

THE IMPACTS OF TRADE OPENNESS ON GROWTH, POVERTY, AND INEQUALITY IN VIETNAM: Evidence from Cross-Province Analysis

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Paper prepared for the 53rd AFSE Congress
Paris, 16-17 September 2004

Work in progress, comments welcomed

Abstract:

After having discussed the Vietnamese main trading specificities, this paper examines the effects of trade openness on growth, poverty reduction and inequality at the provincial level. Analysis of data over the period 1997 – 2000 suggest that openness would have contributed to growth and to poverty reduction on the one hand, but increased income disparity between the first and fifth quintiles on the other. Furthermore, the study highlights an inextricable relationship between openness and the State's socio-economic role which aims to orchestrate the impact of trade on the Vietnamese economy during her transition. Hence, it is likely the ongoing debate about the effects of liberalization is outmoded: all the pragmatic question for developing and transition countries should be directly related to research on possibly efficient interventionism in the context of globalization.

Key words: openness, growth, poverty reduction, increasing inequality, State's role.

JEL Classification: F4, H1, P2

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I would like to thank T.A.D. Tran, O. Lamotte and participants of ROSES's "séminaire-doctorants" for helpful comments on an earlier draft.

1. Introduction

The controversy over the effects of international trade on developing economies has never been as animated as since the late decade. Until the end of 1990s, two principal questions have been identified and discussed: does trade liberalization permit higher growth?¹ And does trade liberalization provoke income inequality within country? Answer to these two problems has not been settled yet when another hypothesis, according to which “*trade helps reduce poverty*”², came to add new component to the ongoing debate. The latter one, supported by L.A Winters [1999] in a special study for the World Trade Organization (WTO), has been likely announced only since the anti-globalization movement at the Seattle in 1999. The author’s analytical scheme focuses on change in price of tradable products. The central argument is that new price provoked by liberalization would allow the poor to catch opportunities and exploit their potentialities so as to raise their income. Moreover, this profitability from liberalization would be possible on condition that government does not intervene in domestic market.

Ever since, many studies on globalization have been attached great importance to examine its contribution to poverty reduction. For example, Dollard and Kraay [2001], using cross-country regression, have found that trade diminished poverty by increasing growth rate in developing countries. Today, a consensus seems to have formed among internationalist economists that trade liberalisation permits higher growth and poverty reduction in developing countries.

At the same time, as noted above, the impact of trade on growth and income inequality is far away from unanimity among economists. Two principal currents can be distinct: the dependants and Marxist current during the fifty, sixty and seventy decades, and in opposition the neo-liberal approach, notably from the 1990s up to now. The former (Emmanuel, Amin, Furtado among others), considering international trade and foreign investment as a disguised exploitation practiced by developed countries to under-developed countries, believes that openness would lead to a bad growth known under the “dual growth” which provokes income inequality in developing countries. The second current, based essentially on the Heckscher-Ohlin-Samuelson (H.O.S) theory, believes trade liberalization, through a better use of advantaged comparative in favour of unskilled workers, would permit faster growth and slowdown in income inequality [Wood, 1994].

Many empirical analyses have been conducted to verify the impact of trade liberalization on growth. Most of them, using cross-country database, converge on the same conclusion that trade leads to higher growth. Nevertheless, Srinivasan and Bhagwati [1999] rejected such method for reasons of “*their weak theoretical foundation, poor data base and their inappropriate econometric methodologies*” (p.1). More recently, the CEPII³’s monthly

¹ This hypothesis is derived from Heckscher E. [1919] who predicted trade would lead to convergence over time in the levels of wealth between trading partners.

² World Trade Organization, press releases, June 13, 2000.

³ Centre d’études prospectives et informations internationales.

letter [2001] underlines a set of problems from econometrical methodology, re-opening the whole question about their causal relationship.

Concerning the link between trade and income inequality, Pissarides [1997] and Wu [2001] give a new element to explain inequality phenomenon in many developing countries: technical progress. According to the authors, whose arguments are quite opposite to Wood [1994], technical progress that developing countries would realize thanks to trading with developed countries may increase demand for skilled workers, and then increase the wage gap between skilled and unskilled workers. Unfortunately, econometrical studies have not provided us with conclusive clarification because of their conflicting results. Dollar and Kraay [2001] for example, using cross-country regressions, did not find any correlation between increased trade and changes in inequality. In opposition, Milanovic [2003], using data from household budget surveys found that globalization makes income distribution worse in very poor countries and better in developed countries. Besides these cross-country methods, Wei and Wu [2001], applying within-country regression on the Chinese case, revealed that openness is negatively associated with urban-rural inequality.

The relationship between trade liberalization, growth, poverty, and income inequality is so complex that there has been no theoretical framework so as to support empirical studies. That explains perhaps why most existing econometrical analyses have been confined to either growth, poverty or to growth and inequality, but not these three dimensions simultaneously. Why do we choose to treat simultaneously the effects of trade on growth, poverty and income inequality? There is a double reason.

First, above all, the theoretical effects of trade on poverty and on income inequality occur through growth. Growth is therefore central and fundamental for any discussion about the impact of trade. If the effect on growth is not established, all tests which aim to verify directly the impact of openness on poverty and inequality will suffer from a theoretical misty.

Secondly, poverty and income inequality are connected even if they are differently measured. If trade reduces poverty but provokes income inequality, the latter must be such that the poor population gets certain benefice from trade, even with a lesser proportion. Otherwise, the assumption will contain a flaw. In fact, the quantity of the poor population contributes to influence the inequality measure, and then it is unreasonable, notably in developing countries, to believe that poverty is slowing down if inequality reaches a too high level. Consequently, treating simultaneously these three dimensions permits us to control eventually contradictory results on the effects of trade.

Like China, Vietnam offers an interesting exploratory site. The country has realized spectacular annual growth rate environs 9 per cent since the trade reforms which have taken effect in 1989; poverty is dramatically reduced (from more than 51 percent in 1993 to 37 percent in 1998). The experience has got such success that this country has been often cited by international organisations as evidence of “beneficial effect of trade liberalization”. In an abstract of currents studies on the subject, Dollar [2001] writes: “*Examining countries*

unsuccessful in increasing growth and reducing poverty and provide lessons on what not to do, but the most useful information comes from countries that have been successful in both. A recent example of success is Vietnam". Concerning income inequality, the author considers it stable over the period (Gini coefficient passed from 0.35 in 1994 to 0.36 in 1995 and 0.39 in 1999), then concluding globalization did not lead to income inequality.

In this paper we try to examine if Vietnam's trade openness is responsible for growth, poverty and income inequality observed. These questions will be analyzed at the provincial level. The paper begins with identifying main characteristics of the Vietnamese trading reform and its stylized facts. Then, we present our econometric method. Results and comments will be presented in the final part.

2. Openness characteristics and stylised facts since the “*doi moi*” in Vietnam

2.1. Main characteristics of the reforms: Trade openness does not mean free trade

“Globalization, Liberalization, free trade and Openness”, these terms have been often used to indicate openness to international markets. The World Bank seems to prefer the term “Globalization”⁴ whereas the World Trade Organization (WTO) does “liberalization”. But fundamentally, both organisations attach them to free trade principles. It is not likely useless to remind the ultimate meaning of free trade is “laissez-faire”, even if the latter term is officially no longer used in most of literature. Besides, “openness” is rather used in an arbitrary way, sometime indicating free trade, sometime doing just important changes in flux of merchandises.

It seems that the assimilation of all terms which mean openness to “free trade” (or “laissez-faire”) has emerged only recently since the Early 1990s. Edwards [1993] critiques this phenomenon which prevents from considering of any national strategy for international trade. The author reviews many others' point of view in the 1980s so as to clarify the difference between liberalization and free trade. According to Kruger for example, “*a regime could be fully liberalized and yet employ exceedingly high tariffs in order to encourage import substitution*”; or to Cooper, “*It is necessary to distinguish between different type of liberalization to make clear that liberalization can be viewed as a process rather than as a state and to dissociate liberalization to laissez-faire*” (cited in Edward [1993], p. 1394, 1365).

It is clear for these authors that liberalization is not synonymous with free trade. Despite their remarks (notably the Cooper's one), “liberalization” is often viewed today as a situation where trade is “free” or moving toward a *free* regime. In this paper, we make no pretence, neither of stating details of the Vietnamese trade policies, nor creating new definition of her trading system. We will analyse such aspects in a cross-sector study. Nevertheless, it seems absolutely important to return to the above authors' sense and make a

⁴ Globalization is defined as “Freedom and ability of individuals and firms to initiate voluntary economic transactions with residents of other countries” (World Bank's official definition).

substantial distinction between openness and free trade. We can consider that the earlier term implies looking for commercial relations with foreign partners, with the aim of developing national economy. In this sense, trade openness serves economical targets, while the latter term means suppression of all barriers so as to let pass goods, services and capital among others, without being necessarily followed by any development plan. In other words, openness calls for a trade strategy in harmony with development intern objectives of a country without necessarily implying free trade. Such a distinction permits to take into account the dimension of trade policy in analysis of the impact of trade on developing economies.

This remark is useful for analysing the socio-economical impacts of Vietnamese trading reforms.

In fact, the changes in volume of trade and in trading partners which were brutal and spectacular at the beginning of the transition have given impression that Vietnam would have liberalized her trading system. For information, concerning the value, export passed from 700 millions dollars in 1985 to 2400 millions dollars in 1990, then 11540 millions dollars in 1999. Concerning trading partners, socialist countries, to which roughly 70 percent of the national export used to be yearly orientated during the centrally planned period, have been becoming marginal. The export has been turned toward Western countries since the rupture of the Soviet systems (from 38% of total export in 1992 to 61.6% in 1996 [IMF, 1998]; and to Asian countries (from 62% in 1992 to 38% in 1996).

Nevertheless, these results are not synonymous with rapid trade liberalization. Since the “*doi moi*”, Vietnam has been promoting export-oriented industries and protecting at the same time his young industries. Main studies on the Vietnam’s trade policy [Technical Group of TLCV, 1999; Gates, 2000] reveal that the trading regime is characterized by a strong protectionism and interventionism through a set of nominal tariff and notably the non-tariff barriers (quantitative control, licences, taxes, controls on processing contracts to foreign partner, etc.).

The Vietnamese trading reforms do not result from any belief in theoretical effects of “free trade” but have been conducted with the aim of industrializing the economy. And at the same time, another substantial condition is to maintain the State’s leader role in the transition process [Tran & Cao, 2004a]. Measures to liberalize have been only progressed since the end of the 1990s under the pressure of preparation for the Asian Free Trade Area (AFTA)⁵, other bilateral agreements and the WTO⁶. Nevertheless, the reform of the trading system is far from its target, and until now we can not consider the Vietnam’s openness liberalized. This point of view is widely admitted by economists working on the country. In this way, the export expansion observed over this period has been realized without veritable liberalization.

Consequently, it may be more correct to use the term “openness” and not “free trade”, to analyse the impact of trade on the Vietnamese economy.

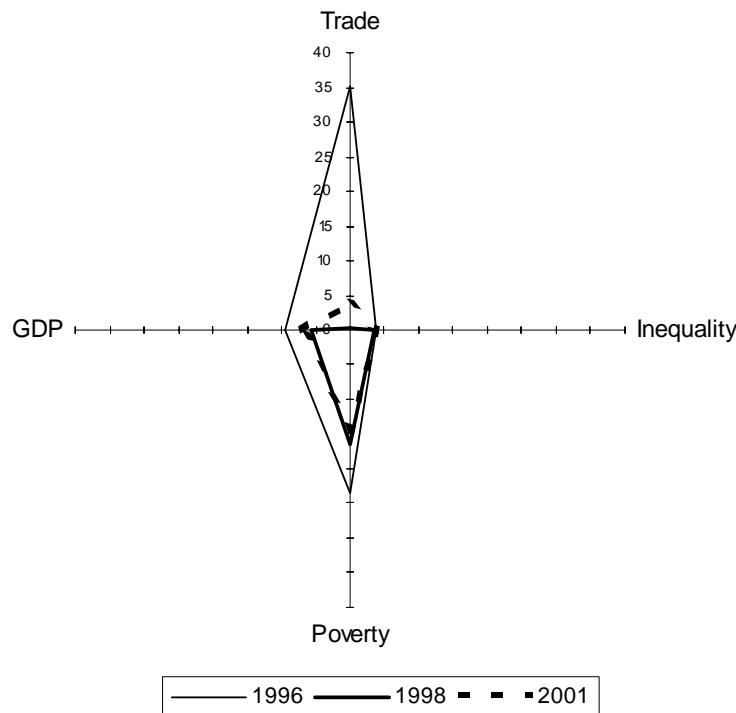
⁵ Vietnam has become official member of the AFTA since 1995; its custom tariffs on principal imports have to be inferior to 5 percent in 2006.

⁶ Vietnam signed a bilateral trade agreement with the US in July 2000 and started working sessions on the WTO in April 2002.

2.2. Impressive results since the openness

Three socio-economic characteristics are becoming stylized facts in Vietnam: strong growth, decreasing poverty, and stabilizing income inequality (?). We can summarize them by the following scheme.

Figure 1: Changes in trade, growth, poverty and inequality



Notes on unities: Trade: yearly rate of growth in export and import (percent)

GDP: growth rate.

Inequality: Gini coefficient.

Poverty: percent of population living with less than 1PPP\$ per day.

Sources: Trade, Growth and Inequality from GSO, Poverty from World Bank 2004.

At the national level, the relationship between trade, growth, poverty and inequality does not conform wholly to the theoretical hypothesis. It appears that if the rate of growth appears negatively associated with change in trade (a slowdown of the latter leads to a diminution of the former) as shown by the figure 1, the link between trade and poverty is not as clearly as expected: poverty has decreased in spite of a slump in trade in 1998, as a result of the 1997's Asian financial crisis. Regarding income inequality, its change seems to be neglected over the period at the country level.

Observations at the provincial level provide us with more details.

First, increasing growth of the whole country has been translating into a slowdown in gross provincial product (GPP) disparity between provinces. It is observed that at the beginning of the transition, its spatial distribution was marked by a strong concentration around Hanoi (North) and the South Triangle of Growth (Ho Chi Minh City, Ba Ria-Vung Tau and Dong Nai provinces). This inequality is explained essentially by a concentration of petroleum activities at the Ba Ria-Vung Tau province, where 95 percent of oil is produced.

However, many initially poor provinces have been “catching up” since the decentralization reform which has allowed them to promote export and to take their own initiative in attracting foreign investors.

Table 1: Changes in growth disparity between provinces from 1989.

Years	1989	1995	1996	1997	1998	1999	2000
Gini of GPP per capita (a)	0.56	0.32	0.29	0.30	0.33	0.34	0.34
Gini of GPP per capita (b)	0.41	0.23	0.23	0.23	0.22	0.19	0.2

Source: Author’s calculation based on the GSO data.

Notes: (a): Ba Ria – Vung Tau province included; (b): Ba Ria – Vung Tau province excluded from calculation.

Our calculation of Gini coefficients (table 1)⁷ shows that disparity in GPP (gross provincial production) per capita between provinces has slowed down dramatically, from 0.41 in 1989 to 0.23 in 1996. The trend has continued and remained stable at about 0.20 since the period.

Secondly, like growth, poverty has been unequally distributed across the country. If at the national level, 51 percent of the population lived below the poverty line in 1992, more than 70 percent of them were concentrated in the North Mountain and Central Highlands regions. According to Minot and Baulch’s [2002] estimation, poverty continued, in 1998 – 1999, to be strongly located in these same areas, with over 60 percent of the population living below the poverty line in the former, and more than 50 percent in the latter. It is necessary to note among the poorest provinces, DaK LaK was the one whose poverty has decreased rapidly. One of the explanations may be this province started farming coffee for export in the middle of the 1990s⁸. In fact, poverty reduction (by 30% between 1993 and 1999) seems to be closely associated with favourable World coffee price during the period. Nevertheless, the poverty reduction rate has slowed since 2001, owing to a collapse in coffee price.

Thirdly, concerning inequality, if the Gini coefficient seems to be stable at the country level (from 0.35 in 1994 to 0.39 in 1999 and 0.391 in 2001), it varies a lot from region to region. The Gini coefficient reached 0.425 in the South East and 0.404 in the Central Highlands in 1999. Furthermore, according to the GSO data, income gap between the highest and the lowest quintile passed from 10.5 times in 1994 to 13.8 times in 1999, then to 15 times in 2001 in the latter area (coffee exported). The tendency appears similar in provinces which have become economically locomotives of the whole country such as Ho Chi Minh City, Ba Ria-Vung Tau, Dong Nai, where income difference between the first and fifth quintiles reached 14.4 times in 2001.

⁷ The Gini coefficient, evaluating inequality level of a variable, can be calculated by the following expression

$$G = 1 + \frac{1}{n} - \frac{2(x_n + 2x_{n-1} + 3x_{n-2} + \dots + nx_1)}{n^2 \mu}, \text{ where } x_i \text{ denotes GPP per capita of province[i] classed}$$

according to increasing order; n is the total number of provinces, $\mu = \sum \frac{x_i}{n}$

⁸ Vietnam has become the World’s second biggest exporter of coffee since the early 2000s.

3. Discussion on econometrical approach

3.1. Behind the impacts of openness: State interventionism

Our aim is not to provide here a deepened analysis on Vietnam's institutional features. Nevertheless, it is not reasonable to analyse the Vietnamese development at the provincial level without mentioning the State's role. In fact, if provincial authorities have enjoyed more economic decision-making, State has remained important powers, taking decision concerning localisation of national projects, and notably through the redistribution policy [Tran & Cao, 2004b].

In this way, the decentralization has not been accompanied by a disengagement of the central authority but on the contrary strengthened the State's control of the transition process. Considerable subventions (in the form of public expenditure) have been distributed to provinces. Their amount reached 2.1 billions USD in 1997 and 2.3 billions USD in 2000. This distribution is quite vital for many provinces since it has represented over 30 percent, sometime even 50 percent of their GPP regarding a lot of provinces⁹.

Until now, the source model from which the relationship between growth and openness has been specified is the microeconomic Cobb-Douglas function $Y = f(K, AL)$, where K denotes factor capital, L human factor, and A technical progress level. The latter one is then explained, as discussed in the introduction, by trade and foreign investment. This micro fundament has been generalized at the macro level so as to serve econometrical tests at the either cross-country or within-country levels. Generally, the standard specification takes the following basic form:

$$Y_{it} = \beta_0 + \beta_1 X'_{it} + \mu_{it} \quad (1)$$

Where country is denoted by i at the period t ; X'_{it} is a set of exogenous variables which explain the growth rate Y_{it} .

In our case study, in order to consider the Vietnamese government's interventionism, we introduce i) public expenditure variable, and ii) decompose the total investment capital into three relative parts: domestically private capital, foreign capital, and State capital. The equation explaining growth at the provincial level is specified as follow:

$$Y_i = \beta_0 + \beta_1 \frac{K_{state,i}}{K_i} + \beta_2 \frac{K_p}{K_i} + \beta_3 \frac{K_f}{K_i} + \beta_4 EXP_i + \beta_5 PE_i + \beta_6 L_i \quad (2)$$

Where province is denoted by [i]; Y_i is gross provincial production per capita; $\frac{K_{state,i}}{K_i}$; $\frac{K_{p,i}}{K_i}$;

$\frac{K_{f,i}}{K_i}$ represent respectively relative parts of investment by State, private and foreign sectors;

⁹ This form of subvention is not accounted for GPP. Our calculation (based on the GSO data) is just aiming to give a rough estimate of the phenomenon. 7/61 provinces (Ha Giang, Cao Bang, Lao Cai, Bac Can, Yen Bai, Son La, Kon Tum) are concerned in 1997, 11/61 (the same provinces in 1997 + Lang Son, Tuyen Quang, Lai Chau, Quang Tri) in 1999 and 7/61 in 2000 (Ha Giang, Cao Bang, Lao Cai, Bac Can, Lai Chau, Son La, Kon Tum). All of them are very poor provinces.

EXP_i = export by capita; L_i = employs used for production (number of persons working), and PE_i is amount of public expenditure per capita.

The reason to decompose the whole capital investment into relative parts is that permits to observe the effect of every owner of the capital. A priori, there is no reason to presume that private or foreign owner's capital is more efficient, but concerning a transition economy, a high level of the State's capital part could be translated as a certain inertia of the transition process of a province. In opposition, the high level of either private or foreign capital could mean a dynamic transformation which increases productivity, then growth. According to the hypothesis, the sign of coefficient of these all variables is expected positive, perhaps excepting the State's part of capital one.

3.2 Openness and poverty reduction

Some studies have been conducted on the Vietnamese case. Concerning indirect effects of trade openness, Belser's [2002], in a simulation, concluded that Vietnamese labor-intensive export would create up to 2 millions jobs thanks to trade, using better the country's comparative advantage. In opposition, empirical results revealed by Justino and Litchfield [2003] are mitigated. These authors using micro data issued from the Vietnam Living Standards Survey of the years 1992-1993 and 1997-1998, conclude that changes in employment in main export industries are small. However, concerning effect on poverty, household whose members are employed in export industries have probability of having escaping poverty during the period. This finding was confirmed by some others province case studies. For example, Dak Lac province (coffee exported) and many Mekong River Delta provinces (rice exported) are often considered as example of the success of the "liberalization" in reducing poverty [Vu, 2002; Nguyen & al., 2001]. In this sense, these results fortify likely the recent conventional analysis.

In the earlier years, researchers have considered foreign direct investment (FDI) as factor of poverty alleviation. Both arguments in favour and against the theoretically positive impact of FDI on poverty are abundant in literature. Essentially, FDI may reduce indirectly poverty through growth, but also directly by creating employs.

In this exploratory study, we can verify directly the impact of openness on poverty thanks to poverty data available at the provincial level. Moreover, like the growth analysis, the State' role will be taken into account through infrastructure realization variable and the State's part of capital investment which assumes the possible inertia of the transition process. Consequently, our equation for the link between trade and poverty takes the following specification:

$$P_i = \alpha_0 + \alpha_1 Y_i + \alpha_2 EXP_i + \alpha_3 \frac{K_{state,i}}{K_i} + \alpha_4 \frac{K_{p,i}}{K_i} + \alpha_5 \frac{K_{f,i}}{K_i} + \alpha_6 Inf_i \quad (3)$$

Where P_i = poverty level of the province[i] (measured by percent of the poor household), Inf_i denotes infrastructure level of the province[i], as percent of communes covered by electricity. Coefficients of Y , X , K_f/K , K_p/K , Inf are expected negative. That means these factors should reduce poverty level. However, the K_{state}/K one should be positive, given the inertia character it represents.

3.3. Openness and income inequality

We are interested in income difference between the first quintile (the poorest 20 percent of the population) and the fifth quintile (the richest 20 percent of the population). The tests take the following specification:

$$\frac{R_{5,i}}{R_{1,i}} = \lambda_0 + \lambda_1 Y_i + \lambda_2 EXP_i + \lambda_3 \frac{K_{stat,i}}{K_i} + \lambda_4 \frac{K_{f,i}}{K_i} + \lambda_5 \frac{K_{p,i}}{K_i} \quad (4)$$

Where $\frac{R_{5,i}}{R_{1,i}}$ denotes the income gap between the 20 percent richest and the 20 per cent poorest of the population.

In a logic way, the signs of export (EXP), growth (Y) and foreign investment (Kf) variables are expected positive, but the one of State investment, which is considered, beside inertia factor, as social equaliser, should be negative.

3.4. About endogeneity

Does trade openness lead to growth, or inversely growth trigger trade? This problem of causality was underlined by Edwards [1993].

In cross-country regressions, researchers have inspired from the gravitational model to resolve the causal problem, by using the distance from a country to another to explain bilateral trade volume. This solution is applied at the country level by Wei and Wu (2001) to the Chinese case. The authors' argument is that the distance difference between provinces from a seaport explains why all provinces do not benefice the same facility access to export. Hence, for every Chinese province, they calculated its minimum distance from Shanghai and HongKong (where important seaports are located), using it as instrument to explain provincial export.

The geographical arguments may bring solution to the problem autocorrelation. But it is only a technical one in econometrical approach. Geographic instrumental variables do not permit to overcome the veritable problem of reverse causation. According to Dodriguez and Rodrik [2000]¹⁰, such instruments are only informative about the effect of geographical condition of trade on growth, but not about the impact of the trade policy on growth. Furthermore, concerning within-country regressions, we can add that using the distance

¹⁰ Cited by Dollar and Kraay [2001].

variables as instruments might generate another problem of causality: a reverse causation from variable instrumented to its own instrument. Concretely, does construction of a seaport permit export or possibility of export lead to decision to construct a seaport? In a logic way, there is no reason to believe that decision for construction of a seaport can not occur after a certain growth level which calls for world market in order to clear merchandise stocks.

But does this technical solution to causality make really sense as regards trade policy, notably concerning country case studies? It seems necessary to put such a question. In fact, as discussed previously about the importance to distinguish “liberalization” and “openness”, trade strategy must be placed at the centre of debates. On the Vietnamese case, this problem can be a subject of another more detailed study. But here we can already note that the Vietnamese openness, like the Chinese one, is characterized by a “target-sector strategy”. That does not mean neither all exportable industries became opened at the same time, and then developed thanks to world demand; nor all industries, once developed enough in domestic market, became exportable. In reality, the link of causality varies from industries to industries. Concerning shrimp products for example, the initial priority was to export in order to earn foreign currencies. Shrimps appear at domestic market once the sector has enough developed so as to offer lower price; living standard of the population has raised; and the world market becomes saturated with concurrency from other low-wage countries. It is not the same way concerning footwear industry whose export is possible after a period of protectionism which has permitted producers to sale their initially bad quality products at domestic market, then developed and exported.

That is why introducing the distance variable between provinces from a seaport should provide us with only information on whether geographical character plays a role in export growth. In this paper, we’ll take again this technique for information. However, results are not to suggest answers to the causality question in the Edward’s sense.

4. Data and main findings

Some remarks on the database used for testing in this paper may be necessary. Concerning the statistical sources, all data come from Vietnam’s different official publications: export from the Department of Trade; labour from MOLISA (Ministry of Labour, Invalids and Social Affairs) income, poverty, infrastructure, capital investment, subvention, and gross provincial product from the GSO (General Statistical Office). The distance variable is the geodesic distance between province[i] and a seaport we calculated from data on latitude and longitude provided by Vietnam Seaport Association. The distance is equal to 1(km) for provinces which possess a seaport. This variable is therefore even more precise because it is evaluated from a province to a seaport itself¹¹, not to another export-oriented province.

¹¹ With more than 38 operational seaports across the country.

Concerning the period of study, the administrative division of provinces has changed three times, passed from 44 provinces in 1989 to 54 provinces in 1992, then to 61 provinces since 1996. This modification provokes some problems in data continuation. It is impossible to obtain a homogenous time-series cross-province for these all variables so as to conduct reasonably a panel model. Consequently, we are obliged to limit our tests at 1997 - 2000 for growth and poverty regressions; but only 1999 concerning inequality tests. The list of definition and measure of all variables is reported in annexe.

Finally, in cross-country regressions, researchers use frequently average rate of growth or growth of period [t] related to growth of period [t-k], where k represents a length some time very long (over 20 years) because of data lacking for many countries. In this paper, we use yearly growth, following Démurger's argument [1996] on the Chinese case. According to the author, using yearly growth is justified for country who has known rapid growth like China. The Vietnamese case is very similar. Not only changes in growth but the one in trade and policy are very rapid at the provincial level. Yearly growth (not growth average) permits to capture more information, in generating a more important sample.

4.1. Openness leads to higher growth?

It is necessary to be noted that all our attempts to test the equation #2 whose variables are expressed in rate of growth failed. There may be two explanations. First, the most rapidly advanced hypothesis is that the length of the period studied (four years) is insufficient for regression specified as yearly rate. Changes in gross provincial production and its independent variables may be obliterated and subjected to other phenomena which are not taken into account in equation. Then, this argument can be justified by the 1997's Asian financial crisis which constituted a perturbation factor for most of provinces. Hence, we conduct regressions in term of level (all variables are expressed in logarithm) which reveal also interesting results.

First, both external factors (export and relative part of foreign capital) are positive and significant at 1 percent level. We separated K_p/K from K_{state}/K and K_f/K for reason of multicollinearity. It is observed that neither the State's capital nor the private capital is significant. That is comprehensible concerning the relative part of State's capital because, as discussed previously, important presence of the State compared to other owner of capital may be considered as a sign of inertia for transition countries. Concerning private capital however, its non significant role may be explained by failing in commands owing to the Asian crisis. In fact private sector is characterized a strong concentration of small enterprises (frequently familial unities of production) who were direct victim of decreasing commands following the crisis.

In conformity to hypothesis, the coefficient of State expenditure is positive and significant at 1% level. In addition, its effect appears even higher than the export one

(coefficient of the former = 0.65 against 0.17 of the latter). This finding permits to confirm the State important role in development level of Vietnamese provinces over the period.

Table 2: Openness and Growth
Equation # 2 estimated, dependant variable = lnY

Explanatory variables	Regression			
	1	2	3	4
LnX	0.172*** (7.77)	0.162*** (10.76)	0.173*** (7.92)	0.278** (2.78)
LnKstate/K	-0.03 (-0.46)			
LnKp/K		-0.079 (-1.74)		
LnKf/K	0.058*** (3.71)		0.06*** (4.03)	0.06*** (3.66)
LnLabour	0.256*** (3.69)	0.346*** (7.03)	0.269*** (4.31)	0.217** (2.29)
LnEP	0.65*** (6.28)	0.617*** (7.94)	0.647*** (6.28)	0.46** (2.31)
N°. Observation	158	238	158	158
Adj R-squared	0.57	0.55	0.57	0.50
F-value	42.09	73.36	39.08	34.25

Notes: ***, **, * indicate levels of significance at 1%, 5% and 10% respectively. t-students are in parenthesis. Every regression includes a constant which is not reported in table

Columns 1 to 3: OLS method; Column 4: Instrumental method: export instrumented by distance minimum from a seaport.

Results from the instrumental method tell us more. The first stage of 2SLS (not reported in table) gives export coefficient lightly negative (-0.14) and significant at 1% level. That means distance from a sea port influences on export volume, confirming the idea that a provinces located near a seaport get facilities to develop export activities. However, as discussed on the endogeneity problem, this regression result must not suggest the causal link between geographic variable and export. It is not because a province stands near a seaport that she will adopt an outward-oriented strategy. On the contrary, export development in many coastal provinces is tightly connected with the export promotion policy at the country level which has based on aquaculture sector¹². This argument is also confirmed by results of the first stage of 2SLS: the most influent factor on export is public expenditure (coefficient =1.63, significant at 1% level). After having been instrumented, export variable is still positive, and even higher.

These results highlight two evidences: i) openness (export and foreign investment) makes higher growth ii) but the State's role, represented by the public expenditure, constitutes a major condition for growth led by outward orientation.

¹² Aquaculture product was ranked second (behind crude oil) in the country's total export in the early openness, and third in 2001 behind crude oil and clothing industries (according to data of the Department of Trade and the GSO, 2003).

4.2. Openness reduces poverty?

We regressed separately variables which cause multicollinearity. Results are conforming to theoretical effects concerning infrastructure, GRP, and export level. Coefficients of these two variables are negative and significant. It seems to be clear that poverty is low in provinces which have a high development level and opened. An increase of one unity of GRP may contribute to reduce 0.76 points of poverty; export to 0.1 points, and in the same way, a unity of infrastructure improvement may diminish poverty by 0.76 points.

Table 3: Openness and Poverty Reduction
Equation #3 estimated, dependant variable = lnP

Ind. Variables	Regression				
	1	2	3	4	5
LnY	-0.759*** (-9.28)		-0.835*** (-12.16)		-0.784*** (-6.06)
LnX		-0.177*** (-4.90)		-0.147*** (-5.07)	
LnKstate/K	0.317*** (3.78)	0.357*** (3.36)			0.307*** (3.70)
LnKp/K			-0.076 (-1.14)	-0.015 (-0.19)	
LnKf/K	0.04 (0.22)	-0.051 (-1.96)			
LnInf	-0.452** (2.84)	-0.466** (-2.24)	-0.548*** (-4.95)	-0.667*** (-4.65)	-0.430** (-2.56)
N	158	158	244	238	158
Adj. R2	0.52	0.36	0.50	0.26	0.53
F-value	44.16	22.78	81.08	59.86	41.20

Notes: ***, **, * indicate levels of significance at 1%, 5% and 10% respectively.

Every regression includes a constant which is not reported in table.

Columns 1 to 4: OLS method. Column 5: Y instrumented by X and Kf/Kt; X suppressed from the initial equation; only significant variables from the OLS method are considered.

Neither private nor foreign capital investment appears to play a role in poverty level (coefficients of these variables are negative but not significant). In opposition, the State one is positive and significant at the 1% level. These findings concord with result on growth regressions in the sense that important share of the State capital represents inertia factor. The latter may be responsible for 0.37 unity of poverty.

Finally, we attempted instrumental method (regression # 5) from which X and Kf/K are suppressed from the base equation in order to be used as instrument for Y. The idea is to observe whether the indirect effect of export and foreign investment passes through growth. Results of GPP level (after having been instrumented by foreign capital and export are negative and significant at the 1% level as expected. Thus, both direct and indirect impacts (through growth) of export are significant, whereas foreign investment appears to play only an indirect role on poverty which is to contribute to rise GPP level.

4.3. Openness increases income inequality?

At first, concerning the inequality level between the first and fifth quintiles, the R_5/R_1 regression shows that their income gap is influenced by both export and growth. High inequality is observed in provinces which are export-oriented and have a high GPP per capita level. Then, the State capital variable seems to confirm its “social equaliser” role because income inequality appears lower in province whose the share of State capital is high (it coefficients is significantly negative). However, this role is very weak (coefficient= -0.05) and can be only marginal.

Table 4: Openness and Income Inequality
Equation # 4 estimated, dependant variable = R_5/R_1

Ind.Variables	Coefficient		
	1	2	3
Yh	0.10** (2.27)	0.10** (2.17)	0.11 (0.67)
Xh	0.87*** (3.50)	1.09*** (4.80)	0.41 (1.86)
Kstate/Kt	-0.05*** (-3.18)		-0.02 (-0.47)
Kp/Kt		0.03** (2.49)	
Kf/Kt	-0.02 (-1.31)		0.06 (0.67)
N	61	61	61
Adj. R2	0.47	0.41	0.14
F Value	12.42	14.65	7.99

Notes: ***, **, * indicate levels of significance at 1%, 5% and 10% respectively.

Every regression includes a constant which is not reported in table

Columns 1 and 2: OLS method; column 3: Kf/Kt instrumented by skilled

Contrarily to the presumption, foreign capital does not appear responsible for income inequality. We attempted to go further by using relative part of skilled worker as instrument for foreign investment. The idea is to verify the effect of FDI on the demand for labour which favours skilled worker. The result is significant neither in the first stage of 2SLS, nor in the second 2SLS. That may be explained by the fact that most foreign investment has been concentrated in labor-intensive sectors¹³ in order to take advantage of Vietnam’s low wage. Hence, there is no reason for foreign investors to pay too high wage compared to the average of the host country. Consequently FDI does not raise spectacularly wage in host provinces.

Another interesting result concerns the private capital investment variable: its coefficient is positive and significant at the 5% level. Since private sector development is often considered as sign of the move toward market economy, it is not quite surprising to observe it provokes inequality. In the Vietnamese case, development of private sector is characterized, as mentioned previously, by emergence of thousand of small enterprises and unities of production. That may increase household managers’ income but not really their

¹³ Except for the petroleum sector which is located at only Ba Ria-Vung Tau province)

employees' one. Nevertheless, its role does not appear important, given its low coefficient (only 0.03). Maybe, this marginal influence is also due to the fact that formation of the Vietnamese capitalism is far away from process. In fact, private enterprises are not only small, but also numerous and concentrated in sectors of less capital intensity¹⁴. That explains why important presence of private capital share does not conduct to inequality explosion over the period studied.

5. Conclusion

This paper attempted to include three dimensions (growth, poverty and inequality) in analysis of the impact of openness. Its aim is to provide a global view on the phenomenon. However, despite the richness of macroeconomic data disaggregated at the provincial level, limit of the period studied constitutes a weakness of the analysis. That does not permit to confirm effects on *change* in gross provincial product (growth), in poverty and inequality, but only effects on *level* of these variables.

After all, exploring the database permits us to have a clearer understanding on the openness phenomenon in Vietnam, notably when the State's role was taken into account so as to consider the Vietnamese key features during the transition process.

Trade openness has been strengthening growth since the reforms undertaken at the end of 1980s in Vietnam; it must then help reduce poverty. Growth is higher and poverty slower in provinces whose export takes an important place over the period. These findings are conforming to the recent standard view. However, openness (notably export promotion) and growth may accentuate income inequality between rich and poor. As discussed earlier, a too high income inequality can call off or even compromise the theoretically positive effect on poverty in the long term. The question is worthy of note notably since the period studied (1997 – 2000) is marked by a favourable price evolution of many export-oriented products (coffee, crude oil for example). It is necessary to extend the study to period after the year 2000.

Another idea underlined in our study is that openness and free trade are two different notions. As mentioned in the first part, the Vietnam's trade reform is characterized by a double strategy which is simultaneously outward-orientation and protectionism. The results obtained should be related to this strategy, not to liberalization or free trade. It is only since 2006 when most of tariff-barriers will be conform to the AFTA agreement that we can really asset the impact of the "free trade" properly speaking. Until now, openness and State intervention form an instrument of growth strategy. Our study shows that if openness plays a positive role in growth, interventionism is not marginal, notably when export is related to subvention.

¹⁴ Their average size is about 6 employees (see Tran and Cao [2004a] for further details).

Finally, it may be useful to note that this combination of openness and interventionism will be inevitably weakened by the future liberalization whose beneficial effects on poverty are not solidly demonstrated in the long term because of its responsibility for increasing inequality. These remarks are not aiming to oppose blindly to “free trade”, but to a flaw in some arguments according to which Vietnam is not a “globalisez” but illustrates nicely the goodness of the “globalization”, given that this term is associated with free trade.

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Annexe: Recapitulative list of variables used.

Variables, province[i]	Definition	Measure, unity
Y_i	Gross Production per capita	At constant 1994 price, in billion VND ^Y
X_i	Export per capita	Billion VND
$\frac{K_{state,i}}{K_i}$	Share of the State capital in the total capital.	$\frac{K_{state,i}}{K_i} 100$, in percent.
$\frac{K_{f,i}}{K_i}$	Share of foreign capital in the total capital, in percent.	$\frac{K_{f,i}}{K_i} 100$, in percent.
$\frac{K_{p,i}}{K_i}$	Share of private capital in the total capital, in percent.	$\frac{K_{p,i}}{K_i} 100$, in percent.
EP_i	Public expenditure per capita	Billion VND
P_i	Poverty level	Percentage of poor households living below poverty line
Inf_i	Infrastructure	Percent of communes covered by electricity
D_i	Distance minimal between province[i] and a seaport	Geodesic distance, km.
$\frac{R_{5,i}}{R_{1,i}}$	Income difference between the richest and the poorest.	Number of times.
L_i	Labour employed	Thousand persons
$Skilled_i$	Share of skilled with certificat workers in L_i	$\frac{Skilled_i}{L_i} 100$, in percent.

Note: i = [1; 61]

^Y Vietnamese dong.