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FINANCIAL OPENNESS AND ECONOMIC GROWTH

By
NORLIDA BINTI JOHARI

Research Paper Submitted to
School of Economics, Finance and Banking,
Universiti Utara Malaysia,
in Partial Fulfillment of the Requirement for the
Master of Science (MSc) Finance
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dengan memuaskan.
(that the research paper acceptable in the form and content and that a satisfactory knowledge of the field is covered
by the dissertation).

Nama Penyelia
(Name of Supervisor) : Dr. Sharmilawati Sabki

Tandatangan
(Signature) : [Signature]

TARIKH
(Date) : 28 Disember 2017
DECLARATION

I declare that thesis work described in this research paper is my own work (unless otherwise acknowledged in the text) and that there is no previous work which has been previously submitted for any academic Master’s program. All sources quoted have been acknowledged by reference.

Signature : __________________
Name : Norlida Binti Johari
Date : 28th December 2017
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ABSTRACT

In last few decades, financial openness has been widely noted around the world. The process of financial openness such as banking liberalization, trade openness, capital account liberalization has closely brought together the financial market and institutions around the world. The objective of the study is to examine the effect of financial openness on economic growth for the five major economies in ASEAN (Thailand, Singapore, Indonesia, Malaysia and Philippines) between 2000 and 2014. The balanced panel data from 2000 to 2014 for these countries has been employed in this study. The variables used are independent variable (financial openness), dependent variable (GDP) and four control variables (inflation, official exchange rate, trade and government expense). Using the Panel OLS, this study discovers a positive relationship between financial openness and economic growth. In addition, the official exchange rate and government expense are also found to influence the economic growth positively. However, the level of trade and inflation do not significantly related to economic development. For the robustness model, the FDI net inflow is employed as the independent variable to measure the financial openness. Although, different measurement of financial openness (FDI net inflows) has been used to replace the KAOPEN index, these three variables (financial openness, official exchange rate and government expense) remain to be the factors that affect the level of economic growth. In addition, supporting the earlier conclusion, inflation and trade are not influencing the economic growth. Thus, the findings provided by this study would assist the policy makers in the five ASEAN countries in assessing and strengthening the strategies on the financial openness for the benefits of the countries.

Keywords: Financial Openness, Liberalization, Economic Growth, ASEAN, FDI net inflows, Inflation.
ABSTRAK


Kata kunci: Keterbukaan Kewangan, Liberalisasi, Pertumbuhan Ekonomi, ASEAN, aliran masuk bersih FDI, Inflasi.
ACKNOWLEDGEMENT

In the name of ALLAH, most Gracious, the most Merciful
All the praises and thanks to ALLAH

I would like to extent my deepest gratitude and thanks to Allah the Almighty for giving me excellent health, energy, and capability to complete my thesis.

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To my Mum and Dad, Normah binti Ahmad and Johari bin Ariffin for their constant prayers, continuous love and support since the day I was born, thanks for raising and teaching me so well and may ALLAH bless you two. This credit also goes to the rest of my family.

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Many thanks to these good people and may ALLAH bless you all.
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*Research Framework*
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<th>Abbreviation</th>
<th>Meaning</th>
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<tr>
<td>AEC</td>
<td>ASEAN Economic Blueprint</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian National</td>
</tr>
<tr>
<td>CPI</td>
<td>Inflation</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>FO</td>
<td>Financial Openness</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GOVEXP</td>
<td>Government Expense</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Funds</td>
</tr>
<tr>
<td>OER</td>
<td>Official Exchange Rate</td>
</tr>
<tr>
<td>OLS</td>
<td>Ordinary Least Square</td>
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CHAPTER ONE
INTRODUCTION

1.0 BACKGROUND OF THE STUDY

In last few decades, financial openness has been widely noted around the world. Financial openness is defined as the free flows of cross-country investments which are derived from the liberalized government regulation. According to Baele, Ferrando and Hordahl (2004), Adam (2011) and Patnaik and Shah (2012), the process of financial openness has closely brought together the financial market and institutions around the world. Previous studies have identified few approaches in which the financial system is being opened to other countries. Among them are financial liberalization, capital account deregulation, relaxation in the cross-country savings and investment and deregulation in current account transactions (Bekaert, Harvey & Lundblad, 2005; Chinn & Ito, 2008; Lane & Milesi-Ferretti, 2007; Quinn, Schindler & Toyoda, 2011).

Benefits of financial openness to the financial system have been highlighted by the previous literature. According to Georgios (2013), Tekin (2012) and Ayanwale (2007), financial openness will increase the risk sharing and risk diversification activities that would reduce the overall investment risk of the investors. Next, the financial liberalization also increases the efficiency in capital allocation which could improve the functions of the financial market. As noted by McKinnon (1973) and Shaw (1973), financial liberalization enhances the investment and savings activities by reducing the government controls. As the financial constrains being eliminated by the process of
The contents of the thesis is for internal user only
REFERENCES


Arteta, C., Eichengreen, B., & Wyplosz, C. (2001). When does capital account liberalization help more than it hurts? (No. w8414). *National bureau of economic research*.


APPENDIX A

Construction of KAOPEN

KAOPEN is based on the binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF’s Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). Up to 1996, we assign dummy variables for the four major categories on the restrictions on external accounts.

These variables are:

• variable indicating the presence of multiple exchange rates ($k_1$);

• variable indicating restrictions on current account transactions ($k_2$);

• variable indicating restrictions on capital account transactions ($k_3$); and

• variable indicating the requirement of the surrender of export proceeds ($k_4$).

In 1996, the classification method in the AREAER changed and these four categories were disaggregated further, in an effort to better reflect the complexity of capital controls policies.7 For the extension of the four binary classifications after 1996, we followed Mody and Murshid (2005).

In order to focus on the effect of financial openness – rather than controls – we reverse the values of these binary variables, such that the variables are equal to one when the capital account restrictions are non-existent. Moreover, for controls on capital transitions
(k3), we use the share of a five-year window (encompassing year $t$ and the preceding four years) that capital controls were not in effect ($SHAREk3$).

$$SHAREk_{3,t} = \left(\frac{k_{3,t} + k_{3,t-1} + k_{3,t-2} + k_{3,t-3} + k_{3,t-4}}{5}\right)$$

Then we construct an index for capital “openness” ($KAOPEN_t$), which is the first standardized principal component of $k1t$, $k2t$ $SHAREk3$, $k4t$. This index takes on higher values the more open the country is to cross-border capital transactions. By construction, the series has a mean of zero. The first eigenvector for $KAOPEN$ was found to be $(SHAREk3, k1, k2, k4)' = (0.57, 0.25, 0.52, 0.58)'$, indicating that the variability of $KAOPEN$ is not merely driven by the $SHAREk3$ series.
APPENDIX B

. (9 vars, 75 obs pasted into editor)

. tsset code year
   panel variable : code, 1 to 5
time variable : year, 2000 to 2014

. regress lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp

| Source | SS | df | MS | Number of obs = 75 |
|--------|----|----|----|--|------------------|
| Model  | 28.284879 | 5 | 5.65697581 | F( 5, 69) = 596.39 |
| Residual | 0.654492234 | 69 | 0.009485395 | Prob > F = 0.0000 |
| Total  | 28.9393713 | 74 | 0.391072585 | R-squared = 0.9774 |

| Coef.   | Std. Err. | t     | P>|t|   | [95% Conf. Interval] |
|---------|-----------|-------|------|----------------|---------------------|
| x1fo    | 0.0956732 | .0146442 | 6.53 | 0.000 | .0664589 to .1248876 |
| x2cpi   | 0.016568  | .005824 | 2.84 | 0.006 | .0049494 to .0281865 |
| x3lnoer | 0.0344904 | .0077103 | 4.47 | 0.000 | .0191088 to .049872 |
| x4trade | -0.0000488 | .0002102 | -0.23 | 0.817 | -.0004682 to .0003706 |
| x5lngovexp | -0.9057597 | .0194988 | 4.64 | 0.000 | .8668493 to .9446702 |
| _cons   | 4.228388 | .4571826 | 9.25 | 0.000 | 3.316334 to 5.140442 |

. vif

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>x4trade</td>
<td>4.90</td>
<td>0.203929</td>
</tr>
<tr>
<td>x3lnoer</td>
<td>4.39</td>
<td>0.227594</td>
</tr>
<tr>
<td>x1fo</td>
<td>2.48</td>
<td>0.403848</td>
</tr>
<tr>
<td>x2cpi</td>
<td>2.10</td>
<td>0.476257</td>
</tr>
<tr>
<td>x5lngovexp</td>
<td>1.26</td>
<td>0.793040</td>
</tr>
</tbody>
</table>

Mean VIF | 3.03

. xtreg lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp,fe

Fixed-effects (within) regression
Group variable (i): code
Number of obs = 75
Number of groups = 5
R-sq: within = 0.9860
between = 0.2755
overall = 0.0617
Obs per group: min = 15
avg = 15.0
max = 15
F(5, 65) = 912.99
Prob > F = 0.0000

corr(u_i, Xb) = -0.7189

| Coef.   | Std. Err. | t     | P>|t|   | [95% Conf. Interval] |
|---------|-----------|-------|------|----------------|---------------------|
| x1fo    | 0.0629764 | .0133059 | 4.73 | 0.000 | .0364026 to .0895501 |
| x2cpi   | 0.0067367 | .0040983 | 1.64 | 0.105 | -.0014482 to .0149215 |
| x3lnoer | -0.2267257 | .0854198 | -2.65 | 0.010 | -.3973208 to -.0561306 |

59
```plaintext
ssc install xtserial
ssc install: "xtserial" not found at SSC, type -findit xtserial-
(To find all packages at SSC that start with x, type -ssc describe x-)
r(601);

. findit xtserial

. xtserial

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: sigma(i)^2 = sigma^2 for all i
chi2 (5) = 7.73
Prob>chi2 = 0.1719

. xtserial lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F( 1, 4) = 50.800
Prob > F = 0.0020

. regress lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp, robust cluster (code)

Regression with robust standard errors
Number of obs = 75
F( 3, 4) = .
Prob > F = .
R-squared = 0.9774
Root MSE = 0.09739

| lngdp | Coef.       | Robust Std. Err.  | t     | P>|t|  | [95% Conf. Interval] |
|-------+-------------+-------------------+-------+--------+----------------------|
| x1fo  | 0.0956732    | 0.0270526         | 3.54  | 0.024  | 0.0205633             |
| x2cpi | 0.016568     | 0.0108889         | 1.52  | 0.203  | -0.0136644            |
| x3lnoer| 0.0344904    | 0.0150597         | 2.29  | 0.084  | -0.007322             |
| x4trade| -0.0000488   | 0.001434          | -0.34 | 0.751  | -0.000447             |
| x5lngovexp| 0.0957597    | 0.012753          | 28.96 | 0.000  | 0.8189255             |
| _cons | 4.228388     | 0.7309021         | 5.79  | 0.004  | 2.199078              |
```
APPENDIX C

. (9 vars, 75 obs pasted into editor)

. tset code year
  panel variable : code, 1 to 5
time variable : year, 2000 to 2014

. regress lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp

Source |       SS       df       MS                  Number of obs =         75
------------------------+-----------------------------------------              F(  5,    69) =  402.97
Model |    27.9811414      5  5.59622829                  Prob > F  =  0.0000
Residual |    .958229816    69  .013887389    R-squared =  0.9669
-----------------------+-----------------------------------------              Adj R-squared =  0.9645
Total  |   28.9393713    74  .391072585    Root MSE =  .11784

-------------------------------------------------------------------------------
        Lngdp |     Coef.             Std. Err.            t      P>|t|       [95% Conf. Interval]
------------------------+----------------------------------------------------------------------------------------------------------------------
x1fdinetin~s |   .0113785    .0042167        2.7 0          0.009       .0029665    .0197905
x2cpi  |   .0258658    .0068487        3.78          0.000        .0122031     .0395286
x3lnoer |   .0499759       .008722        5.73          0.000         .032576     .0673759
x4trade  |   .000236    .0003154        0.75          0.457   -.0003932     .0008652
x5lngovexp  |   .8505671    .0229374     37.08          0.000                   .8048082        .8 96326
_cons  |   5.398322    .5561256        9.71          0.000                   4.288882               6.507762
-------------------------------------------------------------------------------

. vif

Variable |       VIF       1/VIF
------------------------+------------------------
x4trade |      7.54    0.132656
x1fdinetin~s |      4.74    0.211049
x3lnoer |      3.84    0.260396
x2cpi |      2.60396
x5lngovexp |      1.19    0.839540
------------------------+------------------------
Mean VIF |      3.86

. xtreg  lngdp x1fdinetinflows x2cpi x3lnoer x4trade x5lngovexp, fe

Fixed-effects (within) regression                     Number of obs  =                         75
Group variable (i): code                                    Number of groups =                           5
R-sq:  within = 0.9825             Obs per group: min =                         15
                between = 0.2452             avg =                      15.0
                overall = 0.0909             max =                         15
F(5,65)   =     731.73
corr(u_i, Xb)   = -0.6766         Prob > F  =                 0.0000

-------------------------------------------------------------------------------
        Lngdp |     Coef.             Std. Err.            t      P>|t|       [95% Conf. Interval]
------------------------+----------------------------------------------------------------------------------------------------------------------
x1fdinetin~s |   .0066394 .0028862             2 .30        0.025              .0008753        .0124035
x2cpi |   .0116489    .0044237             2.63        0.011              .0028141                     .0204836

61
|           | Coef.    | Std. Err. | t     | P>|t|  | [95% Conf. Interval] |
|-----------|----------|-----------|-------|------|----------------------|
| lngdp     | .0113785 | .0040602  | 2.80  | 0.049| .0001055   .0226514  |
| x1fdinetin| .0258658 | .0158425  | 1.63  | 0.178| -.0181201 .0698518  |
| x3lnoer   | .0499759 | .0208621  | 2.40  | 0.075| -.0079466 .1078985  |
| x4trade   | .050236  | .004612   | 0.51  | 0.636| -.0010446 .0015165  |
| x5lngovexp| .8505671 | .0467468  | 18.20 | 0.000| .7207773 .9803569  |
| _cons     | 5.398322 | 1.042492  | 5.18  | 0.007| 2.503901   8.292743  |

F test that all u_i = 0:  
F(4, 65) = 32.87  Prob > F = 0.0000

ssc install xtserial
ssc install: "xtserial" not found at SSC, type -findit xtserial-
(To find all packages at SSC that start with x, type -ssc describe x-)
r(601);

findit xtserial

xtserial  lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp

Modified Wald test for groupwise heteroskedasticity in fixed effect regression model
H0: sigma(i)^2 = sigma^2 for all i
chi2 (5) = 4.80  Prob>chi2 = 0.4404

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F(1, 4) = 14.581  Prob > F = 0.0188

regress  lngdp x1fo x2cpi x3lnoer x4trade x5lngovexp, robust cluster (code)

Regression with robust standard errors
Number of obs = 75
F(3, 4) = .  Prob > F = .
R-squared = 0.9669
Number of clusters (code) = 5
Root MSE = 0.11784
APPENDIX D

Descriptive Statistics

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<th>Variable</th>
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<th>Minimum</th>
<th>Maximum</th>
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<th>Standard Deviation</th>
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<tr>
<td>GDP (USD billion)</td>
<td>75</td>
<td>7630</td>
<td>91800</td>
<td>26000</td>
<td>19700</td>
</tr>
<tr>
<td>FO (KAOPEN Index)</td>
<td>75</td>
<td>-1.89</td>
<td>2.39</td>
<td>0.55</td>
<td>1.22</td>
</tr>
<tr>
<td>CPI (%)</td>
<td>75</td>
<td>-0.85</td>
<td>13.11</td>
<td>3.74</td>
<td>2.82</td>
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<tr>
<td>OER (LCU/USD)</td>
<td>75</td>
<td>1.25</td>
<td>11865.21</td>
<td>1926.91</td>
<td>3854.63</td>
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<tr>
<td>Trade (%)</td>
<td>75</td>
<td>45.51</td>
<td>441.60</td>
<td>166.71</td>
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<tr>
<td>Govexp (USD billion)</td>
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<td>8690</td>
<td>2870</td>
<td>2050</td>
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<td>Valid N (list wise)</td>
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APPENDIX E

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<th>Thailand</th>
<th>Philippine</th>
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</thead>
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<tr>
<td>GDP (USD billion)</td>
<td>18300</td>
<td>19900</td>
<td>50100</td>
<td>25900</td>
<td>15700</td>
</tr>
<tr>
<td>FO (KAOPEN Index)</td>
<td>2.39</td>
<td>-0.33</td>
<td>0.77</td>
<td>-0.62</td>
<td>0.56</td>
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<tr>
<td>CPI (%)</td>
<td>2.05</td>
<td>2.25</td>
<td>7.47</td>
<td>2.58</td>
<td>4.35</td>
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<tr>
<td>OER (LCU / USD)</td>
<td>1.52</td>
<td>3.50</td>
<td>9545.18</td>
<td>36.39</td>
<td>47.94</td>
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<tr>
<td>Trade (%)</td>
<td>384.60</td>
<td>180.51</td>
<td>55.76</td>
<td>128.87</td>
<td>83.84</td>
</tr>
<tr>
<td>Govexp (USD billion)</td>
<td>18600</td>
<td>25200</td>
<td>44400</td>
<td>39300</td>
<td>15800</td>
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</tbody>
</table>

APPENDIX F

<table>
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<tr>
<th></th>
<th>Y = LNGDP</th>
<th>X1 = FO</th>
<th>X2 = CPI</th>
<th>X3 = LNOER</th>
<th>X4 = Trade</th>
<th>X5 = LNGovexp</th>
</tr>
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<tbody>
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<td>Y = LNGDP</td>
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<td>X1 = FO</td>
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<td>X2 = CPI</td>
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<td>0.0947</td>
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<td>X3 = LNOER</td>
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<td>-0.1378</td>
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<td>X4 = Trade</td>
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<td>-0.4674</td>
<td>-0.7531</td>
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<td>X5 = LNGovexp</td>
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<td>-0.3260</td>
<td>0.1159</td>
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