Liquidity analysis essay example

International Business Machines

Problem 1:

These ratios judge short term payment ability of the entity. Generally two measures of Liquidity Ratios are used by analyst to adjudge the liquidity position of the company:

- Current Ratio

- Quick Ratio/Acid Test Ratio

1) Current Ratio: Calculated as ratio of Current Asset and Current liability, this liquidity ratio is considered to be true indicator of a firm's liquidity. The average industry current ratio is 2: 1.

- Current Ratio: Current Assets/ Current Liabilities(Robisnon, 2011, pg 142)

2) Quick Ratio: A more stringent measure of liquidty assessment, quick ratio is calculated as ratio of Current Assets less Inventory to Current Liabilities. The average industry quick ratio is 1: 1.

- Quick Ratio: (Current Assets – Inventory)/ Current Liabilities(Robisnon, 2011, pg 142)

3) Cash Ratio: Cash ratio is the most conservative measurement of a firm's liquidity and includes only cash, cash equivalents and marketable securities.

- Cash Ratio= Cash + Marketable Securities/ Current liabilities

Summary:

Refering to above liquidity analysis of the company, we can conclude that although the liquidity position of the company improved in 2011 but as per latest reporting data available for the year 2012, IBM Inc. Is going through tough liquidity period as disclosed by its liquidity ratios. As for current ratio,

the multiple increased from 1. 18 to 1. 20 during 2011 but experienced a steep fall in 2012 when its current ratio ended at 1. 13. Similar trend was experienced in quick ratio and cash ratio also. For quick ratio, the multiple fell from 1. 13 to 1. 08 while for cash ratio the multiple fell from 0. 28 to 0. 25 during 2012.

Problem 2:

Refering to the capital structure composition of the company, we find that, IBM Inc. has total bond outstanding of worth $33. 1 Billion. Following is the detailed list of the bonds issued by the IBM Inc.

Problem 3:

No bond issue has experienced change in its Yield to Maturity although recent bond issue were issued at lowest YTM for IBM at 1. 25%

Problem 4:

Refering to above schedule, it is evident that IBM Inc has issued three bonds will call option embedded with them, following is the detail of bonds issued by IBM Inc. with call option:

Intersting to note that all the callable bonds are about to reach their maturity within coming months of 2014. Callable Bonds are bonds with the option to the issuer as they can call the bonds to be paid earlier than its maturity.

Problem 5:

Refering to Zero Coupon Bond issued by IBM Inc during and assuming that with the maturity of 1 year, the bond will have Yield to Maturity of 5%, in such case the value of bond will be:

Bond Value= Maturity Value/ (1+ YTM)number of years*2

= 1000/ (1+(. 05/2))1*2

= 1000/(1+. 025)2

=$974

Thus, the Present Value of zero coupon bond will be $974 and it will yield $26 of compound interest during an year. Assuming i am a passive and highly risk averse investor, i will invest in this bond.

Problem 6:

Since a zero coupon bond makes only one single payment at the time of maturity of the bond, the intrinsic value is simply the present value of the face value of the bond. Since my friend is willing to have 9% required return this will equal Yield to Maturity of 9% while the number of years are given to be 8 years.

Thus, present value of bond with face value of $1000 will be:

Bond Value= Maturity Value/ (1+ YTM)number of years*2

= 1000/ (1+ (. 08/2))8*2

= 1000/ (1+ . 04)16

= $533. 91

Thus, the present value of this zero coupon bond is $533. 91 while with the par value of $1000, the difference will be the amount of compund interest taht will be earned by the bond during 8 years of its maturity. Also, since present value of this bond is more than the market price, he should purchase the bond.

Problem 7:

Using CAPM:

Expected Return on Asset = RFR+ Beta(E(r)- RFR)

Here, RFR= Risk Free Rate

E(r)= Expected Return from the Market Portfolio

However, corporations use CAPM to ascertain cost of equity using same

formula, thus for IBM Inc, the cost of equity using CAPM will be:

= RFR+ Beta(E(r)- RFR)

= 3. 48% + 0. 67(13. 29%- 3. 48%)

= 10. 05%

i) RFR= Risk free Rate of Return on Treasury Composites Securities

ii) E(r)= Expected Return on Market Portfolio using S& P 500 Index

iii)Beta=

Calculations:

CovarianceIBM, S&P 500 ÷ (Standard DeviationIBM × Standard DeviationS&P

500)= 20. 04 ÷ (5. 60 × 5. 49)

= CovarianceIBM, S&P 500 ÷ VarianceS&P 500= 20. 04 ÷ 30. 12= 0. 67

Thus, Beta= 0. 67

Problem 8:

Using Gordon Growth Model:

Price= Dividend(Growth Rate)/ Cost of Equity – Growth Rate

Current Market Price of IBM Inc: $190. 09

Dividend: $3. 80

Cost of Equity(using CAPM)= 10. 05%

Thus,

190. 09= 3. 80(1+G)/. 1005- G

190. 09(0. 1005-G)= 3. 80 + 3. 80G

19. 10- 190. 09G= 3. 80 + 3. 80G

15. 30= 193. 89G

G= 15. 30/193. 89= 7. 90%

Hence Growth Rate of the company= 7. 90%

Problem 9:

Price= Dividend(Growth Rate)/ Cost of Equity – Growth Rate

Current Dividend= $3. 80

Cost of Equity(Using CAPM)= 10. 05%

Growth Rate= 4%

Thus, Price= 3. 80(1. 04)/(. 105- . 04)

= 3. 952/0. 065

= $60. 80

Hence, Price for IBM Stock= $60. 80

Works Cited

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