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Globalization Impact on ASEAN Countries Inflation

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A lot of economists believed that on one hand, globalization had reduced domestic factor role, but on the other, it increased the global factor role in determining inflation. This study is aimed to prove these beliefs. Data is analyzed using pooled data and FEM (fixed effect model). The results show that the domestic output gap does not influence domestic inflation. In contrary, the global output gap positively influences domestic inflation. It means that the results of this study support the belief.

Key words: *Globalization, inflation.*

Introduction

Economic globalization has been related to the increase of both national and international economic integration in food, service and capital markets (Frankel, 2006). From Frankel's point of view and the others like Romer (1991), Rogof (2003), Ihrig et al (2007), Phong (2019), Phong, Van and Bao (2018), it is found that there is the similar thought that globalization has an increasing impact on domestic inflation behaviour.

There are a lot of researchers that believe that globalization has reduced the domestic factor role and increasingly global economic role in the process of inflation forming. Nevertheless, the argument still happens, both theoretically and empirically.

There is a widely accepted view stated that inflation is a monetary phenomenon (McCandless et al, 1995) and monetary policy determined more inflation in the long term (Ball, 2006). However, the view has got a challenge from the *fiscal theory of the price level* that was developed by Leeper (1991) and Woodford (1995). The fiscal theory stated that fiscal policy has an important role in determining price through budget constraint, related to debt policy, outcome and tax.



The inflation role in real sector development in the global era is important. Thus, it is irrelevant to conduct dichotomy between the real sector and monetary sector (Rogoff, 2003). The possible alternative to the conducting inflation dichotomy is between *The Country-Centric* and *The Globe-Centric*.

Borio and Filardo (2006) proposed an argumentation about the relevance of *Globe Centric point* of view in explaining the increase of the economic integration role towards the inflation development or the impact in inflation behaviour. In the other hand, there is a *Country-Centric* point of view that considered excess demand as the inflation level determination was exist only in country scope. Thus, inflation was exclusive and international influence just existed in the exchange rate and import price.

The empirical study result showed that the influence of both domestic and foreign output gap gave different results among researchers or groups of researchers. For example, Borio and Filardo (2007) concluded that global factor had replaced the domestic role in influencing inflation (*the Globe-Centric*). Pain (2006) supported that conclusion. However, Ball (2006) opposed their view. Ball's view tends to be *Country-Centric*. On the other hand, Pehnelt (2007) viewed that both domestic and foreign output gap influenced inflation.

The existence of the relation between the openness of the economy towards good and service price of country showed by the previous research result. With the relevance of domestic price and the level of the openness of the economy, the price in ASEAN countries was influenced by some role factors in changing the structure of international trade. Those factors are the stability of price and the fundamental economy factor of the trading partner country.

ASEAN countries have an open economy. Thus, it is important to understand factors that determine inflation in ASEAN by adopting two sources: *The Country-Centric* and *The Globe - Centric*.

Empirical Gap

Rogoff (2003) stated that globalization made Phillips curve steeper. This means the increase of specific output followed by higher inflation as global competition resulting in more flexible price and wage. However, recent facts showed that the Phillips curve slope was flatter (Ball, 2006; IMF, 2006). It meant that a specific increase in output had little effect on inflation.

One idea suggested by Fischer (2006) was inflation depended on trading partner output, not self output. This idea was proposed in the study of *Bank for International Settlements* (BIS). BIS paper assumed that foreign output was influential because many companies competed in the global market. The paper estimated the Phillips curve with both domestic and foreign output



gap. It also reported that the foreign output gap had a bigger effect on inflation during the period of 1985-2005.

Ihrig et al. (2007) tried to conduct some changes in the definition of inflation operational variable and eliminate the foreign output gap as it was not significant. In order to be more focus on the behavior of basic inflation, the inflation that previously defined as *headline inflation* was replaced by *core inflation*. It resulted in a significant decrease in the role of domestic resource used in determining inflation.

The strongest and widest result in the role of foreign resources utilization was conducted by Borio and Filardo (2007). They estimated the Phillips curve model for 16 OECD and some European countries in 1985-2005. They both found that the effect of the foreign output gap in average positively and significantly influenced domestic inflation and generally exceeded the domestic output gap. It also increased over time. This result strengthened the other explanatory variables, including import price and labor cost. However, Pain (2006) found that there was no role of the global output gap towards inflation in 21 OECD countries in 1980-2005. It was in accordance with Ball (2006) that conducted estimation for 14 OECD countries in 1985-2005.

Literature Review

New Keynesian Phillips-Curve

Adhere to an assumption that the financial market is a perfect competition market, accordingly, monetary factor does not influence inflation. Thus, the New Keynesian approach was used to explain inflation as Lucas critics and the reality that money factor does not influence inflation.

The new development of business cycle monetary theory that developed by New Keynesian economist, created the new Phillips Curve, entitled: *New Keynesian Phillips Curve* (NKPC). Thus the basic theory used in this research was NKPC. New Keynesian showed the relation among real activities in the form of output gap with inflation. In this context, New Keynesian developed and estimated Phillips Curve structural model (Gali and Getler, 2000; Brown & Ozar 2018).

Country-Centric and Globe-Centric Perspective

In these past years, the deeper understanding of globalization and its impact on economic life increase significantly. Various views of globalization affected economists' point of views of globalization effect towards domestic price.

Rogoff (2003) stated that inflation role in real sector development in the global era was important. Thus, the real-monetary dichotomy was not relevant anymore. The possible inflation dichotomy alternatives were between *The Country-Centric* and *The Globe-Centric*. Both



approaches had fundamental differences in viewing any possible process and impact as results of globalization.

The main characteristic of *The Country-Centric* was the good and service in domestic markets were not substitutions of imported goods. In the other hand, domestic supply had given characteristic and it was clearly separated from the foreign supply. Therefore, the input had no perfect mobility. Thus, *The Country-Centric* view could be defined as a situation where inflation was just merely a domestic phenomenon, as the price development in international level had been overcome by the mechanism of foreign currency price or the exchange rate and import price.

The Globe-Centric came from a very different assumption. Input factors, both labor and capital had high mobility. Domestic input market had been integrated with international input market. The monetary authority did not have the ability to control domestic inflation dynamics in the long term and medium term (Borio and Filardo, 2007).

The Analysis of Globalization Impact on Inflation

Before analyzing the relation between inflation and output gap, the best model determination for estimation activity was conducted. Both test results by using *correlated random effect – Hausman test* and technical consideration showed that the best model was *the fixed effect model* (FEM).

The regression showed that if the period was used as the fixed variable, the highest inflation rate of seven ASEAN countries in 2014 was 2,045106% and the lowest inflation in 2007 was 1,913296%.

Table 1: Estimation result of ASEAN Countries Inflation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.886794	0.052016	36.27330	0.0000
OP?	-0.092080	0.027601	-3.336073	0.0017
RGDP?	0.022634	0.030723	0.736720	0.4651
OGW?	1.916963	0.564398	3.396477	0.0014
ER?	5.21E-05	4.82E-06	10.81656	0.0000
Fixed Effects (Cross)				
INA--C	-0.444503			
SING--C	0.362955			
MAL--C	0.244721			
THAI--C	0.224826			
PHIL--C	0.157507			
BRU--C	0.194087			
VIET--C	-0.739593			

Source: Own calculations



Table 1 showed that if the country became fix variable, the order of the lowest inflation development of seven ASEAN countries is Vietnam and followed by Indonesia and Philippine. In the 2007-2014 period, the domestic output gap (RGDP) did not influence ASEAN inflation. In contrary, the global output gap (OGW) positively influenced domestic inflation. It meant, the higher gap of global output, the lower the productivity. The production decline resulted in good supply decline. Thus, the more- integrated global economy would result in a higher price or increase inflation.

There are many researchers believed that globalization had reduced domestic factor role and increasingly global economic role in the process of inflation-forming. The research result showed that the signal also happened in seven ASEAN countries where the domestic output gap had no influence whereas the global output gap had influence in determining inflation of seven ASEAN countries.

Openness variable (OP) showed that negative relation was significant with domestic inflation. It meant that the higher the openness economy level, the lower the inflation level in a country. Thus, if international trade activity is higher and the excess demand occurs, access will open more easily to fulfil the needs of domestic demand. As a result, the lack of production will be overcome by bringing goods from overseas quickly and easily. Therefore, the existence of economic integration will tend to decrease the good price.

The exchange rate variable (ER) showed positive influence. If the domestic currency exchange rate was weakened towards the US dollar, the domestic price in foreign perspective decreased. The decreasing price of domestic goods would increase foreign demand for domestic goods. It was a chance to increase export.

Table 2: Inflation with Global Output Gap

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	1.860536	0.055132	33.74719	0.0000
OP?	-0.067926	0.020842	-3.259073	0.0023
RGDP?	0.045224	0.029973	1.508819	0.1394
ER?	5.12E-05	6.21E-06	8.243757	0.0000
INA--OGW INA	1.523594	0.536712	2.838757	0.0072
SING--OGW SING	-2374.628	269.5245	-8.810434	0.0000
MAL--OGW MAL	-1310.855	428.3069	-3.060551	0.0040
THAI--OGW THAI	-3142.284	369.4046	-8.506348	0.0000
PHIL--OGW PHIL	-7199.157	425.0275	-16.93810	0.0000
BRU--OGW BRU	-39074.22	3593.086	-10.87484	0.0000
VIET--OGW VIET	-551.0719	1623.623	-0.339409	0.7361

Source: Own calculations



In order to conduct a detailed analysis of inflation and domestic output gap and global output gap relations, cross-section specific coefficient regression in form of output gap should be conducted as the aim of this research is to analyze the relationship between the output gap and inflation.

The regression result showed that domestic output gap variable was not significant in influencing ASEAN inflation. However, after observing in each ASEAN country in detail, it was only Singapore that had insignificant domestic output gap variable in influencing inflation. It could be concluded that Singapore had an important role in determining domestic output gap insignificance in influencing domestic inflation in ASEAN.

Based on Table 1, the global output gap variable was positive significant in influencing inflation in ASEAN. From deeper analysis shown in Table 2 above there were six out of seven ASEAN countries that had significant global output gap in influencing domestic inflation. Those six countries were: Indonesia, Singapore, Malaysia, Thailand, Philippines and Brunei Darussalam. From those six countries, only Indonesia that influences domestic inflation significantly and positively. It could be concluded that Indonesia had a dominant influence in determining positive significant global output gap. The other five countries had a significant global output gaps, but the influence was negative. Therefore, the lower the global output gap, the bigger the goods and services productions that resulted in bigger supply and lower price. In contrary, the bigger the global output gap, the lesser production and the higher the price. From the estimation above, it could be concluded that ASEAN countries, especially Indonesia Singapore, Malaysia, Thailand, Philippines and Brunei Darussalam were countries that got more integration to the world and thus the global influence could not be neglected.

Conclusion

Every government expects a stable price. Nevertheless, it is not easy to keep a stable price. The research results showed that domestic price in ASEAN was more determined by foreign factors. Therefore, ASEAN countries tend to lead to Globe-Centric. As a result, ASEAN countries would have more difficulties in controlling inflation because the determining inflation factor was a foreign factor that was difficult for the governments to control. Therefore, cooperation among countries is needed to control inflation. In addition, governments should strengthen the domestic economy.



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