

Do FDI and TPP without the United States Promote Stability in TPP Countries?

Yutaka Kurihara¹

Abstract

This paper analyzes the relationship between foreign direct investment (FDI) and cross-country business cycles in Trans-Pacific Partnership (TPP) member countries. The U.S. President Trump decided to withdraw from TPP, and it is unclear whether or not this decision is beneficial for the U.S. economy. However, this paper focuses on FDI and examines whether the TPP without the United States would be beneficial for the member countries. Concretely, 11 or 12 member countries' business cycles are taken into consideration for empirical analysis. Empirical studies show that FDI is an important channel through which economies may affect each other in a significant fashion, especially for the 12 economies of the TPP member countries. FDI will be an important key element in the success of the freer market. If the United States withdraws from the TPP, there would be a serious loss for the remaining 11 countries. There would also be a loss for the U.S. economy.

Keywords: business cycle, FDI, TPP, trade, U.S.

JEL. F14, F15.

Introduction

12 countries, including the United States, agreed to launch the TPP under the former U.S. President Obama. The U.S. Congress had not approved the TPP, and the TPP had not yet gone into effect, but the possibility of the realization of TPP, including the membership of the United States, suddenly became quite low. One reason is the fulfillment of a presidential campaign promise made by President Trump. He decided to not join the TPP and withdrew from it.

The TPP, which includes Canada, Mexico, Japan, Australia, New Zealand, Chile, Peru, Malaysia, Singapore, Vietnam, and Brunei would have greatly reduced tariffs for international trade among these countries. Market obstacles of dampening trade and investment would almost be eliminated through this partnership. Through severe negotiation, the deal was eventually approved by 12 countries. It was ready to launch, but, President Trump decided not to join it.

FDI has increased rapidly with increased market integration. During the 1980s, the increase in FDI expanded all over the world with globalization of economic activity. Moreover, business cycle movements among countries have been synchronized since the advent of economic interdependence in the 1990s. To make an integrated economy, asymmetrical shocks should be avoided as policies cannot cope with such disturbances. In general, the degree of output comovement in the business cycle reflects both the nature of the shocks that have occurred and the degree of economic situation's interdependence. Output co-movement will correlate to a greater degree if common shocks happen to be predominant. Because of strong economic relations among economies, country-specific shocks may transmit to other countries and enhance output comovement indirectly (Jansen & Stockman, 2004). However, FDI has grown rapidly, and its economic linkage may have had a cross-country business cycle different from the past and different from the United States included or excluded cases. Focusing on the business including international trade volume of this area and focusing on business cycles would be necessary to judge whether or not TPP would be beneficial.

¹ Aichi University, Department of Economics, 4-60-6 Hiraike, Nakamura, Nagoya, Aichi, Japan.

This paper analyzes the role played by FDI in the transmission of economic shocks across borders. Using aggregate data, this paper examines the extent to which expansion of FDI is related to synchronized business cycles. The analyses in this paper are not limited to the original 12 countries but include the case of 11 countries and the excluded United States. Following this section, this paper analyzes the relation between FDI and its transmission mechanism in section 2. Section 3 illustrates the relationships of FDI and business cycle linkage and conducts empirical analyses. Finally, this paper ends with a brief summary.

FDI and the Channel for International Transmission

FDI means foreign investments conducted by a resident of one country in a company located in another country. Developed countries generally do international business both as hosts to FDI in their own country and as participants in investments in other countries. FDI is divided into two portions: inward FDI and outward FDI. A country's inward FDI means the hosted FDI activities, and the outward FDI position consists of the FDI activities owned abroad. Both inward and outward FDI may make the domestic economy sensitive to economic disturbances or shock abroad. Business cycles are strongly related with FDI.

In addition to the distinction between inward and outward FDI, horizontal and vertical FDI are important. Horizontal FDI is accelerated by the desire to be near customers' markets due to high trading costs. The company conducts similar activities in different places (i.e., manufacturing and selling of like products in the same country or neighboring countries). Vertical FDI makes companies take advantage of international differences in factor mobility, prices, and mobility. This type of FDI typically occurs with international trade of both intermediate and final goods. Most empirical analysis tends to conclude that most real-world FDI is horizontal, especially in the case of industrialized countries (Carr, Markusen, & Maskus, 2001).

FDI sometimes causes macroeconomic risks. These risks are mainly related to the outward FDI position. These risks are not limited to exchange rate risks or political risks. Domestic companies face the consequences of disturbances abroad on the financial position of the investing companies. Unfavorable deteriorations, including political disturbances, in the host countries may reduce the investment activities abroad and may incur a serious risk in terms of the value of domestic companies. A fall in stock prices at home and abroad may adversely affect domestic consumption via wealth effects, balance sheet effects, and confidence effects (Barrell & Sakellaris, 1997; Jansen & Nahuis, 2003). Asymmetrical shocks should also be taken into account.

There are some studies that examine the relationship between FDI and international trade. Hattari and Rajan (2009) showed that shorter distance between the countries, real sector variables, financial variables, and quality of institutions promote FDI. Ismail (2009) showed that shorter distance, common language, and land border promote FDI. Mitze, Alecke, and Untiedt (2010) showed that there are substitutive relationships between trade and outward FDI in Germany. Hanh (2011) found that WTO (World Trade Organization) accession had a positive effect on Vietnam's FDI and imports. Ismail and Mawar (2012) showed that FDI of Malaysia are determined by population, exchange rate, price ratios, distance, and land border. Soori and Tashkini (2012) found that the effect of distance on international trade is negative and income per capita is positive with international trade. Goh, Wong, and Tham (2013) found that there is a link between inward FDI and trade, however, there is not a significant relationship between outward FDI and international trade due to the existence of the service sector. Chang (2014) showed that economic size has a positive effect on Chinese outward FDI. Bannour and Mtar(2015) showed that country size, international trade openness of the economy, infrastructure, geographic proximity, political stability, and skilled human capital are deterministic elements of FDI in Tunisia. Kersan-Skabic (2015) showed that most determinant elements of FDI in southeast European countries are market size, growth rates, GDP per capita, and wages. Padaki and Goel (2015) found that FDI does not provide a relationship on international trade. Park and Park (2015) showed that inward FDI and bilateral trade has a significant link. Wang, Wei, and Liu (2015) found that levels and similarities of market size, domestic R&D position and inward FDI position are linked with international trade. Bardhyl (2016) found mixed results with regard to the relationship between exports and FDI in European countries. Chenaf-Nicet and Rougier (2016) showed that vertical FDI's impact may be less important when investment is caused by various kinds of costs differentials among countries. Because of these differentials, the empirical results are mixed. There is no consensus about the deterministic elements of FDI. The relationship between TPP and FDI has been discussed recently, however, business cycles have not been considered as the deterministic elements of FDI, especially while focusing on TPP. It would be reasonable to think that business cycle effects FDI.

Not considering FDI would lead to misunderstanding the deterministic elements of business cycle. This paper examines the relationship between FDI and business cycle for the case of TPP countries.

FDI Relationships and Business Cycle Linkage

The purpose of this section is to investigate whether or not there is an empirically positive relationship between the FDI positions and the degree of business cycle co movement among TPP countries. This paper analyzes two cases: (1) 12 countries including the United States and (2) 11 countries excluding the United States among TPP economies. There may be a large difference between these cases as the U.S. economy is quite huge.

For output co movement, there is no established definition, so this section uses the correlation of the quarterly output gaps, the log of difference between actual real GDP, and its trend (using the Hodrick-Prescott filter). The estimation method takes into account time variation. Its mix and size of disturbance may obscure the relationships between FDI and output correlation as suggested by Jansen and Stockman (2004). The pooled cross-section regression is estimated. The estimated countries are Asia-Pacific Economic Cooperation (APEC) countries. The covered countries are larger than TPP members, however, there is a geographical similarity and it includes developed countries and developing countries. The estimated equation (1) is as follows:

$$\rho(i,j) = \alpha_0 + \alpha_1 \sum_{i=1}^{12} TPP_i + \beta FDI(i,j) \tag{1}$$

where TPP_i indicates country-specific dummy variables, which are one if the observation refers to the country i and zero otherwise. $\rho(i,j)$ is the measure of business cycle co movement between the surveyed country i and partner country j . $FDI(i,j)$ is the strength of the corresponding FDI linkage calculated as FDI/GDP . Equation (1) assumes that the intercept differs across countries but that β is the same for each country. The empirical method is weighted least squares (WLS). The sample period is from 1990–1999 and 2000–2016, and the two cases (i.e., with and without the United States) are estimated.

Table 1: Pooled Cross-section Regression of Output Comovement on FDI

<12 countries>				
	Estimate beta	t value	P valueAlpha	P valuebeta
1990–1999	0.022	3.76	0.22	0.62
2000–2016	0.024	3.88	0.08	0.69
<11 countries>				
	Estimate beta	t value	P valueAlpha	P valuebeta
1990–1999	0.014	3.65	0.26	0.74
2000–2016	0.016	3.89	0.14	0.80

The results show evidence supporting a linkage between bilateral FDI and output comovement. Correlations of growth rates are significantly higher for economies that have intensive FDI relationships than for economies that have less intensive FDI relationships. Moreover, the positive relationships of FDI and output comovement are more apparent in recent years in spite of the facts that the differences are not so large.

For the 12 countries, FDI relationships are higher than for the 11 countries. Recent increase is also large. FDI plays an important role in synchronizing economies with the 12 countries.

The evidence dictates FDI links among countries. Economies are, in general, also thought to be linked with international trade as explained in the previous section. It is likely that countries that invest, including FDI, a lot will tend to trade a lot with each other. However, investment and trade ties may differ depending on the structure of FDI (i.e., horizontal or vertical).

The relationship between international trade and output comovement is estimated as an analysis for FDI (1). Equation (2) is regressed.

$$\rho(i,j) = \alpha_0 + \alpha_1 \sum_{i=1}^{12} TPP_i + \beta TRADE(i,j) \tag{2}$$

$TRADE(i,j)$ measures the openness of the economy between surveyed country i and partner country j (international trade/GDP). The basic data are the annual exports and imports of country i relating to j . The empirical method is again WLS., and table 2 provides the results.

Table 2: Pooled Cross-section Regression of Output Comovement on International Trade

12 countries				
	Estimate beta	t value	P valuealpha	P valuebeta
1990–1999	0.014	3.23	0.22	0.57
2000–2016	0.017	3.44	0.07	0.43
11 countries				
	Estimate beta	t value	P valuealpha	P valuebeta
1990–1999	0.008	4.14	0.22	0.35
2000–2016	0.010	4.45	0.21	0.33

In general, estimates of beta are also significant. More intensive foreign trade relationships are linked with more synchronized business cycles as suggested by Frankel and Rose (1998). However, it is interesting to note that international trade linkages have had weak effects. Compared to the 12 countries, the 11 countries have weaker effects on output comovement. The differences between the cases of FDI and international trade are not so large.

Two important things should be noted. One is the nature of international trade. Vertical trade between 12 countries and 11 countries may still exist because of the substitution of FDI for trade. Trade pattern linkage are strongly linked to the correlation pattern of GDP growth rates, namely, output gap. The other is that, for the most recent period, the influence of trade ties is more muted compared to that of the 1990s. However, there may be complex patterns of trade or financial aspects that influence on the economies.

The discussion has concentrated on cross-country variations in contemporaneous correlations. This may be insufficient because of the possibility of some lags in international event effects. Time lags and distances, though shrinking rapidly, may still exist. Distances between countries are sometimes great in the TPP countries. Also, the improvement of IT strongly changes the international transaction. This section uses the Granger causality test. First, equation (3) is estimated for various time spans.

$$y(i,t) = \alpha + \sum_{l=1}^m \gamma_l y(i,t-l) + \sum_{l=1}^m \lambda_l y(j,t-l) \quad (3)$$

where y expresses the quarterly output gap which is the same with previous cases and m stands for the maximum lag with which $y(j)$ affects $y(i)$. i and j stand for country. The Granger causality test from $y(j)$ to $y(i)$ can work if some of the λ_l s are nonzero. In this case of nonzero, country j influences on country i with (a) lag(s). The sum of the coefficient λ_l means the lagged transmission from country j to country i . Preliminary tests indicated that the maximum lag length (m) in equation (3) for most countries equals 1 for output growth rates and 2 for output gaps. This analysis is restricted to lagged effects with m set to either 1 or 2.

Table 3 shows the empirical results for the case in which both FDI and international trade are added the same equation.

Table 3: Pooled Cross-regression of Lagged Output Effects on FDI and Foreign Trade

12 countries								
	Lag = 1				Lag = 2			
	FDI	t value	Trade	t value	FDI	t value	Trade	t value
1990–1999	0.008	2.66	0.005	2.45	0.007	2.12	0.009	1.24
2000–2016	0.012	2.83	0.008	2.73	0.006	0.93	0.005	0.60
11 countries								
	Lag = 1				Lag = 2			
	FDI	t value	Trade	t value	FDI	t value	Trade	t value
1990–1999	0.005	3.54	0.004	2.13	0.005	2.22	0.004	1.10
2000–2016	0.009	3.92	0.012	2.67	0.009	2.04	0.010	0.58

Table 3 shows that a country's vulnerability to past disturbances in pair countries is related to the FDI. However, the effect is not large. The spillover effect from FDI to business cycles may be rapid. The analysis reveals weaker effects for foreign trade than for FDI linkages. The phenomenon is stronger in the 12 country scenario. FDI has played important roles in synchronized economic activity. The U.S. economy plays important roles and influences on other TPP member countries.

4. Conclusion

This paper examined to what extent the expansion of FDI and international trade is related to the phenomenon of synchronized business cycles. The surveyed countries are 12 and 11 (excluding the United States) TPP member countries. Larger investments would render the domestic economy more susceptible to economic disturbances abroad. Taking into account both FDI and international trade, FDI is an important channel through which economies may affect each other in a significant fashion, especially for the 12 countries. Moreover, foreign disturbances may influence the domestic economy for a shorter period when relayed through the FDI channel. The trend toward greater economic interdependence through FDI implies an underlying tendency for business cycles to display a less synchronized behavior than in the past.

To make an integrated free trade area, symmetric economic activity is important as it can be easily coped with. The theory of currency integration has taught us from the past. To realize such economies, FDI is an important channel for the international transmission of disturbances. Also, TPP without the United States may have serious impacts on TPP member countries. Such negative influences may cause not only on 11 economies but also 12 economies including the United States.

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