FINANCIAL OPENNESS FOR SMALL OPEN ECONOMY

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Abstract

The openness declared in Malaysia aims to strengthen the economic interlinkages with other economies and enhancing the role of the liberalization itself as a key enabler and mechanism of economic growth.The main concern of this study is to examine the correlation between financial openness towards economy and the total output growth. Primary attention has been given, for not just focusing on country level but also going in depth into manufacturing industry level to look at this relationship based on Malaysia experience. By using d*e facto* financial openness, the result shows that financial openness is significant for both in country and industry level and support that the volume of country's assets and liabilities did impact on economy and output growth. However, in Granger causality test the significant level only shows on a country level.

Keywords Financial openness, output growth, economic growth, manufacturing.

Introduction

The emerging of the financial openness in Malaysia has started since in 1970s. Few issues have encouraged such passionate debate among development researchers and policy makers as the virtues of financial globalization, including the combination of equity, bond and money market, as well as direct ownership of foreign capital or foreign direct investment-FDI. The compatibility of the globalization has been traced since 1970s in order to move forward as Malaysia is expected to have a greater role in facilitating and catalyzing economic growth as Malaysia transitions towards achieving a developed economy status by year 2020. These openness measures a re-consistent with the objectives committed under the Financial Sector Master Plan (FSMP) issued in 2001 to develop a resilient, diversified and efficient varies of sectors in Malaysia. More than 90% of the FSMP initiatives have been completed or are being implemented on an ongoing basis (Thomas, 2010).

Table 1 Average Annual Output Growth in Percentage

Gross Domestic Product				Manufacturing			
1970-1980	1981-1990	1991-2000	2001-2010	1970-1980	1981-1990	1991-2000	2001-2010
8.8	9.16	9.65	9.5	7.64	12.78	13.14	11.72

(Source: Malaysia department of Statistic, Author's computation of average annual output growth in percentage)

The manufacturing sector has been a dominant force in the Malaysian growth experience, contributing significantly to growth of output. The manufacturing sector has been the fastest growing industry in the Malaysian economy in late 1980s until now. After keeping an average annual output growth rate of around 13.14 percent during 1991-2000 periods, average annual output growth rate of manufacturing sector has been declined to 11.72 percent during 2001-2010 periods due to the financial crisis which Malaysia had experienced since year 2007 till 2010.

Many rising economies recently experienced that financial openness has generated significant research interest in the advantages and costs of the openness process. To some extent, there seems pointed a little uncertainty about the positive impact of the financial openness on the long-term economy rate of growth. As such, Bekaert (2005) shows that liberalization in equity market has increase the average annual rate of the economic growth. In the other hand, evidence on industry level also proved by Gupta and Yuan (2009) with the similar result. At the same time, there is strong sensitivity that foreign capital increases volatility both in financial markets and in the real economy (Stiglitz, 2000).

The debate about the measurement of the financial openness had pointed out several approaches in order to determine the degree of the openness. The discussion suggests that the dissimilarity between *de jure* and *de facto* of financial openness is the crucial one (Kose, et al., 2009). It is proved by Prasad and Wei (2007) whom research resulted that many Latin American economies experienced substantial capital flights in the last two decades even they are implementing controls on outflow. In the other hand, China also was not able to stop inflows of exploratory capital even they having extensive of capital controls.

Most of the past studies reviewed on the benefits of the financial integration that only based on cross-country growth regressions in country economy as a whole. Due to that, most of the literatures endure from many negative aspect of other related growth literature that uses the same empirical approach of the measurement.

Financial Openness Towards Economic and Industry Growth

The literature on the relationship of financial openness and the output growth for different countries had resulted different findings with the different sectoral view as such studies made by Bekaert, Harvey and Lundblad (2010), Kose, Prasad, Rogoff and Wei (2009), Levchenko, Ranciere and Thoeing (2009), Quinn and Toyoda (2008) and Lee (2000). In particular, this study also see the gap between the two issues arise in this research whereby, the purpose on reviewing the previous studies on the effect of the financial openness towards the economy and manufacturing industry as a whole.

To begin with, recent evidence strongly suggests a relationship between financial openness and economic growth. For example Bekaert, Harvey and Lundblad (2011) had examined the relationship of financial openness and productivity growth. Under the investigation, they dissect growth into two channels which are capital stock growth and total factor productivity growth. Results have been shown that the impact of the financial openness in productivity is more than its effect on capital growth. These effects directly boost up the economic growth. Popov (2011) reviewed that de jure measure of financial openness shows poor actual degree of financial market integration. While, it is more on the increase in foreign investment in domestic securities, which act of openness in different magnitudes with actual integration with the world's financial market as done by Levchenko, Rancriere and Thoeing (2009). Popov then aim to solve this problem by replacing de jure with de facto measures of financial openness based on the gross capital flows measures from Lane Milesi-Feretti (2007). The study resulted simultaneously in higher growth and in higher growth variability.

A reappraisal reviewed by Koseet. al. (2009) had combined the large literatures on the benefits of financial openness measured by both de jure and de facto based on cross-country growth regression benefits of financial openness come to the fact that emerging market economies experienced higher cumulative growth. Study by Rodrick (1998) finds that capital account liberalization has no significant effect on economic growth. His analysis is based on binary measures of capital control. In contrast, by using the finest and same data, Quinn and Toyoda (2008) document a positive relationship between the variables.

By using de facto openness, Pasricha (2008) had done a research on emerging market economies in countries such Chile, Mexico, Singapore, Philippines and Malaysia. De facto has been selected and result shows that Philippines and Chile show high degree of openness whereas Malaysia and Brazil ranked in the bottom which based on dataset available. Different approach used by Cakici (2009) in order to see the financial openness for a small open economy and highlights vibrant, stochastic and other variables to see the impact on the economy. Baltagiet. al.(2009) had used both de jure and de facto capital account openness resulted robust finding due to the range of alternative measure, datasets and estimation methods that financial openness had significant effect on selected sector development.

However, the failure of most empirical studies to detect relationship of financial openness and growth benefits has been used as missiles by the critics of financial globalization who view unregulated capital flows as a serious obstacle to global financial stability which issued by researchers such Rodrik (1998), Bhagwati (1998) as well as study by Stiglitz, (2004). By contrast, Fischer, (1998) and Summers (2000) proponents of financial openness argue that increased openness to capital flows proven essential for countries aiming to upgrade from lower to middle income status, while also enhancing stability among industrialized countries.

The latest study on industrial area has been reviewed by Popov (2011) had proved that financial openness in industrial sector (manufacturing), growth and volatility are positively correlated. In the other hand, it also expand the analysis made by Gupta and Yuan (2009) which resulted on the effect of openness on the variability, productivity and employment growth process. The positive effect of financial openness on long-term growth appears to be an empirical regularity both on country and industry level.Arbelaez

and Echavarria (2002) had pointed issues regarding the financial constraint, strong evidence was found that conglomerate firm may have more openness in manufacturing company and hence boosting up the Colombian manufacturing companies. Instead of Columbia, same study had made by Guiso, et. Al (2004) in the European Union to see the degree of its development which aims to provide evaluation between financial integration growth on the empirical relationship between manufacturing output growth. The paper concludes financial openness can still affect growth. In addition, the simulation pointed that financial openness will have a positive impact on countries and sectors growth.

By using both measurement of financial openness which is de jure and de facto, Levchenkoet. al. (2009) aims the effect of financial openness on growth and volatility at the industry level specifically in manufacturing industry. Strong evidence to prove that financial openness does increase both growth and volatility of output in manufacturing industry on selected countries. However, those effects is examined that there are no long effect since it will typically vanish after 6 years. Research made by Rajan and Zingales (1998) and Eichengreenet. al. (2009). Again, the authors used de facto and de jure as measurements of financial openness in the study and found positive evidence on the growth which has financially-dependent industries even though these growth-enhancing effects disperse during financial crises.

This paper attempt to seek the relation of the financial openness measured by *de facto* (the volume of a country's foreign asset and liability) towards the Malaysia economy as a whole and more specific to industrial level, namely manufacturing sector. Malaysia as an open economy had continuously updating his financial openness phase by phase and using 'stop and go' methods of implementation. This was agreed in order to fit with the needs and wants of the economy itself.

Research Methodology

Measuring Financial Openness

This paper adopted *de facto* measurement of financial openness.*De facto* integration is one approach that looks at price-based measures of asset market integration. The logic of this theory was pointed by Karolyi and Stulz (2003) who found that integration on capital market should be reflected in common prices across national borders of similar financial instruments. Lane and Milesi-Feretti (2007) who have constructed *on* an extensive data set of gross liabilities and assets for 145 countries. Their dataset contains information about the composition of majority needed in argument issues. Data set by Lane and Milesi-Feretti are most adopted by past researchers and some of them are Popov (2011), Levchenko, Rancriere and Thoeing (2009), Kose, et. al. (2009) and Baltagiet. al. (2009).

The other financial openness indicator is using De Jure which has appointed by Utkulu and Özdemir (2005) are impacted by economy and political factors such corruption, political regime and institutional developments. Particularly in developing country as Malaysia, De Jure may not be efficient in finding the openness effect. Therefore, the chosen de facto is more sensible instrument to appraise the relationship.

Methodology

The basic econometric test estimating independently is by using ordinary least squares (OLS). This test relates to two disjoint sets of literature which are one has studied the effect of financial liberalization and domestic economy on growth done by Bekaert, Harvey and Lundblad (2005), Gupta and Yuan (2009), and the one which has studied the effect of the same processes on the volatility of output or consumption growth made by Easterly, Islam and Stiglitz (2000) as well as Bekaert , Harvey and Lundblad (2006). Besides, **Loayza, Norman**, Chang, and Kaltani. (2009) also obtained result by using OLS regression with pooled time –series and cross-country observations. They agreed that this is the most basic estimators as it ignores both the presence of unobserved country-specific effects. Other empirical researchers used cross-section OLS are Khoon (2007), Rodrick (1998), Arbalaez and Echavarria (2002), Eichengreenet. Al (2009),

Estimation Methodology

The diagnostic framework of the growth model estimation for this study was influential by paper made by Sala-i-Martin et al. (2004) on the statistical significance of growth determinants and has been extended by author on additional financial openness variable. The same extension was also made by Özdemirand Erbil(2008) in their paper.

Stojkov and Zalduendo (2011) took initial level of GDP per capita as part of the regression. Quoting the fact by Solow (1956) on neoclassical growth theory, structural differences between countries resultthe low-income countries show higher rates of growth rather than developed countries. Level of trade openness also stated in the theory as one important indicator. Trade openness can be seen as the country's ability to achieve greater specialization and cope with the external competitive pressure.

Past researchers such as Lucas, 1990 and Romer, 1990 and 1994 stated that population growth is an important engine for economic growth. This is due to that growth in population improves the productivity through both the contribution of new emerging ideas and increase production volume. The related past research produces reliable in the relationship. On the other hand, the beautiful of financial repression can lead to better financial openness for country.

Theory highlighted by Özdemirand Erbil(2008) stated that financial repression generate and improve control over money supply and produce low interest rate which can lead to higher investment. This condition will make country tend to open their market internationally. Financial openness may increase the fiscal deficit and force government to pay more market-based interest rates on existing debt.

However, financial openness can be favor by the rise in saving and investment and directly improve the allocation of savings among potential investors. This may create more opportunity on funds for technology developments and hence increase country economy growth. This debate needs better evidence on the benefits of financial openness, especially for small open economies of developing country as such Malaysia.

In line with the elaborated analytical framework, the baseline growth equation takes the following dynamic specification:

$$Egr= \alpha_0 + \beta_1 LGDI + \beta_2 Lpop + \beta_3 Lto + \beta_4 finopen(df) + \varepsilon \quad (1)$$

The economic growth regression above has the following variables; *Egr*represent the measure of initial GDP per capita. *LGDI* is the measure of physical capital of Malaysia, proxied by real gross domestic investment or known as gross capital formation (logarithmic). *Lpop* is the the measure of the Malaysia total population for the tested years. *Lto* represent the country trade openness (sum of exports and imports in percent of GDP- logarithmic) while*finopen(df)* measuresthe financial openness. Financial openness is indicated by de facto index from Lane and Milesi-Feretti (2007), data obtained from World Bank Online Database.

$$\text{Ogr} = \alpha_0 + \beta_1 \text{LGDI} + \beta_2 \text{Lpop} + \beta_3 \text{Lto} + \beta_4 \text{finopen(df)} + \varepsilon \quad (2)$$

The second stage of the investigation is to look the impact of the financial openness towards the output manufacturing growth (O*gr)* in Malaysia. All the variables in equation (2) are same as in equation (1) with the exception of *Egr* change to dependent of *Ogr*.

Financial Openness and Economic Growth

The first stage (1) of the study is to look the impact of the financial openness towards the economic growth. Table 2 summarizes result on financial openness and economic growth indicators. The statistic shows the mean, maximum, minimum and standard deviation of the variables with the Egr (economic growth). Total observations refer to the time period of the study which is from 1970 until 2004 (35 years).

Table 2 Summary Statistics

Variable	Obs.	Mean	Std.Dev.	Min.	Max.
LGDI	35	28.33915	7.121676	20.18864	43.64010
Lpop	35	17300.58	4535.837	10881.80	25581.00
Lto	35	149.9389	51.15208	69.25857	220.4068
Finopen(df)	35	129.8100	52.67593	56.12934	224.0612
Egr	35	2577.798	1020.549	1139.288	4385.970

*Note:*Table reports the descriptive estimation. *LGDI* represent the log of gross domestic investment or known as gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. *Lpop* consist of the Malaysia population as per tested year. *Lto* is trade openness which country sum of exports and imports in percent of GDP. *Finopen(df)* is de facto openness index by Lane and Milesi-Feretti (2007). *Egr* is economic growth which measures the initial GDP per capita for the year 1970-2004. Table 3: Correlations

Table 3recapitulatePearson correlation coefficients of the result of financial openness indicators which reported earlier, as expected openness indicators are positively correlated, and the highest two correlations are correlation between the financial openness (de facto) and the population towards the economic growth. Related literature generally suggests that all the estimation methodology variables financial development indicators should be positively related to the degree of economic growth, and that this paper expect the Pearson correlations to be positive in the first stage.

In Table 4, the results of the first-order effect of financial openness are presented. The dependent variable is the initial GDP per capita as used by Stojkov and Zalduendo (2011) for Malaysia experience over the period 1970 to 2004. Expected sign for each variable are based on the empirical study made by previous researchers. The table reports the regression results using de facto as indicator of financial openness. The fraction of financial openness is positive and significant as a priori expected at the economy level. The country population also has the expected sign at 99% level of confidence.

Table 3 Correlations

Variables	Egr	Finopen(df)	LGDI	Lpop	Lto
Egr	1.000000				
Finopen(df)	*0.*927007***	1.000000			
LGDI	0.398300**	0.247452	1.000000		
Lpop	0.986679***	0.954129***	0.305701*	1.000000	
Lto	0.832313***	0.810505***	0.409973**	0.816832***	1.000000

Note: The table reports estimates from Pearson correlation. *LGDI* represent the log of gross domestic investment or known as gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. *Lpop* consist of the Malaysia population as per tested year. *Lto* is trade openness which country sum of exports and imports in percent of GDP. *Finopen(df)* is de facto openness index by Lane and Milesi-Feretti (2007). *Egr*(dependent variable) is economic growth which measures the initial GDP per capita for the year 1970-2004. Where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level.

Different result explored in this paper since the regression result shows insignificant between the Gross Domestic Investment and the level of the country trade openness towards the economic growth. However, the objective of this paper again to see the effect of the financial openness towards the economic growth. The other variables are just proxied by selected economy variable as done by previous researchers. The economy effect of financial openness on growth is thus significant, both statistically and economically (at a five-percent level).

Table 4 Economy Effect of Financial Openness

Variables	Expected Sign	Coefficients	t-statistic (p-value)
Finopen(df)	+	7.424564	2.467899**
LGDI	+	-3.988726	-0.504854
Lpop	+/-	0.088292	2.912558***
Lto	+/-	1.626498	0.822395
R-Squared	0.912140		

Note: The table reports estimates from OLS regression where the dependent variable is the 'log GDP per capita'. *LGDI* represent the log of gross domestic investment or known as gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. *Lpop* consist of the Malaysia population as per tested year. *Lto* is trade openness which country sum of exports and imports in percent of GDP. *Finopen(df)* is de facto index openness by Lane and Milesi-Feretti (2007) for the year 1970-2004. Where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level.

Financial Openness and Manufacturing Output Growth

As in the second (2) equation, this paper need to determine the same effect as in equation one (1) but with the different dependent which is the output growth in Malaysia's Manufacturing industry. This model allow to test whether there is, beside the economic growth effect, also an industry (manufacturing)-specific effect of financial openness. If financial openness make possible of credit surplus, this effect should be especially manifest on those industrial sector where firms are highly dependent on external finance sources. Table 5 reports the results on the descriptive analysis on *Ogr in terms of the* mean, standard deviation, minimum and maximum values.

The results on the Pearson correlation are presented on Table 6. The relationship of the *finopen(df)* and the *Ogr*are positively correlated with correlation of 0.884024 with 1% significance level.

Table 5 Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
LGDI	35	28.33915	7.121676	20.18864	43.64010
Lpop	35	17300.58	4535.837	10881.80	25581.00
Lto	35	149.9389	51.15208	69.25857	220.4068
Finopen(df)	35	129.8100	52.67593	56.12934	224.0612
Ogr	35	10.02477	7.104154	-13.41770	22.51802

Note: Table reports the descriptive estimation. *LGDI* represent the log of gross domestic investment or known as gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. *Lpop* consist of the Malaysia population as per tested year. *Lto* is trade openness which country sum of exports and imports in percent of GDP. *Finopen(df)* is de facto openness index by Lane and Milesi-Feretti (2007). *Ogr* is the Malaysia's manufacturing output growth per GDP for the year 1970-2004.

It can be seen that the correlation on the level of financial openness in positive and significant. This suggest that, besides positive effect on economic growth, financial openness has an additional positive connection on Malaysia manufacturing output and shows that firms are dependent on external finance sources. The correlation between the other independent such *LGDI, Lpop and Lto* shows positive and significant at both level of 1% and 5% towards the output growth.

Table 6 Correlations

Variables	Ogr	Finopen(df)	LGDI	Lpop	Lto
Ogr	1.000000				
Finopen(df)	0.884024***	1.000000			
LGDI	0.393303**	0.247452	1.000000		
Lpop	0.956383***	0.954129***	0.305701*	1.000000	
Lto	0.792968***	0.810505***	0.409973**	0.816832***	1.000000

Note: The table reports estimates from Pearson correlation. *LGDI* represent the log of gross domestic investment or known as gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. *Lpop* consist of the Malaysia population as per tested year. *Lto* is trade openness which country sum of exports and imports in percent of GDP. *Finopen(df)* is de facto openness index by Lane and Milesi-Feretti (2007). *Ogr* (dependent variable) is Malaysia's manufacturing output growth per GDP for the year 1970-2004. Where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level.

The results, using OLS, are presented in Table 7. As expected by the empirical study, the regression result shows that de facto financial openness does have a positive impact on the output growth (manufacturing). However, the result shows a weak positive coefficient (correlation?) effect on the output growth at 5% significance level (as shown in Table 7). On the other hand, *LGDI* and *Lpop* have positive effect towards the output growth at both level of 1% and 5% significant. Meanwhile, the level of trade openness is found to have no direct relationship towards the output growth.

The findings on the financial openness towards the output growth is similar as research done by Popov (2011), Arbelaez and Echavarria (2002), Levchenko, Rancirer and Thoeing (2009), Sinha and Pradhan (2008), Rajan and Zingales (1998) and Eichengreen, et. al (2009). These results suggest that financial openness does promote growth on the Malaysia manufacturing industry. In order to promote the development of this sector which is challenged by prevailing globalised market which is competitive, innovative and technology-driven, the policy maker may consider more liberalized measures be taken to add value to the current operating environment of this industry. On the other hand, the results further suggest that there must be a concrete platform for the manufacturing firms to gain credit access in order for the firm to expand and subsequently contribute to the growth to the economy of the nation.

Table 7 Manufacturing Output Growth Effect of Financial Openness

Variables	Expected Sign	Coefficients	t-statistic
Finopen(df)	+	0.027530	2.105493**
LGDI	+	0.070662	2.057803**
Lpop	+/-	0.001386	10.51699***
Lto	+/-	0.001657	0.192738
R-Squared	0.932313		

Note: The table reports estimates from OLS regression where the dependent variable is the 'manufacturing output growth'. *LGDI* represent the log of gross domestic investment or known as gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. *Lpop* consist of the Malaysia population as per tested year. *Lto* is trade openness which country sum of exports and imports in percent of GDP. *Finopen(df)* is de facto index openness by Lane and Milesi-Feretti (2007) for the year 1970-2004. Where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level.

Granger-Causality Test

This paper has made an extension on the data treatment on Granger-causality test on the variables. The purpose of this test is to observe if there any two-way linkages either between financial openness towards the output or economic growth. However, not much past study had done on the causality test as the data treatment. For example, researchers such as Aizenman and Noy (2009) used the causality test in their research.

Table 8 Granger Causality Test

Null Hypothesis:	F-Statistic
Egr does not Granger Cause *finopen(df)*	7.75294***
finopen(df) does not Granger Cause *Egr*	4.27640**

Ogr does not Granger Cause *finopen(df)*	6.87752***
finopen(df) does not Granger Cause *Ogr*	1.34636

Note: The table reports estimates from Pairwise granger Causality Tests with 3 lags and 33 observations. At the first level estimation, author need to see the causality on Financial openness-*finopen(df)* as the independent towards the economic growth *(Egr)* as the dependent. The second stage test is to see the causality linkage between the output growth-dependent (*Ogr*) and financial openness (independent). *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level.

According to Granger Causality test result in Table 8, for the finding of the economic growth (*Egr*) and financial openness (*finopen-df*) shows a two-way linkages effect. The First linkages explained economic growth does Granger cause financial openness (YàX) at 1% level of significance. The second one shows the direction of financial openness does Granger cause economic growth (XàY) at 5% significance level. Thus on both direction, null hypothesis is rejected. However, the linkage between output growth and financial openness shows different results. If null hypothesis is not rejected, it can be said that Granger causality runs one-way from output growth to financial openness (YàX) at 1% level of significance.

Concluding Remarks

This study has achieved it objectives, which is to examine relationship between financial openness and output growth in country level (economy) by looking at measurement of de facto. Next objective is to examine relationship between financial openness and output growth in industry level (manufacturing sector). The finding from the financial openness between economy and output growth have shown strong and weak positive results

This study recognizes that the conclusion drawn from the finding should be taken with great care. While it is established that the relationship between financial openness and output growth is important to improve capital account openness and output level in Malaysia, the result of estimation in any empirical work is sensitive to the choice of the sample size and the measurement of financial openness. Some general conclusions are made based on the findings of the empirical works as well as the qualitative analysis of the literature.

The main conclusions from this study are first, at country level as a whole, De Facto financial openness resulted a positive relationship towards the economic growth. The result same as done by Grilli and Milesi-Feretti (1995), Lane Milesi-Feretti (2007), Popov (2011), Rodrick (1998), Pasricha (2008) and Edison, Klein, Ricci and Slok (2004). Secondly, at industry level as a whole, consistent with the result for the economy, De Facto financial openness resulted a weak positive relationship towards the manufacturing output growth. This findings are consistent with studies by Arbelaez and Echavarria (2002), Kabango (2009), Rajan and Zingales (1998) and Eichengreen, Gullapalli and Panizz (2009).

Finally, further research maybe conducted for other sector to investigate the impact of financial openness on such particular sectorsFurthermore, other measurements of financial openness and control variables which may influence output growth may also be considered, such as the levels of development and industrial capacities in the trade openness formula.

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