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MACROECONOMIC FACTORS AFFECTING INWARD CROSS-BORDER MERGERS AND ACQUISITIONS IN SELECTED DEVELOPING COUNTRIES

By

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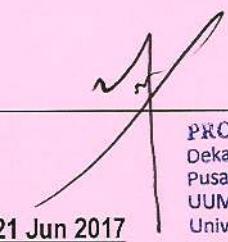
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ABSTRAK

Kajian ini mengkaji kesan penglibatan 5 faktor makroekonomi terhadap penggabungan masuk merentas sempadan dan pengambilalihan dalam 11 buah negara membangun dalam tempoh dari tahun 2001 hingga 2015. Kajian tersebut menguji hipotesis dengan menggunakan Ujian Unit Root, Perangkaan deskriptif, Panel kuasa dua terkecil dan Korelasi. Hasil kajian menunjukkan bahawa hubungan negatif antara tiga faktor makroekonomi (inflasi, kadar pertukaran dan kadar faedah) dan nombor penggabungan masuk merentas sempadan dan pengambilalihan. Selain itu, hasil kajian menunjukkan bahawa hubungan positif antara satu faktor makroekonomi (Gross Produk Dalam Negeri) dan nombor penggabungan masuk merentas sempadan dan pengambilalihan. Kajian ini menunjukkan bahawa peratusan yang tinggi dalam kadar pertukaran, kadar faedah dan inflasi membawa kesan kepada nombor penggabungan masuk merentas sempadan dan pengambilalihan menjadi rendah. Selain itu, peratusan yang rendah dalam Keluaran Dalam Negara Kasar membawa kesan kepada nombor penggabungan masuk merentas sempadan dan pengambilalihan menjadi rendah. Indeks harga saham mempunyai hubungan negatif yang tidak ketara terhadap nombor penggabungan masuk merentas sempadan dan pengambilalihan. Kajian ini menunjukkan bahawa nilai-nilai yang lebih tinggi dalam Nilai Kini Bersih akan menjana peningkatan penggabungan masuk merentas sempadan dan pengambilalihan di negara-negara pada masa akan datang daripada menyokong teori isyarat.

Kata kunci: masuk menyeberangi sempadan penggabungan dan pengambilalihan; inflasi; kadar bunga; KDNK; SPI; kadar pertukaran

ABSTRACT

This study examines the effect of 5 macroeconomic factors on inward cross-border merger and acquisition in 11 developing countries within the periods from the year 2001 to 2015. This research examines the hypotheses by employing Unit Root Test, Descriptive Statistics, Panel Least Squares (OLS) and Correlation Test. The finding indicates that there is a negative relationship between three macroeconomic factors (inflation, exchange rate and interest rate) and the numbers of the inward cross-border mergers and acquisitions. There are positive relationship between another one macroeconomic factors (Gross Domestic Products) and the numbers of the inward cross-border mergers and acquisitions. This implies that high percentage of inflation, exchange rate and interest rate lead to lower the number of inward cross-border mergers and acquisitions. Moreover, low percentage of Gross Domestic Products leads to lower the number of inward cross-border mergers and acquisitions. Stock Price Index (SPI) is insignificant negative relationship with inward cross border M&A. This indicates that higher values in the Net Present Values will able to generate favorable values of inward cross-border mergers and acquisitions of the countries in future, in which support the signaling theory.

Keywords: inward cross border mergers and acquisitions; inflation; interest rate; GDP; SPI; exchange rate

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LISTS OF ABBREVIATIONS

FDI	=	Foreign Direct Investment
M&A	=	Mergers and acquisitions
β_0	=	The regression intercept
β	=	The regression coefficients of respective variables
ε	=	Error term of regression
GDP	=	Gross Domestic Product
Eq	=	Equation
H_1	=	First Hypothesis
UNCTAD	=	United Nations Commission on Trade and Development
NPV	=	Net Present Value
SPI	=	Stock Price Index
IMF	=	International Monetary Fund
FE	=	Fixed effect estimator
RE	=	Random effect estimator
HT	=	Hausman Test
IRR	=	Internal rate of return
OLS	=	Ordinary Least Square

CHAPTER ONE

INTRODUCTION

1.0   Introduction

There are abundant of economic and finance literature in the area of the merger and acquisition (M&A) (Hopkins, 1999, Chapman, 2003, Kamal, Noryati &Ismail, 2013) due to the important role of cross border mergers and acquisitions (cross border M&A). The literature however is more focused on developed countries with little study undertaken in the context of developing and under developed countries. This dissertation thus attempts to investigate macroeconomic factors that explain inward cross border M&A activity for developing countries.

This chapter provides the introduction to the dissertation. The 1.1 section presents the background of study followed by the problem statement in Section 1.2. In Section 1.3, this section presents the research question。The research objective will be presented in Section 1.4. Section 1.5 presents the scope of study and the significant of study is presented in Section 1.6. Section 1.7 presents limitations of study.

The contents of the thesis is for internal user only

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APPENDICES

DESCRIPTIVE STATISTICS INDICATORS FOR THE VARIABLES OF THE RESEARCH

	IN_CBMA01	IN_EX	IN_GDP	IN_INF	IN_INT	IN_SPI
Mean	3.360650	3.905387	25.16728	1.372131	1.711602	7.906841
Median	3.367645	3.535097	26.54937	1.412225	1.591465	7.548880
Maximum	5.852809	9.985991	30.01981	3.996782	4.077960	11.57381
Minimum	0.000000	0.203442	7.548796	-1.644536	-1.091775	4.910292
Std. Dev.	1.379785	3.204463	5.505203	0.847649	1.048911	1.504187
Skewness	-0.562474	0.731356	-2.586469	-0.302480	0.241441	0.619333
Kurtosis	3.065410	2.120610	8.261265	4.030439	3.054954	2.666998
Jarque-Bera	8.729784	20.02587	374.2764	9.815995	1.623835	11.31063
Probability	0.012716	0.000045	0.000000	0.007387	0.444006	0.003499
Sum	554.5073	644.3889	4152.602	226.4017	282.4144	1304.629
Sum Sq. Dev.	312.2243	1684.048	4970.390	117.8353	180.4353	371.0628
Observations	165	165	165	165	165	165

UNIT ROOT TEST

Null Hypothesis: Unit root (common unit root process)
Series: IN_CBMA01
Date: 05/18/17   Time: 12:10
Sample: 2001 2015
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Total (balanced) observations: 143
Cross-sections included: 11

Method	Statistic	Prob.**
Levin, Lin & Chu t*	-2.19686	0.0140

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (common unit root process)
Series: D(IN_CBMA01)
Date: 05/18/17   Time: 12:11
Sample: 2001 2015
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Total (balanced) observations: 132
Cross-sections included: 11

Method	Statistic	Prob.**
Levin, Lin & Chu t*	-3.88350	0.0001

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (common unit root process)
Series: IN_CBMA01
Date: 05/18/17   Time: 12:11
Sample: 2001 2015
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Total (balanced) observations: 143
Cross-sections included: 11

Method	Statistic	Prob.**
Levin, Lin & Chu t*	-0.70466	0.2405

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (common unit root process)
Series: D(IN_CBMA01)
Date: 05/18/17   Time: 12:12
Sample: 2001 2015
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Total (balanced) observations: 132
Cross-sections included: 11

Method	Statistic	Prob.**
Levin, Lin & Chu t*	-3.70515	0.0001

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (individual unit root process)
Series: IN_CBMA01
Date: 05/18/17   Time: 12:12
Sample: 2001 2015
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 143
Cross-sections included: 11

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-0.94827	0.1715

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (individual unit root process)
Series: D(IN_CBMA01)
Date: 05/18/17   Time: 12:12
Sample: 2001 2015
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 132
Cross-sections included: 11

Method	Statistic	Prob.**

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-4.54392	0.0000

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (individual unit root process)
Series: IN_CBMA01
Date: 05/18/17   Time: 12:13
Sample: 2001 2015
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Total (balanced) observations: 143
Cross-sections included: 11

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	0.71443	0.7625

** Probabilities are computed assuming asympotic normality

Null Hypothesis: Unit root (individual unit root process)
Series: D(IN_CBMA01)
Date: 05/18/17   Time: 12:13
Sample: 2001 2015
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Total (balanced) observations: 132
Cross-sections included: 11

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-3.49478	0.0002

CORRELATION TEST

Covariance Analysis: Ordinary
Date: 05/24/17   Time: 17:11
Sample: 2001 2015
Included observations: 165

Correlation Probability	IN_CBMA01	IN_EX	IN_GDP	IN_INF	IN_INT	IN_SPI
IN_CBMA01	1.000000 -----					
IN_EX	-0.364389 0.0000	1.000000 -----				
IN_GDP	0.172665 0.0266	-0.015946 0.8389	1.000000 -----			
IN_INF	-0.173645 0.0257	0.105172 0.1788	0.215411 0.0055	1.000000 -----		
IN_INT	-0.182876 0.0187	-0.367669 0.0000	0.140667 0.0715	0.112814 0.1491	1.000000 -----	
IN_SPI	0.137821 0.0775	-0.603138 0.0000	0.355907 0.0000	0.332903 0.0000	0.496448 0.0000	1.000000 -----

RELATIONSHIP BETWEEN INWARD CROSS BORDER M&A, INTEREST RATE, INFLATION, EXCHANGE RATE AND GDP

Pooled OLS

Dependent Variable: IN_CBMA01
Method: Panel Least Squares
Date: 05/24/17   Time: 16:00
Sample: 2001 2015
Periods included: 15
Cross-sections included: 11
Total panel (balanced) observations: 165

Variable	Coefficien...	Std. Error	t-Statistic	Prob.
C	3.926056	0.749268	5.239854	0.0000
IN_EX	-0.216191	0.040157	-5.383602	0.0000
IN_GDP	0.063676	0.018292	3.481093	0.0006
IN_INF	-0.201787	0.124238	-1.624196	0.1063
IN_INT	-0.493875	0.100136	-4.932040	0.0000
IN_SPI	-0.025477	0.099792	-0.255298	0.7988

R-squared	0.313181	Mean dependent var	3.360650
Adjusted R-squared	0.291583	S.D. dependent var	1.379785
S.E. of regression	1.161331	Akaike info criterion	3.172696
Sum squared resid	214.4416	Schwarz criterion	3.285640
Log likelihood	-255.7475	Hannan-Quinn criter.	3.218544
F-statistic	14.50039	Durbin-Watson stat	0.322579
Prob(F-statistic)	0.000000		

Fixed effect estimators

Dependent Variable: IN_CBMA01
Method: Panel Least Squares
Date: 05/24/17   Time: 16:52
Sample: 2001 2015
Periods included: 15
Cross-sections included: 11
Total panel (balanced) observations: 165

Variable	Coefficien...	Std. Error	t-Statistic	Prob.
C	-7.002570	3.238737	-2.162130	0.0322
IN_EX	-0.534262	0.291767	-1.831126	0.0691
IN_GDP	0.429460	0.136878	3.137539	0.0021
IN_INF	0.011610	0.066660	0.174163	0.8620
IN_INT	0.014579	0.073131	0.199353	0.8423
IN_SPI	0.202418	0.106589	1.899051	0.0595

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.886800	Mean dependent var	3.360650
Adjusted R-squared	0.875404	S.D. dependent var	1.379785
S.E. of regression	0.487039	Akaike info criterion	1.490994
Sum squared resid	35.34379	Schwarz criterion	1.792176
Log likelihood	-107.0070	Hannan-Quinn criter.	1.613254
F-statistic	77.81696	Durbin-Watson stat	1.477204
Prob(F-statistic)	0.000000		

Redundant Fixed effects Tests

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section and period fixed effects

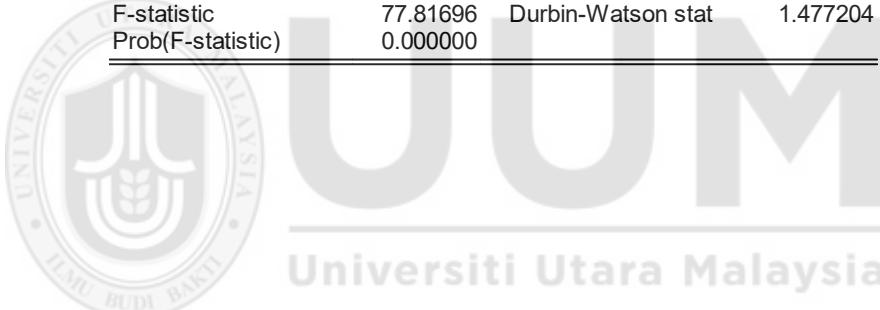| Effects Test	Statistic	d.f.	Prob.
Cross-section F	71.814725	(10,135)	0.0000
Cross-section Chi-square	304.203467	10	0.0000
Period F	1.492293	(14,135)	0.1219
Period Chi-square	23.741734	14	0.0492
Cross-Section/Period F	33.785218	(24,135)	0.0000
Cross-Section/Period Chi-square	321.222691	24	0.0000

Cross-section fixed effects test equation:
Dependent Variable: IN_CBMA01
Method: Panel Least Squares
Date: 05/28/17   Time: 18:49
Sample: 2001 2015
Periods included: 15
Cross-sections included: 11
Total panel (balanced) observations: 165

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.904269	0.929865	6.349602	0.0000
IN_EX	-0.283288	0.044837	-6.318245	0.0000
IN_GDP	0.077467	0.018610	4.162629	0.0001
IN_INF	-0.081435	0.137273	-0.593232	0.5540
IN_INT	-0.252350	0.122311	-2.063188	0.0409
IN_SPI	-0.359592	0.136259	-2.639034	0.0092

Effects Specification

Period fixed (dummy variables)

R-squared	0.380493	Mean dependent var	3.360650
Adjusted R-squared	0.299316	S.D. dependent var	1.379785
S.E. of regression	1.154975	Akaike info criterion	3.239247
Sum squared resid	193.4252	Schwarz criterion	3.615725
Log likelihood	-247.2378	Hannan-Quinn criter.	3.392072
F-statistic	4.687211	Durbin-Watson stat	0.292070
Prob(F-statistic)	0.000000		

Period fixed effects test equation:
Dependent Variable: IN_CBMA01
Method: Panel Least Squares
Date: 05/28/17   Time: 18:49
Sample: 2001 2015
Periods included: 15
Cross-sections included: 11
Total panel (balanced) observations: 165

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.002570	3.238737	-2.162130	0.0322
IN_EX	-0.534262	0.291767	-1.831126	0.0691
IN_GDP	0.429460	0.136878	3.137539	0.0021
IN_INF	0.011610	0.066660	0.174163	0.8620
IN_INT	0.014579	0.073131	0.199353	0.8423
IN_SPI	0.202418	0.106589	1.899051	0.0595

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.886800	Mean dependent var	3.360650
Adjusted R-squared	0.875404	S.D. dependent var	1.379785
S.E. of regression	0.487039	Akaike info criterion	1.490994
Sum squared resid	35.34379	Schwarz criterion	1.792176
Log likelihood	-107.0070	Hannan-Quinn criter.	1.613254
F-statistic	77.81696	Durbin-Watson stat	1.477204
Prob(F-statistic)	0.000000		

Cross-section and period fixed effects test equation:
Dependent Variable: IN_CBMA01
Method: Panel Least Squares
Date: 05/28/17   Time: 18:49
Sample: 2001 2015
Periods included: 15
Cross-sections included: 11
Total panel (balanced) observations: 165

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.926056	0.749268	5.239854	0.0000
IN_EX	-0.216191	0.040157	-5.383602	0.0000
IN_GDP	0.063676	0.018292	3.481093	0.0006
IN_INF	-0.201787	0.124238	-1.624196	0.1063
IN_INT	-0.493875	0.100136	-4.932040	0.0000
IN_SPI	-0.025477	0.099792	-0.255298	0.7988

R-squared	0.313181	Mean dependent var	3.360650
Adjusted R-squared	0.291583	S.D. dependent var	1.379785
S.E. of regression	1.161331	Akaike info criterion	3.172696
Sum squared resid	214.4416	Schwarz criterion	3.285640
Log likelihood	-255.7475	Hannan-Quinn criter.	3.218544
F-statistic	14.50039	Durbin-Watson stat	0.322579
Prob(F-statistic)	0.000000		

Random effect estimator

Dependent Variable: IN_CBMA01
Method: Panel EGLS (Cross-section random effects)
Date: 05/24/17   Time: 16:54
Sample: 2001 2015
Periods included: 15
Cross-sections included: 11
Total panel (balanced) observations: 165
Swamy and Arora estimator of component variances

Variable	Coefficien...	Std. Error	t-Statistic	Prob.
C	-2.445016	1.631082	-1.499015	0.1359
IN_EX	-0.160373	0.123894	-1.294431	0.1974
IN_GDP	0.141438	0.070158	2.015992	0.0455
IN_INF	-0.002175	0.065891	-0.033004	0.9737
IN_INT	-0.010798	0.071762	-0.150467	0.8806
IN_SPI	0.365993	0.077209	4.740311	0.0000

Effects Specification

		S.D.	Rho
Cross-section random		1.410496	0.8935
Idiosyncratic random		0.487039	0.1065

Weighted Statistics

R-squared	0.314907	Mean dependent var	0.298435
Adjusted R-squared	0.293364	S.D. dependent var	0.598575
S.E. of regression	0.503172	Sum squared resid	40.25599
F-statistic	14.61709	Durbin-Watson stat	1.319747
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	-0.375545	Mean dependent var	3.360650
Sum squared resid	429.4787	Durbin-Watson stat	0.123703

Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.708542	5	0.0077

Breusch-Pagan Lagrange multiplier Test (Heteroscedasticity Test)

Lagrange multiplier (LM) test for panel data
Date: 05/24/17   Time: 16:05
Sample: 2001 2015
Total panel observations: 165
Probability in ()

Null (no rand. effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	581.8647 (0.0000)	1.189958 (0.2753)	583.0547 (0.0000)
Honda	24.12187 (0.0000)	-1.090852 (0.8623)	16.28539 (0.0000)
King-Wu	24.12187 (0.0000)	-1.090852 (0.8623)	17.71924 (0.0000)
GHM	-- --	-- --	581.8647 (0.0000)

Robust Least Square

Dependent Variable: IN_CBMA01
Method: Robust Least Squares
Date: 05/18/17   Time: 15:10
Sample: 2001 2015
Included observations: 165
Method: M-estimation
M settings: weight=Bisquare, tuning=4.685, scale=MAD (median centered)
Huber Type I Standard Errors & Covariance

Variable	Coefficien...	Std. Error	z-Statistic	Prob.
C	4.645285	0.719857	6.453065	0.0000
IN_EX	-0.213203	0.038581	-5.526104	0.0000
IN_GDP	0.069598	0.017574	3.960336	0.0001
IN_INF	-0.270284	0.119362	-2.264416	0.0235
IN_INT	-0.373260	0.096205	-3.879821	0.0001
IN_SPI	-0.132408	0.095875	-1.381053	0.1673

Robust Statistics

R-squared	0.275470	Adjusted R-squared	0.252686
Rw-squared	0.391843	Adjust Rw-squared	0.391843
Akaike info criterion	194.4646	Schwarz criterion	214.4632
Deviance	168.7025	Scale	0.957978
Rn-squared statistic	70.23723	Prob(Rn-squared stat....	0.000000

Non-robust Statistics

Mean dependent var	3.360650	S.D. dependent var	1.379785
S.E. of regression	1.183296	Sum squared resid	222.6300