Cross Sectional Regression of Debt Ratio

1 U.S: Debt Ratio Regression: January 2023

Variables used in the regression

1. Debt Ratio = Debt/ (Market Value of Equity + Debt): If you can get market value of debt, use it. Else, use book value of debt.

2. Payout Ratio = Dividends/ Net Income, if Net Income is positive, not available if net income is negative.

3. Expected growth rate in EPS - next 5 years = You can use expected or even historical earnings growth, if you don't have an EPS growth forecast

4. Effective Tax Rate = Effective tax rate in most recent year

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.392[b]	.153	.151	3626.36205%

a. Broad Group = United States

b. Predictors: (Constant), Expected growth rate in EPS - Next 5 years, % held by institutions, Effective Tax Rate, Company Age

ANOVA[a, b, c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2997449419	4	749362355	56.984	$<.001^d$
	Residual	1.656E+10	1259	13150501.7		
	Total	1.955E+10	1263			

a. Broad Group = United States

b. Dependent Variable: Market Debt to Capital Ratio

c. Weighted Least Squares Regression - Weighted by Enterprise Value (in USD)

d. Predictors: (Constant), Expected growth rate in EPS - Next 5 years, % held by institutions, Effective Tax Rate, Company Age

Regression Statistics

Coefficients[a, b, c]

Model		Unstandardised Coefficients Beta	Std. Error	Standardised Coefficients Beta	t	Sig.
1	(Constant)	23.139	2.979		7.767	<.001
	Effective Tax Rate	-0.228	0.063	-0.096	-3.641	<.001
	% held by institutions	-0.051	0.037	-0.036	-1.372	0.170
	Company Age	0.125	0.010	0.334	12.500	<.001
	Expected growth rate in EPS - Next 5 years	-0.186	0.035	-0.144	-5.373	<.001

a. Broad Group = United States

b. Dependent Variable: Market Debt to Capital Ratio

c. Weighted Least Squares Regression - Weighted by Enterprise Value (in USD)

2 Global: Debt Ratio Regression: January 2023

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.422^a	0.178	.177	3638.57169%

a. Predictors: (Constant), Expected growth rate in EPS - Next 5 years, % held by institutions, Effective Tax Rate, Company Age

ANOVA[a, b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.404E+10	4	3509753624	265.103	$<.001^c$
	Residual	6.496E+10	4907	13239204.0		
	Total	7.900E+10	4911			

a. Dependent Variable = Market Debt to Capital Ratio

b. Weighted Least Squares Regression - Weighted by Enterprise Value (in USD)

c. Predictors: (Constant), Expected growth rate in EPS - Next 5 years, % held by institutions, Effective Tax Rate, Company Age

Regression Statistics

Coefficients[a, b]

Model		Unstandardised Coefficients Beta	Std. Error	Standardised Coefficients Beta	t	Sig.
1	(Constant)	42.056	1.227		34.286	<.001
	Effective Tax Rate	-0.295	0.036	-0.108	-8.122	<.001
	% held by institutions	-0.273	0.014	-0.262	-19.810	<.001
	Company Age	0.145	0.006	0.324	24.535	<.001
	Expected growth rate in EPS - Next 5 years	-0.196	0.020	-0.129	-9.840	<.001

a. Dependent Variable: Market Debt to Capital Ratio

b. Weighted Least Squares Regression - Weighted by Enterprise Value (in USD)

- *How do I use this regression?*

    Assume that you want to estimate the market debt ratio for a firm with the following characteristics, using the Global regression
    Effective tax rate = 25%
    % held by institutions = 30%
    Company age = 37
    Expected growth rate in EPS = 12%

- *Predicted Value*
  Expected Debt Ratio = 42.06 - 0.295 (25) - 0.273*(30) + 0.145 (37) - 0.196 (12) = 29.51 or 29.51%

- If your predicted value is less than zero, your predicted debt ratio is zero.