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**CORPORATE CASH HOLDING: AN EMPIRICAL  
INVESTIGATION OF PUBLIC LISTED COMPANIES FOR  
TRADING/SERVICE SECTOR IN MALAYSIA**

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**MASTER OF SCIENCE**

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**CORPORATE CASH HOLDING: AN EMPIRICAL  
INVESTIGATION OF PUBLIC LISTED COMPANIES FOR  
TRADING/SERVICE SECTOR IN MALAYSIA**

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**Pusat Pengajian Pengurusan  
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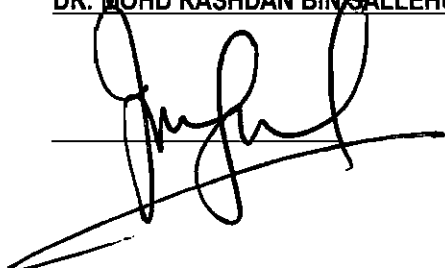
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## ABSTRACT

This study investigates the empirical investigation between corporate cash holdings as the dependent variable and firm size, cash flow volatility, leverage and capital expenditure as independent variable by taking Malaysia trading/service sector of public listed companies as the sample over the period from 2014 to 2016. This study applied tradeoff and pecking order theory in order to show briefly on corporate cash holdings level. Descriptive analysis and hypothesis analysis are employed to analyze the relationship between those variables. The findings of this study reveal that firm size and leverage are negatively correlated to corporate cash holdings while cash flow volatility and capital expenditure highlights positive relationship to corporate cash holdings as for both tradeoff and pecking order theory. The excess cash holdings are a sign that the firm tends to retain the cash rather than pay it via dividends and there is a possibility that the cash is employed for non-pecuniary benefits which is not analogous to the shareholders' interest. The negative relationship shown by firm size might suggest that larger the firm size enables a firm to gather retain earnings where precisely debt is not important. For leverage, the negative relationship might indicate that corporations having ability to issue new debts holds less cash and used to fund new investments. The positive relationship is exhibited by cash flow volatility and capital expenditure. Companies fail to finance all profitable projects and faces larger cost of external financing where company can be short of liquid asset as suggested by both theories. Companies with high capital expenditure will face high amount of cash due to high cost in capital market reflects financial distress.

*Keywords: corporate cash holdings, firm size, cash flow volatility, leverage, capital expenditure, tradeoff theory, pecking order theory*

## ABSTRAK

Kajian ini menyiasat empirikal antara pegangan tunai korporat sebagai pembolehubah bergantung dan saiz firma, turun-naik aliran tunai, leverage dan perbelanjaan modal sebagai pemboleh ubah bebas untuk syarikat-syarikat dari sektor Perdagangan/Perkhidmatan di Malaysia dari tahun 2014 hingga 2016. Kajian ini menggunakan teori perintah dan teori perdagangan untuk menunjukkan secara ringkas tahap pegangan tunai korporat. Analisis deskriptif dan analisis hipotesis digunakan untuk menganalisis hubungan antara pembolehubah yang digunakan dalam kajian ini. Hasil dari dapatan kajian ini mendedahkan bahawa saiz firma dan leverage menunjukkan gambaran korelasi antara pembolehubah. Pegangan tunai lebih adalah tanda-tanda bahawa firma cenderung untuk mengekalkan tunai dan bukannya membayar melalui dividen dan terdapat kemungkinan bahawa tunai digunakan untuk faedah-faedah bayaran yang tidak serupa kepada kepentingan pemegang-pemegang saham. Hubungan negatif yang ditunjukkan oleh saiz firma mencadangkan bahawa saiz syarikat yang lebih besar membolehkan saiz firma untuk mengekalkan pendapatan di mana hutang adalah tidak penting. Manakala, bagi leverage, hubungan negatif menunjukkan bahawa syarikat-syarikat yang mempunyai keupayaan untuk mengeluarkan hutang baru memegang tunai yang rendah dan digunakan untuk membiayai pelaburan baru. Hubungan positif ditunjukkan oleh turun-naik aliran tunai dan perbelanjaan modal. Syarikat gagal untuk membiayai semua keuntungan projek dan menghadapi kos luaran pembiayaan yang besar di mana syarikat boleh kekurangan aset sebagaimana yang dicadangkan oleh kedua-dua teori ini. Syarikat dengan perbelanjaan modal yang tinggi akan menghadapi jumlah tunai disebabkan oleh kos yang tinggi dalam pasaran modal dan mencerminkan dalam kesulitan kewangan.

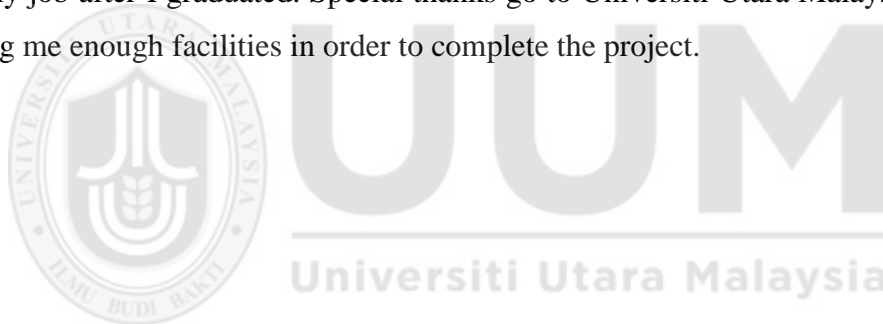
*Kata kunci: pegangan tunai korporat, saiz firma, turun-naik aliran tunai, leverage, perbelanjaan modal, teori perintah, teori perdagangan*

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## LIST OF ABREBRIATIONS

TOT	Trade-off theory
POT	Pecking order theory
H1	Hypothesis 1
H2	Hypothesis 2
H3	Hypothesis 3
H4	Hypothesis 4
CASH	Corporate cash holding
FSIZE	Firm Size
CFV	Cash flow volatility
LEV	Leverage
CAPEX	Capital expenditure



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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This chapter will assist as a preliminary segment of the research. The outline of the determinants of cash holdings for trading/service sector in Malaysia public listed companies are reviewed and observed. Moreover, the objectives of the research are presented in order to framework the enthusiasm of this study.

In addition, elements that will be explained in this chapter are the overview of the importance and determinants of corporate cash holdings, the problem statements, analyzing the research questions, discussion on the objectives of the research to be achieved upon the completion of research paper and explanation on the rationalization of the significance of the study. Finally, review on the structure of research paper is developed.

### 1.2 Background of the Study

In financial environment without asymmetric information, taxes and agency and transaction costs, firms would not have need to hold cash since there are no benefits or costs of allocating cash. The best clarification for determinants of holding cash was proposed by (Keynes, 1936). Keynesian monetary hypothesis expressed that both the state government and private divisions assumes an imperative part in the soundness of economy. Cash is the liquid of economy where government needs legitimate financial and monetary arrangement and firms need satisfactory cash to support its liquidity. In his distribution, Keynes (1936) illustrated three reasons or thought processes in holding cash.

- Transaction motive – cash is held to pay for goods or services. It is helpful for directing ordinary transactions or purchases.



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## LIST OF APPENDICES

### Appendix A: Public Listed Companies (Trading/Service Sector)

Companies on Bursa Malaysia listed under the Main Markets.

Company	Category	Market Cap	Last Price	PE	DY	ROE
AAX (5238) AIRASIA X BERHAD	Trading-Services	1.452b	0.35	27.13	0.00	5.38
AEGB (5166) ASIAMET EDUCATION GROUP BERHAD	Trading-Services	65.58m	0.16	-	62.50	-34.74
AEON (6599) AEON CO. (M) BHD	Trading-Services	2.541b	1.81	30.32	1.66	4.42
AHB (7315) AHB HOLDINGS BERHAD	Trading-Services	51.93m	0.30	61.46	0.00	0.53
AIM (0122) ADVANCE INFORMATION MARKETING BERHAD	Trading-Services	66.51m	0.25	-	0.00	-3.07
AIRASIA (5099) AIRASIA BERHAD	Trading-Services	10.594b	3.17	6.11	3.79	27.88
AIRPORT (5014) MALAYSIA AIRPORTS HOLDINGS BERHAD	Trading-Services	13.522b	8.15	55.90	1.23	2.75
ALAM (5115) ALAM MARITIM RESOURCES BERHAD	Trading-Services	157.16m	0.17	-	0.00	-19.05
AMEDIA (0159) ASIA MEDIA GROUP BERHAD	Trading-Services	20.35m	0.09	-	0.00	-17.78
AMWAY (6351) AMWAY (MALAYSIA) HOLDINGS BERHAD	Trading-Services	1.159b	7.05	22.87	4.26	24.28
ANALABS (7083) ANALABS RESOURCES BERHAD	Trading-Services	135.65m	2.26	12.50	1.44	4.19
ANCOMLB (0048) ANCOM LOGISTICS BERHAD	Trading-Services	54.43m	0.12	-	0.00	-15.60

APFT (5194) APFT BERHAD	Trading-Services	30.98m	0.03	-	0.00	-
ARMADA (5210) BUMI ARMADA BERHAD	Trading-Services	4.341b	0.74	-	1.11	-17.89
ASB (1481) ADVANCE SYNERGY BERHAD	Trading-Services	91.50m	0.14	38.57	1.85	0.54
ASIABIO (0150) ASIA BIOENERGY TECHNOLOGIES BERHAD	Trading-Services	81.06m	0.18	1.19	0.00	62.27
ASTRO (6399) ASTRO MALAYSIA HOLDINGS BERHAD	Trading-Services	14.807b	2.84	20.06	4.40	108.09
ATLAN (7048) ATLAN HOLDINGS BHD.	Trading-Services	1.106b	4.36	21.96	2.52	10.08
AVI (8885) AVILLION BERHAD	Trading-Services	287.61m	0.34	-	0.00	-1.90
AWC (7579) AWC BERHAD	Trading-Services	262.27m	0.98	12.36	2.04	14.31
AXIATA (6888) AXIATA GROUP BERHAD	Trading-Services	48.134b	5.32	83.65	1.50	2.28
AYS (5021) AYS VENTURES BERHAD	Trading-Services	171.19m	0.45	7.00	5.56	9.89
BARAKAH (7251) BARAKAH OFFSHORE PETROLEUM BERHAD	Trading-Services	330.56m	0.40	-	0.00	-49.82
BAUTO (5248) BERMAZ AUTO BERHAD	Trading-Services	2.402b	2.08	24.47	5.60	22.97
BCMALL (0187) BCM ALLIANCE BERHAD	Trading-Services	73.72m	0.18	22.73	2.29	8.56
BHS (7241) BHS INDUSTRIES BERHAD	Trading-Services	169.60m	0.37	-	0.00	-9.12
BINTAI (6998) BINTAI KINDEN CORPORATION BERHAD	Trading-Services	50.68m	0.18	-	0.00	-10.39
BIPORT (5032)	Trading-Services	2.783b	6.05	18.27	3.97	12.77

<b>BINTULU PORT HOLDINGS BERHAD</b>						
<b>BISON (5275)</b> <b>BISON CONSOLIDATED BERHAD</b>	<b>Trading-Services</b>	903.85m	2.65	39.20	0.75	12.29
<b>BJCORP (3395)</b> <b>BERJAYA CORPORATION BERHAD</b>	<b>Trading-Services</b>	1.896b	0.39	11.92	2.60	2.32
<b>BJFOOD (5196)</b> <b>BERJAYA FOOD BERHAD</b>	<b>Trading-Services</b>	659.72m	1.73	56.54	2.02	2.89
<b>BJLAND (4219)</b> <b>BERJAYA LAND BERHAD</b>	<b>Trading-Services</b>	2.050b	0.41	6.52	0.00	6.99
<b>BJMEDIA (6025)</b> <b>BERJAYA MEDIA BERHAD</b>	<b>Trading-Services</b>	89.33m	0.38	-	0.00	-67.08
<b>BJTOTO (1562)</b> <b>BERJAYA SPORTS TOTO BERHAD</b>	<b>Trading-Services</b>	3.053b	2.26	11.89	6.19	32.78
<b>BORNOIL (7036)</b> <b>BORNEO OIL BERHAD</b>	<b>Trading-Services</b>	443.07m	0.09	10.59	0.00	6.07
<b>BRAHIMS (9474)</b> <b>BRAHIM'S HOLDINGS BERHAD</b>	<b>Trading-Services</b>	118.14m	0.50	-	0.00	-27.94
<b>BSTEAD (2771)</b> <b>BOUSTEAD HOLDINGS BERHAD</b>	<b>Trading-Services</b>	6.081b	3.00	26.64	5.83	4.04
<b>BTECH (0011)</b> <b>BRITE-TECH BERHAD</b>	<b>Trading-Services</b>	75.60m	0.30	19.35	5.10	7.05
<b>CARIMIN (5257)</b> <b>CARIMIN PETROLEUM BERHAD</b>	<b>Trading-Services</b>	80.69m	0.35	-	0.00	-3.97
<b>CARING (5245)</b> <b>CARING PHARMACY GROUP BERHAD</b>	<b>Trading-Services</b>	413.64m	1.90	26.43	1.58	11.60
<b>CCB (2925)</b> <b>CYCLE &amp; CARRIAGE BINTANG BERHAD</b>	<b>Trading-Services</b>	205.52m	2.04	26.84	2.45	2.59
<b>CENTURY (7117)</b> <b>CENTURY LOGISTICS HOLDINGS BERHAD</b>	<b>Trading-Services</b>	400.65m	1.02	22.27	3.43	5.72
<b>CHEETAH (7209)</b> <b>CHEETAH HOLDINGS BERHAD</b>	<b>Trading-Services</b>	58.71m	0.46	33.09	1.30	1.26

<b>CHINHIN (5273)</b> <b>CHIN HIN GROUP BERHAD</b>	<b>Trading-Services</b>	656.54m	1.18	14.92	2.97	10.14
<b>CHUAN (7016)</b> <b>CHUAN HUAT RESOURCES BHD</b>	<b>Trading-Services</b>	84.33m	0.50	12.38	3.60	2.52
<b>CNI (5104)</b> <b>CNI HOLDINGS BERHAD</b>	<b>Trading-Services</b>	50.40m	0.07	-	4.29	-2.18
<b>COMPLET (5136)</b> <b>COMPLETE LOGISTIC SERVICES BERHAD</b>	<b>Trading-Services</b>	87.87m	0.71	12.48	0.00	5.27
<b>COMPUGT (5037)</b> <b>COMPUGATES HOLDINGS BERHAD</b>	<b>Trading-Services</b>	70.43m	0.03	-	0.00	-6.80
<b>CYPARK (5184)</b> <b>CYPARK RESOURCES BERHAD</b>	<b>Trading-Services</b>	673.92m	2.58	13.12	2.02	10.51
<b>DANCO (5276)</b> <b>DANCOMECH HOLDINGS BERHAD</b>	<b>Trading-Services</b>	137.08m	0.46	12.50	6.52	10.51
<b>DAYA (0091)</b> <b>DAYA MATERIALS BERHAD</b>	<b>Trading-Services</b>	153.22m	0.08	-	0.00	- 247.74
<b>DAYANG (5141)</b> <b>DAYANG ENTERPRISE HOLDINGS BERHAD</b>	<b>Trading-Services</b>	598.18m	0.62	-	0.00	-5.50
<b>DELEUM (5132)</b> <b>DELEUM BERHAD</b>	<b>Trading-Services</b>	384.19m	0.96	13.39	3.65	9.31
<b>DESTINI (7212)</b> <b>DESTINI BERHAD</b>	<b>Trading-Services</b>	496.75m	0.43	13.44	0.00	7.32
<b>DIALOG (7277)</b> <b>DIALOG GROUP BERHAD</b>	<b>Trading-Services</b>	13.709b	2.43	30.45	1.09	13.41
<b>DKSH (5908)</b> <b>DKSH HOLDINGS (MALAYSIA) BERHAD</b>	<b>Trading-Services</b>	630.63m	4.00	12.67	2.38	9.01
<b>DNEX (4456)</b> <b>DAGANG NEXCHANGE BERHAD</b>	<b>Trading-Services</b>	719.70m	0.41	9.93	3.66	16.52
<b>DSOINIC (5216)</b> <b>DATASONIC GROUP BERHAD</b>	<b>Trading-Services</b>	1.566b	1.16	25.61	3.45	23.35
<b>EASTLND (2097)</b>	<b>Trading-Services</b>	36.85m	0.15	-	0.00	-3.88

<b>EASTLAND EQUITY BHD</b>						
<b>EATECH (5259)</b> <b>E.A.TECHNIQUE (M) BERHAD</b>	<b>Trading-Services</b>	221.76m	0.44	-	5.11	-47.11
<b>EDARAN (5036)</b> <b>EDARAN BERHAD</b>	<b>Trading-Services</b>	30.00m	0.50	-	0.00	-2.80
<b>EDEN (7471)</b> <b>EDEN INC. BERHAD</b>	<b>Trading-Services</b>	57.60m	0.19	-	0.00	-12.95
<b>EDGENTA (1368)</b> <b>UEM EDGENTA BERHAD</b>	<b>Trading-Services</b>	2.204b	2.65	20.06	3.02	8.15
<b>EFFICEN (0064)</b> <b>EFFICIENT E-SOLUTIONS BERHAD</b>	<b>Trading-Services</b>	223.38m	0.32	-	5.40	-5.95
<b>EIG (5081)</b> <b>ESTHETICS INTERNATIONAL GROUP BERHAD</b>	<b>Trading-Services</b>	170.78m	0.72	20.81	4.17	4.49
<b>EITA (5208)</b> <b>EITA RESOURCES BERHAD</b>	<b>Trading-Services</b>	218.40m	1.68	10.97	2.38	12.66
<b>ENGTEX (5056)</b> <b>ENGTEX GROUP BERHAD</b>	<b>Trading-Services</b>	509.82m	1.15	9.10	0.87	7.57
<b>FIAMMA (6939)</b> <b>FIAMMA HOLDINGS BERHAD</b>	<b>Trading-Services</b>	265.01m	0.50	11.76	3.00	4.83
<b>FITTERS (9318)</b> <b>FITTERS DIVERSIFIED BERHAD</b>	<b>Trading-Services</b>	192.20m	0.40	-	1.50	-2.33
<b>FOCUSP (0157)</b> <b>FOCUS POINT HOLDINGS BERHAD</b>	<b>Trading-Services</b>	33.00m	0.20	-	0.00	-0.64
<b>FREIGHT (7210)</b> <b>FREIGHT MANAGEMENT HOLDINGS BERHAD</b>	<b>Trading-Services</b>	232.69m	1.25	10.73	4.00	8.57
<b>FRONTKN (0128)</b> <b>FRONTKEN CORPORATION BERHAD</b>	<b>Trading-Services</b>	410.84m	0.39	13.31	1.28	11.27
<b>FSBM (9377)</b> <b>FSBM HOLDINGS BERHAD</b>	<b>Trading-Services</b>	25.44m	0.18	-	0.00	-40.20
<b>GASMSIA (5209)</b> <b>GAS MALAYSIA BERHAD</b>	<b>Trading-Services</b>	3.454b	2.69	20.41	4.78	17.41

<b>GDEX (0078)</b> <b>GD EXPRESS CARRIER BERHAD</b>	<b>Trading-Services</b>	3.402b	0.61	92.42	1.64	8.25
<b>GENM (4715)</b> <b>GENTING MALAYSIA BERHAD</b>	<b>Trading-Services</b>	30.462b	5.13	12.71	3.22	11.87
<b>GENTING (3182)</b> <b>GENTING BERHAD</b>	<b>Trading-Services</b>	34.396b	8.93	14.37	1.40	6.83
<b>GETS (5079)</b> <b>GETS GLOBAL BERHAD</b>	<b>Trading-Services</b>	27.72m	0.22	-	0.00	-1.09
<b>GKENT (3204)</b> <b>GEORGE KENT (MALAYSIA) BERHAD</b>	<b>Trading-Services</b>	1.955b	3.47	17.80	2.88	25.88
<b>GUNUNG (7676)</b> <b>GUNUNG CAPITAL BERHAD</b>	<b>Trading-Services</b>	88.57m	0.38	-	0.00	-5.68
<b>HAIO (7668)</b> <b>HAI-O ENTERPRISE BERHAD</b>	<b>Trading-Services</b>	1.560b	5.20	23.15	2.88	21.19
<b>HANDAL (7253)</b> <b>HANDAL RESOURCES BERHAD</b>	<b>Trading-Services</b>	35.20m	0.22	-	0.00	-6.93
<b>HAPSENG (3034)</b> <b>HAP SENG CONSOLIDATED BERHAD</b>	<b>Trading-Services</b>	23.602b	9.48	22.14	3.69	17.41
<b>HARBOUR (2062)</b> <b>HARBOUR-LINK GROUP BERHAD</b>	<b>Trading-Services</b>	276.28m	0.69	10.03	2.17	7.73
<b>HARISON (5008)</b> <b>HARRISONS HOLDINGS (MALAYSIA) BERHAD</b>	<b>Trading-Services</b>	274.64m	4.01	12.43	6.23	7.35
<b>HSSEB (0185)</b> <b>HSS ENGINEERS BERHAD</b>	<b>Trading-Services</b>	430.76m	1.35	26.73	0.47	18.70
<b>HUBLINE (7013)</b> <b>HUBLINE BERHAD</b>	<b>Trading-Services</b>	247.02m	0.12	-	0.00	-9.33
<b>ICON (5255)</b> <b>ICON OFFSHORE BERHAD</b>	<b>Trading-Services</b>	282.52m	0.24	-	0.00	-29.62
<b>IHH (5225)</b> <b>IHH HEALTHCARE BERHAD</b>	<b>Trading-Services</b>	46.469b	5.64	56.23	0.53	3.70
<b>ILB (5614)</b>	<b>Trading-Services</b>	134.57m	0.69	-	3.62	-3.83

<b>INTEGRATED LOGISTICS BHD</b>						
<b>INNITY (0147)</b> <b>INNITY CORPORATION BERHAD</b>	<b>Trading-Services</b>	89.96m	0.65	-	0.00	-12.03
<b>IPMUDA (5673)</b> <b>IPMUDA BERHAD</b>	<b>Trading-Services</b>	56.89m	0.79	-	3.82	-6.61
<b>JCBNEXT (0058)</b> <b>JCBNEXT BERHAD</b>	<b>Trading-Services</b>	233.80m	1.67	28.84	1.20	2.41
<b>KAB (0193)</b> <b>KEJURUTERAAN ASASTERA BERHAD</b>	<b>Trading-Services</b>	83.20m	0.26	-	0.00	-
<b>KAMDAR (8672)</b> <b>KAMDAR GROUP (M) BERHAD</b>	<b>Trading-Services</b>	70.29m	0.36	40.80	0.00	0.77
<b>KFIMA (6491)</b> <b>KUMPULAN FIMA BERHAD</b>	<b>Trading-Services</b>	468.50m	1.66	11.87	5.42	5.24
<b>KGB (0151)</b> <b>KELINGTON GROUP BERHAD</b>	<b>Trading-Services</b>	170.08m	0.74	13.91	1.35	16.12
<b>KNUSFOR (5035)</b> <b>KNUSFORD BERHAD</b>	<b>Trading-Services</b>	92.17m	0.93	-	2.16	-5.93
<b>KPJ (5878)</b> <b>KPJ HEALTHCARE BERHAD</b>	<b>Trading-Services</b>	4.260b	1.00	27.79	5.93	9.18
<b>KPS (5843)</b> <b>KUMPULAN PERANGSANG SELANGOR BERHAD</b>	<b>Trading-Services</b>	673.66m	1.35	17.18	3.15	2.86
<b>KPSCB (9121)</b> <b>KPS CONSORTIUM BERHAD</b>	<b>Trading-Services</b>	79.09m	0.54	8.93	0.00	3.54
<b>KTB (4847)</b> <b>KONSORTIUM TRANSNASIONAL BERHAD</b>	<b>Trading-Services</b>	56.39m	0.14	-	0.00	-27.24
<b>KTC (0180)</b> <b>KIM TECK CHEONG CONSOLIDATED BERHAD</b>	<b>Trading-Services</b>	91.85m	0.18	90.00	0.00	1.11
<b>KUB (6874)</b> <b>KUB MALAYSIA BERHAD</b>	<b>Trading-Services</b>	236.50m	0.43	8.55	2.35	8.88
<b>LFECORP (7170)</b> <b>LFE CORPORATION BERHAD</b>	<b>Trading-Services</b>	45.53m	0.25	-	0.00	-3.64



<b>LIONFIB (8486)</b> <b>LION FOREST INDUSTRIES BERHAD</b>	<b>Trading-Services</b>	167.89m	0.73	6.19	0.00	4.84
<b>LUXCHEM (5143)</b> <b>LUXCHEM CORPORATION BERHAD</b>	<b>Trading-Services</b>	637.86m	0.76	14.25	9.27	17.67
<b>M&amp;G (5078)</b> <b>MARINE &amp; GENERAL BERHAD</b>	<b>Trading-Services</b>	155.63m	0.22	0.57	69.77	86.09
<b>MAGNUM (3859)</b> <b>MAGNUM BERHAD</b>	<b>Trading-Services</b>	2.459b	1.71	12.36	7.60	7.90
<b>MALAKOF (5264)</b> <b>MALAKOFF CORPORATION BERHAD</b>	<b>Trading-Services</b>	4.650b	0.93	13.04	7.53	5.94
<b>MARCO (3514)</b> <b>MARCO HOLDINGS BERHAD</b>	<b>Trading-Services</b>	147.60m	0.14	9.15	3.57	9.00
<b>MAXIS (6012)</b> <b>MAXIS BERHAD</b>	<b>Trading-Services</b>	46.082b	5.90	21.56	3.39	31.09
<b>MAYBULK (5077)</b> <b>MALAYSIAN BULK CARRIERS BERHAD</b>	<b>Trading-Services</b>	810.00m	0.81	-	0.00	-75.44
<b>MBMR (5983)</b> <b>MBM RESOURCES BHD</b>	<b>Trading-Services</b>	828.68m	2.12	17.85	2.83	2.85
<b>MCLEAN (0167)</b> <b>MCLEAN TECHNOLOGIES BERHAD</b>	<b>Trading-Services</b>	32.18m	0.18	-	0.00	-2.50
<b>MEDIA (4502)</b> <b>MEDIA PRIMA BERHAD</b>	<b>Trading-Services</b>	770.89m	0.70	-	11.51	-23.36
<b>MEDIAC (5090)</b> <b>MEDIA CHINESE INTERNATIONAL LIMITED</b>	<b>Trading-Services</b>	700.20m	0.42	14.98	7.35	5.52
<b>MEGASUN (0081)</b> <b>MEGA SUN CITY HOLDINGS BERHAD</b>	<b>Trading-Services</b>	52.65m	0.24	13.26	0.00	6.24
<b>MESB (7234)</b> <b>MESB BERHAD</b>	<b>Trading-Services</b>	55.69m	1.02	-	0.00	-4.52
<b>MFCB (3069)</b> <b>MEGA FIRST CORPORATION BERHAD</b>	<b>Trading-Services</b>	1.475b	3.59	9.74	1.39	11.27
<b>MHB (5186)</b>	<b>Trading-Services</b>	1.352b	0.85	-	0.00	-5.28

<b>MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS BERHAD</b>						
<b>MISC (3816)</b> <b>MISC BERHAD</b>	<b>Trading-Services</b>	31.291b	7.01	12.81	4.28	6.71
<b>MMCCORP (2194)</b> <b>MMC CORPORATION BERHAD</b>	<b>Trading-Services</b>	5.877b	1.93	14.41	2.07	4.29
<b>MMODE (0059)</b> <b>M-MODE BERHAD</b>	<b>Trading-Services</b>	58.58m	0.36	-	1.67	-
<b>MTRONIC (0043)</b> <b>METRONIC GLOBAL BERHAD</b>	<b>Trading-Services</b>	42.72m	0.05	-	0.00	-11.75
<b>MUIIND (3891)</b> <b>MALAYAN UNITED INDUSTRIES BERHAD</b>	<b>Trading-Services</b>	630.50m	0.22	-	0.00	-22.23
<b>MULPHA (3905)</b> <b>MULPHA INTERNATIONAL BERHAD</b>	<b>Trading-Services</b>	818.22m	2.56	3.70	0.00	6.89
<b>MYEG (0138)</b> <b>MY E.G. SERVICES BERHAD</b>	<b>Trading-Services</b>	7.285b	2.02	34.06	0.84	35.30
<b>NATWIDE (9806)</b> <b>NATIONWIDE EXPRESS HOLDINGS BERHAD</b>	<b>Trading-Services</b>	79.95m	0.67	-	0.00	-17.94
<b>NICORP (4464)</b> <b>NAIM INDAH CORPORATION BERHAD</b>	<b>Trading-Services</b>	48.21m	0.06	-	0.00	-4.24
<b>OCB (5533)</b> <b>OCB BERHAD</b>	<b>Trading-Services</b>	66.85m	0.65	23.72	1.54	1.18
<b>OCK (0172)</b> <b>OCK GROUP BERHAD</b>	<b>Trading-Services</b>	758.18m	0.87	26.36	0.69	6.60
<b>OLDTOWN (5201)</b> <b>OLDTOWN BERHAD</b>	<b>Trading-Services</b>	1.126b	2.43	16.99	4.12	15.89
<b>OLYMPIA (3018)</b> <b>OLYMPIA INDUSTRIES BERHAD</b>	<b>Trading-Services</b>	127.93m	0.13	4.70	0.00	6.82
<b>OVERSEA (0153)</b> <b>OVERSEA ENTERPRISE BERHAD</b>	<b>Trading-Services</b>	50.52m	0.21	-	1.46	-1.19
<b>OWG (5260)</b> <b>ONLY WORLD GROUP HOLDINGS BERHAD</b>	<b>Trading-Services</b>	301.28m	1.17	45.00	2.39	2.89

<b>PANSAR (8419)</b> <b>PANSAR BERHAD</b>	<b>Trading-Services</b>	113.40m	0.41	17.84	2.47	3.78
<b>PANTECH (5125)</b> <b>PANTECH GROUP HOLDINGS BERHAD</b>	<b>Trading-Services</b>	476.28m	0.64	10.98	2.81	7.99
<b>PARKSON (5657)</b> <b>PARKSON HOLDINGS BERHAD</b>	<b>Trading-Services</b>	601.65m	0.55	-	0.00	-4.12
<b>PASUKGB (0177)</b> <b>PASUKHAS GROUP BERHAD</b>	<b>Trading-Services</b>	109.56m	0.14	-	0.00	-3.93
<b>PBA (5041)</b> <b>PBA HOLDINGS BHD</b>	<b>Trading-Services</b>	400.84m	1.21	7.05	3.31	6.84
<b>PDZ (6254)</b> <b>PDZ HOLDINGS BHD</b>	<b>Trading-Services</b>	34.77m	0.16	-	0.00	-
<b>PENERGY (5133)</b> <b>PETRA ENERGY BERHAD</b>	<b>Trading-Services</b>	254.18m	0.79	-	6.33	-19.40
<b>PERDANA (7108)</b> <b>PERDANA PETROLEUM BERHAD</b>	<b>Trading-Services</b>	1.199b	1.54	-	0.00	-24.96
<b>PERISAI (0047)</b> <b>PERISAI PETROLEUM TEKNOLOGI BHD</b>	<b>Trading-Services</b>	44.13m	0.04	-	0.00	-
<b>PERMAJU (7080)</b> <b>PERMAJU INDUSTRIES BERHAD</b>	<b>Trading-Services</b>	51.92m	0.27	-	0.00	-8.92
<b>PESTECH (5219)</b> <b>PESTECH INTERNATIONAL BERHAD</b>	<b>Trading-Services</b>	1.269b	1.66	14.08	1.81	18.83
<b>PETDAG (5681)</b> <b>PETRONAS DAGANGAN BHD</b>	<b>Trading-Services</b>	23.724b	23.88	15.58	2.93	25.71
<b>PETONE (7027)</b> <b>PETROL ONE RESOURCES BERHAD</b>	<b>Trading-Services</b>	2.79m	0.06	4.04	0.00	-
<b>PHARMA (7081)</b> <b>PHARMANIAGA BERHAD</b>	<b>Trading-Services</b>	963.94m	3.71	30.92	4.31	5.85
<b>PICORP (7201)</b> <b>PROGRESSIVE IMPACT CORPORATION BERHAD</b>	<b>Trading-Services</b>	85.54m	0.13	-	4.69	-9.15
<b>PINEAPP (0006)</b>	<b>Trading-Services</b>	20.37m	0.42	75.00	0.00	1.04

<b>PINEAPPLE RESOURCES BERHAD</b>						
<b>PJBUMI (7163)</b> <b>PJBUMI BERHAD</b>	<b>Trading-Services</b>	23.78m	0.29	-	0.00	-13.74
<b>PLABS (0171)</b> <b>PETERLABS HOLDINGS BERHAD</b>	<b>Trading-Services</b>	62.27m	0.29	17.79	2.41	7.84
<b>POS (4634)</b> <b>POS MALAYSIA BERHAD</b>	<b>Trading-Services</b>	4.180b	5.34	40.89	2.00	5.37
<b>PRESBHD (5204)</b> <b>PRESTARIANG BERHAD</b>	<b>Trading-Services</b>	643.72m	1.33	42.90	2.26	9.06
<b>PRKCORP (8346)</b> <b>PERAK CORPORATION BERHAD</b>	<b>Trading-Services</b>	139.00m	1.39	-	21.58	-1.03
<b>PTRANS (0186)</b> <b>PERAK TRANSIT BERHAD</b>	<b>Trading-Services</b>	358.36m	0.29	12.67	2.46	13.31
<b>PUC (0007)</b> <b>PUC BERHAD</b>	<b>Trading-Services</b>	280.10m	0.21	170.83	0.00	0.73
<b>RA (0110)</b> <b>R&amp;A TELECOMMUNICATION GROUP BERHAD</b>	<b>Trading-Services</b>	4.83m	0.01	-	0.00	-
<b>RANHILL (5272)</b> <b>RANHILL HOLDINGS BERHAD</b>	<b>Trading-Services</b>	652.91m	0.74	9.02	10.61	12.16
<b>REDTONE (0032)</b> <b>REDTONE INTERNATIONAL BERHAD</b>	<b>Trading-Services</b>	291.89m	0.39	-	0.52	-1.96
<b>REV (0173)</b> <b>REV ASIA BERHAD</b>	<b>Trading-Services</b>	55.20m	0.41	1.04	107.32	786.60
<b>RGB (0037)</b> <b>RGB INTERNATIONAL BHD</b>	<b>Trading-Services</b>	395.46m	0.30	14.75	2.03	12.50
<b>RHONEMA (5278)</b> <b>RHONE MA HOLDINGS BERHAD</b>	<b>Trading-Services</b>	146.08m	0.88	17.19	4.55	8.53
<b>SALCON (8567)</b> <b>SALCON BERHAD</b>	<b>Trading-Services</b>	291.41m	0.43	-	4.65	-1.91
<b>SAMCHEM (5147)</b> <b>SAMCHEM HOLDINGS BERHAD</b>	<b>Trading-Services</b>	272.00m	1.00	14.97	5.50	13.92

<b>SANBUMI (9113)</b> <b>SANBUMI HOLDINGS BERHAD</b>	<b>Trading-Services</b>	45.27m	0.20	-	0.00	-6.89
<b>SAPNRG (5218)</b> <b>SAPURA ENERGY BERHAD</b>	<b>Trading-Services</b>	7.430b	1.24	177.14	0.81	0.33
<b>SCC (0158)</b> <b>SCC HOLDINGS BERHAD</b>	<b>Trading-Services</b>	74.11m	0.53	12.30	19.05	15.25
<b>SCH (0161)</b> <b>SCH GROUP BERHAD</b>	<b>Trading-Services</b>	82.45m	0.20	45.45	7.50	2.82
<b>SCICOM (0099)</b> <b>SCICOM (MSC) BERHAD</b>	<b>Trading-Services</b>	590.05m	1.66	13.30	5.42	41.60
<b>SCOMI (7158)</b> <b>SCOMI GROUP BERHAD</b>	<b>Trading-Services</b>	278.04m	0.15	-	0.00	-21.56
<b>SCOMIES (7045)</b> <b>SCOMI ENERGY SERVICES BHD</b>	<b>Trading-Services</b>	316.14m	0.14	-	0.00	-17.87
<b>SEEHUP (7053)</b> <b>SEE HUP CONSOLIDATED BERHAD</b>	<b>Trading-Services</b>	52.84m	1.01	-	2.67	-1.06
<b>SEG (9792)</b> <b>SEG INTERNATIONAL BHD</b>	<b>Trading-Services</b>	815.44m	0.65	22.09	32.56	28.91
<b>SEM (5250)</b> <b>7-ELEVEN MALAYSIA HOLDINGS BERHAD</b>	<b>Trading-Services</b>	1.862b	1.51	42.54	3.11	73.96
<b>SERBADK (5279)</b> <b>SERBA DINAMIK HOLDINGS BERHAD</b>	<b>Trading-Services</b>	4.165b	3.12	12.63	1.67	24.22
<b>SIME (4197)</b> <b>SIME DARBY BERHAD</b>	<b>Trading-Services</b>	60.800b	8.94	18.83	2.57	8.38
<b>SJC (9431)</b> <b>SENI JAYA CORPORATION BERHAD</b>	<b>Trading-Services</b>	24.32m	0.60	-	1.67	-1.17
<b>SMRT (0117)</b> <b>SMRT HOLDINGS BERHAD</b>	<b>Trading-Services</b>	56.06m	0.16	-	0.00	- 103.74
<b>SOLID (5242)</b> <b>SOLID AUTOMOTIVE BERHAD</b>	<b>Trading-Services</b>	144.59m	0.37	33.04	4.32	1.35
<b>STAR (6084)</b>	<b>Trading-Services</b>	974.90m	1.32	3.42	27.27	27.75

<b>STAR MEDIA GROUP BERHAD</b>						
<b>STERPRO (0140)</b> <b>STERLING PROGRESS BERHAD</b>	<b>Trading-Services</b>	50.27m	0.18	-	0.00	- 149.50
<b>STRAITS (0080)</b> <b>STRAITS INTER LOGISTICS BERHAD</b>	<b>Trading-Services</b>	97.49m	0.27	51.96	0.00	5.26
<b>SUIWAH (9865)</b> <b>SUIWAH CORPORATION BERHAD</b>	<b>Trading-Services</b>	161.65m	2.65	14.86	0.38	5.64
<b>SUMATEC (1201)</b> <b>SUMATEC RESOURCES BERHAD</b>	<b>Trading-Services</b>	212.64m	0.05	17.24	0.00	1.77
<b>SUNWAY (5211)</b> <b>SUNWAY BERHAD</b>	<b>Trading-Services</b>	8.115b	1.65	12.65	5.45	3.46
<b>SURIA (6521)</b> <b>SURIA CAPITAL HOLDINGS BERHAD</b>	<b>Trading-Services</b>	550.43m	1.91	9.45	3.66	5.64
<b>SYSCORP (5173)</b> <b>SHIN YANG SHIPPING CORPORATION BERHAD</b>	<b>Trading-Services</b>	288.00m	0.24	50.00	0.00	0.48
<b>T7GLOBAL (7228)</b> <b>T7 GLOBAL BERHAD</b>	<b>Trading-Services</b>	167.78m	0.40	15.56	0.00	7.79
<b>TALIWRK (8524)</b> <b>TALIWORKS CORPORATION BERHAD</b>	<b>Trading-Services</b>	1.282b	1.06	23.45	7.55	5.10
<b>TASCO (5140)</b> <b>TASCO BERHAD</b>	<b>Trading-Services</b>	450.00m	2.25	13.75	2.00	9.30
<b>TENAGA (5347)</b> <b>TENAGA NASIONAL BHD</b>	<b>Trading-Services</b>	87.256b	15.40	12.64	3.96	12.07
<b>TEXCHEM (8702)</b> <b>TEXCHEM RESOURCES BERHAD</b>	<b>Trading-Services</b>	116.65m	0.94	35.61	10.64	1.17
<b>TEXCYCL (0089)</b> <b>TEX CYCLE TECHNOLOGY (M) BERHAD</b>	<b>Trading-Services</b>	211.36m	0.83	11.41	0.61	13.15
<b>TFP (0145)</b> <b>TFP SOLUTIONS BERHAD</b>	<b>Trading-Services</b>	29.73m	0.15	-	0.00	-27.83
<b>THHEAVY (7206)</b> <b>TH HEAVY ENGINEERING BERHAD</b>	<b>Trading-Services</b>	123.32m	0.11	-	0.00	- 216.13

<b>TM (4863)</b> <b>TELEKOM MALAYSIA BERHAD</b>	<b>Trading-Services</b>	22.472b	5.98	27.84	3.60	10.72
<b>TMCLIFE (0101)</b> <b>TMC LIFE SCIENCES BERHAD</b>	<b>Trading-Services</b>	1.563b	0.90	60.00	0.17	3.66
<b>TNLOGIS (8397)</b> <b>TIONG NAM LOGISTICS HOLDINGS BERHAD</b>	<b>Trading-Services</b>	602.88m	1.31	8.69	1.53	9.54
<b>TOCEAN (7218)</b> <b>TRANSOCEAN HOLDINGS BHD</b>	<b>Trading-Services</b>	26.24m	0.64	-	0.00	-0.71
<b>TURBO (5167)</b> <b>TURBO-MECH BERHAD</b>	<b>Trading-Services</b>	88.02m	0.82	21.01	6.13	4.13
<b>UMS (7137)</b> <b>UMS HOLDINGS BERHAD</b>	<b>Trading-Services</b>	111.08m	2.73	19.85	3.66	3.51
<b>UMWOG (5243)</b> <b>UMW OIL &amp; GAS CORPORATION BERHAD</b>	<b>Trading-Services</b>	2.275b	0.33	-	0.00	-16.62
<b>UNIMECH (7091)</b> <b>UNIMECH GROUP BERHAD</b>	<b>Trading-Services</b>	135.13m	1.03	15.77	2.91	3.31
<b>UTUSAN (5754)</b> <b>UTUSAN MELAYU (MALAYSIA) BERHAD</b>	<b>Trading-Services</b>	43.74m	0.40	-	0.00	-86.25
<b>UZMA (7250)</b> <b>UZMA BERHAD</b>	<b>Trading-Services</b>	492.84m	1.54	14.54	0.00	7.41
<b>VOIR (7240)</b> <b>VOIR HOLDINGS BERHAD</b>	<b>Trading-Services</b>	159.72m	1.10	-	0.00	-1.35
<b>WARISAN (5016)</b> <b>WARISAN TC HOLDINGS BERHAD</b>	<b>Trading-Services</b>	134.40m	2.00	41.75	2.00	0.97
<b>WIDETEC (7692)</b> <b>WIDETECH (MALAYSIA) BERHAD</b>	<b>Trading-Services</b>	25.96m	0.58	23.87	0.00	3.20
<b>WPRTS (5246)</b> <b>WESTPORTS HOLDINGS BERHAD</b>	<b>Trading-Services</b>	11.765b	3.45	19.76	4.06	28.86
<b>XINHWA (5267)</b> <b>XIN HWA HOLDINGS BERHAD</b>	<b>Trading-Services</b>	270.00m	1.25	-	0.80	-
<b>XOX (0165)</b>	<b>Trading-Services</b>	98.39m	0.11	-	0.00	-

<b>XOX BHD</b>						
<b>YFG (7122)</b> <b>YFG BERHAD</b>	<b>Trading-Services</b>	18.27m	0.03	-	0.00	-
<b>YINSON (7293)</b> <b>YINSON HOLDINGS BERHAD</b>	<b>Trading-Services</b>	4.218b	3.86	16.34	4.30	13.04
<b>YTL (4677)</b> <b>YTL CORPORATION BERHAD</b>	<b>Trading-Services</b>	12.438b	1.14	15.77	8.33	5.06



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## Appendix B: Results from Eviews 9

### Multiple Regressions Analysis (OLS)

Dependent Variable: CASH  
 Method: Least Squares  
 Date: 11/22/17 Time: 23:08  
 Sample: 1 300  
 Included observations: 300

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FSIZE	-0.076985	0.045277	-1.700304	0.0901
CFV	0.017326	0.070698	0.245076	0.8066
LEV	-0.007662	0.009149	-0.837469	0.4030
CAPEX	0.002808	0.002456	1.143360	0.2538
C	0.858530	0.296315	2.897358	0.0040
R-squared	0.016277	Mean dependent var		0.352935
Adjusted R-squared	0.002939	S.D. dependent var		0.475220
S.E. of regression	0.474522	Akaike info criterion		1.363507
Sum squared resid	66.42540	Schwarz criterion		1.425237
Log likelihood	-199.5261	Hannan-Quinn criter.		1.388212
F-statistic	1.220303	Durbin-Watson stat		1.385624
Prob(F-statistic)	0.302220			

### Descriptive Statistics

	CASH	FSIZE	CFV	LEV	CAPEX
Mean	0.352935	6.519483	0.098783	1.370732	1.816861
Median	0.115800	6.358600	0.000000	0.300200	0.349200
Maximum	5.853100	7.849100	5.853100	7.646100	38.43660
Minimum	0.006800	5.032900	0.000000	-15.77820	-89.30590
Std. Dev.	0.475220	0.607552	0.390714	3.002479	11.27129
Skewness	5.568766	0.327046	11.08573	-1.489376	-2.508127
Kurtosis	61.21156	2.938005	158.6183	13.19053	24.06637
Jarque-Bera	43907.88	5.395994	308857.8	1408.999	5861.933
Probability	0.000000	0.067340	0.000000	0.000000	0.000000
Sum	105.8804	1955.845	29.63493	411.2195	545.0582
Sum Sq. Dev.	67.52451	110.3667	45.64465	2695.449	37985.54
Observations	300	300	300	300	300

## Correlation

	CASH	FSIZE	CFV	LEV	CAPEX
CASH	1.000000	-0.096350	0.023376	-0.049643	0.060936
FSIZE	-0.096350	1.000000	-0.014530	0.032996	0.058227
CFV	0.023376	-0.014530	1.000000	-0.005248	0.111821
LEV	-0.049643	0.032996	-0.005248	1.000000	0.031378
CAPEX	0.060936	0.058227	0.111821	0.031378	1.000000



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