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Cuba's reform and economic growth: a comparative perspective with Vietnam

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Cuban reform process lags behind the GDP growth reached by the Vietnamese. When comparing the evolution of the different sectors and demand components of GDP, Vietnam has had higher growth rates in all cases, highlighting exports first and investment second. Once the Balance of Payments Constrained Growth model has been estimated, the significant effect of the foreign exchange constraints on growth for both countries is confirmed. However, the Vietnam growth can be explained not only by its export success. International openness, which included the end of the US embargo, and institutional factors also explains the differential of results.

Keywords: Cuba; reform; Vietnam; export; growth; balance of payments constraints; the US embargo

JEL Classifications: P21, P52, O57, C32, F13, F43

1. Introduction

Seven years have passed since Raul Castro came to the presidency, replacing his brother Fidel. A reform process of the Cuban economic model has been taking place during this period. Uncertainties remain about the future of the reform process, but it seems to be clear that the tendency for gradual but continuous transformation is moving the Cuban system toward unexplored territory for the majority of the Cubans born after the triumph of the revolution.

The most renovating change had been the expansion of private microenterprises and cooperatives. The official forecast stipulates that for the year 2016, 40% of the employment should stem from outside state-owned enterprises.

The reforms have eliminated some absurd prohibitions to which Cuban citizens were obliged, most of them enduring decades. In the last seven years, Cuban citizens were allowed to buy and sell cars and houses, rent hotel rooms formerly reserved for international tourism, use cellphones, buy electronic and computer devices in regular stores, and travel abroad without asking for "travel authorization" as part of the changes occurred in the migration policy.

Minimum transformation had occurred in state-owned enterprises. Some actions are planned to provide more autonomy to such enterprises, but it is not clear yet what will be the role of market. One of the most difficult tasks of the reforms in the near future is the elimination of the dual currency and dual exchange rate system.¹

Cuban growth has been excessively dependent on special economic relations with Venezuela. The drastic fall of oil prices and other glitches in the Venezuelan economy

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continue to endanger trade and financial flows between the two nations. A new variable has appeared on the horizon: the new policy toward Cuba defined by President Obama. It is likely that the first positive effects will appear in 2015, which could upsurge in the future if political negotiations keep moving ahead and ultimately lead to a total lifting of the embargo.

After seven years of reforms, the macroeconomic growth figures do not meet expectations. The GDP growth rate, merely 2.8% for the period, falls short of the official target of 4.4%. Cuban GDP growth lags behind the rates reached by Vietnam during the first years of reforms: in 1987–1993 Vietnam achieved a GDP growth rate of 5.6%. Subsequently, Vietnam accelerated its growth rate above 7%.

Because the Vietnamese reform begins many years before the current Cuban reform, the paper focuses much of the analysis in the first six years of each of the reforms: 1987–1992 for Vietnam and 2008–2013 for Cuba. Nevertheless, Cuba implemented a previous reform in the 1990s by opening the economy to foreign investment, tourism, remittances and self-employment, and making the centralized planned system more flexible in order to allow greater management autonomy in state enterprises. The implemented measures were effective in stopping the economic downfall after the collapse of the Soviet Union, and generated a rapid improvement dynamic on the macroeconomic indicators. But, toward the end of the 1990s the structural transformations lost impetus. Then, between 2003 and 2004, when Cuba began to receive benefits from the alliance with Venezuela, transformations stopped and a lot of changes were reverted.

The primary meaning and benefits of looking into Vietnam, lay in the similarities of problems faced by Cuba today and those confronted by Vietnam in the 1980s, when the country set forth the Doi Moi reforms, given the fact that both models were built up from the experiences of the Soviet system. The two processes intended to focus on the economic domain maintaining the quintessence of the political regime, but willing to undertake a gradual reform of the centrally planned system. Still, the Vietnamese reforms were carried out faster than Cuba's (Yamaoka 2009; Vidal 2013).

The objective of this paper is to analyze the main background factors that explain the differential growth on the reforms in Cuba and Vietnam. The paper is structured as follows: in Section 2, different sources of GDP growth are evaluated after computing the accounting contribution, first from the economic sectors and then, the components of aggregate demand. The demand components examination leads to distinguish the important role played by exports in both countries. To evaluate this relationship with a more appropriate theoretical and statistical base, in Section 3 the balance of payments constrained growth (BPCG) model is estimated. The econometric estimates point out the relevance of other factors not related with the balance of payments. In consequence, Section 4 extends the analysis to two topics: institutional factors and international insertion. Finally, Section 5 summarizes the main conclusions.

2. Growth accounting

2.1. Sectors that make up GDP

For initial analysis of some of the causes for why the Vietnamese GDP growth exceeds Cuban GDP growth, various GDP components were compared. At first, the GDP components are examined from the supply side, i.e. from the evolution of the economic sectors, and then in the Section 2.2 the same analysis is performed but considering components on the demand side.

Table 1 shows the average annual growth of each sector. In Table 2 the same process was made taking into consideration the relative weight of each sector within the total GDP. This calculation of contributions does not take into account any elasticity between components and GDP growth; it would be only a pure accounting contribution.

Regarding Cuba, the averages are calculated for the six years of Raul Castro's reform (2008–2013). For Vietnam, we likewise do the same for the first six years of the Doi Moi reforms (1987–1992), but also computing the average growth during the 1990s plus the first decade of this century.

2.1.1. Agriculture

Table 1 shows that during the first six years of reform, all sectors of the Vietnamese economy exhibited average annual growth of over 3%, meanwhile in the Cuban case only services slightly exceed 3%. It is striking in the Cuban case the poor performance of agriculture with annual increase of just 0.6%.

When the relative weight of each sector is taken into consideration (Table 2), in the Vietnamese case agriculture contributed to 1% of the GDP growth during the first six years of reform and throughout the whole decade of the 1990s; in the 2000s it slows down slightly to a 0.74%. In Cuba, the agriculture contribution is almost zero (0.03%).

Agriculture has been the priority economic sector for changes under Raul Castro's presidential leadership and where the non-state sector has received the highest level of liberties. Since 2008, idle land has been granted to sole producers and cooperatives as usufruct during 10 and 25 years, respectively, with the possibility of contract renovation once the period is over. However, productive response to the idle-land distribution and other changes had not been enough. The land had been distributed to the non-state sector, but a general market environment has not been allowed for buying inputs, capital goods, and technology. At the same time, actions of imports, exports, and links to the foreign investment are still limited (Nova 2013).

As for Vietnam, stimulated by land reforms and price liberalization, the agricultural sector not only helped ensure national food security, which had been a concern in the 1980s, but also contributed substantially to exports and rural incomes. In the 1990s, Vietnam became the world's second largest rice exporter and one of the major exporters of several other agricultural commodities such as coffee and pepper (Chu and Dickie 2006).

It is not effective for Cuba although the replication of a macroeconomic model growth relying on the agricultural sector like the one Vietnam had developed because Cuba depends upon an urban and elderly population. Urban population in Cuba represents more than 75% of the people, while in Vietnam it represented 18.8% in 1975 and 26.4% in 2005. The proportion of the population 65 or more years old is over 12% of the total population in Cuba, and in Vietnam it's lower: 4.6% in 1986 and 6.3% in 2008 (World Bank various years).

It is not plausible for Cuba to have the same impacts as a reaction to the agricultural sector liberalization as those of Vietnam, not only because of the different demographic conditions, but because the share of the agricultural sector is barely 4% of the GDP. Meanwhile, the Vietnamese agricultural output averages 40% of that country's GDP.

2.1.2. *Industry, construction and services*

Chu and Dickie (2006) calculate that the share of agriculture in the GDP of Vietnam has gradually fallen from 33.9% in 1992 to 21.8% in 2004, although it continues to utilize the majority of the labor force. During the same period of time, industry has been gaining increased importance in the economy with its GDP share rising from 27.3 to 40.2%.

The computed data in Table 2 confirm this structural change in the engines growth of the Vietnamese economy. The industry during the first six years of reform contributed 1.24% to GDP growth, but for the average of the 90s, this number increased to 2.48% and then to 2.88% in the 2000s, doubling first and then tripling the contribution of agriculture. In fact, the industry in the 2000s became the largest sector in contribution to GDP growth, even surpassing services.

Such an increase in the industry contribution to the Vietnamese economy was supported by the rates of 10.8 and 9.3% as annual average during the 1990s and during this century, respectively (Table 1).

The Cuban industry in the years of Raul Castro reforms has only 2.5% of annual growth rate and contributed only 0.36% to GDP growth (Tables 1 and 2); in both cases, well below the Vietnamese records. The same conclusions apply to construction.

Certainly, the oilfields' discovery favored the Vietnamese industry during the first years of economic transformation. The Cuban government was also hopeful of getting lucky with oil exploration in the deep-water Gulf of Mexico. Foreign investors financed several attempts to find profitable wells. However, the results so far have not allowed the exploitation for commercial purposes despite the existence on the area, according to geological studies, of proved oil reserves.

Connected to the disappointing Cuban sectorial results is the postponed reform of state-owned enterprises. All these sectors are controlled by state enterprises having very little autonomy in decision-making, operating with restrictions to import, and purchase foreign exchange. They continue to suffer from low levels of productivity, among other factors, because workers remain discouraged by very low wages.

Services in Cuba made the highest positive contribution (2.32%) due to the weight bearing on the GDP level; they represent 76% of total GDP, while in Vietnam its weight is just over 40%.

In short, no particular sector is identified to explain the differential growth between Cuba and Vietnam. The analysis from the supply side shows that all sectors in Vietnam presented growth rates and contributions higher than those experienced in Cuba during the current period of economic reform.

2.2. *Components of GDP by the demand side*

Tables 3 and 4 shows the same accounting evaluation of GDP growth, but seen from the components of aggregate demand: investment, consumption, government consumption, and exports. By the same token, the simple average annual growth rate is accounted in Table 3, and then in Table 4 it is calculated taking into consideration each component relative weight within the total GDP.

2.2.1. *Export*

At first glance, the data highlights the key role the Vietnamese exports had. During the early years of the Doi Moi reform and throughout the 90s the contribution was of more

than 6%, then it increased during the 2000s up to 7.6% (Table 4), which is explained by the growth rate of double-digit exports had, highlighting the rate of 29% during 1987–1992 (Table 3). This contrasts with the increase in only 5.9% in Cuban exports and the contribution of only 1.6% to GDP growth. Even so, export is the demand component that better explains the Cuban GDP growth during 2008–2013.

In 1989, Vietnamese exports grew up to 178% as a result on oil revenues. Another advantage for the Vietnamese exports is that the country is located on the most dynamic region of the world which had enabled the nation to insert itself into the global chains of values. But not everything is up to these advantages. The best dynamic performance of the Vietnamese exports was favored during the first year by the monetary reforms and devaluation on its real exchange rate. In addition, the Vietnamese implemented an important amount of flexibilities on the international trade system after eliminating the state monopoly and in general, giving major autonomy to the state enterprises. At the beginning, it was very important for the international traders to have direct access to the capital goods and imported intermediate inputs (Dollar 1993; Riedel and Comer 1995).

Ensuing, the gradual but increasing openness to foreign investment, including capital from the emigrated Vietnamese, together with the approach to the World Trade Organization, allowed them to maintain the exporting dynamism at a double-digit rate.

Vietnamese exports have also been favored by the structural change of the economy from an agricultural model to a more manufacturing relying model. By 1997, the agricultural exports were overcome by light industrial and handicraft products, a pattern that has continued until today (General Statistics Office of Vietnam various years).

Foreign direct investment (FDI) played an essential role in this export transition. The share of foreign invested enterprises in total manufacturing exports increased from about 20% in the early 1990s to over 50% in the 2000s (Athukorala and Tien 2012).

The Cuban economy has had services exports as the main source of foreign exchange in recent years: first, medical services marketing (mainly in Venezuela and Brazil) and secondly, tourism services.

Significant changes are anticipated in the near future for services exports. Tourism appears with a very positive outlook given recent relaxations made by the Obama administration for the US citizens to travel to the island. The export of medical services has a more pessimistic outlook due to the economic crisis being experienced by the Venezuelan economy.

Cuba exports are extremely damaged by monetary duality. After more than 20 years, Cuba has been operating with two currencies and two exchange rates, which besides of reducing competitiveness, leads to segmentations, increase transaction costs and distorts relative prices. Tradable sector is especially affected because of the overvaluation of the official exchange rate which is maintain in parity with the US dollar (De la Torre and Ize 2014; Vidal and Pérez 2014). However, the Cuban government keeps postponing the announced monetary reform.

2.2.2. Investment

The Cuban authorities placed their main hopes for economic growth on several investment projects now falling short of expectations. The announced investment plans for oil refineries, oilfield prospecting, and real estate projects related to golf courses, the nickel industry and the construction sector are, all of them, far below the plan.

The rate of gross capital formation in relation to GDP remained at an average of 13.6% for the last six years (measured at constant prices), far below the Latin American rate which surpassed 20%. During the first six years of the Vietnamese reform, the rate of gross capital formation was 17%. During the 1990s, the rate of gross capital formation averaged 24% of GDP, and during the 2000s, 37%.

Table 4 shows that gross fixed capital formation has contributed only 0.5% to the growth of the Cuban GDP, while in Vietnam the contribution was 3.6% in the 90s and 4.4% in the 2000s.

The major dynamism for investments in Vietnam was supported by its policy toward foreign capital. The first law of FDI as part of the reform was approved in 1987, and the two additional amendments issued thereafter, the first one on 1990 and the second on December 1992 including new modalities of investments and introducing changes for major openness and flexibilities.

The stock of FDI as a ratio of Vietnamese GDP rose from zero in the mid-1980s to over 75% by the 2000s. FDI in Vietnam is concentrated in the major urban centers of the country, with some 30% located in Ho Chi Minh City and 20% in Hanoi (Jenkins 2006).

The first years of international openness took place in Vietnam under the US embargo and without access to international financial organization funds, a common element with Cuban reform. Just in 1993, Vietnam renegotiated an unsettled debt with the International Monetary Fund (IMF) and began receiving new loans.² In 1994, Vietnam joined the World Bank and the USA suspended the economic embargo against the Asian country. As of this date, the openness rate (proportion of foreign trade volume to GDP), increased from 60 to over 100%, and annual FDI inflow jumped from US\$0.5 to US\$1.8 billion. In 2007, it surpassed US\$8 billion per year. Foreign investment had been essential for the Vietnamese industrialization process. The main amount of projects with foreign capital had been addressed to that sector, followed by real estate (General Statistics Office of Vietnam various years).

Vietnam had used the special economic zones (SEZs) to promote the entry of international capital. It looks like Cuba is following its steps with the Special Development Zone of Mariel (ZEDM in Spanish). In January, 2014, the ZEDM's containers terminal has been just inaugurated with the presence of the Brazilian president, a country that has financed the construction of the first part of the infrastructure.

In 2014, the Cuban authorities presented their much expected business portfolio to attract FDI, which complements the new foreign investment law approved by the National Assembly in April. The portfolio includes 246 projects that have already been evaluated and undergone feasibility studies by Cuba, for a total of US\$8 billion.

On one hand, there is great potential in the Cuban market, and the country is an attractive location due to its high levels of health, security, and education. Its geographic position in the continent and proximity to the USA is also a favorable element that would open great options once the US embargo is eliminated.

But on the other hand, the Cuban economy is still suffering of multiple factors that reduce its attraction and takes away competitiveness in comparison to other investment locations in the Caribbean. For example, the government has shown to be reluctant to eliminate state employment agencies for the hiring of workers. The battle against corruption, meanwhile, has created a lot of uncertainty among foreign investors, because they have a hard time understanding the judicial process and legal guarantees that have been applied in recent cases.

Table 1. Simple growth rates of GDP sectors.

	Cuba 2008–2013	Vietnam		
		1987–1992	1990–1999	2000–2009
Agri.forestry and fishery	0.6	3.2	3.9	3.8
Industry	2.5	6.1	10.8	9.3
Construction	1.0	3.5	9.6	10.0
Services	3.1	7.7	7.6	7.0

Source: Author, with data from (GSO, [various years](#)) and (NSIO, [various years](#)).

Both, Cuba and Vietnam have an extensive community out of the country. The Vietnam government has promoted linkages with the Vietnamese community living overseas since the beginning of the first stages of the reforms. For Cuba it seems more complex due to the political position of Cuban-Americans in the US Congress.

2.2.3. Private and government consumption

Table 4 shows that private consumption was the second factor contributing to GDP growth after Cuban exports. However, having a contribution of 1.3%, this record also falls short of the contribution of this demand component in Vietnam, which was 2.6% in 1987–1992 and even higher on the average of the 1990s (3.7%) and the 2000s (4.6%).

Until now, Raúl Castro's reform has not increased salaries in state companies. After the dramatic drop in purchasing power of state salaries in the early 1990s, the Cuban model has been unable to reverse that situation. In 2013, the average salary in the state sector, measured in real terms, barely represented 25% of salaries in 1989.

As for government consumption, it shows that its contribution to GDP growth has been very low for both Cuba and Vietnam. This is explained by the fact that both countries have included in their economic reform the reduction of the government size in the economy and a policy of fiscal expenditures control.

Fiscal adjustment also includes the gradual elimination of the ration book system, which is monthly assigned as basic basket of food and other essential products to all the families, at prices well below the cost of importation and production. Fiscal policy has set targets moving from a system that subsidizes product to one that directly

Table 2. Weighted growth rates of GDP sectors^a.

	Cuba 2008–2013	Vietnam		
		1987–1992	1990–1999	2000–2009
Agri.forestry and fishery	0.03	1.02	1.03	0.74
Industry	0.36	1.24	2.48	2.88
Construction	0.06	0.22	0.69	0.90
Services	2.32	3.22	3.29	2.83

^aConsidering the weight of every sector within the total GDP.

Source: Author, with data from (GSO, [various years](#)) and (NSIO, [various years](#)).

Table 3. Simple growth rates of GDP demand components.

	Cuba 2008–2013	Vietnam		
		1987–1992	1990–1999	2000–2009
Gross capital formation	3.5	9.0	14.0	11.5
Private consumption	2.6	3.0	4.9	7.0
Government consumption	0.9	9.2	6.7	7.2
Export	5.9	29.0	16.3	11.8

Source: Author, with data from (GSO, [various years](#)) and (NSIO, [various years](#)).

Table 4. Weighted growth rates of GDP demand components^a.

	Cuba 2008–2013	Vietnam		
		1987–1992	1990–1999	2000–2009
Gross capital formation	0.5	1.5	3.6	4.4
Private consumption	1.3	2.6	3.7	4.6
Government consumption	0.2	0.7	0.5	0.5
Export	1.6	6.1	6.2	7.6

^aConsidering the weight of every demand components within the total GDP.

Source: Author, with data from (GSO, [various years](#)) and (NSIO, [various years](#)).

subsidizes lower income families. Vietnamese reform also included the elimination of the ration book but unlike Cuba was favored by the takeoff of the agriculture.

To summarize the analyses from Tables 1–4, we can state that of all of the GDP components by the supply and demand side, for the case of Cuba as well as for Vietnam, exports had the main contribution. To give further support to this conclusion, the paper continues considering a theoretical model underlying the link between growth and exports.

3. BPCG model

3.1. Theoretical background

The BPCG model was first introduced by Thirlwall (1979). This model is classified among the Keynesian models of economic growth, as opposed to the neoclassical approach that considers the supply of production factors and technical progress as fundamental elements. Among the components of aggregate demand, the BPCG model highlights the role of exports because it is the only demand component that can expand without damaging the equilibrium in the balance of payments.

The BPCG model can reflect the condition of countries like Cuba and Vietnam which depend on imported intermediate inputs and capital goods for the routine operation and expansion of its economies. Thus, economic growth is constrained by the availability of foreign exchange to finance imports. Obviously, output depends on the amount of capital and labor, but factors inputs are not a sufficient condition for growth. The inputs have to be demanded. Exports ease the foreign exchange bottlenecks and increase the supply and productivity of domestic resources (Thirlwall 1997). That is

why, even if the value of exports is small compared with the total value of GDP, export growth is a decisive factor in total growth. Added to the effect of exports, there is also the relaxing effect that external financing and terms of trade can have on balance of payments constraints.

The extended formulation of the BPCG model including external financing was developed by Thirlwall and Hussain (1982). Below is the formulation:

$$X \times Px + EF \times E = M \times Pm \times E \quad (1)$$

Equation (1) expresses the simplified identity of the balance of payments, where X represents real exports, Px is the price of exports in national currency, EF stands for net external financing or deficit in the current account of the balance of payments in foreign currency units, M is real imports, Pm is the price of imports in foreign currency, and E the exchange rate.

Equation (2) is an identity introduced to simplify the algebraic notation, in which θ expresses the income share of exports in the total of imports at current prices and $(1-\theta)$ expresses the proportion of the current imports financed with the net entry of foreign capital.

$$\theta = \frac{Px \times X}{(Px \times X + EF \times E)} \quad (2)$$

The dynamic formulation of Equation (1) is:

$$\theta(x + px) + (1 - \theta)(ef + e) = m + pm + e \quad (3)$$

where the lower case letters represent the growth rates of the variables.

Expressions (4) and (5) represent conventional dynamic equations of the demand of imports and exports:

$$m = \phi(px - pm - e) + \zeta y \text{ with } \phi < 0 \text{ } y \zeta > 0 \quad (4)$$

$$x = \eta(px - pm - e) + \pi w \text{ with } \eta < 0 \text{ } y \pi > 0 \quad (5)$$

where ϕ and η are the price-elasticity of imports and exports, y and w are the growth rates of national income and the world's income, while ζ and π represent the income-elasticity of imports and exports, respectively.

Substituting equations (4) and (5) in expression (3), the economic growth rate compatible with the equilibrium of the balance of payments is obtained:

$$y = \frac{\theta x + (1 - \theta)(ef + e - px) + (\theta \eta + \phi + 1)(px - pm - e)}{\zeta} \quad (6)$$

Equation (6) expresses that the growth rate of the real national income is determined by the growth rates of the real exports of goods and services (x), by the net external inflows of capital in real terms ($ef + e - px$) and by the terms of trade ($px - pm - e$). Equation (6) reflects that the economic growth is also given by the income-elasticity of the demand for imports ζ . A decrease in ζ is associated with an import substitution process and would have a positive impact on economic growth. A complete description of the BPCG model can be found in the text of McCombie and Thirlwall (1994).

Equation (6) indicates that in the interests of relaxing the balance-of-payments or foreign exchange constraints to national income growth, countries need to increase their exports or obtain greater net external financing or benefit from higher prices from their exports or lower prices for their imports. The role of FDI is implicit in the variable net

external financing, as a source of capital inflows that helps relax the constraints on balance of payments, together with portfolio investments and international credits.

Numerous authors have carried out estimations of the different versions of the BPCG model. For example, McCombie (1997) carries out comparisons between the USA, Japan and the United Kingdom. Bairam (1990) takes a sample of countries that export petroleum and another group of developing countries that do not export petroleum. Moreno-Brid (1999), Hieke (1997), and Atesoglu (1994) employ the model to the study of economic growth of Mexico, the USA, and Germany, respectively. The model has been applied to countries in Latin America; we can mention among these the works of Fraga and Moreno-Brid (2006), Bértola, Higachi, and Porcile (2002) and Moreno-Brid and Pérez (2000).

It was found only one paper estimating the BPCG model for Vietnam: Bagnai, Rieber, and Tran (2013) use data of GDP growth, exports, imports, and real exchange rate from the period of 1985–2010 employing a multi country specification. They estimate bilateral export and import equations and found a neutral relative price effect, but a significant impact of the volume of exports.

As for Cuba, the model has already been addressed in studies by Moreno-Brid (2000), Mañalich and Quiñones (2004), and Vidal and Fundora (2008).

The aforementioned authors found that foreign exchange constraints are important in explaining the growth of both the Vietnamese and the Cuban economy. However, estimates of CRBP model for these two countries have never been compared before.

3.2. Evidence for Cuba and Vietnam

Equation (6) of the BPCG theoretical model is estimated for Vietnam and Cuba using annual data of the GDP at constant prices (GDP); the exports of goods and services at constant prices (X); the net external financing at constant prices (EF), approximated by the trade deficit; and finally, the terms of trade (TOT). Logarithmic transformation is applied to the four series.

For Vietnam, the estimation is made for the period of 1990–2012 since it was not possible to have terms of trade data available for previous years. For Cuba, there are available data series for a longer period of time, but in order to keep a similar period of comparison with Vietnam, we only use the series as of 1980.³

All the series were differentiated for not being stationary and for not having a co-integration relationship. The estimation is carried out as a transfer function:

$$d \log \text{GDP}_t = \beta_0 + \beta_1 \times d \log X_t + \beta_2 \times d \log \text{EF}_t + \beta_3 \times d \log \text{TOT}_t + e_t \quad (7)$$

Equation (7) provides the short-term elasticity associated to each variable of the model. The β_j provide the contemporary effects of each indicator on the annual GDP growth. The econometric results of the transfer function estimated for Vietnam and Cuba are summarized in Table 5.

Table 5 shows that the BPCG model achieves a better fit of Cuba's GDP growth (57%) than Vietnam's (32%). Additionally, Cuba's estimated elasticity for exports and external financing (FDI and other capital inflows) are higher. However, in both countries these two variables are statistically significant. The presence of balance-of-payments or foreign exchange constraints, on the GDP growth of Vietnam and Cuba, is confirmed.

Terms of trade is not a significant variable in any of the two countries. There is no evidence found that international relative prices have a significant effect on GDP growth.

Table 5. BPCG model estimate.

(Dependent variable: $d \log \text{GDP}_t$)	Vietnam 1990–2012	Cuba 1980–2013
$d \log X_t$	0.105** (0.043)	0.415** (0.067)
$d \log \text{EF}_t$	0.014** (0.006)	0.161** (0.050)
$d \log \text{TOT}_t$	-0.048 (0.048)	0.040 (0.052)
Constant	0.054** (0.006)	0.011 (0.008)
LS95	0.020* (0.011)	
Adjusted R^2	0.32	0.57
F statistic	3.51	15.23

Note: The numbers in parenthesis correspond to the standard error.

*significant at 10%; **significant at 5%.

Source: Author.

The two models have white noise errors. The only problem encountered was the instability of the parameters on the Vietnam model. Statistical tests showed a structural change in 1995 with a positive effect on GDP growth. Therefore, it was necessary to include an intervention variable of the type level shift (LS95). About this time is when the favorable impacts associated to ending the US embargo on Vietnam and to its entrance to international financial institutions takes place. That is why this structural change could be related to a greater Vietnam openness and integration into the world economy during the mid-90s, which would have added 2% to GDP growth as of that date, according to the estimated coefficient for variable LS95 (Table 5).

Thus, an added value of the estimation of this dummy variable is that it can provide some clues to the effect it would have on the growth of the Cuban economy, a future ending of the US embargo and a greater integration to the international financial institutions.⁴

A new calculation of contributions to GDP growth is shown in Table 6. For this, each variable's annual average change is multiplied the by estimated elasticity.

The contribution results, calculated on the estimated elasticity of the BPCG model, lead us to sharpen up the conclusions we had previously obtained. The biggest change is due to export elasticity for Vietnam, which is a quarter of that estimated for Cuba, and this reduces its contribution on the GDP growth in Vietnam and increases it for Cuba. During the first six years of reform, the exports contribution to GDP growth in Vietnam was 3.1%, higher than the value of 2.5% on the early years of the current Cuban reform. But in subsequent years, the exports contribution to economic growth in Vietnam is reduced to 1.7% in the 1990s and to 1.2% in the 2000s. International openness since 1995 provides an additional 2% to the Vietnam GDP growth.

External financing has a negative contribution in the first years of reform (as in Cuba) and thereafter is very close to zero. Figure 1 shows the fall of net external financing to Vietnam and Cuba after the disappearance of the USSR and the higher volatility in the former. The biggest adjustments in Vietnam occurred in 1999 and 2000. The growth of FDI was abruptly interrupted after 1996 because of the slowdown

Table 6. Contribution to GDP growth according to the BPCG model.

	Cuba 2008–2013	Vietnam		
		1987–1992	1990–1999	2000–2009
Export (X)	2.5	3.1	1.7	1.2
External financing (EF)	-1.0	-0.2	0.0	0.0
International openness (LS95)			2.0	2.0
<i>BPC contribution</i>	1.4	2.9	3.7	3.2
<i>Other factors</i>	1.4	2.7	3.7	4.1

Source: Author.

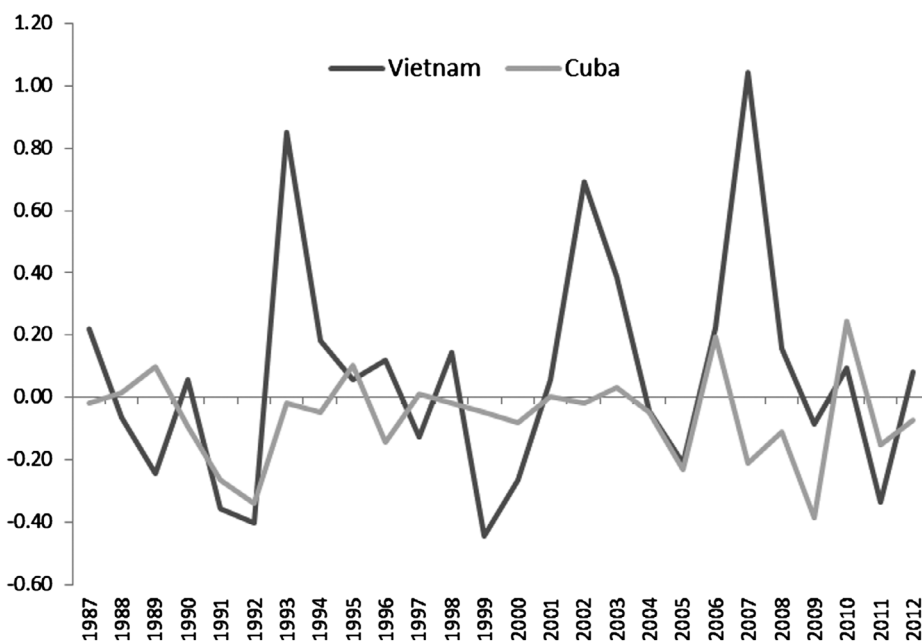


Figure 1. Net external financing.

in the economic reform process and the 1997 East Asian crisis (Jenkins 2006). In Cuba, 2009 was the year of greatest contraction of external capital inflows due to domestic financial crisis. In this year, foreign debt payments were stopped, Cuban banks froze foreign investors' bank accounts and the Cuban convertible peso lost its convertibility (Vidal and Pérez 2014).

In both countries, the annual average growth rate of net external financing approaches zero and that explains its low contribution. It is expected that the contribution of external financing tends towards zero when considering longer periods, as a current account deficit cannot be maintained indefinitely.

As a whole, for the Vietnamese economy the BPCG model variables plus the dummy contribute 3.7% to GDP growth of 7.4% in the 1990s, and 3.2% out to 7.3% growth in the 2000s. In both decades, other factors not related to the balance of payments would have a rather high contribution of 3.7% and 4.1%, respectively, (Table 6).

This would indicate that exports account for part of the differential between Cuban and Vietnamese GDP growth in the early years of reform, but thereafter greater international openness and other factors not directly related to the balance of payments have a greater impact. Some of the elements that may be behind these “factors not directly related with the balance of payments” are assessed below in Section 4.

Returning to the low estimated coefficient for exports in Vietnam, the equation (6) of the BPCG model shows that exports elasticity is bounded by the income elasticity of imports demand (ε), namely, by dependence of the economy on imports. Shown in equation (6) that if ε increases, being in the denominator, the parameter associated with exports is reduced. To the extent that Vietnam opened its economy to international capital and trade with the rest of world, exports grew but also increased dependence on imports (higher ε). This is reflected in a smaller multiplier effect of exports on GDP growth.

To a large extent this could be explained by multinational manufacturing companies positioned in SEZs of Vietnam. These zones have created jobs, fiscal revenues, and allowed greater integration into the world economy, while explaining much of the dynamic Vietnamese export growth. However, its linkages with the entrepreneurial national system seem to have been weak, i.e. have maintained a high dependence on imported inputs, thereby reducing the multiplier effect on the economy.

Other studies also cast doubt on the multiplier effect of exports and FDI in the Vietnamese economy. Bagnai et al. (2013) found similar results in their estimates with the BPCG model. They evaluate that the multiplier effect of exports in Vietnam is hindered by its high appetite for imports mainly coming from Asia. The paper concludes that this evolution is consistent with the pattern of economic integration in East Asia, where countries like Vietnam joined the international production networks organized by transnational companies.

In a study with a different methodology, Jenkis (2006) found very limited effect of FDI on employment. Foreign investors in Vietnam have created very limited local linkages since they import most of their inputs (63.9%). The author concludes that there is evidence of crowding out of local firms, and of rationalization by state-owned enterprises in response to foreign competition, which in turn tends to reduce employment. The paper remarks that most of Vietnamese labor force continues to be in the agricultural sector and in services where FDI has been minimal.

In another study for Vietnam, Anwar and Nguyen (2014) found that the impact of FDI and FDI spillovers on total factor productivity of Vietnam’s manufacturing firms varies across regions. That effect depends on regions’ absorptive capacity. Regions with better technology, stock of human capital, and a relatively higher level of financial development gain more benefits from FDI spillovers.

4. Other factors not directly related to the balance of payments

4.1. Institutional factors: the speed of reform and resistance to change

In all respects the Vietnamese reform seems much more aggressive than the Cuban one in terms of speed and depth. The Cuban government has opted for a sequence in which an experiment is done first, the results are checked and adjusted, and the tested project is then generalized by the creation and adoption of the legal framework. The test sequence and generalization makes the Cuban reform process rational, but slow.

One of the main dilemmas of the reform process is the speed of change: on the one hand, the government has a preference for gradual reforms, but on the other, the

historic revolution's generation does not have the time to implement a gradual reform taking into account the need to achieve positive results in the short-term helping to promote consensus around reform.

Extreme gradualism and no significant result, add more uncertainty to a reform which is driven by a generation of politicians who have failed to enable power transition to the younger generations. Neither has managed to consolidate institutions to ensure the continuity of the changes.⁵

The tempo for updating the Cuban economic model has been slow because of the fear that drastic changes could produce a reform's collapse if state enterprises are exposed to a hasty transformation. One option that the Cuban government has not considered is to undertake a momentum reform of two speeds, slower in the state sector and faster in agriculture, cooperatives and all the emerging private sector of small and medium scale.

Certainly, the structure of the Vietnamese reform favored undertaking a steady but accelerated reform, which at times could even implement measures of "big bang" style. The state sector in Vietnam was always smaller than in any other of the former socialist economies. The large-scale state enterprises were only a small part of its economy.

Dollar (1993), Perkins (1993), and Riedel and Comer (1995) agree that the structure of the Vietnamese economy was convenient for responding to "big bang" liberalization. It is easier to make a market system work when small units are in the majority. Farmers, households business, and small industries can adjust their method of operation to market forces much more easily; they are natural net-income maximizers. They have less to learn when the overall economic system converts to market principles, while big industries need more time.

Vietnamese reform was, of course, the result of a political process where contradictions, power struggles, and ideological discussions existed. But it seems that Vietnam had less resistance forces to the changes, than Cuban's has today.

Resistance to Raul Castro's reforms can be recognized from various sectors of the Cuban society. State's unemployed workers, retirees, and families depending on government subsidies, especially pensioners, seem to integrate the most vulnerable group. On the values and beliefs of much of the population (whether or not political leaders or party members) weigh 50 years of a system with full employment, generalized subsidies, and free social services, benefits that the Cuban people are afraid to lose. The Vietnamese population had fewer benefits to defend, and this could explain the less significant resistance to change (Yamaoka 2009). It is also more difficult to develop institutional transformations after 50 years of living under the same rules and ideology against the market and private sector. On the contrary, Vietnam had a recent past of capitalism in the southern half of the country and was therefore better prepared to adjust to market reforms.

Another form of resistance to Cuba's reform is taking place on what has been termed as "the bureaucracy". In Cuba, the general final government expenditure accounted for 34.7% of GDP in 2008, whereas in Vietnam it accounted 7.8% in 1989 and 6.1% in 2008. With a large state sector, there is more room in Cuba for rent-seeking behavior and resistance from the bureaucratic sector.

4.2. International insertion

The Vietnamese reform, compared to Cuba's, not only has a bigger growth rate, but further diversification and reduction of external vulnerability. In this sense, one of the first advantages for the Vietnamese reform is that it began before the dismantling

process of the socialist block and hence, the country had time to build up enough inner strength for economic growth which allowed cushioning the effects of the fall in trade and support from the Soviet Union. The Cuban GDP contracted 35% from 1990 to 1993 due to the breakdown of the socialist block, while the Vietnamese GDP slightly decelerated, but remained on the track of positive growing.

By the time of the Soviet Union's disappearance, Vietnam already had achieved a major diversification of its hard currency income sources, in part because it found important oilfields, but also due to rapid results yielded by the agricultural reforms. Vietnam not only began its reforms before the Soviet Union fell, but used the soviet aid to support the cost and adjustments of the reforms (Dollar 1993; Perkins 1993).

A second difference is that the Vietnamese government did not replicate in the future the kind of relationship it had with the socialist block. From the 1990s on, the Vietnamese growth has been resting on increasing productivity, foreign investment inflow, and the integration to the international value chains based upon marked relations.

During the 90s, the Cuban economy obtained significant progress on the liberalization and diversification of its markets. However, during the 2000s, the landscape changed with the rapprochement to Venezuela. Special financial and commercial relations were concentrated on Venezuela and a series of policies discontinued and in some cases reversed the 90s' reforms.

The problems now facing the Venezuelan economy are also responsible for low growth in Cuba's GDP. Currently, the goods trade with Venezuela accounts for 40% of the island total exchange, well above the second place of China with 12.5%. Nevertheless, the data show that the Cuban GDP dependence was higher with the former Soviet Union than it is compared to Venezuela. Before the Soviet debacle in 1990, commercial relation with the former Soviet Union represented 28.2% of the GDP; while at the present, with Venezuela, this percentage means around 15%. This suggests that a breaking off of the linkages with Venezuela should have a noteworthy negative impact on the Cuban economy, but less that it was during the 90s after the crumble of the Soviet Union.

Given the new tone in bilateral relations and the measures announced by the US government, favorable impacts are expected. Until the embargo is completely lifted, companies based in Cuba won't be able to export goods and services to the USA, but with the new changes in the US policy, this day seems to come closer, which multiplies the potential of doing business in Cuba. Now that the US government took Cuba off its list of "terror-sponsoring nations" the financial cost and risk of maintaining links with the Cuban economy would be reduced. If finally the US embargo is lifted, the possibilities of international insertion will multiply, as it happened in Vietnam, favoring even further the GDP growth.

In the short run, the way in which Cuba's GDP growth will be most favored by the new measures is through investment. This effect will be intangible to the measures announced by Obama because it will not come directly from the US trade and investment. Rather, it will be based on the signal the re-establishing of the USA-Cuba relations sends to the international community. The optimism awakened by that signal among businesspeople could propel foreign investment on the island.

Just a few weeks after President Barack Obama announced a policy change towards Cuba, Cuba Standard (2015) conducted a Business Confidence Survey to a random sample of 100 businesspeople connected to the Cuban economy. Half of respondents (50.5%) said that their company has increased its intentions to invest in Cuba, 46.2%

say that their intentions to invest remain the same, while only 3.2% said that intentions have decreased.

Survey takers were also asked to mark the most relevant obstacles to developing and expanding their business in Cuba. The three factors that were selected by most respondents were government bureaucracy (62.2%), excess of regulations (49.5%), and guarantees and legal procedures (43.4%). None of the three factors refers to clear economic problems, but rather to the quality of institutions in the Cuban system. Since the majority of institutional transformations will be happening gradually, as has been the case with most areas of the reform, most probably the economy will indeed benefit from the new international scenario, albeit well below the potential of opportunities that are opening up.

5. Conclusions

The differential between the economic growth of Vietnam and Cuba during the first six years of reform is 2.9% in favor of Vietnam. The differential increases up to 4.5 and 4.6% when compared with the average growth rates achieved by the Vietnamese economy during the 1990s and the 2000s.

When the evolution of the different sectors that make up GDP are confronted, all without exception have had higher growth rates and higher accounting contribution in Vietnam. The same applies to all components of GDP on the demand side, highlighting exports first and investment second. The process of opening up to international capital inflows has been crucial for increasing Vietnamese exports and investments.

Once the BPCG model has been estimated, the significant effect of the balance of payments constraints on growth for both countries is confirmed, but the elasticity associated with exports is lower in the Vietnamese case. In effect, exports have presented an incredible dynamism in Vietnam with rates of double-digit growth, but its multiplier effect on the economy has been low. In Cuba, the elasticity is higher, but the growth in exports has been very poor, having only grown 5.9% on average per year between 2008 and 2013.

Therefore, it is confirmed that Cuba in order to accelerate growth should boost exports and by these means relax the foreign exchange constraints that limit the expansion of its economy. It requires international capital, as Vietnam did, but insofar as to achieve a more integrated national business system with foreign investment, the multiplier effect of exports on GDP will stay higher.

The Vietnam growth can be explained not only by its export success. The reform also managed to reduce external vulnerability and accelerate changes. International openness, which included the end of the US embargo, and institutional factors, also explains the differential of results.

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Notes

1. For a lengthy description of the current reform in Cuba one can see the text by Mesa-Lago and Pérez-López (2013).
2. Vietnam is member of the IMF since 1956.
3. Another drawback is that the use of larger series in the BPCG model estimation for Cuba introduces parameter instability (Vidal and Fundora 2008).
4. See Feinberg (2011) for an analysis of Cuba's possibility of becoming a member of the IMF and other international financial institutions.
5. For a more extensive analysis of the Cuban reform from an institutional perspective one can see the text by Alonso and Vidal (2013).

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