,363	188,363
Debt/Equity	**(0.47)**	**0.37**

Table 10: Interest Coverage, Debt to Equity

	2006	2006(New)
Net Income	53,630	40,876
Interest Expense	0	6,720
Total	**53,630**	**47,596**

Table 11: Total cash flow

	2006	2006(New)
Price	**16.25**	**17.72**
Outstanding Shares	59,052	42,121
Market Value of Equity	**959,596**	**746,339**
Net Debt	(230,866)	69,134
EnterPrise Value	**728,730**	**815,473**
Market Value of Equity	959,596	746,339
Book Value of Equity	488,363	188,363
Market-to-Book Ratio	**1.96**	**3.96**

Table 12: Equity value, share price, market-to-book, enterprise value