ARDL Bounds Testing Approach to Cointegration: Relationship International Trade Policy Reform and Foreign Trade in Vietnam

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Abstract

Starting from in 1986, Vietnam began economic reforms, from an economy centrally planned economy to market-oriented socialist where the government still playing a leading role. The breakthrough in policy reform has succeeded in creating faster economic growth and improving people's living standards. Among the policy reforms since renovation, trade policy is the most important ones and has great impacts not only on Vietnam's foreign trade activity but also the whole economy. This paper focuses on the evaluation of the impact of reforms in trade policy on Vietnam's foreign trade, the achievements and the limitations still exist after implement the reform of trade policy. Also, together with the mention of the content and the process of trade policy reform in Vietnam. Finally, it proposes some suggestions to improve Vietnam's trade policy.

Keywords: Vietnam, reform, trade policy reform, impact, foreign trade

1. Instruction

Vietnam's economic reform (Doi Moi) in 1986 has brought the country's economy to a new level. The reform's overall objective was to shift the Vietnamese economy from a centrally planned to a socialist-oriented market economy. Since the reform, the Vietnamese Government has pursued a policy that is characterized by market openness and liberalization of trade. A clear effect has been a boost in the country's economy and an expansion of foreign trade in the over last two decades. Vietnam's exports have increased more than 15 times between 1995 and 2015, with an annual growth rate of 20.7%. This expansion has occurred most obviously in the export sector, particularly in labor-intensive and natural resource based exports such as crude oil and agriculture products. Vietnam's WTO accession is a further step towards the integration with the global economy, which has resulted in faster growth, this time for exports of garment and textiles as export quotas imposed on these products have been removed (Nguyen, 2015). Trade policy during this period had steps in accordance with objectives of economic development strategy associated with changes in national. Where by Vietnam's foreign trade in recent years has made certain achievements, especially the increase of annual exports, gradually to diversify commodities and diversify export market. Currently, economic globalization is a way to increase the connections and interdependence of markets and business for the nations of the world by eliminating restrictions and barriers on exchange and product knowledge across borders and regions. Nowaday, thanks to help and experience of the developed countries, globalization is increasingly expanding and growing. Economic globalization can help developing countries and promote mutual cultural, financial dependence and trade. This is predicted to reduce poverty and help the country's economy deveopment stronger in a unified economy. Burger and Krueger (2003) showed that trade openness increases the total income and there by growth rates. No country in the world can exist in isolation. The world is rapidly transforming into a global village. In this case, the role of trade is indispensable for any development policy of the country. Vietnam is a country also participated in trade policy reform, which aims to improve the level and distribution of income, more diverse choices, increase trade turnover and learning opportunities and improve the technical capacity. This has changed the face of Vietnam's economy, especially for foreign trade.

2. Literature Review

2.1 Trade Policy Reform

According to Dani Rodrik (2000), trade policy reform mentions to the reduction of Government's interference

and the substitution of quantitative restriction on price mechanisms such as tariff. He also argued that trade policy reform is the simplification of import procedures, reduction or elimination of quotas, and the rationalization of tariff structure (1992).

There are many research on the relationship between the reform of trade policy and export activities and import in developing countries. Almost studies argue about the positive impact of trade liberalization on exports and imports. According to research, (Svedberg, 2000; Santos-Paulino, 2003; Ahmed, 2000; Michaely et al., 1991; Thomas et al., 1991), they showed the same direction relationship between trade liberalization and export results. They also pointed out the factors related to trade liberalization, such as tax relief, increased investment, the exchange rate, ect, affecting export performance. Singer and Gray (1988) queried if trade policy influences export performance, they show that changes in world demand carried greater weight in determining export performance than changes in trade policy. More recently, Ahmed (2000) investigated the response of Bangladesh's aggregate merchandise exports to a real exchange rate-based trade liberalization programmer during the period 1974-1996. But Thomas (1991) believed that trade policy reform includes measures that move the trade regime toward a more neutral incentive framework and a more liberal foreign trade regime. In the literature on trade reform, the concept of "liberalization" is described as the key factor in the reform progress. In general, trade liberalization is a distinction between inward import substitution policy and outward export promotion policy in which it has a support for the movement from trade restriction to a more liberalized trading. For instance, Jenkins (1996) established that one of the anticipated gains from the trade liberalization policies adopted by many Latin America countries in recent years is improved export performance. Normally, trade policy reform refers to the reduction of Government's intervention and the replacement of quantitative restriction on price mechanisms such as tariff (Rodrik, 2000).

With previous studies, they found more proof that a clear change of Argentina. Specifically, it is the balance of trade including imports and exports was the subject of a process by reducing the concentration of trade reform. According to research by Maurizio Bussolo (2005) and Alessandro Nicita (2005) argues that trade reforms, including efforts to reduce the level of protection against the competition of goods and services from abroad. Said a simple that, trade policy can involve various complex types of actions, such as the removal of quantitative restrictions (quotas) or tax breaks, or protectionism row goods and services in the country. Many countries already have agreements on liberalizing unilaterally, bilaterally, regionally and multilaterally.

Razeen Sally argued (2008) reform is a process where we look at on several track. Some reforms are implemented unilaterally, others through mutual of countrys such as regional, bilateral, ultilateral, trade negotiations, or in cooperation with donors through the agreement.

The traditional literature on trade claimed that there was a high cost for the economic system under the domestic restriction policy. First of all, the cost may come from the misallocation of natural resources in production which leads to the decrease of consumer welfare caused by the misalignment in prices between domestic and international markets. Secondly, domestic protection makes the impact on economic growth rate. Many studies showed that the productivity growth is much higher in period of liberal trade policy than in the period of protection. In addition, protectionist restriction is able to divorce domestic market from international structure. In this case, country is often defeated to deal with various external shocks in economic system such as high oil price. Lastly, those countries who applied restriction policy don't have opportunities to receive new technology from overseas, thus reduce their comparative ability and limit export (Thomas et al., 1991).

2.2 Trade Reform Process Was Implemented in Vietnam

2.2.1 Vietnam Engaged in Trade Agreements, Bilateral and Multilateral

Globalization, international economic integration and trade liberalization has been a prominent trend of the contemporary world economy. Since 1986, consistent with this trend, Vietnam has implemented reforms and promoting international economic integration with the slogan "Diversity, multilateral foreign relations. Vietnam is willing to be a friend of all countries in the international community, striving for peace, independence and development".

About bilateral cooperation relationship, Vietnam has established diplomatic relations with over 170 countries around the world, expanding trade relations, merchandise exports to over 230 countries and markets of the region, signed over 90 bilateral trade agreements, 60 agreements promotion and Protection of Investments, 54 agreement on avoidance of double taxation and the agreement on cultural cooperation bilaterally with other countries and International Organizations Health. Vietnam has established good relationship with all large countries, including the five permanent members the Security Council of the United Nations (P5), the G8 countries, raise strategic partnership with China back a comprehensive strategic partnership, strengthen the

internal function of the strategic partnership with Russia, setting up strategic partnerships with Japan, India, South Korea, England, Spain. The number of our missions abroad also increased (91 agencies), with 65 embassies, 20 consulates general, 4 standing beside delegation of international organizations, economic 1 office culture.

2.2.2 Tariff Reform

Taxation plays an extremely important role in the economic governance of the state. When the economy - growing society, deeply integrated with the world economy, the reform requires tax policy is very important and necessary. According to Greenaway et al. (1993), the concepts of protection can be divided in to nominal tariff rate (percentage difference between the price of a good with and without protection) and including Chi (2003) effective tariff rate which defined as the percentage change in producers value added, as a result of taxes on trade, over the level of value-added that would have prevailed in the absence of those taxes. A tariff reform applied for key industry is often implemented at the end of the reform program (Thomas et al., 1991).

In the process of trade reform, Vietnam has made ceiling binding with 10,600 tariff lines. As a result, according to the schedule of integration and development, the average tax rate of 17.5% has been reduced to 11.4% in 2019. At the same time, the state implemented tariff reductions for products agricultural products from 22.4% to 20.9%, and the duty of non-agricultural products average tariff was reduced from 13.1% to 12.6% during the implementation periods. Vietnam is a developing country, which has just joined the global economy (WTO, TPP ...). Therefore, Vietnam has signed many bilateral commitments, multilaterally. At the same time, committed to participate in a number of agreements and regional liberalization initiatives. One of the areas that Vietnam committed to full participation in the information technology with information technology agreement (ITA). During nearly 30 years of reform and opening up, Vietnam has continuously launched legal policies needed to implement commitments to cut their tariffs in line with their Schedule. Currently, the process of tariff reduction commitments have been made according to the Schedule and apparently faster than planned.

2.2.3 Non-Tariff Barriers

Non-tariff Barriers are measures identifiable nontariff barriers to trade that are not based on legal, scientific or equality. Non-tariff Barriers often applied to imports form of non-tariff barriers are very abundant, including measures of quantitative restrictions, the equivalent tariff measures, technical barriers, measures related to foreign investment, the administrative measures and the trade protection measures temporarily.

Ministry of Finance, Vietnam has committed to cut 9,368 tariff lines. In that from 1-1-2012 to 2014, Vietnam continued to cut taxes at the rate published by Decision No.36/2008/QD-BTC of import tariffs issued special preferential CEPT/AFTA 2008-2013. However, according to a recent amendment, in 2012, about 1,600 tariff lines in the sector accelerated integration (PIS) is brought down to 0% instead of 5% as Decision No.36 above. Accordingly, items such as fisheries, rubber and rubber products, textiles, information technology products, equipment and medical products, wood and wood products, electronic ... will receive 0% tax rate.

Due to of international trade, joining the Multilateral Trade Organization, the country is not easy to apply the export tax increase. So the solution using non-tariff barriers is how "themselves legitimate protective" is often applied, including forms such as import and export quotas (specified quantity and type of goods allowed to import and export), antidumping (selling when prices are considered below the cost of production in the same conditions, technology and the like, standards for environmental protection and ecological systems, materials (wood, fish, shrimp...). Vietnam is a developing country, from a low base, we heavily dependent on exports and attract investment, so there are very few forms of "limited non-tariff trade" is applied in Vietnam. Vietnam apply tariff barriers (high taxation should be limited to items such as automobile), contrast this country is "victim" of measures "limiting non-tariff trade": dumping lawsuits fish, footwear, lighters are doing more and more damage to businesses and exporters of Vietnam.

2.2.4 Privatization Process

"Privatization also means the socialization of national resources is an inevitable trend has been implemented in most countries around the world for over 30 years. Privatization, simple transition of ownership of goods and services from the public sector to the private sector" (According Georges Wanet).

Since the process of transition from a centrally planned economy to a market economy, Vietnam has pressured to reduce the size of the state sector, so the private sector has appeared. Before reform period, Vietnam's economy consists of two components: the government and state enterprises. And with this mechanism, Vietnam has faced with many shortcomings: First, this mechanism of destroying the competitiveness of enterprises and second, they didn't stimulated production capacity and creativity of employees. Important feature of the reform is the gradual

collapse of state-owned enterprises and gradual expansion of the private company. The reform of state-owned enterprises create autonomy in the planning and greater flexibility in the production process. In Vietnam, the implementation process is really privatization in 1992, through sale of shares for domestic enterprises and foreign-based incentives, subsidies and legislation under the management of Government. However, the reform does not mean reducing the power of the economy or their role in the national economy.

2.2.5 Exchange Rate Policy

As indicated in a research of WB (2006, p. 86), "Perhaps the most important single instrument in implementing outward orientation is exchange rate policy". Generally, in the process of trade liberalization exchange rate (ER) reform always has high attention because both the supply of and demand for export volumes are influenced by the ER In the exchange rate reform policy, real exchange rate (RER) is a closely related concept. Normally, RER is known as the nominal exchange rate adjusted to differences in inflation. According to Catão (2007), 'RER between two currencies is the product of the nominal exchange rate (NER) and the ratio of prices between the two countries'. It is often calculated by the formula: RER = eP*/P in which e is nominal ER, P* is the average price of a good in world market, and P is the average price of the good in domestic market. In some theories, productivity of export goods is related closely to the real supply of foreign currency, and RER plays an important role as being the principal equilibrating variable of a country's international trade and balance of payments. An increase in the real prices of export products creates real appreciation of the currency. According to Caballero and Corbo (1989), the real exchange rate's fluctuations bring negative effect on exports because of their considerable uncertainty. When ER is unified, a real devaluation of currency improves incentives for export industries and production of import substitutes (Thomas et al., 1991). Besides, VND/USD is undervalued to the base year for most of the time in studied period and only turns into overvalued from 2007. As in theory, the trade balance of Vietnam must be improved as competitiveness of Vietnam's good increases. Meanwhile, the trade balance with major trading partners in reality deteriorates.

2.2.6 Export Promotions Policies

Raising investment in export processing zones (EPZs) and import duty rebate are two main tools widely used for this purpose. The government has established many EPZs in the North, the south and the middle of country which attracted international investment. After 28 years of renovation, up to now more than 288 industrial zones was established in Vietnam which located in over 80,809 ha of natural land area. Those industrial and EPZs attracted about 36 billion USD and account for 65% of FDI capitals (Industrial Review of Vietnam 2014). Together with the development of EPZs, the rebate of export duty was also started to be applied in 1991. In her research paper, Chi (2003, p. 20) indicated that in 1993 a duty suspension facility was added and allowed export oriented firms to suspend their duty payments up to 90 days. According to research by Athukorala (2005), if the comparison process reduced import duty rates for countries of Korea, Taiwan, Malaysia, and Vietnam are still many shortcomings. First, all inputs for export production can be provided at home and abroad, however, applies only to reduce tax rates for the import of raw materials from abroad. Second, due to the administrative procedures in the country is complex, creating ties between small private companies and state enterprises from process of economic reform, Vietnam has adopted policies exemption from domestic taxes to support domestic exporters. The exporters are also exempt from value added tax (VAT) and special sale tax. The general rate of VAT in Vietnam which applies to goods and services is 10%. A reduced rate of 5% also applies to certain goods and services. In the process of integration of global economy, the export tax was eliminated gradually, especially after Vietnam joined the WTO (2007). In the integration process, Vietnam has implemented tax cuts programs as required by the WTO, implementation of liberalization of trade and investment in the APEC 2020. Shortly after officially joining the WTO, Vietnam has actively cut tariffs according to the commitments.

3. Data Sources, Model Specification, Methodology and Advantages of the ARDL Bounds Test Approach

3.1 Data Sources, Model Specification, Methodology

The research uses secondary data collected from various sources. Data collection based on report from Government Agencies in Vietnam such as General Statistic Office, Ministry of Trade and Ministry of Planning and Investment, as well as World Bank and FAO, Center for International Economics (CIE). The data set used for the empirical analysis and for the period 1990-2015. The data contains more entities and few time periods, so there is slight variation over the time in independent variables included in the model for panel analysis.

The study is based theoretical the Cobb-Douglas function, which is consistent with some of the characteristics are used to study the previous model (Hossain & Chung, 1999; Chuang, 2000; Ramirez, 2000). Narayan and Smyth (2005) show that some factors affecting growth and some factors are affected the growth of trade

liberalization is argued by Dutta and Ahmed (2006), the study specifies the growth function for Vietnam in the form of equation as follows:

$$TTO = f(TO, EX, NCTW, AT, EPZs)$$

The log – linear formulation of the model is

$$Ln\ (TTO)\ =\ \alpha\ +\ \beta_1 lnTO\ +\ \beta_2 lnEX+\ \beta_3 lnNCTWV+\ \beta_4 lnAT+\ \beta_5 lnEPZs\ +\ \varepsilon_T \qquad (1)$$

Where:

LnTTO: Natural log of trade turnover;

lnTO: Natural log of Trade openness;

ln ER: Natural log of exchange rate, value Vietnam's annual VND/USD;

lnNCTPWV: Natural log of number of country trade partner with Vietnam;

lnAT: Natural log of average tax;

lnNPZs: Natural log of number processing export zones;

ε_t = Random Error;

α = Constant or intercept.

Including research of Pesaran et al. (2001), We also used ARDL model with ''Bounds test'' approach is based on the ordinary least square (OLS) estimation of a conditional unrestricted error correction model (UECM) for cointegration analysis developed. This is the aim to test for the existence of a long run relationship as well as to make an estimation of long and short run coefficients for the research which some variables relate the trade policy reform can effect on the short run and long run impacts. The Bannerjee et al, 1993 showed that the ARDL model, we can know that a dynamic error correction model (ECM) following a simple linear transformation, where the ECM integrates short run dynamics with long run equilibrium without losing long run information (Shrestha & Chowdhury, 2005). According to Pesaran and Pesaran (1997) and Pesaran and Shin (2001) (cited in Pahlavani et al., 2005), the augmented ARDL (p, q1, q2,….qk) model can be clearly in the funtion form:

$$Dy_t = c_0 + c_1 t + \lambda_{yx} z_{t-1} + \sum_{i=1}^{p-1} \gamma_i Dy_{t-i} + \sum_{i=0}^{p-1} \gamma_i Dx_{t-i} + \delta_t w_t + u_t \qquad t = 1,...,n \tag{2}$$

where, y_t is the dependent variable, c_0 is the constant term, x_{it} are the independent variables, L is lag operator, and w_t is the $s \times 1$ vector of deterministic variables including intercept terms, time trends and other exogenous variables with fixed lags. The (conditional) unrestricted ECM version of the selected ARDL model can be obtained by rewriting equation (2) in terms of the lagged levels and first difference of y_t, $x_{1t'}$, x_{2t},….x_{kt} and w_t as follows:

$$Dy_t = c_0 + c_1 t + \lambda_{yx} z_{t-1} + \sum_{i=1}^{p-1} \gamma_i Dy_{t-i} + \sum_{i=0}^{p-1} \gamma_i Dx_{t-i} + \delta_t w_t + u_t \qquad t = 1,...,n \tag{3}$$

Where D is the first difference operator, t is the trends, the coefficient γi is expressing the short run dynamics of the model's convergence to equilibrium and $z_t=(x_t^{'}, y_t^{'})$. According to Pesaran et al. (2001) and Bahmani-Oskooee and Nasir (2004), for estimation, the economic growth Eq. (1) can be expressed in the UECM version of the ARDL model as follows:

$$DLn\ (TOT) = \alpha + \sum_{i=1}^{n} \beta_1.D(lnTO)_{t-i} + \sum_{i=1}^{n} \beta_2.D(lnEX)_{t-i} + \sum_{i=1}^{n} \beta_3.D(lnNCTWV)_{t-i} + \sum_{i=1}^{n} \beta_4.D(lnAT)_t$$
$$_{-i} + \sum_{i=1}^{n} \beta_5.D(lnEPZs)_{t-i} + \beta_6 lnTO_{t-1} + \beta_7 lnEX_{t-1} + \beta_8 lnNCTWV_{t-1} + \beta_9 lnAT_{t-1} + \beta_7 lnEPZs_{t-1} + \varepsilon_T \tag{4}$$

The parameters αi (i = 1–5) explain the short run dynamic coefficients, while the αi (i = 6–10) explains the long run multipliers of the equation.

Following Narayan and Smyth (2005), we employed Pesaran and Pesaran (1997) to test for parameter stability. Once the error correction models have been estimated, Pesaran and Pesaran (1997) suggest applying the cumulative sum of recursive residuals (CUSUM) and the CUSUM of square (CUSUMSQ) tests to assess the parameter constancy.

3.2 Advantages of the ARDL Bounds Test Approach

According Pesaran and Pesaran (1997), method ARDL has many advantages compared to the respective other measures cointegrating relation.

First, in case of small sample size, ARDL modeling approach significantly statistics to verify identity cointegrating, while that technique of Johansen cointegrating, requirement larger sample to achieve reliability.

Second, opposed to the conventional method to find long-term relationships, not estimated ARDL method system of equations, instead it only estimate a single equation.

Third, the different techniques associated cointegrating requirements the variables included in the regression associated with lag as another, in the ARDL approach, regression variables can tolerate different optimal lag.

Fourth, if the author does not assured of attached calculated on the unit or stationary testing of the system data, the cointegrating I(1) or I(0) is applied manually ARDL procedure is most appropriate for research. If the nature of the stationarity of the data is not clear, then the use of the ARDL Bounds test is appropriate. A unit root test is not necessary if a conclusion can be made from the Bounds test for cointegration (Pesaran et al., 2001).

4. Results and Discussion

We estimated stationary testing of variable and integrating level with at level and at first level. The result has showed with standard tests like DF - GLS, and NgPerron are employed. Some theory, Dickey and Fuller (1979) and Phillips and Perron (1988) showed that this tests have used popular in order to find out the order of integration, but Including Dejong et al. (1992) if we used to with their small size and power properties, this test isn't reliable for small sample data set

Table 1. DF – GLS unit root test

Variable	DF-GLS at level	[prob.]	DF-GLS at first level	[prob.]
LnTTO	-2.2168378	[0.4854]	-4.410265*	[0.0001]
lnTO	-3.974947**	[0.0235]	-	
lnEX	-2.180358	[0.4784]	-15.97235*	[0.0000]
lnNCTWV	-4.628619*	[0.0072]	-	
lnAT	-1.923016	[0.0535]	-2.306653*	[0.0232]
lnEPZs	-2.509651	[0.3210]	-5.412633*	[0.0011]

Note. *, ** and *** indicate significance of variable at 1%, 5%, 10% significance level.

Table 2. Ng-Perron unit root test

	Ng-Perron at level				
	MZa		MZt	MSB	MPT
LnTTO	-0.74014		-0.33713	0.45550	14.8301
lnTO	-17.5000	**	-2.92000	0.16900	5.49000
lnEX		-1.76125	-2.65615	1.50810	17.2099
lnNCTWV	-10.2084*		-2.25210	0.22061	2.42730
lnAT	-8.18795		-1.75830	0.21474	11.8179
lnEPZs	-8.49297		-2.00782	0.23641	10.8922
	Ng-Perron at first difference				
	MZa		MZt	MSB	MPT
LnTTO	-8.29323	**	-2.03492	0.24537	2.95941
lnTO	-		-	-	-
lnEX	-5.79391	**	-3.66868	0.28801	4.32529
lnNCTWV	-		-	-	-
lnAT	-10.2084	**	-2.25210	0.20061	2.42730
lnEPZs	-11.7206	**	-2.40294	0.20502	2.15841

Note. *, ** and *** indicate significance of variable at 1%, 5%, 10% significance level.

These tests seem to over-reject the null hypotheses when it is true and accept the null hypotheses when it is false. The newly proposed tests such as Dicky-Fuller generalized least square (DF-GLS) de-trending test developed by Elliot et al. (1996) and Ng-Perron test following Ng and Perron (2001) seem to solve these problems associated with ADF and PP. We have result on table 1 about DF-GLS Unit Root test.

To execute, the ARDL Bounds test approach with result on Table 3. The purpose is to determine the existence of long-term relationships of variables in the equation. We uses the method Wald-coefficient test or F-test to

determine long-run level relationship between the variables. Simultaneously we use the results F-statistic larger than the upper bound of critical, we can said that the variables included in the model are cointegrated.

Since we use 26 annual observations, we have F-statistic is equal to 4.470413, this value larger than the upper bound (3.79) critical value reported in Pesaran et al. (2001) at the 95% significance level. So we can reject the null hypothesis, accept hypothesis H1: that the variables included in the model are cointegrated and so the presence of the long-run relationship is confirmed.

Table 3. The result of ARDL co-integration

Variables	F– Statistics	Cointegration	Lag optimal
	4.470413**	Cointegration	2,1,1,2,1,2
	Critical value	Lower Bound(I0)	Upper Bound(I1)
F(TTO/TO,EX,NCTW,AT,EPZs)	1%	3.41	4.68
	5%	2.62	3.79
	10%	2.26	3.35

Note. *, ** and *** indicate significance of variable at 1%, 5%, 10% significance level.

We estimate equation (4) aims to is to determine the impact of these factors in the short term and long term impact on import and export turnover of Vietnam. Simultaneously, F-test was used to check the joint significance of the lagged variables estimated results are shown in Table 4:

Table 4. The result of Granger causality test

Variable	Direction of Granger Causility						
	Long-run					Short – run	
	Likelihood Ratio (LR) statistics					t - statistics	
	$\sum\Delta LnTTO_{t-i}$	$\sum\Delta LnTO_{t-i}$	$\sum\Delta LnEX_{t-i}$	$\sum\Delta LnNCTWV_{t-i}$	$\sum\Delta LnAT_{t-i}$	$\sum\Delta LnEPZs_{t-i}$	ECT(-1)
$\Delta LnTTO_t$	-	6.8003*	3.5471***	4.7032**	2.2481***	4.2838***	-1.2012*
		[0.0088]	[0.0788]	[0.0354]	[0.0558]	[0.0913]	[-3.6250]
$\Delta LnTO_t$	5.1046*	-	4.7619***	5.6452***	9.1609**	2.7257	-0.7759*
	[0.0088]		[0.0577]	[0.0718]	[0.0159]	[0.1438]	[-4.0836]
$\Delta LnEX$	5.3973**	-1.2090	-	8.7873*	1.0572	-1.2994	0.0452
	[0.0288]	[0.2574]		[0.0077]	[0.3179]	[0.2261]	[0.4338]
$\Delta LnNCTWV_t$	3.9323*	-0.0278	1.2419	-	0.680498	-0.806511	-0.4781*
	[0.0017]	[0.9782]	[0.2362]		[0.5081]	[0.4345]	[-3.6029]
$\Delta LnAT_t$	3.1815	6.4763**	5.9839**	7.9570**	-	8.0014**	-0.2459
	[0.1143]	[0.0317]	[0.0372]	[0.0205]		[0.0203]	[-1.0177]
$\Delta LnEPZs_t$	6.1455**	6.9038**	5.6486**	-1.7206	-1.5345	-	-0.822443*
	0.0242	[0.0181]	[0.0295]	[0.1236]	[0.1634]		[-3.5388]

Note. *, ** and *** indicate significance of variable at 1%, 5%, 10% significance level.

In the short-run, the equation suggests trade openness, exchange rate, number of country trade partner with Vietnam, average tax, number processing export zones variables have significant impact on trade turnover and they have a directional causality with trade turnover. Special, openness trade and number country trade partner with Vietnam are stronger with 1% significant. A unidirectional causality runs from trade openness, exchange rate, number of country trade partner with Vietnam, average tax, number processing export zones to trade turnover without a feedback. The ECM term included in the equation is statistically significant with 1% significant. Next we estimate the long-run and short-run coefficients of the ARDL model with result on table 5. The result shows the long-run coefficients of the variables under investigation. The empirical results in table 5 reveal that in the long-run the trade openness (lnTO) and number of country trade partner with Vietnam (lnNCTWV), number processing export zones (lnEPZs) as tow major proxy of trade liberalization will give raise trade turnover. Exchange rate and average tax causes to decrease the turnover trade. More specifically, in the long-run one percent increase in trade openness (ln TO) leads to 1.66 per cent increase in trade turnover trade and one percent increase in number country trade partner with Vietnam (lnNCTWV) leads to 0.51 percent increase in trade turnover (LnTTO).

Table 5. Short-run and long-run analysis results

Variables	Coeff. Short-run	Coeff. Long-run	Std error Short-run	Std error Long-run	t-statistic Short-run	t-statistic Long-run	Prob. Short-run	Prob. Long-run
Dependent variable = $\Delta LnTTO_t$								
Constant	1.0522**	-0.9829	0.3616	1.8986	2.9098	-0.5177	0.0270	0.6232
$LnTO_t$	2.1779**	1.6693*	0.6835	0.2821	3.1863	5.9168	0.0189	0.0010
$LnEX_t$	1.6656	-0.4810	1.1604	0.3137	1.4353	-1.5330	0.2012	0.1762
$LnNCTWV_t$	0.4057	0.5151	0.4210	0.2848	-0.0049	1.8081	0.9962	0.1206
$LnAT_t$	-1.0302**	-0.1093	-1.0302	0.3020	-2.5153	-0.3619	0.0456	0.7298
$LnEPZs_t$	1.1234**	1.3348*	0.3869	0.3418	2.9030	3.9044	0.0365	0.0079
ECT(-1)	-1.2012*		0.3313		-3.6250		0.0010	
$R^2 = 0.901641$								
F − Statistic = 3.235357[0.0000]								

Note. *, ** and *** indicate significance of variable at 1%, 5%, 10% significance level.

With the results of Table 5, we see the results of estimating the coefficients in the long-run, we get the the model ARDL with error correction version (ECM). Also the results are estimated be short-term coefficients ARDL approach with ECM version. The error correction term pointed out speed of adjustment to restore the balance in dynamic model. ECM coefficient tells us how quickly or slowly to the relationship back to its equilibrium path, and the results achieved must have a statistically significant number with a sign bearing the negative. Including theory of Bannerjee et al. (1998), if we have a highly significant error correction term is further proof of the existence of a stable longterm relationship. With the result on table 6, we expected negative sign with value ECM was estimated highly significant. We have coefficient of the ECT(-1) is estimated equal to -1.2012, suggesting that deviation from the long-term inflation path is corrected by around 1.2012 percent over the following year. This result we can said that the adjustment takes place very quickly. We are have result on short – run, the empirical results in table 5 reveal that in the short -run the trade openness (lnTO) and number of country trade partner with Vietnam (lnNCTWV), number processing export zones (lnEPZs), exchange rate (lnEX), as cause give raise trade turnover (lnTTO) and average tax (lnAT) causes to decrease the turnover trade. The result in long-run and short-run also trade openness (lnTO) have high significant impact turnover trade in Vietnam. Trade Openness above shows Vietnam not only exploited the strength of the domestic economy, but also enlisted the world market. Deeper integration into the world economy as well as a growing number of large open world economy, so Vietnam has given certain benefits have been proven by the development of increasingly upward Vietnam's economy in recent years. The coefficient of determination (R^2) is 0.901641 which shows high significance of the model, indicating that 90.16% of the dependent variable was explained by model.

Table 6. The results of Diagnostic tests

Diagnostic Tests	P _ value (F_ statistic)
A:Serial Correlation	$0.1176 > \alpha(0.05)$
B:Functional Form	$0.9594 > \alpha(0.05)$
C:Normality	$0.1150 > \alpha(0.05)$
D:Heteroscedasticity	$0.7081 > \alpha(0.05)$
A:Lagrange multiplier test of residual serial correlation	
B:Ramsey's RESET test using the square of the fitted values	
C:Based on a test of skewness and kurtosis of residuals	
D:Based on the regression of squared residuals on squared fitted values	

For the results were presented a way that economic significance and reasonable. The model is given must be consistent with the diagnosis of the econometric requirements of while we have to check the stability of the model. Result of Table 6 show that some Diagnostic testwith some the Diagnostic tests: serial correlation, functional form, normality, heteroscedasticity, and structural stability. We have no correlation, form function's model is right with Ramsey's RESET test, non-normality of the errors and heteroscedasticity test with all p-vallue larger than 0.05, associated with the model (Stock & Watson, 2010). Finally, all Diagnostic test have model passes all of the reported diagnostic tests. We can said that result of reseach have economic significance

and reasonable.

Eventually, we checked the stability of the long-term these parameters, along with the short-term movement to the equation. Including theory Borensztein et al. (1998), we rely on the cumulative amount (CUSUM) and square cumulative amount (CUSUMSQ). Including Pesaran and Pesaran (1997), Mohsen *et al.* (2002) and Suleiman (2005) to test the stability of the long-run coefficients. The tests applied to the residuals of the ECM model.
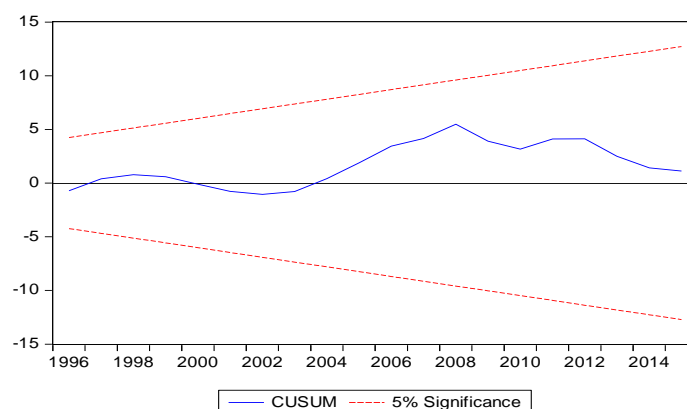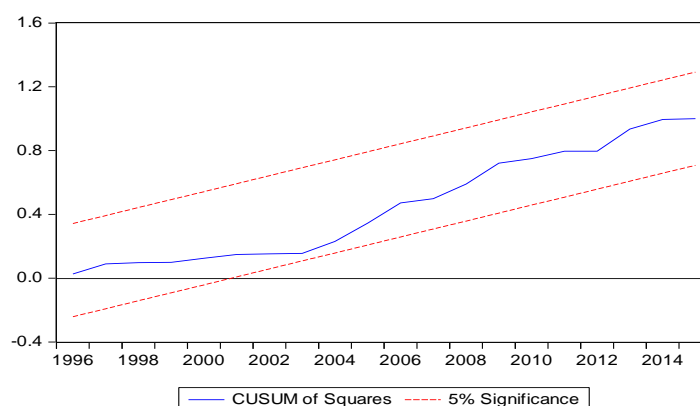

Figure 1. Cumulative sum (CUSUM)

Figure 2. Cumulative sum squares (CUSUMSQ) tests

With result Figure 1 and Figure 2 showed that plot the CUSUM and CUSUM of squares explain about stability of coefficient and find the long-run relationship among variables. If we can see result that the plot of CUSUM and CUSUMSQ stays within the 5% critical bounds that we accept null hyppothesis the long-run relationships among variables and thus shows the stability of coefficient. But, if CUSUM and CUSUMSQ exceed the 5%, critical bounds we can confirm instability of the coefficient. With this result Figure 1 and Figure 2, plot of CUSUM and CUSUMSQ stays within the 5% critical bounds, we have long-run relationships among variables and thus shows the stability of coefficient.

5. Conclusion and Policy Implications

This paper investigates the relationship between expected trade turnover and trade openness, exchange rate, number of country trade partner with Vietnam, average tax, number processing export zones in Vietnam for the period 1990-2015. We applied ARDL bound testing, error correction model (ECM) in our analysis and also used CUSUM and CUSUMSQ to test the stability of the model used. The results of the unit root tests indicated the variables under study were I(1) processes and the Error Correction Model was consequently employed. The cointegration results show that there is long run relationship between dependent variable and independent variable which implies that some the variables move together in the long run.

Trade openness impact significant to trade turnover. In which, reform in trade policy is the most important trade policy transformation has changed economic the face of special Vietnam's trade turnover. Vietnam has made important progresses in changing trade regime and in solving the interrelationship between trade and economic

development. These reforms about trade regime have brought significant achievements for Vietnam's foreign trade activities and have a great contribution to GDP of the economy. The business right is limited for private sector but this problem was improved in later period. Tariff is still high and complicated. And tax also impact negative to trade turnover. The market policy is not really suitable, market formation is lack of orientation, planning and macro promotion, thus leading to market formed spontaneously under the search of enterprises. Some of nontariff barriers measures that Vietnam is using as import bans, quantitative restriction, license… were not consistent with the trend of trade liberalization. Moreover, lack of equality still exists in the import and export business in Vietnam. In conclusion, trade policy reform in Vietnam has brought many great achievements not only for foreign trade activity but it also had positive impacts on the economic development and living standard of people. Moreover, the success of foreign trade activity after reform is also contributions from the experience in reform trade policy in China and some other countries. However, to participate into the process of integration with the world and regional economy requires reform steps that consistent with international practices. Here are a few recommendations to improve Vietnam's trade policy:

1). Vietnam should conduct to reduce tariff, export tax and also remove flexibly and suitably non- tariff barriers and protection regime. These actions will help Vietnam to integrate further into world economy. Export tax should be toward 0% in the future. This helps many export enterprises to improve the competitiveness through no loss export tax, enterprises can invest more in the quality of products. For import tax, Vietnam still maintains and ensures the implementation of the provisions of CEPT and also continues to reduce tariff under the MFN rates. On the basis of the requirements for the degree of protection, we should build the tariff reduction process for Temporary Exclusion List appropriately, the items that are protected in highest level will be included in the final tax cut and these items do not need protection tax will be cut sooner. Together with the determination of protected regime, it is necessary to improve and gradually remove the non-tariff measures effectively and suitable with international practice

2). Improve export promotion policy is necessary:

- First, raise the efficiency of trade promotion activities in order to help enterprises expand export market. State should facilitate and support the business establishment of a branch, representative office and introduce products overseas. And also, export promotion in major markets with a large consumption such as the U.S, Japan, EU, China, ASEAN, WTO for items that Vietnam is likely to increase export volume as aquatic product, textile, footwear, rice, coffee…

- Second, support for enterprises in the raising competitiveness for the export product such as encourages enterprises to advance scientific investigation, support in applying new technology and conduct to build brand for goods.

- Third, operate the foreign exchange rate and manage foreign exchange toward increasing the competitiveness for export items. The adjustment of the nominal exchange rate should be suitable with the reduction roadmap tariffs and non-tariff barriers in order to not make the exchange rate decrease and adversely affect the competitiveness of goods.

- Lastly, develop the supporting export–import services: forms of insurance in export and import activities, forms of credit and credit guarantee in export–import.

3). Continue to create more favorable conditions for private enterprises and foreign-invested enterprises in foreign trade activities, and also reduce the administrative procedures in foreign trade business as well as established businesses.

4), Relax administrative controls of international trade and associated quantitative restrictions.

Controls in international trade should be prioritized gradual relaxation in the near future. The government has announced a relaxation of export restrictions that are not subject to explicit management or quantitative restrictions. AFTA commitments related to the dismantling of non-tariff barriers to trade with the member countries and thus provide a framework for the relaxation of controls. It is necessary to have a transition program of relaxation of controls, along with specific actions in the future to release the import action along the lines of the recent export.

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