

Trade Reforms in Vietnam A Computable General Equilibrium Analysis

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Abstract

Vietnam's integration with the global economy has accelerated in recent years. Vietnam became a member of ASEAN in 1995, joined APEC in 1998, and has applied for membership in the WTO. Various commitments to trade liberalization have been made under bilateral and multilateral trade agreements and will be carried out in coming years. The ongoing trade reforms will significantly change Vietnam's highly protective trade regimes and bring about profound implications on the economy. In this paper, we have used a computable general equilibrium (CGE) model to assess the impacts of unilateral trade liberalization at both macro and sectoral levels and examine the role of complementary policies. The simulation results have indicated that tariff reductions cause a decline in GDP, but the overall output loss is small. Capital producing industries and public services suffer considerable losses, while export-oriented industries experience a significant expansion. Sustaining the fiscal revenue mitigate the negative effects of tariff cuts on public services and reduce the output loss. Currency devaluation appears to have a strong impact on exports, imports and the trade balance.

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I. Introduction

In the late 1980s, Vietnam began profound social and economic reforms, which have significantly transformed Vietnam from a centrally planned economy to a market economy. Over the last decade, trade reforms and the open door policy have constituted an important part of the comprehensive reforms. Restrictions and limitations on trade activities have been progressively relaxed, and the country has successfully expanded trade and investment relations with nations in Asia, Europe and North America. The growth of trade has been high and contributed significantly to the overall economic growth.

The integration with the global economy has accelerated in recent years. Vietnam became a

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member of ASEAN in 1995, joined APEC in 1998, and has applied for membership in the WTO. However integration with the world economy brings about both benefits and costs, and the issue has been debated among Vietnamese policy makers and economists. On the one hand, the integration will expand Vietnam's exports markets and bring about greater opportunities for technological transfers as well as greater inflows of foreign investment and economic assistance. On the other hand, Vietnam will be obligated to requirements of international trade agreements concerning the removal of tariff and non-tariff barriers and the opening of investment regimes to foreign firms. Domestic firms, lacking of business skills and poorly equipped, may fail to compete with foreign firms. Trade liberalization may lead to a loss in output and increased unemployment, or it may worsen the trade balance and fiscal balance.

Although there have been numerous studies on economic and trade reforms in Vietnam, limited attention has been paid to quantitative studies. In this paper we attempt to analyze Vietnam's trade reforms, and to quantify impacts of the reforms on the economy using a computable general equilibrium (CGE) model. The paper is organized as follows. Section 2 examines the recent economic development in Vietnam, current trade regimes and the reform agenda in coming years. The structure of the model, data sources and the calibration procedure are discussed in section 3. Simulation scenarios are performed in section 4, and conclusions are drawn in the last section.

II. Reforms and Open Door Policy

II.1. Reforms and Growth: an Overview

In late 1980s Vietnam began profound social and economic reforms, commonly known as *doimoi*, which aimed to develop a market economy to replace the centrally planned economy and to open up the economy to the world economy. Over the last decade, the economic reforms have brought about significant changes in both social and economic aspects. Price controls have been abolished for most commodities, and prices are determined by the market demand and supply. The private sector has been officially accepted and encouraged, and the state sector has been restructured.

After the hard transition period characterized by hyperinflation in the late 1980s, Vietnam successfully stabilized the macroeconomic situation and resumed growth in the early 1990s. The country achieved an impressive economic performance, with the growth of GDP averaging the annual rate of 8.8 per cent during the period 1992-1997. The high growth was achieved in a stable macroeconomic environment. Inflation and fiscal deficits were kept within a controllable range.

The economic and political crisis in the former Soviet Union interrupted traditional trading and economic relations with countries in the Soviet bloc and badly affected the economy in the late 1980s. Vietnam liberalized trade regimes to promote trading and economic relations with the countries in the convertible currency area. The growth of exports averaged the annual rate of over 30 per cent, and

was led by light manufacturing exports. The lifting of the US embargo in 1993 removed political obstacles to foreign investment and development assistance. The inflows of foreign capital increased dramatically, particularly between 1995 and 1997. Stimulated by the surge in the capital inflows, imports grew rapidly and worsened the trade balance, which reached nearly 16 per cent of GDP in 1996.

The country was not able to sustain the initial performance. The rapid growth brought about over-optimism and reduced pressure for further reforms. There was little progress in the restructuring of the state sector and banking system, and the economy suffered from serious weaknesses as reflected in inefficient and heavily indebted state-owned enterprises (SOEs), the large build-up of non-performing loans and the high and increasing trade deficit.

The Asian economic crisis adversely affected the economy and further exacerbated domestic economic problems. The economic recession in Japan and East Asian countries, which are Vietnam's major trading and investment partners, led to a sharp contraction of Vietnam's export markets and a decline in the inflows of foreign investment. The growth rate of exports dropped to 1.9 per cent in 1998, and exports to East Asia declined by 8.5 per cent. The recent resumption of export growth has been attributed to the surge in oil prices and the successful efforts in redirecting Vietnam's exports toward new markets in North America and Europe.

In order to reduce trade deficits, the government imposed quantitative restrictions and temporary prohibitions on the import of several consumer goods. Currency controls were adopted to prevent the outflows of foreign currency and to limit imports. Imports grew only few percents in 1997 and declined slightly in 1998 and 1999. As a result, the trade balance has improved significantly, and the country had a current account surplus in 1999.

The decline in exports, along together with stagnating domestic demand, has caused a slowdown in economic growth in recent years. The growth of GDP declined to 5.8 per cent in 1998 and 4.8 per cent in 1999¹⁾. Despite inflation being kept under control, the macroeconomic situation has been deteriorating in many aspects. Fiscal revenue fell from over 25 per cent of GDP in 1993 to around 18 per cent of GDP in 1999, resulting in lower public spending on social services and increased deficits. The inflows of foreign direct investments dropped sharply and put pressure on domestic currency to depreciate.

The slowdown in economic growth has amplified social and economic problems. According to official statistics, the unemployment rate increased from 6 per cent of the labor force in 1997 to 7.4 in 1999, while underemployment has remained high in both rural and urban areas. The poverty incidence, which declined sharply in the mid of 1990s thanks to the high growth, may have increased. In order to resume economic growth, economic reforms have been accelerated with the emphasis on the restructuring of SOEs and banking sector and trade reforms.

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Table 1 : Selected Macroeconomic Indicators 1987-1999

	Unit	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Population	Mill. pers.	62.5	63.7	64.8	65.8	66.9	68.0	69.2	70.3	71.5	72.8	74.1	75.4	76.6
GDP at current prices	Bill. Dong	2870	15420	28093	41955	76707	110532	140258	178534	228892	272036	313623	361016	399942
GDP at const. prices 1994	Bill. Dong	113154	119960	125571	131968	139634	151782	164043	178534	195567	213833	231264	244596	256269
GDP per capita														
- current prices	1000 Dong	46.0	242.0	433.7	637.2	1146.0	1624.5	2027.8	2539.1	3202.4	3736.8	4232.4	4788.0	5221.2
- constant prices	1000 Dong	1811.9	1882.3	1938.7	2004.2	2086.1	2230.7	2371.7	2539.1	2736.1	2937.3	3121.0	3244.0	3345.5
Fiscal revenue	Bill. Dong	379	1740	3899	6153	10353	21023	30696	42125	53370	62387	66252	68600	69500
as percentage of GDP	%	13.2	11.3	13.9	14.7	13.5	19.0	21.9	23.6	23.3	22.9	21.1	19.0	17.4
Public expenditure	Bill. Dong	513	2814	5964	8280	10863	21902	35226	42836	51694	60189	68833	69323	71498
as percentage of GDP	%	17.9	18.2	21.2	19.7	14.2	19.8	25.1	24.0	22.6	22.1	21.9	19.2	17.9
Fiscal deficits	Bill. Dong	- 136	- 1100	- 2113	- 2437	- 1160	- 1879	- 6240	- 1805	- 1219	- 502	- 4497	- 2727	- 4481
as percentage of GDP	%	- 4.7	- 7.1	- 7.5	- 5.8	- 1.5	- 1.7	- 4.4	- 1.0	- 0.5	- 0.2	- 1.4	- 0.8	- 1.1
Inflation rate	%	223.1	393.5	34.5	67.1	67.5	17.5	5.2	14.4	12.7	4.5	3.6	9.2	1.1
Nominal exchange rate	Dong/US\$	-	-	-	6800	11180	10640	10980	11040	11030	11200	12790.4	13941.5	14050
Exports	US\$ mill.	854	1038	1946	2404	2087	2581	2985	4054	5449	7256	9185	9360	11540
as percentage of GDP	%				39.0	30.4	24.8	23.4	25.1	26.3	29.9	37.5	36.1	40.5
Imports	US\$ mill.	2455	2757	2566	2752	2338	2541	3924	5826	8155	11144	11592	11500	11622
as percentage of GDP	%				44.6	34.1	24.5	30.7	36.0	39.3	45.9	47.3	44.4	40.8
Trade balance	US\$ mill.	- 1601	- 1718	- 620	- 348	- 251	40	- 939	- 1772	- 2707	- 3888	- 2407	- 2139	- 82
Current account balance	US\$ mill.	- 624	- 751	- 586	- 259	- 132	- 8	- 767	- 1185	- 1928	- 2449	- 1642	- 1073	1252
Net capital inflows	US\$ mill.	378	405	300	122	60	271	- 78	897	1762	2105	1688	216	- 334
Overall balance of payment	US\$ mill.	- 315	- 297	- 320	- 142	50	268	- 1056	- 409	- 199	- 278	- 4	- 527	168

Sources: GSO (1996), GSO(1998), IMF(2000)

II.2. Current Trade Regimes

The reform of trade regimes has constituted a major component of the overall economic reforms in Vietnam. Until the late 1980s, foreign trade activities in Vietnam were subject to central decisions by the planning authorities, and could be carried out by only a small number of state trading enterprises. Over the last decade, entry to trade activities has been significantly liberalized through removing the trade monopoly of state trading enterprises and allowing producers in the state sector and private sector to engage in trade. All enterprises are now allowed to export or import any commodities in accordance with their field of business. In 1989, the parallel exchange rate system was unified, and the domestic currency was devaluated to promote exports. A managed floating exchange rate regime has been adopted and gradually liberalized.

Export duties are imposed on a small range of agricultural products and crude materials, and only a few exports are subject to quantitative restrictions and regulation mainly for security and environmental concerns. Only exports of garment and textiles to Norway, Canada and the European Union are subject to quantitative restrictions determined in bilateral agreements with these countries.

The import regimes have been gradually liberalized, but remain highly restrictive as reflected in high tariffs and pervasive non-tariff barriers (NTBs). The maximum tariff rate was reduced from 200 per cent in 1992 to 60 per cent in 1999, and the average tariff rate fell from nearly 20 per cent in the mid 1990s to around 15 per cent²⁾. Many domestic industries have been protected through NTBs, which are numerous and strong in Vietnam (McCarthy 1999: p.13). Among these NTBs, quantitative restrictions and currency controls have been extensively employed. Quantitative restrictions are being imposed on 11 groups of commodities, most of which are consumer commodities. It was estimated that approximately 40 per cent of imports are subject to explicit quantitative restrictions, and nearly one-fourth of domestic production of goods is subject to protection from quantitative restrictions (Centre for International Economics (CIE) 1999: p.23).

Currency controls have been adopted to prevent capital out-flight and limit imports. The surrender requirement introduced in 1997 requires firms to sell up to 50 per cent of their foreign exchange earnings to designated banks, and the use of foreign exchange is subject to the allocation procedures designed by the state bank to limit imports of consumer goods. The restriction on imported consumer goods is also implemented through the cash margin requirement or the balancing requirement.

Imports of certain commodities are subject to minimum price valuation, which is designed to counter under-invoicing problems and can raise the prices of imports. The different tax treatments between domestic producers and imported goods have provided further protection for certain industries. Custom surcharges imposed on some imports can be regarded as additional tariffs. Anti-dumping and counter-veiling measures were introduced in 1988 to protect domestic producers from

unfair trade in both domestic and foreign markets.

Generally, high tariffs and non-tariff barriers are imposed on consumer goods, while low tariffs are generally imposed on capital goods and intermediate inputs. However several intermediate inputs, which are being produced domestically such as cement, steel, glass, fertilizers and papers, are also highly protected. Since the mid of 1990s, protection through tariff and non-tariff barriers has been extended to absorb foreign investments into so-called infant industries, such as automobile, cement or steel. As a result, a large portion of foreign direct investment has flowed into highly protected industries. Around 65 per cent of investment occurred in the sectors with the effective rate of protection of above 60 per cent (CIE 1998: p.131)

Table 2 presents the estimated effective protection rates(EPRs)by industries, based on the 1996 input-output table and nominal tariff rates estimated by CIE (1998: p.122) The effective protection rates are computed separately for import substitution industries, which benefit from higher domestic prices caused by protection, and for export-oriented industries, which sell products in foreign markets and face world prices³⁾. With respect to the effective protection provided to import substitution industries, most industries enjoy higher effective rates of protection as compared to nominal rates of protection. Some industries, such as sugar or wearing apparel, receive very high effective rates of protection⁴⁾. Mining, excluding oil exploitation, fertilizers and transportation means that receive low nominal protection face negative effective protection. Export-oriented industries face negative effective protection since they pay higher prices for imported inputs.

II.3. Commitments to Trade Liberalization

The process of opening up to the world economy has been accelerated since the mid of 1990s. Vietnam became a member of ASEAN in 1995, joined APEC in 1998, and has applied for membership in the WTO. In July 2000, Vietnam and the United States agreed on a bilateral agreement. Various commitments to trade liberalization have been made under bilateral and multilateral trade agreements and will be carried out in coming years

Table 2 : Effective Protection Rates(EPRs) by industries (%)

Industries	Nominal Tariffs	EPRs for Import Substituting Industries	EPRs for Export-Oriented industries
1. Paddy	4.6	6.3	- 0.7
2. Other crops	5.7	6.7	- 0.6
3. Livestock	3.4	1.7	- 4.0
4. Forestry	1.1	0.5	- 0.9
5. Fishery	17.4	21.5	- 5.6
6. Coal	3.1	1.0	- 6.0
7. Petroleum	7.6	8.8	- 0.2
8. Other mining	1.0	- 13.4	- 19.0
9. Processed meats	17.3	108.3	- 34.4
10. Vegetable oils and fats	11.3	18.2	- 18.0
11. Milk and diary products	13.3	25.5	- 33.1
12. Sugar	27.6	650.8	- 313.2
13. Seafood	18.5	29.4	- 40.0
14. Beverage	27.8	49.6	- 9.6
15. Tobacco	46.0	128.2	- 25.1
16. Other food processing	18.5	- 2472.2	844.9
17. Glass	21.3	38.9	- 10.8
18. Ceramics	33.8	143.0	- 13.9
19. Paper	16.1	107.8	- 79.1
20. Wood	10.9	38.3	- 37.3
21. Cement	14.9	34.9	- 8.4
22. Construction Materials	6.4	9.2	- 18.4
23. Basic Chemicals	5.0	1.2	- 14.5
24. Rubber	17.7	33.4	- 22.0
25. Plastics	15.5	60.2	- 131.7
26. Other chemicals	8.6	16.4	- 22.6
27. Motor-vehicle and motorbike	27.5	70.5	- 133.9
28. Transport means	0.2	- 16.3	- 17.5
29. Electrical equipment	12.0	33.4	- 24.3
30. Other machinery and equipment.	9.6	14.9	- 21.6
31. Non-ferrous metals	4.9	6.3	- 9.9
32. Ferrous metals	2.2	1.5	- 5.6
33. Textiles	27.0	67.9	- 46.9
34. Wearing apparel	43.9	2077.3	- 1419.3
35. Leather	6.3	- 0.3	- 14.8
36. Printing	12.8	19.2	- 24.9
37. Other manufactures	11.1	17.5	- 19.0
38. Gas & gasoline	13.9	16.2	- 7.1

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As a member of the ASEAN Free Trade Area (AFTA) Vietnam is obligated to cut tariffs and remove its NTBs. According to the Common Effective Preferential Tariff (CEPT) agreement, the AFTA members are obligated to reduce tariffs on intra-ASEAN trade to less than 5 per cent by the year 2002. Later members of ASEAN, including Vietnam, are allowed to complete tariff reductions over a longer period, by the year 2006. Under the CEPT scheme, tariff reductions are carried out with different schedules, namely Inclusion List (IL) Temporary Exclusion List (TEL) Unprocessed Agricultural Products (UAP) and Exclusion List (EL)⁵.

The implementation of the CEPT began in 1996, but progressed slowly until 1999. Most products that were initially introduced in the Inclusion List were subject to very few non-tariff barriers and low tariffs. In 2000, tariff reductions began for the highly protected products in the TEL, and around two-thirds of the total tariff lines were already included the IL (IMF 2000, p. 38) When the tariff reductions are completed by 2006, over 97 per cent of Vietnam's tariff lines will have their tariffs reduced to under 5 per cent. In addition to tariff reductions, Vietnam is obligated to remove quantitative restrictions and non-tariff barriers. The removal of NTBs will begin as soon as products are phased in the IL and have to be completed within a period of five years.

Since ASEAN countries account for only one fifth of Vietnam's imports, the impacts of AFTA appear limited. Moreover, Singapore, the largest ASEAN trading partner of Vietnam, alone accounts for over 50 per cent of the total imports from ASEAN. A significant share of imports from Singapore does not meet with the principle of origin that requires a product to have at least 40 per cent of its content produced in the AFTA area to be qualified for preferential tariff treatments, and thereby these imports are not subject to tariff reductions.

The APEC requires its member countries to carry out unilateral trade liberalization, including free trade, liberalization of investment regimes and the opening of service sectors to foreign providers. Vietnam is committed to fulfill APEC objective of free trade and investment by the year 2020, but has not made any specific commitment on tariff reductions and NTBs. Vietnam's bid for WTO membership began in 1995, and the country expects to join this organization by 2005 (VET September 5, 2001). To acquire WTO membership, Vietnam has to lower tariffs significantly and remove non-tariff barriers.

Unilateral trade liberalization is also a major component of structural adjustment programs. According to a recent agreement with the World Bank and the IMF on short-term economic reforms (SRV, 2001) Vietnam will remove import quotas for six commodities by the year 2003⁶. The surrender requirement will be phased out, and regulations and restrictions in the foreign exchange market will be relaxed to allow a greater role for market forces.

III. Model Specification and Calibration

III.1. Model specification

This section discusses the structure of the model used in this paper to analyze the trade reforms in Vietnam. Our model follows closely the neoclassical CGE model for an open economy developed by K. Dervis, J. de Melo and S. Robinson in the early 1980s⁷⁾. Our model uses constant elasticity of substitution (CES) functions in production and imports. Export supply is also determined by constant elasticity of transformation (CET) functions. The model assumes factor mobility, but takes into account distortions in factor markets. The structure of the model is discussed in detail below⁸⁾.

The model identifies several kinds of prices, consisting of export prices, import prices, domestic prices, producer prices, wages and capital rents. The world prices of imports are treated exogenously in accordance with the small country assumption, which states that a country is a price taker and cannot affect international prices. Assuming that the country sells differentiated products in the world market, the small country assumption is no longer applied to exports. Exporters face a downward sloping world demand curve, and any increase in the volume of exports results in a decline in the dollar price received by exporters. Export and import prices in dollars are translated into domestic currency by using the exchange rate with tariffs added (in the case of imports) or export duties subtracted (in the case of exports)

Composite prices are computed from domestic prices of domestically produced goods and import prices. Producer prices are the composite prices of export prices and domestic prices. Value added prices are producer prices minus production taxes and intermediate costs. Since CGE models determine only relative prices, the choice of a numeraire is required to determine the absolute price level. In this model, the exchange rate, or the GDP deflator in some cases, is defined as the numeraire.

Domestic output in each sector is a CES function between capital and labor. Factor demand is derived from the profit maximization condition, which requires that factor prices equal their marginal revenue products. Our model is medium-term in the sense that labor and capital are mobile among industries but takes into consideration distortions in factor markets. Sectoral factor prices are equal to the average factor price level times fixed coefficients, which reflect the differences in sectoral marginal products of labor and capital.

Imports and domestically produced products are imperfect substitutes. The composite product in each sector is a CES function of domestically produced products and imports. Demand for domestic and imported products is derived from the cost minimization condition. Domestic producers seeking to maximize revenue decide how much to sell in domestic markets and in foreign markets. The treatment of exports is based on CET functions. Assuming producers maximize revenue given a level of output, the amounts of export and domestic supply are derived from the revenue maximization

condition. The sectoral export demand is the function of the world export price.

The model identifies two economic agents, that is government and households, which get income, consume and save a part of their income. Household income is equal to the sum of factor income minus the direct tax payment. Government revenue consists of revenues from direct taxes, indirect taxes, tariffs and export duties. Government and households are assumed to save fixed shares of their income or revenue. The household consumption demand is based on a Cobb-Douglas utility function, with fixed expenditure shares. The governmental final demand is defined using fixed expenditure shares of real spending. Total nominal fixed investment is converted into real fixed investment by using an investment deflator. Sectoral demand for capital goods is then computed through fixed coefficients. Since the model is static, investment simply represents a demand component with no effect on the supply side.

Equilibrium conditions identified in the model consist of equilibrium conditions in product and factor markets, and three macro equilibrium conditions in the foreign exchange market, fiscal balance and investment-savings balance. Equilibrium conditions in factor markets are implied in the treatments of factor markets, with factor prices serving as equilibrating variables. Equilibrium in product markets equates the supply of the domestic product to its demand in each sector, with domestic prices serving as equilibrating variables.

The fiscal balance is also implied in the treatment of the government sector, in which government consumption is determined as the difference between government revenue and government savings. Equilibrium in foreign exchange markets requires that the difference between exports and imports equals the inflow of foreign capital or foreign savings. Foreign savings is typically treated as exogenous, and the exchange rate will adjust to achieve equilibrium through its effects on import and export prices. In some simulations, the exchange rate is exogenous, and in these cases, foreign savings will serve as an equilibrating variable.

The savings-investment balance requires that total nominal investment, which consists of fixed investment and inventory investment, is equal to total savings. Total savings is the sum of private savings, government saving and foreign savings in the term of domestic currency. The model adopts the neoclassical closure, under which investment is determined by total saving⁹. Since the model satisfies Walras's law, the saving-investment balance is considered as redundant and is dropped.

III.2. Data and Calibration of the Model

The model makes use of the 1996 input-output table developed by Vietnam's General Statistical Office (GSO, 1999). It differentiates 24 sectors aggregated from 97 sectors in the input-output table. Among these 24 sectors, there are 2 agricultural sectors, 2 mining sectors, 13 manufacturing sectors, 5 service sectors and electricity, gas and water, construction. The input-output table is valued at

producer prices.

Parameters and exogenous variables are computed using information contained in the input-output table and other data sources. Sectoral wage rates are estimated using income-to-labor data in the input-output table and employment data from official statistics. Although data on capital stock is available in some business surveys, such data provides only fixed price value that do not reflect the actual value of capital. Our approach, adapted from Ezaki and Son (1997: p.17) is to estimate total capital stock and then allocate it to each sector using the income-to-capital data in the I-O table and the relative profit rates obtained from GSO (1997)

Total revenue from import tariffs is allocated among sectors by using average weighted tariff rates estimated by CIE (1998) Government revenue consists of revenue from taxes. Total savings is equal to total capital accumulation in the input-output table. Private savings is calculated from total savings after subtracting government savings and foreign savings. Household income or private income is the sum of factor income minus the direct tax payment to government. Subtracting private savings from private income, we get household or private consumption. Other parameters relating to demand for inputs (I-O coefficients) composition of consumption and demand for capital goods by sectors of origin are computed using data in the input-output table.

Scale and share parameters in production and trade functions are computed using the calibration procedure proposed by Mansur and Whalley (1984) Given the type of functions and elasticities of substitution, these parameters can be estimated based on the benchmark data set. Since time-series data is not available to apply econometric techniques, elasticities of substitution and elasticities of transformation are assigned with reference to previous CGE models developed for Vietnam and actual conditions of the economy.

Table 3 : Elasticities in Trade and Production Functions

Sectors	Elasticities of substitution in production functions	Elasticities of substitution import demand functions	Elasticities of transformation in CET export functions	Price elasticities in export demand functions
Agriculture	1.2	1.2	0.8	1.0
Light industries	0.8	0.8	0.8	1.0
Heavy industries	0.5	0.5	0.8	1.0
Services	0.8	0.8	0.8	1.0

With respect to the elasticities of substitution between domestic and imported products, low elasticities are assumed for heavy industries, relatively low elasticities for light industries and services, and a relatively high elasticity for agriculture. Similarly elasticities of substitution between labor and capital are assumed low in heavy industries, relatively low in light industries and services and high in

agriculture. An elasticity of 0.8 is used in CET functions, and a price elasticity of 1 is assumed in the export demand functions⁽⁹⁾.

IV. Simulation Results

Seven simulations have been performed and are explained briefly in table 4. Since the lack of data makes it difficult to quantify the impacts of removing NTBs, we focus on analyzing impacts of tariff reduction and complementary macro policies. Generally we assume a uniform tariff reduction of 50 per cent across industries. In section IV.1, we discuss the effects of tariff reductions, then examining exchange rate and fiscal policies in sections IV.2 and IV.3.

Table 4 : Simulation Scenarios

Scenarios	Contents
Simulation 1	Partial liberalization : 50 % cut in tariff rates, flexible exchange rate
Simulation 2	Full liberalization : remove all tariffs, flexible exchange rate
Simulation 3	Partial liberalization, fixed exchange rate,
Simulation 4	Partial liberalization, 10 % devaluation
Simulation 5	Partial liberalization, exogenous real fixed investment, endogenous foreign savings, flexible exchange rate
Simulation 6	Partial liberalization : compensating revenue loss through direct tax
Simulation 7	Partial liberalization : compensating revenue loss through indirect taxes

IV.1. Trade Liberalization, Output and Employment

The effects of trade liberalization are analyzed in the two first simulations S 1 and S2. With respect to prices, the consumer price index falls by 4.3 per cent in the case of partial liberalization and by 8.9 per cent in the case of full liberalization. The GDP deflator declines by 5.8 per cent and 12.1 per cent respectively. Tariff reductions also have a considerable impact on the exchange rate, which depreciates from 5 to 12 per cent in real terms. Factor prices also fall, but to a lesser extent compared to the decline in commodity prices, resulting in an increase in factor income. Private consumption and the welfare index both increase by 0.9 per cent in the partial liberalization scenario, and by 2 per cent and 1.9 per cent in the full liberalization scenario.

The tariff reduction causes a sharp decline in government revenue. Imports increase only slightly and do not offset the effect of reducing tariffs. The prices of the products, which are being levied with high tariffs, also fall more sharply and further increase the revenue loss. Government revenue falls by 15 per cent or 2 per cent of GDP in the scenario of partial liberalization. The revenue loss increases to 31 per cent or 4.5 per cent of GDP in the case of full liberalization. Due to the treatment of the government sector, the revenue loss causes proportionate decreases in government savings and

consumption. The decrease in government savings also leads to a decrease in total savings and investment. Real fixed investment falls by 4.3 per cent in the case of partial liberalization and 9.5 per cent in the case of full liberalization.

The decline in domestic prices stimulates exports, and a significant growth of exports can be seen in many industries. Imports increase significantly in some sectors, which are being levied with high tariff rates such as in tobacco and beverages and textiles. Export-oriented and light industries benefit from trade liberalization. Output in textile industries increases by 5.9 per cent in the case of partial liberalization and by 13 per cent when tariffs are completely removed. The decline in investment leads to a contraction of output in construction and other industries producing capital goods. It is, however, public services that suffer the greatest loss as a result of the sharp reduction in government revenue and expenditure.

The output gain in export-oriented industries does not fully offset the loss incurred by capital producing industries and public services. Real GDP falls by 0.1 per cent in the partial liberalization scenario, but increases to 0.3 per cent in the case of full liberalization. Employment in non-agricultural sectors falls by 0.9 per cent in the partial liberalization simulation and by 2 per cent in the case of full liberalization. Since the model adopts the full-employment assumption, redundant workers in non-agricultural sectors are absorbed into agriculture, resulting in a small increase in this sector.

The pattern of changes in employment among sectors follows closely the shift in the production sectors. Labor moves toward expanding industries, such as textile, clothing and food processing. Employment in textiles and clothing and leather increases by 5.6 per cent and 4.7 per cent in the partial liberalization scenario, and by 12.3 per cent and 10.1 per cent in the full liberalization scenario. Employment falls in machinery and equipment, construction, construction materials and public services.

IV.2. Exchange Rate and Foreign Savings

When foreign savings is treated exogenously and the exchange rate is flexible, the decline in the domestic prices of imports causes an increase in imported goods, which then requires a real depreciation to maintain the initial trade balance. To examine the effect of liberalization on the external balance, we use an alternative external closure in simulations S3 and S4, in which foreign savings is treated endogenously and the exchange rate is fixed. In these simulations, the GDP deflator serves as the numeraire in place of the exchange rate.

In simulation S3, the exchange rate is fixed at the benchmark level, and simulation S4 assumes a devaluation of domestic currency. With the assumption of flexible foreign savings, imports increase significantly, by more than 5 per cent as compared to the base run level. Significant increases in imports are seen in certain sectors, such as fisheries (15.4 per cent) tobacco and beverage (26.1 per

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cent) and construction materials (10.4 per cent) Exports decline by 0.1 per cent and, as a result, the trade deficit increases by 27.4 per cent.

The increase in foreign savings more than offsets the decline in government savings and results in increases in total savings and investment. Real GDP increases by 0.5 per cent, and the expansion of production are seen in most manufacturing sectors. In export-oriented industries such as textile and leather, however, the increase in output is not as high when compared to the case of the flexible exchange rate. Employment in non-agricultural sectors increases by 0.4 per cent and causes a small decline in agricultural employment and output.

In simulation S4, a currency devaluation of 10 per cent reduces the trade deficit by 16 per cent. This is achieved by a 2.6 per cent decline in imports and a 4.7 per cent increase in exports. The currency devaluation raises the consumer price index by 2 per cent, resulting in slight declines in private consumption and the welfare index. Due to the treatment of foreign savings, the decline in trade deficits causes a sharp fall in total saving and investment. As a result, real GDP declines by 1 per cent. It is likely, however, that there will be an increase in foreign capital inflows and domestic investment following trade liberalization and devaluation.

In the simulations discussed above, the decline in investment caused by decreased government or foreign savings partly leads to the decline in GDP. In the simulation S5, we treat the real fixed investment as exogenous and foreign savings is adjusted to obtain the level of investment. The results show that an increase of 11.3 per cent in foreign savings is required to sustain investment. Sustaining real investment maintains output in capital producing industries, and real GDP increases slightly.

IV.3.Trade Liberalization and Complementary Tax Policies

The last two simulations presented in this section are both revenue neutral, but they differ in the way government revenue is sustained. Government revenue is a fixed share of nominal GDP, and either the direct tax or production taxes are allowed to adjust to achieve the targeted revenue. In the simulation S6, government compensates for the revenue loss by raising the profit tax or direct tax, or by increasing production taxes by a uniform rate in the simulation S7.

The computation results show that an increase of 20 per cent in all production taxes is required to compensate for the revenue loss caused by the 50 per cent cut in tariffs. Due to the relatively small tax base, an increase of 40 per cent in the direct tax rate is required if government wants to maintain revenue through the profit tax. In both simulations, the increase in tax rates causes a decline in private income, which in turn leads to a proportionate decline in private savings and consumption. Total private consumption falls by nearly 1.3 per cent in both simulations, and the welfare index also declines to a similar extent.

Sustaining revenue mitigates the adverse impacts of tariff cuts and almost eliminates the output

Table 5 : Impact of Trade Liberalization, Selected Macroeconomic Indicators

Indicators	Base run level Bill. Dong	% change as compared to the base-run						
		S1	S2	S3	S4	S5	S6	S7
Wage of agricultural labor	2.9302	- 2.85	- 6.00	3.48	2.95	- 0.28	- 4.46	- 6.03
Wage of non-agricultural labor	9.2916	- 3.51	- 7.37	2.81	2.22	- 0.94	- 4.71	- 6.11
Average capital rents	0.1166	- 3.26	- 6.86	3.77	2.06	- 0.43	- 3.34	- 6.26
Domestic prices	1.0000	- 4.09	- 8.47	1.22	2.16	- 1.92	- 5.09	- 4.60
Consumer's price index	1.0000	- 4.34	- 8.98	0.23	2.34	- 2.47	- 5.30	- 4.91
GDP deflator	1.0000	- 5.81	- 12.09	0.00	0.00	- 3.45	- 6.85	- 6.10
Nominal exchange rate	1.0000	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Real exchange rate	1.0000	4.54	9.87	- 0.23	7.48	2.53	5.60	5.17
Nominal GDP	277521	- 5.93	- 12.34	0.52	- 0.53	- 3.31	- 6.54	- 6.14
Real GDP	277521	- 0.13	- 0.28	0.52	- 0.53	0.14	0.34	- 0.04
Total imports	150337	0.26	0.62	5.16	- 2.61	2.28	0.24	0.23
Total exports	111177	2.89	6.26	- 0.09	4.72	1.64	3.29	2.31
Private consumption	203809	0.90	1.95	3.21	- 0.42	1.85	- 1.27	- 1.25
Welfare index	17177	0.89	1.86	3.17	- 0.43	1.82	- 1.29	- 1.27
Agricultural labor	24775	0.41	0.88	- 0.15	0.76	0.17	- 0.24	0.02
Non-agricultural labor	11017	- 0.92	- 1.99	0.35	- 1.70	- 0.39	0.54	- 0.04
Government revenue	58168	- 15.07	- 31.05	- 10.20	- 9.64	- 13.09	- 6.54	- 6.14
As % of GDP	21.0	18.9	16.5	18.8	18.7	19.0	21.0	21.0
Government saving	36746	- 15.07	- 31.05	- 10.20	- 9.64	- 13.09	- 6.54	- 6.14
Private income	219353	- 3.51	- 7.37	3.36	1.88	- 0.72	- 6.54	- 6.14
Private savings	15544	- 3.51	- 7.37	3.36	1.88	- 0.72	- 6.54	- 6.14
Foreign saving	24160	0.00	0.00	27.42	- 16.09	11.29	0.00	0.00
Nominal investment	76450	- 7.96	- 16.42	4.45	- 6.68	- 2.87	- 4.47	- 4.20
Real investment	76450	- 3.74	- 8.16	5.40	- 9.37	0.09	0.41	0.13
Real fixed investment	66602	-4.34	- 9.48	6.01	- 10.72	0.00	0.36	0.13

Table 6 : Impacts of Trade Liberalization, Production and Employment by Industries

Indicators	Production by industries							Employment by industries								
	Base run Bill.Dong	% change as compared to the base-run						Base run 1000 persons	% change as compared to the base-run							
		S1	S2	S3	S4	S5	S6		S7	S1	S2	S3	S4	S5	S6	S7
1. Agriculture	101273	0.46	1.00	-0.15	0.84	0.20	-0.28	0.01	24153	0.40	0.87	-0.17	0.75	0.16	-0.24	0.02
2. Fishing	16624	0.85	1.78	0.60	1.03	0.74	-0.21	0.19	623	0.74	1.54	0.56	0.87	0.66	-0.14	0.19
3. Petroleum	15002	3.86	8.43	-2.69	7.97	1.10	4.20	-0.30	104	3.41	7.43	-2.83	7.31	0.78	4.50	-0.29
4. Other mining	11661	-2.07	-4.53	3.44	-5.50	0.25	0.86	0.36	108	-2.23	-4.85	3.38	-5.72	0.13	0.97	0.36
5. Food processing	70000	0.90	1.90	0.45	1.22	0.70	0.01	0.12	892	0.65	1.36	0.37	0.86	0.52	0.17	0.13
6. Beverage & Tobacco	12595	0.55	1.08	1.95	-0.27	1.12	-1.47	-6.21	251	0.12	0.17	1.80	-0.88	0.81	-1.19	-6.19
7. Wood & paper	16803	0.15	0.38	0.36	0.01	0.24	0.96	0.50	233	-0.13	-0.22	0.27	-0.39	0.04	1.15	0.51
8. Construction Materials	16287	-3.63	-7.81	3.11	-7.86	-0.78	-0.14	-0.79	241	-4.10	-8.76	2.94	-8.50	-1.13	0.19	-0.77
9. Fertilizers	2431	2.09	4.44	0.04	3.34	1.23	1.72	1.48	43	1.94	4.11	-0.01	3.12	1.13	1.82	1.49
10. Chemicals	11534	0.64	1.35	1.40	0.17	0.95	0.88	0.03	183	0.46	0.97	1.34	-0.08	0.83	0.99	0.04
11. Motorbike and transport means	5700	0.86	1.74	2.93	-0.39	1.72	0.91	0.51	86	0.76	1.54	2.90	-0.52	1.65	0.98	0.51
12. Electrical equipment	1679	-2.68	-5.66	0.37	-4.62	-1.38	-1.07	-1.93	30	-2.83	-5.97	0.32	-4.82	-1.49	-0.97	-1.92
13. Other machinery and equipment.	6248	-1.44	-3.19	3.40	-4.42	0.59	-0.22	-0.48	151	-1.58	-3.49	3.35	-4.62	0.48	-0.12	-0.47
14. Metals	5368	-1.33	-2.93	2.41	-3.73	0.26	0.91	0.34	141	-1.50	-3.28	2.35	-3.97	0.14	1.02	0.34
15. Textile & clothing	20767	5.89	12.98	3.44	7.41	4.86	6.01	5.64	402	5.59	12.30	3.34	6.97	4.65	6.21	5.65
16. Leather	6367	4.85	10.48	1.26	7.04	3.35	5.44	4.74	263	4.69	10.14	1.21	6.81	3.24	5.54	4.75
17. Other manufactures	14351	0.08	0.12	0.91	-0.41	0.42	-0.15	-0.46	373	-0.08	-0.22	0.86	-0.64	0.31	-0.05	-0.45
18. Electricity, water & gas	13856	-1.76	-3.65	-1.79	-1.82	-1.75	-0.92	-1.42	154	-1.87	-3.89	-1.82	-1.99	-1.83	-0.85	-1.41
19. Constructions	53710	-4.23	-9.24	5.78	-10.41	-0.03	0.35	0.12	975	-4.39	-9.56	5.72	-10.62	-0.15	0.46	0.13
20. Trade, hotel & restaurant	50151	0.64	1.36	0.66	0.65	0.65	0.44	-0.12	2677	0.36	0.76	0.57	0.25	0.45	0.62	-0.11
21. Transports & telecommunications	22294	1.33	2.79	1.09	1.45	1.24	1.98	-0.08	856	0.99	2.05	0.97	0.96	0.99	2.21	-0.07
22. Banking	6356	1.56	3.36	-1.11	3.19	0.44	2.18	2.92	125	1.26	2.71	-1.21	2.76	0.23	2.38	2.93
23. Public services	40718	-5.51	-11.81	-5.05	-5.79	-5.32	-1.54	-0.65	1637	-5.56	-11.89	-5.06	-5.86	-5.35	-1.51	-0.64
24. Other services	28640	-0.75	-1.65	-0.15	-1.10	-0.50	-1.13	-1.15	1092	-1.19	-2.58	-0.30	-1.74	-0.82	-0.83	-1.14

Table 7 : Impacts of Trade Liberalization, Exports and Imports by Industries

Indicators	Exports by industries							Imports by industries								
	Base run		% change as compared to the base-run					Base run		% change as compared to the base-run						
	Bill.Dong	S1	S2	S3	S4	S5	S6	S7	Bill.Dong	S1	S2	S3	S4	S5	S6	S7
1. Agriculture	14783	1.53	3.29	- 1.15	3.15	0.41	1.69	2.02	11224	- 0.09	- 0.53	6.69	- 3.90	2.66	- 2.72	- 2.87
2. Fishing	2792	2.09	4.48	- 0.51	3.69	1.00	2.07	2.42	14	7.03	15.17	15.43	2.36	10.43	3.75	3.85
3. Petroleum	14917	3.87	8.44	- 2.68	7.98	1.11	4.20	- 0.29	221	0.59	1.34	- 0.91	1.47	- 0.03	1.28	- 0.24
4. Other mining	2127	0.77	1.51	2.04	- 0.14	1.34	2.71	2.00	304	- 7.34	- 15.31	5.24	- 14.56	- 2.20	- 4.64	- 3.93
5. Food processing	20186	2.03	4.34	- 0.59	3.65	0.93	2.09	2.11	6353	3.80	7.93	9.71	0.44	6.21	1.05	1.34
6. Beverage & Tobacco	637	2.05	4.35	0.53	2.96	1.42	1.28	- 3.89	939	19.07	51.20	26.14	15.05	21.95	15.75	15.30
7. Wood & paper	4628	2.21	4.74	0.40	3.30	1.46	3.01	2.50	4009	0.92	1.77	6.31	- 2.24	3.14	1.15	1.16
8. Construction Materials	1109	- 0.04	- 0.27	1.66	- 1.29	0.72	2.19	1.14	4001	- 1.38	- 3.43	10.35	- 8.28	3.46	1.98	2.62
9. Fertilizers	259	2.86	6.08	0.29	4.42	1.79	2.85	2.22	10484	0.05	0.11	- 0.32	0.27	- 0.11	- 0.60	- 0.22
10. Chemicals	1701	2.36	5.00	1.34	2.95	1.94	2.73	1.75	16767	0.43	0.81	3.34	- 1.27	1.63	0.37	0.13
11. Motorbike and transport means	1622	2.59	5.42	2.77	2.46	2.67	2.79	2.42	10831	0.72	1.34	5.19	- 1.91	2.56	0.49	0.22
12. Electrical equipment	5	0.17	0.24	0.78	- 0.31	0.45	1.27	0.19	4776	- 1.52	- 3.35	2.85	- 4.18	0.31	- 0.09	- 0.30
13. Other machinery and equipment.	672	0.99	1.93	2.43	0.00	1.61	1.89	1.55	25669	- 1.49	- 3.42	5.51	- 5.67	1.41	- 0.43	- 0.46
14. Metals	54	0.72	1.41	1.36	0.18	1.02	2.20	1.77	12995	- 1.93	- 4.23	3.49	- 5.25	0.33	0.07	- 0.38
15. Textile & clothing	12254	7.17	15.91	4.12	9.03	5.90	7.56	7.17	8943	10.03	23.62	12.40	8.71	10.99	8.70	8.68
16. Leather	5575	4.98	10.78	1.15	7.32	3.38	5.69	4.98	1994	1.44	2.89	4.62	- 0.33	2.73	- 0.24	- 0.23
17. Other manufactures	1511	1.96	4.15	0.58	2.79	1.39	2.17	1.60	1947	0.45	0.77	3.84	- 1.51	1.84	- 0.24	- 0.05
18. Electricity, water & gas	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13543	1.55	3.10	6.28	- 1.21	3.50	1.54	1.43
19. Constructions	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20. Trade, hotel & restaurant	12561	2.02	4.33	- 0.46	3.53	0.98	2.33	1.53	3501	- 3.19	- 6.72	2.93	- 6.69	- 0.69	- 4.44	- 4.01
21. Transports & telecommunications	7772	2.62	5.60	0.41	3.94	1.71	3.29	0.59	5280	- 3.35	- 7.05	2.16	- 6.57	- 1.09	- 3.24	- 1.93
22. Banking	3075	2.36	5.10	- 1.67	4.84	0.67	3.12	3.92	3342	- 2.57	- 5.45	1.88	- 5.17	- 0.74	- 2.90	- 3.00
23. Public services	1436	- 1.57	- 3.59	- 3.63	- 0.34	- 2.43	1.25	2.08	1536	- 8.43	- 17.53	- 3.75	- 11.10	- 6.52	- 5.40	- 5.07
24. Other services	1502	1.28	2.71	- 0.97	2.65	0.35	1.37	1.31	1665	- 3.95	- 8.28	1.55	- 7.09	- 1.71	- 4.87	- 4.83

loss in the case of endogenous production taxes. Moreover there is a small gain of 0.3 per cent of GDP in the case of the endogenous direct tax. The increase in government savings more than offsets the decline in private savings and, as a result, total real investment increases. Sectors producing capital goods, such as construction, construction materials, machinery and metals, expand or have their output decline to a lesser extent compared to the case of partial liberalization, largely due to the recovery in investment and the increased demand for capital goods. Similarly the contraction in public services falls sharply as government revenue is sustained.

The effects of the complementary tax policies differ among sectors. In the case of endogenous production taxes, many sectors producing consumer goods, which are being levied with high rates such as the beverage and tobacco, trade, transport, and petroleum undergo a considerable contraction as compared to the partial liberalization scenario. Raising production taxes seems work against exports, with the growth of exports falling to 2.3 per cent in the scenario S7 as compared to 3.9 per cent in the scenario S6. Exports decline in highly taxed industries, such as petroleum, beverage, and some heavy industries.

Sustaining government revenue through direct taxes appears to have more positive impacts as compared to the case of increasing production taxes. However given the small direct tax base, increasing the share of direct taxes in total tax revenue should be a long-term policy objective. In the short-term, it has been suggested to expand the special sale tax, which is being imposed on several luxury consumer goods, to compensate for the decrease in tariff revenue.

V. Conclusions

In this paper, we have used a CGE model to assess the impacts of unilateral trade liberalization at both macro and sectoral levels and to examine the role of complementary policies. At the aggregate level, the tariff reduction causes a decline in GDP, but the overall output loss is small. Capital producing industries and public services suffer considerable losses, while export-oriented industries experience a significant expansion. It should be noted that, as a single country model, the model is not able to capture the benefit of a greater export market access resulting from liberalization in its trading partners, thereby not capturing the overall effect of a multilateral liberalization.

The simulation results have also indicated the need for the introduction of complementary macro policies. Without currency depreciation, tariff reduction may critically worsen trade deficits. With a flexible exchange rate in place, there is a strong depreciation of domestic currency that offset the adverse impacts of tariff reductions. Currency devaluation appears to have a strong impact on exports, imports and the trade balance. Government revenue may fall sharply as tariffs are cut, raising the need for complementary tax policies. Sustaining government revenue through complementary tax policies not only sustains public expenditure, but mitigates the adverse impacts of

trade liberalization.

Endnotes

- 1) According to estimates by the IMF staff, the growth rate of GDP was 3.5 per cent in 1998 and 4.2 per cent in 1999. See IMF (2000) , p. 6.
- 2) In 2000, the tariff system was revised as government removed some of the quantitative restrictions. For some products, the tariff rate of 100 per cent is employed in place of NTBs (IMF 2000: p. 35)
- 3) See, for example, Fukase and Martin (1998) for a discussion on the difference between the effective protection provided to import substitution and export-oriented industries. See also Fukase and Martin (1998, p 15) or CIE (1998, p.124) for other estimates of EPRs
- 4) High EPRs observed in these industries are due to their inefficiency. The sugar and wearing apparel industries have very low value added at world prices, while other food processing has negative value added.
- 5) Products phased in IL are subject to immediate tariff reduction following fast track (tariffs are to be reduced to less than 4 % by the year 2000) or normal track (products with current tariff rates under 20% will have tariff reduced to 0 - 5 % by the year 2003) . For products with tariffs above 20%, rates are to be reduced to 0 - 5 % by the year 2006. Products in the TEL are phased into the IL from the year 2000 in equal installments over the period of five years. Certain products in the UAP are transferred to the IL or the TEL, and the remaining is referred as the Sensitive List and has tariffs reduced to 0 - 5 % by the year 2013. Products in the EL are not subject to tariff reduction due to security or health reasons.
- 6) The six products are cement and clinker, steel, paper, construction glass, vegetable oil, granite and ceramic. Quotas remain on motorcar, motorcycles, sugar, alcohol and petroleum.
- 7) See Dervis K. et al. (1982) , chapter 7. See also Robinson et al. (1999) .
- 8) For an algebraic expression of the model, see Nguyen (2001)
- 9) The neoclassical closure assumes that investment is brought into equilibrium with savings through certain mechanisms such as the interest rate. An alternative closure is to assume savings to be determined by an exogenous level of investment. For a review of different closure rules and their impacts on simulation results, see Rattso (1982) .
- 10) For further discussion about trade and production elasticities, see Dixon et al. (1992) or Sadoulet and Janvry (1995, p. 354) . See also Dao et al (1998, p.31) for elasticity parameters used in a CGE model for Vietnam.

References

- Anh, Vu Tuan. 1997. Economic Policy Reforms: an Introductory Overview. In Norlund Irene et al. eds. Vietnam in a Changing World. Richmond: Curzon Press.
- Centre for International Economics (CIE) 1998. Trade Policies in Vietnam, 1998. Canberra and

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Sydney: Centre for International Economics.

- Centre for International Economics (CIE) 1999. Non-tariff Barriers in Vietnam: a framework for developing a phase out strategy. Canberra and Sydney: Centre for International Economics.
- Dervis, Kemal, Jaime de Melo and Sherman Robinson. 1982. General Equilibrium Models for Development Policies. Cambridge: Cambridge University Press.
- Devarajan, Shantayanan, Jeffrey D. Lewis and Sherman Robinson. 1990. Policy Lessons from Trade-Focused, Two-Sector Models. *Journal of Policy Modeling*. 12(4): 625-657.
- Ezaki, Mitsuo and Le Anh Son. 1997. Prospect of the Vietnamese Economy in the Medium and Long Run: a Dynamic CGE Analysis. APEC Discussion Paper, No. 10. APEC Study Center, GSID, Nagoya University.
- Ezaki, Mitsuo and Sun Lin. 2000. Trade Liberalization and the Economy of China: A Dynamic CGE Analysis(1997-2010). APEC Discussion Paper, No. 29. APEC Study Center, GSID, Nagoya University.
- Fukase, Emiko and Will Martin. 1998. A Quantitative Evaluation of Vietnam's Accession to the ASEAN Free Trade Area(AFTA) Development Research Group, World Bank, Washington DC.
- Fukase, Emiko and Will Martin. 1999. The effect of the United States Granting Most Favored Nation Status to Vietnam. Development Research Group, World Bank, Washington DC.
- General Statistical Office(GSO) 1996. Dong thai va Thuc trang Kinh te Xa hoi Viet nam Sau Muoi Nam Doi moi (Impetus and present situation of Vietnam society and economy after ten years of Doi moi) Hanoi: Statistical Publishing House.
- General Statistical Office(GSO) 1997. Mot so Chi tieu Chu yeu ve Quy mo va Hieu Qua cua 1.9 trieu Co so San xuat Kinh doanh tren Lanh tho Viet nam. (The main facts and figures on the extent and effectiveness of 1.9 million businesses and enterprises in Vietnam's territory) Hanoi: Statistical Publishing House.
- General Statistical Office(GSO) 1998. Statistical Yearbook 1997. Hanoi: Statistical Publishing House.
- General Statistical Office(GSO) 1999. Intersectoral Table on Production and Use of Products in Vietnam 1996. Hanoi: Statistical Publishing House.
- International Monetary Fund(IMF) 1999. Vietnam: Selected Issues. IMF Staff Country Report No. 99/55, Washington DC.
- International Monetary Fund(IMF) 2000. Vietnam: Statistical Appendix and Background Notes. IMF Staff Country Report No. 00/116. Washington DC.
- Mansur, Ahsan and John Whalley. 1984. Numerical Specification: of Applied General Equilibrium Models: Estimation, Calibration and Data. In Scarf H. E. and Shoven J.B., Applied General Equilibrium Analysis. Cambridge: Cambridge University Press.
- McCarty, Adam. 1999. Vietnam's Integration with ASEAN: Survey of Non-Tariff Measures Affecting

- Trade. A report prepared for the Office of the Government of Vietnam. United Nations Development Program, Project VIE 95/015, Hanoi.
- Nguyen, Tien Dung. 2001. Trade Reforms in Vietnam and its Integration with the World economy. Unpublished master thesis. Nagoya: Graduate School of International Development (GSID) Nagoya University.
- Rattso, Jorn. 1982. Different Macro Closures of the Original Johansen Model and Their Impact on Policy Evaluation. *Journal of Policy Modeling*, 4 (2) p. 65-76.
- Robinson, Sherman, A. Yunez Naude, R. Hinojosa Ojeda, J. Lewis and S. Devarajan. 1999. From Stylized to Applied Models. *North American of Economics and Finance*. 10(1)p 5 -38.
- Sadoulet, Elisabeth & Alain de Janvry. 1995. *Quantitative Development Policy Analysis*. Baltimore and London: Johns Hopkins University Press.
- Socialist Republic of Vietnam(SRV) 1999. Individual Action Plan, 1999. The document submitted to the APEC Secretariats. APEC homepage: <http://www.apecsec.org>.
- Socialist Republic of Vietnam(SRV) 2001. Memorandum on Economic and Financial Policies of the Government of Vietnam for 2001. The IMF homepage: <http://www.imf.org>.
- Vietnam Economic Times(VET) 2001. Vietnam is expected to join the WTO by 2005. *Vietnam Economic Times*, September 5, 2001.

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2002年3月1日改訂

『国際開発研究フォーラム』23号より適用

I. 執筆

- (1) 本誌は、国際開発、国際協力、国際コミュニケーションの分野における学術的研究に寄与することを目的とし、掲載の種類は、研究論文および書評論文とする。
- (2) 論文の長さは、和文原稿の場合400字詰め原稿用紙50枚以内を原則とし、英文原稿の場合は約8000語を目安とする（いずれの場合も図表、注記、文献表示を含み、図表は1枚400字相当と換算する）。和文・英文いずれの場合も、英文にて200語程度の要約を付けるものとする。書評論文については和文10000字、英文4000語以内を原則とする。ただし、上記字数制限を大幅に超過する場合は、紀要編集委員会に事前に申し出、委員会がその理由を正当であると見なした場合に限り、字数の上限を引き上げることを認めることもある。投稿者は事前に委員会に相談されたい。
- (3) 使用言語は、原則として日本語もしくは英語とする。それ以外の言語、特殊な文字・記号の使用に関しては、紀要編集委員会に相談されたい。
- (4) 本文中の章題番号はローマ数字（ゴシック）I, II, III, IV...を使用し、節題番号はアラビア数字1, 2, 3...を使用すること。
- (5) 図表の提示の仕方は以下の通りとする。

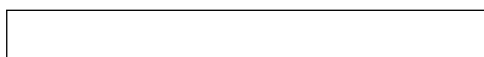
和文原稿の場合 図1 ベトナムにおける直接投資の推移



(注)

(出所)

表1 世界の主要な地域統合



(注)

(出所)

英文原稿の場合



Figure 1 FDI to Vietnam

Note:

Source:

Table 1 Regional Integration



Note:

Source:

(6) 本文または注記における文献の引用は、次のとおりとする。

主語の場合：

松下（1997）は、...大野・藤野（1990）によれば、...

Kuznets（1953a）によれば、... Krueger とBhagwati（1973）は、...

文末表示の場合：

...である（緒方：1984）。..と言える（鶴見・川田：1989）。

...と言えよう（Drèze and Sen：1990）。

ページを特定する場合：

...という指摘がある（青木 1999：25-27）。

...と考えられる（Taylor and Wilson 1989：145-150）。

(7) 注記について

注記のつけ方は、（...と考えられる⁽¹⁾。）とする。注記は論文末に一括掲載する。

(8) 引用文献の表示方法

・日本語文献と外国語文献とを一つにまとめて、各文献を筆頭著者の姓のアルファベット順にする。

・同一発行年に同一著者による著作が複数ある場合には、（1999a）（1999b）のようにし区別する。

日本語単行本：著者. 発行年. 『書名』 出版社名.

<例> 鶴見和子・川田侃（編）. 1989. 『内発的發展論』 東京大学出版会.

日本語雑誌論文：著者. 発行年. 「題名」『雑誌名』 巻(号):頁 頁.

<例> 岡部達味. 1997. 「国際政治と中国外交」『国際政治』 114: 42 56.

（2行にわたる場合は2行目以降を全角1文字（英数2文字）落して記述する。）

安田信之. 1999. 「知的協力としての法制度の移転：制度知としての法の移植」『国際開発研究』 8(2): 5 18.

外国語単行本：著者. 発行年. 書名. 出版地. 出版社名.

<例> Fawsett, L. and Andrew Hurrell eds. 1995. *Regionalism in World Politics*. New York: Oxford University Press.

外国語雑誌論文：著者. 発行年. 論文名. 雑誌名 巻数(号数): 頁 頁.

<例> Rosenau, James N. 1995. Governance in the Twenty-first Century. *Global Governance*.1 (1) : 13-43.

II. 投稿

- (1) 本研究科の学生が投稿する場合、投稿者は投稿申込書に必要事項を記入するとともに、指導教官の許諾を得ることを条件とする。投稿申込書に記載してある事項に基づき、校正等の連絡を行う。
- (2) 投稿原稿は無記名とし、論文のタイトルのみを表紙につけるものとする。これにより投稿者の匿名性は保持される。
- (3) 原稿はA4用紙にワープロ印刷し2部提出する。フロッピー・ディスクについてはレフェリー審査の結果、掲載可となった後に修正稿と共に提出する。
- (4) 投稿は年間を通して随時受け付けるものとするが、修正の程度によっては希望する号への掲載が不可能となる事がある。
- (5) 初校のみを著者校正とし、その時点での加筆・修正は原則として認められない。
- (6) 稿料の支払い、掲載料の徴収は行わない。ただし抜き刷り30部を贈呈する。なお、それ以上の部数を希望する場合は、あらかじめ注文の上、実費にてこれに応じる。

III. 審査

- (1) 紀要編集委員会は、投稿の内容・テーマなどを考慮し、2名の審査者を選任する。
- (2) 2名の審査者は、投稿論文の採択の可否、修正箇所、コメント等を所定の審査結果用紙に記入し、審査から原則として1ヶ月以内に紀要編集委員会に提出する。
- (3) 審査者の匿名性は完全に保持される。
- (4) 審査基準はA～Dの4段階とし、2名の審査者による評価がどちらもB以上とならなければ掲載可とはならない。
- (5) 仮に審査結果がCまたはDであったとしても、修正後の再投稿を拒むものではない。
- (6) 紀要編集委員および出版物編集担当助手からの投稿があった場合でも、査読者の匿名性は保持される。その際、査読者選定段階において投稿者がその選定に関わることはなく、査読結果の通知に関しても他の委員を経由した後、本人に通知される。

Rules Regarding the Writing, Contribution and Examination for Forum of International Development Studies

Revised on March 1, 2002

I. Writing

- (1) The purpose of this journal is to contribute to academic research in the field of international development, cooperation and communication. The types of manuscripts are theses and book reviews.
- (2) The length of a manuscript should, as a rule, not exceed 20,000 letters in Japanese and about 8,000 words in English, both including tables, figures, notes and references. A table or a figure is counted as 400 letters. A manuscript must include about 200 word-abstract in English. The length of a book review should not exceed 10,000 letters in Japanese and 4,000 words in English. However, if the length of an article or a book review will greatly exceed the above limitation, contributors must consult the Editorial Committee. The Editorial Committee may approve it but only if there exists sufficient reason.
- (3) Articles may be written either in Japanese or in English. Contributors should consult the editorial committee on the use of other languages, special letters and special symbols.
- (4) Roman gothic numbers (I, II, III, IV, ...) must be used for the chapter numbering, and Arabian numbers (1,2,3, ...) for the section numbering.
- (5) Tables and Figures must be shown as follows.

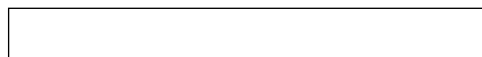


Figure 1 FDI to Vietnam

Note:

Source:

Table 1 Regional Integration



Note:

Source:

- (6) References must be written by the following style:

Wilson (1997) asserts that ... According to Krueger and Bhagwati (1973), ... (see Smith: 1990). ...

(Kuznets 1953a: 25-34).

- (7) As for annotations, the numbers should be put at the upper-right (e.g. ...in the regime theory⁽¹⁾ ...). Annotations must be listed at the end of the thesis.
- (8) References should be listed by alphabetical order of authors' surnames. If there are more than two articles of the same author in the same year, the articles should be distinguished by the small alphabet letters (e.g. 1999a, 1999b...).

Books: Author. Year. *Title*. Place of publishing: Publisher.

(e.g.) Fawsett, L. and Andrew Hurrell eds. 1995. *Regionalism in World Politics*. New York: Oxford University Press.

Articles: Author. Year. Title. *Title of the journal*. Vol.(No): ##-##.

(e.g.) Rosenau, James N. 1995. Governance in the Twenty-first Century. *Global Governance*. 1(1): 13-43.

II. Contribution

- (1) If a contributor is GSID student, he/she must fill in the application form and receive an approval of the primary supervisor. After submitting the application form, the research associate will contact the contributor.
- (2) The contributor should not write his/her name on the manuscript. Only the title of the article should be written on the front page.
- (3) The contributor should submit two copies of the article printed out on A4 paper. The floppy diskette should be submitted after the article has passed the examination.
- (4) Contributions are accepted at any time, but we cannot guarantee that the article will be published on the volume requested.
- (5) The author should check the first proof, but modifying or adding something that will change the idea must be refrained at this stage.
- (6) The editorial committee will not pay any fee for the manuscript and not charge any fee for publishing. Contributors will receive 30 copies of offprints. If the contributor needs more offprints, the editorial committee will respond to the request.

III. Examination

- (1) The Editorial Committee will select two referees, considering the theme and concept of the contribution.
- (2) The referees will fill in the answer form with the result of the examination and their comments,

and will submit it to the committee within one month, as a rule.

- (3) The referees remain anonymous completely.
- (4) A contribution is ranked from A to D. Contributions will not to be adopted unless two referees ' results should be more than B.
- (5) The editorial committee will not reject the revised version of the manuscript even if it is ranked as C or D at the first examination.
- (6) Even in the case of submissions of articles from members of the Editorial Committee, the referees remain anonymous. The member who submits the article must not be involved in selecting the referees, and will only be informed of the results of the review via other members of the Editorial Committee.