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The impact of working capital on the value of the company in light of differing size, growth, and debt

Tamer Bahjat Sabri
Ramallah, West Bank
e-mail:tamerbs@hotmail.com

This study investigates the potential effect of the working capital management on the value of the industrial companies in Jordan, by studying determinants (company size, company growth, leverage) that affect company value measured by Tobin's Q (TQ). Also it uses an improved methodology to produce three indexes (benchmarks) that can present the suitable information for mangers and investors.

To achieve the objectives of the study, a sample constituted by forty-one (41) industrial companies was studied. The study covered the period from 2000 to 2007. Regression analysis and Mann-Whitney-U Test were used to test the hypotheses of the study. The results shows that R2 for small size companies is higher than big size companies. And it is noted that the average TQ for companies with big size is higher than the average for small-sized companies.

JEL Classifications: G31
Keywords: Tobin's Q, working capital, company size, company growth, leverage

Introduction

Jordan has been affected by the global financial crisis that began in September of 2008 in general and the industrial sector in particular where the index of the manufacturing sector decreased for the year 2008 by 11.7% compared to 2007. This was followed by the low profits of industrial companies listed in the first half of 2009 which decreased by 23.74%. Accordingly, it is necessary to find ways of how to handle industrial public shareholding companies with working capital management in order to increase the profitability of these companies and their value and ensure its survival and continuity.

The working capital management involves the management of current assets and current liabilities and their mutual relationship (Lee and Lee, 2006). And it involves the day-to-day administration of current assets and current liabilities. The general corporate objective is to maximize the value of the company over the long run, a company must limit its investment in working capital, while still maintaining adequate liquidity for normal operations (Bush and Johnston, 1998). According to Afza and Nazir (2007) a "firm may be able to reduce the investment in fixed assets by renting or leasing plant and machinery, whereas the same policy cannot be followed for the components of working capital" (p.20).

A company may adopt an aggressive working capital management policy with a low cash conversion cycle (CCC). While conservative strategy indicates that a company may adopt an conservative working capital management policy with a high CCC (Jose et al., 1996). Excessive levels of current assets may have a negative effect on the company's profitability, whereas a low level of current assets may lead to a lower level of liquidity and stock outs resulting in difficulties in maintaining smooth operations (Afza and Nazir, 2007).

Working capital represents 51% of total assets in the industrial companies listed in Amman Stock Exchange (ASE) (Sabri, 2010). And this percentage is near to the one that

has been concluded by Al-Naif (2005). Little empirical research has been carried out to examine this relationship in the Jordanian literature.

This paper investigates the potential effect of the management of working capital on company value of the industrial companies in Jordan, by studying determinants (company size, company growth, leverage) that affect company value measured by Tobin's Q (TQ). It means that there is an impact of working capital management on the value of the companies in the case of companies with small size and the case of big size companies. Further it can detail the nature of the impact of working capital management on the value established in the case of companies with low leverage and the case of high leverage companies. As well as identify the nature of the impact of working capital management on the value of the company established in the case of companies with low growth and the case of companies with high growth.

In addition TQ can be used to determine whether there is a difference between the average working capital between companies with small size and with big size companies. And to identify different average current liabilities between companies with small size and big size. The same applies for leverage and growth determinants - to develop a policy for the management of working capital varying by size, leverage and growth. Or develop one policy in the absence of differences in the nature of this impact and importance. And finally, the important point of this research is to provide industry companies listed in ASE with three indexes (benchmarks) that enable companies to evaluate their company value and working capital and prevent probable liquidity problems. This study is expected to contribute to a better understanding of the management of working capital in Jordanian companies.

Literature review

Much of the literature focuses on the relationship between working capital and corporate profitability. Jose et al. (1996) examine the relationship between profitability measures and management of ongoing liquidity. Deloof (2003) in his about the relation between working capital management and corporate profitability suggests that more aggressive liquidity management (lower CCC) is associated with higher profitability. Also, the results suggest that managers can increase corporate profitability by reducing the number of days of accounts receivable and inventories. Less profitable companies wait longer to pay their bills. Uyar (2009), examining the relationship between the length of the CCC and the size of the companies, indicates that there is a significant negative correlation between the CCC and the company size. Further Eljelly (2004) found that the size also has a significant effect on profitability at the industry level. Empirical findings (Samiloglu and Demirgunes, 2008) show that the account receivables period, inventory period, and leverage affect company profitability negatively. Nobanee and AlHajja (2009) suggest that managers can increase profitability of their companies by shortening the cash conversion cycle, the receivable collection period and the inventory conversion period. Raheman and Nasr (2007) used net operating profitability, and the results show that there is a strong negative relationship between variables of the working capital management and profitability of the company. In contrast, Lyroudi and Lazaridis (2000) in their study found that the cash conversion cycle was positively related to the return on assets and the net profit margin.

While Nazir and Afza (2008) in their study utilized the working capital requirement as the dependant variable, the operating cycle of company, return on assets and Tobin's Q, have been used as the determinants of working capital management (independent variables, not like in the majority of the studies), because of the different objectives. Hill et al. (2010) indicates that increases in sales growth and sales volatility cause companies to manage operating working capital more aggressively, they find limited support for a direct correlation between gross profit margin and WCR. Siddiquee and Khan (2009) in their study analyze the working capital performances of 83 listed companies from seven different sectors of Dhaka Stock Exchange Ltd. The results show that significant

differences exist among the position of the companies in working capital measures across time.

Kieschnick et al. (2006) examine the implications of a corporation's working capital management for its valuation. Consistent with industry surveys, they find evidence that companies over-invest in working capital. Overall, their evidence suggests that managers respond positively to incentives and monitoring in managing their company's working capital.

Kieschnick et al. (2008) in their empirical study they examine the relationship between corporate working capital management and company value, as well as examination of how agency costs influence this relationship. They find that on average an additional dollar invested in net operating working capital at the mean level of such investment reduces company value and also the exclusion of agency costs in prior models of the effect of working capital management on company value is of importance. After them, Luo et al. (2009) study whether and how working capital efficiency (measured by cash conversion cycle) affects company future performance and company value, this is another objective they added. They find that the efficiency of a company's working capital management has lasting impact on company performance.

Mohamad and Saad (2010) explored the effects of working capital to the company's profitability and the value of the company. The result shows that there are significant negative associations between working capital and company's performance. Another approach introduced by Salawu (2007) investigates the relationship between aggressive and conservative working capital practices. Results strongly show that companies in differing industries have significantly different current asset management policies. It is evident that there is a significant negative correlation between industry asset and liability policies. Afza and Nazir (2007) investigate the relative relationship between the aggressive/conservative working capital policies and profitability as well as the risk of companies. The empirical results found the negative relationship between working capital policies and profitability. Additionally, Weinraub and Sue (1998) in their study looked at ten diverse industry groups over an extended time period to examine the relative relationship between aggressive and conservative working capital practices. On the other hand, Nazir (2009) used Tobin's Q as a dependent variable and the ratio (current assets/total assets) as an independent variable, and also utilized control variables in order to achieve an opposite analysis of working capital management on the profitability of companies.

Boisjoly (2009) in their study examine accounts receivable turnover, accounts payable turnover, inventory turnover, cash flow and working capital per share, to determine whether their management practices had an impact on their financial ratios and distributions. Aggressive management of working capital and significant increases in productivity resulted in significant improvements in cash flow per share and reduced corporate reinvestment. Al-Naif (2005) in his study aims to develop a model for determining investment in working capital for industrial companies in Jordan.

This research covers an area that has received little attention in the Jordanian literature, because the research observes effects of working capital on the company's value in industrial companies listed at ASE. It examines extra determinants (company size, company growth, leverage) that affect company value measured by (TQ). And finally, the important point of this research is to provide industry companies listed in ASE with three Indexes (benchmarks).

Research methodology

The study used data from the Amman Stock Exchange (ASE) in the period from 2000 to 2007. The sample size for this study constitutes forty-one (41) industrial companies. The data used in this study consist of selected variables from the financial statements. The

variables are: Tobin's q (TQ) is a market measure of performance used as proxy for the stock market return (Sajid and Talat, 2009); current assets to total assets (CA-TA) - a high ratio means a relatively conservative policy, where low ratio means a relatively aggressive policy; current liabilities to total assets (CL-TA) - conservative financing policy utilizes lower levels of current liabilities and more long-term debt. Some studies measured company size by total revenue and by number of employees. In this study the size of the companies was measured by total assets and company growth in sales (Jose et al., 1996). Table 1 shows how all variables are calculated.

TABLE 1.

The variables	Calculation	Symbol
Tobin's Q	(Market value of the company + Debt) ÷ Total asset	TQ
Current asset to Total asset	Current asset ÷ Total asset	CA-TA
Current liabilities to Total asset	Current liabilities ÷ Total asset	CL-TA
The size of the company	Total asset of the company	SIZE
Growth of the company	[Sales t – Sales t-1] ÷ [Salest-1]	GRO
Leverage of the company	(Total debt) ÷ (Total assets)	LEV

To test the first six hypotheses, the sample of the study was divided into two parts, according to size, leverage and growth. After that, it was apparent to compare the average working capital for small companies with the one for large companies to test the seventh hypothesis. And then the average current liabilities for small companies were taken to compare the average current liabilities for large companies to test the hypothesis eighth and this was repeated to test hypotheses from 9 to 12.

The null hypotheses are:

H_{01}: There is no effect for the management of working capital policies on the value of the small size company

H_{02}: There is no effect for the management of working capital policies on the value of the big size company

H_{03}: There is no effect for the management of working capital policies on the value of the company with low growth

H_{04}: There is no effect for the management of working capital policies on the value of the company with high growth

H_{05}: There is no effect for the management of working capital policies on the value of the company with low leverage

H_{06}: There is no effect for the management of working capital policies on the value of the company with high leverage

H_{07}: There is no difference in working capital between the companies with small size and those with big size

H_{08}: There is no difference in current liabilities between the companies with small size and those with big size

H_{09}: There is no difference in working capital between the companies with low growth and those with high growth

H_{010}: There is no difference in current liabilities between the companies with low growth and those with high growth

H_{011}: There is no difference in working capital between the companies with low leverage and those with high leverage

H_{012}: There is no difference in current liabilities between the companies with low leverage and those with high leverage.

To test the hypotheses multiple fixed effects regression model is used. Fixed effects estimation assumes company specific intercepts, which capture the effects of those variables that are particular to each company and that are constant over time.

$$TQ_{it} = a_i + \pi_{1i} (CA_{it} \div TA_{it}) + \mu_{2i} (CL_{it} \div TA_{it}) + \varepsilon_{it} \ldots..(1) \text{ for small size}$$

$$TQ_{it} = a_i + \pi_{1i} (CA_{it} \div TA_{it}) + \mu_{2i} (CL_{it} \div TA_{it}) + \varepsilon_{it} \ldots..(2) \text{ for big size}$$

$$TQ_{it} = a_i + \pi_{1i} (CA_{it} \div TA_{it}) + \mu_{2i} (CL_{it} \div TA_{it}) + \varepsilon_{it} \ldots..(3) \text{ for low growth}$$

$$TQ_{it} = a_i + \pi_{1i} (CA_{it} \div TA_{it}) + \mu_{2i} (CL_{it} \div TA_{it}) + \varepsilon_{it} \ldots..(4) \text{ for high growth}$$

$$TQ_{it} = a_i + \pi_{1i} (CA_{it} \div TA_{it}) + \mu_{2i} (CL_{it} \div TA_{it}) + \varepsilon_{it} \ldots..(5) \text{ for low leverage}$$

$$TQ_{it} = a_i + \pi_{1i} (CA_{it} \div TA_{it}) + \mu_{2i} (CL_{it} \div TA_{it}) + \varepsilon_{it} \ldots..(6) \text{ for high leverage}$$

Where, TQ_{it} - Tobin's q of company i for time period t; $CA_{it} \div TA_{it}$ - current assets to total assets of company i for time period t; π_{1i} - coefficient of current assets to total assets of company i; $CL_{it} \div TA_{it}$ - current liabilities to total assets of company i for time period t; μ_{2i} - coefficient of current liabilities to total assets of company i; α_i – intercept; ε_{it} - error term of the model. The equation was used by Afza and Nazir (2007).

Concerning the three suggested indexes, the following method was used to construct each of them and has been improved by the researcher.

First: The calculation weighted average.

$$\text{Weighted Average } I_t = I_1 \times (I_1 \div \sum I_t) + I_2 \times (I_2 \div \sum I_t) + \ldots\ldots\ldots + I_i \times (I_i \div \sum I_t).$$

Where, I represents the variables, for example TQ; I_1 - TQ for the first company, it is to be repeated for all companies in the sample; $\sum I_t$ - total of I for each company of the sample for the year t .

Second: The calculation of the weighted average index in points.

$$\text{Weighted Average Index in Points}_{(t)} = (\text{Weighted Average } I_t \div \text{Weighted Average } I_{\text{for 2000}}) \times 100.$$

Where, *Weighted Average Index in Points* $_{(t)}$ - weighted average index in points for the year t; *Weighted Average I for 2000* - the index for the year 2000 as the base period .

This study has improved such a methodology to produce three indexes (Current Assets (CA),Current liabilities (CL), Tobin's q (TQ)) that may present the suitable information for mangers and investors.

Results and analysis

Descriptive statistics

Descriptive statistics for small size (Table 2) shows that (Tobin's Q) makes an average of 1.3 times while the standard deviation is 0.74. It shows that companies are able to create value, in the sense that the market value of these companies is higher than the book value. Theoretically, in the long-run equilibrium Tobin's q should be equal to 1. However, as the financial market reacts to new flows of information more rapidly than the real market

does, in the short run Tobin's q can differ from unity (Calderini et al., 2003). As for CA, the highest value is 0.91, and the average stood at 0.53. It has reached a standard deviation of 0.21. The average CL is 0.21 and standard deviation is equal to 0.12. On the other hand, it has reached the lowest number of commitments traded 0.02. This indicates the presence of a significant difference between the companies under consideration in the management of working capital. Descriptive statistics for big size is seen from the Table 3. Tobin's Q is valued at an average of 1.36 times while the standard deviation is 0.72. As for CA, the highest value is 0.88, and the average stood at 0.46. This has reached the standard deviation of 0.19. The average CL 0.23 and standard deviation equal to 0.14. And the lowest percentage was 0.01.

TABLE 2.

Descriptive Statistics for small size					
	N	Minimum	Maximum	Mean	Std. Deviation
TQ	160	0.51	5.83	1.33	0.74
CA	160	0.13	0.91	0.53	0.21
CL	160	0.02	0.66	0.21	0.12
Valid N (listwise)	160				

TABLE 3.

Descriptive Statistics for big size					
	N	Minimum	Maximum	Mean	Std. Deviation
TQ	160	0.53	5.64	1.36	0.72
CA	160	0.02	0.88	0.46	0.19
CL	160	0.01	0.67	0.23	0.14
Valid N (listwise)	160				

TABLE 4.

Descriptive Statistics for low growth					
	N	Minimum	Maximum	Mean	Std. Deviation
TQ	160	0.51	5.83	1.31	0.7
CA	160	0.1	0.91	0.57	0.19
CL	160	0.01	0.68	0.23	0.15
Valid N (listwise)	160				

TABLE 5.

Descriptive Statistics for high growth					
	N	Minimum	Maximum	Mean	Std. Deviation
TQ	160	0.53	5.64	1.41	0.75
CA	160	0.02	0.88	0.43	0.19
CL	160	0.01	0.67	0.23	0.14
Valid N (listwise)	160				

Descriptive statistics for low growth (Table 4) shows that Tobin's Q is valued at an average of 1.31 times while the standard deviation is 0.70; while for CA, the highest value is 0.91, and the average is 0.57. It has reached the standard deviation of 0.19. The average CL is 0.23 and standard deviation is equal to 0.1. Descriptive statistics for high growth is

shown in Table 5. Tobin's Q is valued at an average of 1.41 times while the standard deviation is 0.75. CA on average amounted to 0.43, it has reached the standard deviation of 0.19. The average CL is 0.23 and standard deviation is equal to 0.14. It makes clear that the TQ for companies with high growth rates is higher than the TQ for companies with low growth rates, as well as it is for the standard deviation.

Descriptive statistics for low leverage (Table 6) shows that Tobin's Q is valued at an average of 1.34. CA has the highest value of 0.91 with its average at 0.52. The average CL is 0.17 and standard deviation is equal to 0.09. On the other hand, the minimum of current liabilities is equal to 0.01. Descriptive statistics for high leverage (Table 7) shows that Tobin's Q is on average 1.38 while the standard deviation is 0.70. CA has reached an average of 0.45. The average CL is 0.29 and standard deviation is equal to 0.16. On the other hand, the lowest proportion of current liabilities is equal to 0.01. It is noted that the low values of the current liabilities for companies with high and low debt levels are equal.

TABLE 6.

Descriptive Statistics for low leverage					
	N	Minimum	Maximum	Mean	Std. Deviation
TQ	160	0.54	5.83	1.34	0.75
CA	160	0.1	0.91	0.52	0.2
CL	160	0.01	0.5	0.17	0.09
Valid N (listwise)	160				

TABLE 7.

Descriptive Statistics for high leverage					
	N	Minimum	Maximum	Mean	Std. Deviation
TQ	160	0.53	5.64	1.38	0.7
CA	160	0.02	0.88	0.45	0.18
CL	160	0.01	0.68	0.29	0.16
Valid N (listwise)	160				

Regression analysis

Regression analysis for small size (Table 8) has the high R^2 (0.98). F-Statistic is 258 at 5%, this indicates that there is an explanatory relationship between the independent variables and the dependent variable. The null hypothesis H_{01} is rejected and the alternative is accepted, namely that there was a statistically significant impact of working capital management on the company's value. The value of Durbin-Watson is equal to 1.74. It appears that R^2 is equal to 0.92 for the regression analysis for big size. Value of F-Statistic is 71.26 at 5%. The value of Durbin-Watson is equal to 1.72. So H_{02} hypothesis is rejected and the alternative hypothesis is accepted.

Regression analysis for low growth (Table 9) shows that R^2 is 0.96, F-Statistic - 443.2 at 5%. Thus, H_{03} hypothesis is rejected and the alternative hypothesis is accepted. Regression analysis for high growth has R^2 equal to 0.92 and F-Statistic equal to 62.64 at 5%. The null hypothesis H_{04} is rejected, and the alternative hypothesis is accepted.

Regression analysis for low leverage (Table 10)shows that F-Statistic is significant at 5%. It appears that the null hypothesis H_{05} is rejected and the alternative hypothesis is accepted. Regression analysis for high leverage has F-Statistic equal to 81.68 and

significant at 5%. The null hypothesis H_{06} is rejected and the alternative hypothesis is accepted.

Mann-Whitney-U test was used to test the hypotheses from H_{07} to H_{012}. Table 11 shows that the Z value is equal to -2.77 for the seventh hypothesis and is statistically significant at the level 1%. Thus, the null hypothesis H_{07} is refused and the alternative hypothesis is accepted. Tables 2 and 3 show that the CA average for the companies having small size is equal to 0.53. And the CA average of those companies which have a big size is equal to 0.46. Table 12 shows that the Z value is equal to -1.72 for the eighth hypothesis and is not statistically significant at the level 1%. Thus, the null hypothesis H_{08} is accepted. Tables 2 and 3 show that the average of CL for the companies which have a small size is equal to 0.21, and the CL average of those companies which have a big size is equal to 0.23.

Table 13 shows that the Z value is equal to -3.29 for the ninth hypothesis and is statistically significant at the level 1%. Thus, the null hypothesis H_{09} is refused and the alternative hypothesis is accepted. Tables 4 and 5 show that the average of CA for the companies which have a low growth is equal to 0.57, and the CA average of those companies which have a high growth is equal to 0.43. Table 14 shows that the Z value is equal to -7.08 for the tenth hypothesis and is statistically significant at the level 1%. Thus, the null hypothesis H_{010} is refused and the alternative hypothesis is accepted. Tables 4 and 5 show that the average of CL for the companies which have a low growth is equal to 0.23, and the CL average of those companies which have a high growth is equal to 0.23

Table 15 shows that the Z value equal -5.83 for the eleventh hypothesis and is statistically significant at the level 1%. Thus, the null hypothesis H_{011} is refused and the alternative hypothesis is accepted. Tables 6 and 7 show that the average of CA for the companies which have a low leverage is equal to 0.52, and the CA average of those companies which have a high leverage is 0.45. Table 16 shows that the Z value is -1.05 for the twelfth hypothesis and is not statistically significant at the level 1%. Thus, the null hypothesis H_{012} is accepted. Tables 6 and 7 show that the average of CL for the companies which have a low leverage is equal to 0.17, and the CL average of those companies which have a high leverage is equal to 0.29.

Conclusion

It is noted that the levels of working capital differentiates in the case of small-sized companies and large, with high leverage and low, as was the case for companies with low growth and high growth. This indicates that the level of working capital held by a company is not constant and that the lowest proportion of working capital is not equal to zero in all cases. This indicates that the working capital consists in two parts - permanent and temporary. Permanent working capital is the dollar amount of working capital that remains fairly constant over time, regardless of fluctuations. The company will always maintain some minimum level of working capital.

For the size of the company it is noted from the regression that R^2 for small size companies is higher than for the big size companies; it is also the case for CA-TA coefficient. According to descriptive statistics, the average current assets for companies with small size are higher than the average one for big companies. According to Moss and Stine (1993) working capital is of particular importance to small enterprises compared with large enterprises, and therefore the maintenance of liquid assets in these small firms is highly valued to meet the daily operations and emergency situations. The large enterprises have the capacity of greater access to capital markets, and can thus meet the borrowing commitments faster than small enterprises, so they retain relatively less liquid assets. Kieschnick et al. (2006) established that large companies have the ability to build good relations with suppliers, thereby reducing working capital. Padachi (2006) indicates that that small businesses are not very good in managing their working capital. Given that many small businesses suffer from undercapitalization (they face more restriction), the importance of exerting tight control over working capital investment is difficult to

overstate. And it is noted that the average TQ for companies with big size is higher than the average one for small-sized companies. For the leverage it is noted that the average of current assets for companies with low leverage is higher than the average of current assets for companies with high leverage. According to Nazir and Afza (2008) in the case of increasing in leverage, the company increases interest in the management of working capital efficiently, so as to avoid holding the funds in accounts receivable and inventory.

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Appendix

TABLE 8.

Small size				
Dependent Variable: TQ				
Method: Panel EGLS (Cross-section SUR)				
Date: 01/28/11 Time: 09:42				
Sample: 2000 2007				
Cross-sections included: 5				
Total panel (balanced) observations: 40				
Linear estimation after one-step weighting matrix				
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CL_TA	-2.50	0.48	-5.25	0.00
CA_TA	4.32	0.42	10.39	0.00
C	-0.10	0.20	-0.52	0.61
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.98	Mean dependent var		3.63
Adjusted R-squared	0.98	S.D. dependent var		7.00
S.E. of regression	1.10	Sum squared resid		39.92
F-statistic	258.01	Durbin-Watson stat		1.74
Prob(F-statistic)	0.00			
Unweighted Statistics				
R-squared	0.38	Mean dependent var		1.83
Sum squared resid	31.93	Durbin-Watson stat		0.56

Big size				
Dependent Variable: TQ				
Method: Panel EGLS (Cross-section SUR)				
Date: 01/28/11 Time: 09:44				
Sample: 2000 2007				
Cross-sections included: 5				
Total panel (balanced) observations: 40				
Linear estimation after one-step weighting matrix				
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CL_TA	2.11	0.40	5.26	0.00
CA_TA	0.69	0.19	3.67	0.00
C	0.46	0.10	4.80	0.00
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.93	Mean dependent var		2.21
Adjusted R-squared	0.92	S.D. dependent var		3.62
S.E. of regression	1.05	Sum squared resid		36.72
F-statistic	71.26	Durbin-Watson stat		1.72
Prob(F-statistic)	0.00			
Unweighted Statistics				
R-squared	0.43	Mean dependent var		1.21
Sum squared resid	6.71	Durbin-Watson stat		0.61

TABLE 9.

Low growth				
Dependent Variable: TQ				
Method: Panel EGLS (Cross-section SUR)				
Date: 01/28/11 Time: 09:12				
Sample: 2000 2007				
Cross-sections included: 5				
Total panel (balanced) observations: 40				
Linear estimation after one-step weighting matrix				
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CA_TA	-0.66	0.14	-4.75	0.00
CL_TA	0.58	0.24	2.44	0.02
C	1.24	0.09	14.50	0.00
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.96	Mean dependent var		1.29
Adjusted R-squared	0.95	S.D. dependent var		4.97
S.E. of regression	1.10	Sum squared resid		39.62
F-statistic	128.13	Durbin-Watson stat		1.99
Prob(F-statistic)	0.00			
Unweighted Statistics				
R-squared	0.45	Mean dependent var		1.05
Sum squared resid	2.63	Durbin-Watson stat		1.03

High growth				
Dependent Variable: TQ				
Method: Panel EGLS (Cross-section SUR)				
Date: 01/28/11 Time: 09:29				
Sample: 2000 2007				
Cross-sections included: 5				
Total panel (balanced) observations: 40				
Linear estimation after one-step weighting matrix				
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CL_TA	0.46	0.25	1.90	0.07
CA_TA	5.39	0.55	9.87	0.00
C	-0.53	0.20	-2.57	0.02
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.92	Mean dependent var		4.93
Adjusted R-squared	0.90	S.D. dependent var		3.44
S.E. of regression	1.06	Sum squared resid		37.26
F-statistic	62.64	Durbin-Watson stat		2.17
Prob(F-statistic)	0.00			
Unweighted Statistics				
R-squared	0.58	Mean dependent var		1.68
Sum squared resid	17.81	Durbin-Watson stat		1.19

TABLE 10.

Low leverage				
Dependent Variable: TQ				
Method: Panel EGLS (Cross-section SUR)				
Date: 01/28/11 Time: 09:33				
Sample: 2000 2007				
Cross-sections included: 5				
Total panel (balanced) observations: 40				
Linear estimation after one-step weighting matrix				
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CL_TA	1.23	0.47	2.61	0.01
CA_TA	-0.80	0.17	-4.57	0.00
C	1.65	0.09	18.54	0.00
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.87	Mean dependent var		5.84
Adjusted R-squared	0.85	S.D. dependent var		2.68
S.E. of regression	1.03	Sum squared resid		35.24
F-statistic	38.37	Durbin-Watson stat		1.89
Prob(F-statistic)	0.00			
Unweighted Statistics				
R-squared	0.52	Mean dependent var		1.39
Sum squared resid	7.08	Durbin-Watson stat		0.92

High leverage				
Dependent Variable: TQ				
Method: Panel EGLS (Cross-section SUR)				
Date: 01/28/11 Time: 09:38				
Sample: 2000 2007				
Cross-sections included: 5				
Total panel (balanced) observations: 40				
Linear estimation after one-step weighting matrix				
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CL_TA	0.30	0.46	0.67	0.51
CA_TA	1.58	0.40	3.94	0.00
C	0.91	0.23	4.02	0.00
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.94	Mean dependent var		1.10
Adjusted R-squared	0.93	S.D. dependent var		3.85
S.E. of regression	1.05	Sum squared resid		36.55
F-statistic	81.68	Durbin-Watson stat		1.95
Prob(F-statistic)	0.00			
Unweighted Statistics				
R-squared	0.49	Mean dependent var		1.61
Sum squared resid	9.02	Durbin-Watson stat		0.97

TABLE 11.

	NPar Tests	**Mann-Whitney Test - "Size"**				
Ranks						
	VAR00002	N	Mean Rank	Sum of Ranks	Test Statistics(a)	
CA	1.00	160.00	174.85	27976.00		CA
	2.00	160.00	146.15	23384.00	Mann-Whitney U	10504.00
	Total	320.00			Wilcoxon W	23384.00
					Z	-2.77
					Asymp. Sig. (2-tailed)	0.01
					a	Grouping Variable: VAR00002

TABLE 12.

	NPar Tests	**Mann-Whitney Test - "Size"**				
Ranks					Test Statistics(a)	
	VAR00002	N	Mean Rank	Sum of Ranks		CL
CL	1.00	160.00	151.62	24259.00	Mann-Whitney U	11379.00
	2.00	160.00	169.38	27101.00	Wilcoxon W	24259.00
	Total	320.00			Z	-1.72
					Asymp. Sig. (2-tailed)	0.09
					a	Grouping Variable: VAR00002

TABLE 13.

	NPar Tests	**Mann-Whitney Test – "Leverage"**				
Ranks					Test Statistics (a)	
	VAR00002	N	Mean Rank	Sum of Ranks		CA
CA	1.00	160.00	177.49	28399.00	Mann-Whitney U	10081.00
	2.00	160.00	143.51	22961.00	Wilcoxon W	22961.00
	Total	320.00			Z	-3.29
					Asymp. Sig. (2-tailed)	0.00
					a	Grouping Variable: VAR00002

TABLE 14.

	NPar Tests	**Mann-Whitney Test- Leverage**				
Ranks					Test Statistics (a)	
	VAR00002	N	Mean Rank	Sum of Ranks		CL
CL	1.00	160.00	123.86	19818.00	Mann-Whitney U	6938.00
	2.00	160.00	197.14	31542.00	Wilcoxon W	19818.00
	Total	320.00			Z	-7.08
					Asymp. Sig. (2-tailed)	0.00
					a	Grouping Variable: VAR00002

TABLE 15.

	NPar Tests	**Mann-Whitney Test - Growth**				
Ranks					Test Statistics (a)	
	VAR00002	N	Mean Rank	Sum of Ranks		CA
CA	1.00	160.00	190.63	30501.00	Mann-Whitney U	7979.00
	2.00	160.00	130.37	20859.00	Wilcoxon W	20859.00
	Total	320.00			Z	-5.83
					Asymp. Sig. (2-tailed)	0.00
					a	Grouping Variable: VAR00002

TABLE 16.

	NPar Tests	**Mann-Whitney Test - Growth**				
Ranks					Test Statistics (a)	
	VAR00002	N	Mean Rank	Sum of Ranks		CL
CL	1.00	160.00	155.06	24809.00	Mann-Whitney U	11929.00
	2.00	160.00	165.94	26551.00	Wilcoxon W	24809.00
	Total	320.00			Z	-1.05
					Asymp. Sig. (2-tailed)	0.29
					a	Grouping Variable: VAR00002