Impact of Global Financial Crises on Corporate Liquidity Levels: A Study of selected Oil and Gas Marketing Companies quoted on the Nigerian Stock Exchange.

Mide Philemon,
Lecturer, Department of Accountancy,Federal Polytechnic, PMB 05, Bali,
Taraba State, Nigeria.

ABSTRACT

This research investigates whether the liquidity levels of marketing oil and gas companies quoted on the Nigerian Stock Exchange were affected by the 2007-2010 financial crises. A paired sample t-test was performed by comparing the means values of companies during the pre-financial crises and the crisis periods. The result shows that the liquidity levels of the oil and gas companies in Nigeria were adversely affected during 2007-2010 financial crises. The study recommends strategic matching of cash inflows/outflows, external equity sourcing, and harnessing of the gas resources to complement funds needed for capital intensive projects.

Keywords: *financial crises, Liquidity, cash and cash equivalent, oil and gas*

Abbreviations:

LiqAP = Liquidity of African Petroleum Nig Plc
LiqChe = Liquidity of Chevron Nigeria Plc
LiqCon = Liquidity of ConOil Nigeria Plc
LigEte = Liquidity of Ternal Oil Nigeria Plc
LiqJap= Liquidity of Japaul Oil Nigeria Plc
LiqMob=Liquidity of Mobil Nigeria Plc
LiqOan= Liquidity of Oando Nigeria Plc
LiqTot= Total Nigeria Plc

1 Introduction

1.1 Background of the study

The economic position of petroleum sector in Nigerian economy is large and immensely important, with its oil contributing nearly 2.13% of global production, 3.2 billion barrels in reserves and Nigeria has the world's tenth largest proven reserves i.e. 3.1% of global reserves (Akinlo, 2012)
However, this vital industry faces frequent distortions of different forms in the economic environment where it operates, one of which is financial crisis and the attendant consequences thereof.
According to Gibson and Mougeot (2004), recent financial crises suggest that in such periods of tight credit and market conditions, liquidity can drop and temporarily dry out with gross consequential effects on all economic activities. Any economic downturn increases financial lending risk since many of their customers and would-be customers may face bankruptcy. Furthermore, there were a number of instances whereby banks closed down during and after the financial crisis, breaking relationship-specific ties and some credit-worthy businesses may have lost access to finance (Narjoko and Hill, 2006; Ivashina and Scharfstein, 2010).
It has been reported that there was banks' liquidity dried up during financial crises with an aggregate drop of $503 billion in the total liquid capacity of large banks (Lesmond, 2005). The unique feature of the recent financial crisis that crashed the global economy was that it was characterised by high spreadable speed. Moreover, the crisis was not limited to the sphere of financial markets but had a major impact on real economic activity, inducing the largest global recession since the great depression (Chudik and Fratzscher, 2011). From the contractual point of view, among other reasons, ensuring the maintenance of a certain level of liquidity is important not only to the oil and gas sector, but to all businesses. This is because the most profitable firm can go bankrupt if its liquidity becomes insufficient. Since the oil and gas industry does not operate in a vacuum, it is likely that its liquidity position will not be insusceptible from the adverse consequences of financial crises. However, only through statistical analysis that evidence will highlight how the recent financial crisis affected the liquidity position of the oil and gas industry operating in Nigeria. The ability to provide evidence here will equip businesses with an operational key to use in formulating liquidity policies.

In this context, financial crisis is defined as a non-linear interruption to financial systems in which the asymmetric information problems of adverse selection and moral hazard becomes worse, in such that the financial markets are no longer efficiently able to direct fund flows to the most productive investment opportunities. And, liquidity is the ability of a business to meet its short term obligations or take advantage of viable economic opportunities (Huang and Wang, 2010). Thus, did the recent financial crisis significantly affect the liquidity position of oil and gas companies quoted on the Nigerian stock exchange?
The objective of this study is to determine if the liquidity positions of the selected marketing oil and gas companies operating in Nigeria shrank during the 2007-2010 financial crises.

1.2 Research Hypothesis

H_o: Mean cash positions of 'oil and gas marketing companies quoted on the Nigerian stock exchange' during the pre-financial crisis period is not more than their corresponding mean cash positions during the financial crisis period.

H_1: Mean cash positions of 'oil and gas marketing companies quoted on the Nigerian stock exchange' during the pre-financial crisis period is more than their corresponding mean cash positions during the financial crisis period.

1.3 Limitations of the Study

1) The timing of the period comprised the period 2003-2010. This was divided into two (i.e. pre-financial crises period, from 2003-2006; and financial crises period, from 2007-2010).
2) This research covered only the major oil marketers that are quoted on the Nigeria Stock Exchange and are having quarterly published statements.
3) Differences in the accounting periods of the oil and gas companies to be examined may pose timing difficulties. Thus, all companies are assumed to have an accounting period starting from January 1.
4) Some of the oil and gas companies used in this study are subsidiaries or have related party affiliations to other foreign companies. This makes demarcation difficult, since the activities of the affiliates affect the entire group. Also, some companies indulged in both upstream and downstream activities.
5) The definition of liquidity as cash is limited to cash and cash equivalents.

2 Literature Review

2.1 Recent Related Studies on Liquidity Crises

According to Jin, Kiridaran and Gerald (2011), many financial institutions collapsed or were bailed out by government since the beginning of the financial crisis in 2007. Their research was prompted by studies such as that of Qian, John and John (2004) who analysed issues related to liquidity management and; Ivashina and Scharfstein (2010) who analysed the prediction of bank failure under period of liquidity crisis.

Several reasons were offered for most financial crises: speculations (Huang and Wang, 2010); moral hazards in financial market (Blundell and Atkinson 2009); collapse of the bubble economy (Jiang et al. 2010). Hahm and Mishkin (2000) pointed out that an elaborate literature on the studies of the causes of financial crises is in Melvin and Taylor (2009). Charoenseang and Manakit (2002) observed that many studies that have been channelled towards analysing the causes of the financial crisis were targeted at the behavioural implications within the financial sector such as irrational behaviour and non-profit maximising incentives. After the 2008 financial crisis, Campello, Graham and Harvey (2010) conducted a survey by interviewing 1050 Chief Financial Officers (CFOs) in 39 countries in North America, Europe and Asia, with the aim of measuring the constraint and cross-sectional variation in corporate behaviour during the crisis. Thus it could be seen that while much of the recent research emphasised the consequences of the financial crisis on economic growth (Kroszner, Laeven and Klingebiel, 2007), financial markets or investment (Blalock, Gertler and Levine, 2008), reasonable studies in the past have been directed toward studying the financial crisis that devastated the Asian economy (Jin, Kiridaran and Gerald, 2011).

It is also important to note that most previous research on liquidity constraint was based on the financial data filed by the US public companies with few others on the emerging economies of Asian countries (Campello, Graham and Harvey, 2010).

2.2 Economic Consequences of Liquidity Crises

Until recently, empirical research on financial crises focused on the causes. Evidence has proved that financial crises negatively affect virtually all other sectors. In their studies, Hahm and Mishkin (2000) found that the financial crisis shrank GDP growth rates (at 5% to 10%), causing unemployment levels to rise above 6% of the pre-liquidity crisis level. Lesmond (2005) added that during the financial crises, alternative sources of financing become scarce because of stock market crash; and foreign lenders and investors pull out their money. These views were earlier summed up - that financial crises are the results of long-term accumulated fundamental problems in banking systems and are triggered by bankruptcy of large companies (Chen, 2004).

In a related vein, Blacklock, Gertler and Levine (2008) asserted that the consequence of liquidity crises adversely affects currency devaluation and a crippling decline of the banking sector. Therefore, limited credit supply hampered the Indonesian manufacturing exports (Blalock, Gertler and Levine, 2008) due to the illiquid nature caused during the currency crisis.

Hence, the findings of Blacklock, Gertler and Levine (2008) showed that the imperfections in the financial market reduced exporters' investments and thus generated emerging market crises whereas Kroszner, Laeven and Klingebel (2007) provide evidence of adverse effects of financial shocks on corporations. From another perspective, the analysis of Campello, Graham and Harvey (2010) examined the impact of credit conditions on corporate investment during the liquidity crisis. Their findings indicated that 86% of constrained US firms said that they skipped attractive investments as a result of liquidity inadequacies. In addition, their findings indicated that 56% of constrained US firms cancelled viable investment projects due to liquidity crash and more than half of the surveyed firms said they rely on internally generated cash flows to fund investment.

Kroszner, Laeven and Klingebel (2007), examined whether sectors that are extensively depending on external finance perform relatively poorer during financial crises compared to their counterparts that source funds internally. This is similar to the work of Rajan and Zingales (1998), which studied the link between external financial dependence and industrial growth during financial crises. In these studies, a positive relationship between firms' growth, liquidity levels and firms' external sourcing of finance was observed.

However, a number of contradictory results from research related to liquidity crises prompted for more studies to be conducted in this area using different approaches and in different settings. For instance, the findings of Perterson and Rajan (1997) showed that trade credit is boosted during financial crises while the contrary view was the findings of Love, Preve and Sarria (2007) which proved that countries had sharper decline in bank credit during financial crises.

3 Research Methodology

This study is a descriptive research that uses analytical procedures. In this study, secondary data (quantitative data) were collected from the published financial statements of selected oil and gas marketing companies. These were presented using the descriptive tools (see appendixes). The analysis was made with the aid of SPSS software in which a sample t-test was used for comparison of means tested at 5% significance level. The time period under which the sample is collected and analysed is divided into the pre-crisis period (i.e. from the year 2003-2006) and the crisis period (i.e. from the year 2007-2010). A similar approach to crisis timing used in Lesmond (2005) and Love et al (2007), is adopted in this study.

Throughout the analysis of this study, liquidity is defined as 'cash and cash equivalent' as it is employed in Demigroglu and James (2011). Part of the process of the analysis of this study follows the methodology used in Hahm and Mishkin (2000) where they used accounting techniques in examining the balance sheets of Korean firms with external liabilities of over ($US 100 million) during the 1997 Asian financial crises. The sample of troubled banks was classified based on profitability, loan quality and general balance sheet position. This study, however, will employ the use of descriptive tools using Eviews on the variables from the cash flow statements /balance sheets of all the oil and gas companies quoted on the Nigerian stock exchange.

All the oil and gas companies quoted on the Nigerian stock exchange ought to be used in the analysis since the total targeted population has elements less than 30. However, a total of eight (8) out of the total of eighteen (18) companies will constitute the sample of the research. This is because it is only this eight companies that are having their data (financial statement) published from that time-frame in which this study is examining. Company re-structuring like merger and acquisition rendered some of the companies not suitable for the research.

3.1 Paired Sample T-test

In order to test the hypotheses raised in the paragraph above, the paired sample t-test is employed. This test is otherwise called the related sample experimental test which is synonymous with the classical experimental research of comparing two variables - pre-test and post-test (Voelkl and Gerber 2000). Hence this study adopts the pairing of same variable (liquidity values) of each company during pre-crisis and crisis periods to see if there are significant differences.

Paired measurement occurs when two variables are made from same observation such that one is taken as 'before' and the other is regarded as the 'after' value, then the difference between the two matched values is taken and measured to see if it is statistically significant (Voelkl and Gerber 2000). Paired-sample T-test is used to measure if the mean of the observations' differences value is equal to zero. The decision on the significance of the differences of the p-value depends on whether the p-value from the SPSS output is greater than 0.05. A decision about H_o can be made by reference to the t-distribution table (N-1) degrees of freedom or by using the SPSS (Voelkl and Gerber 2000). Conclusively, this implies that the mean values of the liquidity of companies during the pre-crisis period (2003-2006) will be compared to the corresponding values for the crisis period (2007-2010).

4.0 Data Analyses

In this section, the data collected from the financial statement of the sampled oil and gas marketing companies were analysed. the result is summarised and interpreted below.

4.1 Result of Data Analyses (see details in Appendixes)

Company	T-Statistic	P-Value
LiqAP	**-1.7**	**0.183**
LiqChe	**.085**	**0.937**
LiqCon	**-1.47**	**0.236**
LigEte	**-.243**	**0.824**
LiqJap	**.993**	**0.394**
LiqMob	**-0.440**	**0.690**
LiqOan	**0.397**	**0.718**
LiqTot	**0.102**	**0.925**

Source: Author's calculation using the data in Africanfinancials (2012)

Interpretation:

The sample t-test output in table 4.1 above indicated that the p-value is significant since

0.925/2=0.4625; 0.183/2=0.092; 0.937/2=0.469; 0.236/2=0.118, 0.824/2=0.412; 0.394/2=0.197; 0.718/2=0.359; 0.690/2=0.345; 0.925/2=0.4625 are all greater than 0.05.

Thus, reject H_o and conclude that there is sufficient evidence to conclude that the recent financial crisis significantly affected the liquidity position of each of the eight marketing oil and gas companies quoted on the Nigeria Stock Exchange.

4.2Discussion of Findings

The basis for this research relied on the findings made by Kroszner, Laeven and Klingebel (2007) whose study showed that there was evidence of adverse effects of financial shocks on selected corporations during the global financial crisis. The statistical tests conducted in this study provide evidence to conclude that the oil and gas companies operating in Nigeria had liquidity hiccups during the 2007-2010 global financial crisis. In an effort to establish concluding fact, a paired sample t-test was conducted on all the sampled companies and the results have indicated that all of the companies in the study had a significant drop in the mean values of their liquidity levels as compared to the liquidity positions prior to the crisis period. A number of unfavourable factors could have prompted this. First, these companies may have not have guarded their liquidity flows consistently with much caution before the crisis set in. Pokutta and Schmaltz (2011) pointed out that financial management is essential to the sustenance of liquidity in businesses.

Pokutta and Schmaltz (2011) further emphasised that the inability of firms to achieve effective matching of outgoing cash flows and incoming cash flows is what resulted in financial difficulties. Second, government bailout measures in combating adverse effects of the financial crisis might not have been enough to prevent the liquidity crunch from reflecting in the financial statements of those oil and gas companies. The result of the analysis in this study is consistent with the findings of Blacklock, Gertler and Levine (2008) which stated that the consequence of financial crises adversely affect currency valuation and credit supply thereby hampering businesses' operations. This however contradicted the study of Ivashina and Scharfstein (2009) which showed that the amount of funds raised in the last quarter of 2008 by manufacturing firms was larger than the same average in the first half of 2007 (in the pre-crisis period). These two varied findings, though on different samples, aligned with the conclusive perspective of Campello, Graham and Harvey (2010) who in their research on corporate investment during the liquidity crisis concluded that some of the firms in the US were constrained while others were not.

5.0 Conclusion and Recommendations

5.1 Conclusion

Based on review of related literature, analysis and interpretation of data, and general observations, the following are the major conclusions of the study:

1) The paired sample t-test showed that there is significant evidence to conclude that the liquidity levels of oil and gas companies were affected during the 2007-2010 financial crisis.

2) Considering the fact that the study targeted the Nigerian oil and gas sub-sector because of its importance to the nation's economy, a boom in the oil sector boosts the whole economic activities while a collapse does the reverse. Thus, since the study found that the financial crisis adversely affected the liquidity of these companies, this will invariably affect their performance, which to a larger extent will have a multiplier effect on the entire economic sectors.

3) The period of financial crisis in 2007-2010 coincided with persistent oil price increase, a favourable profitable term to the oil and gas industry. Thus, under a normal economic setting, the oil and gas companies should not encounter liquidity problem since they were reporting surplus profits. It could therefore be inferred that the unfavourable liquidity position of their customers (other economies) was directly affecting them since some of their transactions may have been done on long-term credit contracts. The sudden fall in the prices of oil at later periods during the crisis might have worsened the liquidity positions.

5.2 Recommendations

Based on the findings/conclusions of the study, the following recommendations are hereby made for improvement:

1) The regulatory policies governing Foreign Direct Investment (FDI) should make provisions that will safe-guards the nation's oil industry from imported financial crises.

2) From the operational point of view, it is necessary to diversify the sources of finance of the industry.

3) From the managerial aspect, the matching of cash flows is eminent in maintaining a sustainable liquidity levels.

4) Pay-back period of investment analyses is crucial. Thus, Investment in long-term capital projects such as exploration and development cost should only be carried out from a matching external equity sourcing.

5) Other managerial practices like trend forecasting, dividend pay-out policy and credit policies are short-term helpful approaches in maintaining the liquidity levels in companies.

References

1. African Financials (2012) Oil and Gas Annual Reports. {Online}. Available from: **http://www.africanfinancials.com/Company_Sector.aspx?ssUID=31** [Accessed 22nd June 2012].
2. Akinlo, A.E (2012) How Important is Oil in Nigeria's Economic Growth? *Journal of Sustainable Development.* 5(4);pp. 1-10
3. Blalock, G., Gertler, P. J. and Levine, D. I. 2008. Financial constraints on investment in an emerging market crisis. *Journal of Monetary Economics*. 55(3): pp.568-591.
4. Campello, M., Graham, J. R. and Harvey, C. R. 2010. The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics*. 97(3): pp.470-487.
5. CBN, 2011. *Statistical bulletin.* [online]. Available from: http://www.cenbank.org/documents/Statbulletin.asp [Accessed 22nd June 2012].
6. Chen, J. 2004. Credit distortion and financial crisis. *International Review of Financial Analysis*. 13(4): pp.559-570.
7. Chudik, A. and Fratzscher, M. 2012. Identifying the global transmission of the 2007-2009 financial crisis in a GVAR model. *European Economic Review*. 55(3): pp.325-339.
8. Demiroglu, C. and James, C. 2012. The use of bank lines of credit in corporate liquidity management: A review of empirical evidence. *Journal of Banking & Finance*. 35(4): pp.775-782.
9. Gibson, R. and Mougeot, N. 2004. The pricing of systematic liquidity risk: Empirical evidence from the US stock market. *Journal of Banking & Finance*. 28(1): pp.157-178.
10. Hahm, J. H. and Mishkin, F. S. 2000. The Korean financial crisis: an asymmetric information perspective. *Emerging Markets Review*. 1(1): pp.21-52.

11. Huang, J. and Wang, J. 2010. Market liquidity, asset prices, and welfare. *Journal of Financial Economics*. 95(1): pp.107-127.

12. Ivashina, V. and Scharfstein, D. 2009. *Liquidity mangement in the financial crises*. [online]. Available from: http://isites.harvard.edu/fs/docs/icb.topic614567.files/Paper_05.5_03-08_Ivashina.pdf [Accessed 22nd June 2012].

13. Ivashina, V. and Scharfstein, D. 2010. Bank lending during the financial crisis of 2008. *Journal of Financial Economics*. 97(3): pp.319-338.

14. Kroszner, R. S., Laeven, L. and Klingebiel, D. 2007. Banking crises, financial dependence, and growth. *Journal of Financial Economics*. 84(1): pp.187-228.

15. Lesmond, D. A. 2005. Liquidity of emerging markets. *Journal of Financial Economics*. 77(2): pp.411-452.

16. Love, I., Preve, L. A. and Sarria-Allende, V. 2007. Trade credit and bank credit: Evidence from recent financial crises. *Journal of Financial Economics*. 83(2): pp.453-469.

17. Melvin, M. and Taylor, M. P. 2009. The global financial crisis: Causes, threats and opportunities. Introduction and overview. *Journal of International Money and Finance*. 28(8): pp.1243-1245.

18. Petersen, M. A. and Rajan, R. G. 1997. *Trade credit: theories and evidence*. [online]. Available from: http://rfs.oxfordjournals.org/content/10/3/661.abstract [Accessed 22 March 2012].

19. Pokutta, S. and Schmaltz, C. 2012. Managing liquidity: Optimal degree of centralization. *Journal of Banking & Finance*. 35(3): pp.627-638.

20. Rajan, R. G. and Zingales, L. 1998. *Financial dependence and growth*. [online]. Available from: http://faculty.chicagobooth.edu/raghuram.rajan/research/papers/growth.pdf [Accessed 24th June 2012].

21. Voelkl, K. E. and Gerber, S. B. 2000. *Using SPSS for windows data analyses and graphics*. Newyork: Springer

22. Welman, J. C. and Kruger, S. J. 2001. *Research methodology for business and administrative sciences*. 2nd ed. Cape Town: Oxford university press

APPENDIXES

T-Test

Table A: Paired Sample T-test of AP Plc

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-crises AP	943130.00	4	1933547.966	966773.983
	Crises AP	783572.50	4	9.078E7	4.539E7

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-crises AP & Crises AP	4	-.632	.368

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-crises AP - Crises AP	-7.930E7	-2.257E8	6.711E7	-1.7	3	.183

Source: Author's plot using the data in Africanfinancials (2012)

T-Test

Table B:Paired Sample T-test of Chevron Nigeria Plc.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre Crises-Chev	476261.50	4	2087519.681	1043759.841
	Crises Chev	391115.50	4	281154.593	140577.297

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre Crises-Chev & Crises Chev	4	.392	.608

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre Crises-Chev- Crises Chev	85146	-3088079	3258371.1	.085	3	.937

Source: Author's calculation using the data in Africanfinancials (2012)

T-Test

Table C:Paired Sample T-test of Con Plc

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Crises Con	-5232.75	4	6897275.154	3448637.577
	Crises Con	-11771.50	4	66508.269	33254.134

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-Crises Con & Crises Con	4	.309	.691

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-Crises Con - Crises Con	-5079461.2	-1.602E7	5863437.18	-1.47	3	.236

Source: Author's calculation using the data in Africanfinancials (2012)

T-Test

Table D: Paired Sample T-test of Ete Oil Plc

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-crises Ete	369862.50	4	389521.269	194760.635
	Crises Ete	140625.00	4	1.186E8	5.932E7

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-crises Eternal & Crises Eternal	4	-.249	.751

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-crises Eternal - Crises Eternal	-1.440E7	-2.033E8	1.745E8	-.243	3	.824

Source: Author's calculation using the data in Africanfinancials (2012)

T-Test

Table E:Paired Sample T-test of Jap oil Plc

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-crises Japaul	14028625.00	4	1.186E8	5.932E7
	Crises Japaul	-2.32E8	4	3.896E8	1.948E8

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-crises Japaul & Crises Japaul	4	-.869	.131

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-crises Japaul - Crises Japaul	2.465E8	-5.431E8	1.036E9	.993	3	.394

Source: Author's calculation using the data in Africanfinancials (2012)

T-Test

Table F:Paired Sample T-test of Mob Plc.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Crises Mobil	-7633984.75	4	2601377.520	1300688.760
	Crises Mobil	-294697.75	4	862887.046	431443.523

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-Crises Mobil & Crises Mobil	4	.661	.339

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-Crises Mob - Crises Mob	-468701.0	-3861338	2923936.0	-.440	3	.690

Source: Author's calculation using the data in Africanfinancials (2012)

T-Test

Table G:Paired Sample T-test of Oan Plc

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Crises Oan	-371067.50	4	3998127.060	1999063.530
	Crises Oan	-2641295.00	4	1.345E7	6725685.145

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-Crises Oan & Crises Oan	4	.615	.385

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-Crises Oan - Crises Oan	2270227.5	-1.592E7	2.046E7	.397	3	.718

Source: Author's calculation using the data in Africanfinancials (2012)

T-Test

Table H:Paired Sample T-test of Tot Plc.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Crises Tot	-418106.00	4	3015411.907	1507705.954
	Crises Tot	-648032.00	4	3812670.730	1906335.365

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-Crises Tot & Crises Tot	4	.146	.854

Paired Samples Test

		Paired Differences			T	df	Sig. (2-tailed)
		Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
Pair 1	Pre-Crises Tot - Crises Total	229926	-6935624.7	7395476.3	.102	3	.925

Source: Author's calculation using the data in Africanfinancials (2012)