



Local Capacity Development: The Key to Benefiting from Globalization and Reducing Unemployment in the Dominican Republic

José G. Caraballo-Cueto



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José G. Caraballo-Cueto
GFDD/FUNGLODE FELLOW

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Foreword

The Global Foundation for Democracy and Development (GFDD) in the United States of America and the Fundación Global Democracia and Desarrollo (FUNGLODE), headquartered in Santo Domingo, Dominican Republic, are dedicated to promoting research and awareness in areas crucial to the democratic, social and economic, sustainable development of the Dominican Republic and the world. The two think tanks organize meetings and educational programs as well as generate studies and publications that contribute to the development of new perspectives, searching for innovative solutions and creating transformative initiatives.

GFDD and FUNGLODE are honored to present the publication series RESEARCH AND IDEAS. The series includes research papers, articles, speeches, and keynote addresses that discuss critical issues of the contemporary world from national, regional, and global points of view.

These selected works present scrupulous analysis, introduce innovative ideas, and transmit inspiration. We hope they will contribute to a better understanding of the world, empowering readers to act in more informed, efficient, and harmonious ways.

Natasha Despotovic
Executive Director, GFDD



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Preface

The promotion of the economic development of the Dominican Republic is an integral part of the mission statement of Global Foundation for Democracy and Development (GFDD), and the production and publication of research and scholarship aimed at influencing public policy on economic and social development continues to play a critical role in fulfilling this mission. This report, prepared by Dr. José Caraballo, 2012 GFDD Fellow and graduate of the PhD Program in Economics of the New School for Social Research, examines unemployment, foreign investment and trade balance trends in the Dominican Republic and their effect on GDP growth and the Dominican Republic's participation in the global economy. It analyzes the factors behind the Dominican Republic's recent steady annual GDP growth rate of 5%, and calls on the government to promote entrepreneurship and the creation of more small and medium sized local businesses to increase production and exports, create jobs and reduce price levels, thereby encouraging re-investment in the local economy.

As a GFDD Fellow, Dr. Caraballo conducted his field research in the Dominican Republic for four weeks during the summer of 2012. During that time, he met with a number of advisors from different sectors of society and made visits to key economic actors in the country, including the Central Bank; the Center for Exportation and Investment; and the Ministry of Economy, Planning and Development, among others. His research methodology consisted of the examination of primary and secondary sources, an extensive literature review, examination of data and trends from the Dominican Republic and other countries and in-depth interviews with economists, government employees, international observers, private sector participants, academics, representatives of non-

governmental organizations and other experts intimately acquainted with the topic.

GFDD Fellows contribute to the growing body of research of the Global Foundation for Democracy and Development (GFDD) on matters of international concern that directly impact the Dominican Republic. Established in 2009, the Fellows Program provides opportunities for M.S., M.A., and Ph.D. candidates to conduct high-level research in the Dominican Republic on topics related to sustainable development. Throughout their fellowships, researchers work in close coordination with GFDD staff members, national academic advisors, and their university professors. GFDD facilitates the pairing of fellows with national academic advisors, and provides them with guidance in terms of the content and scope of their research, as well as operational and logistical support, access to interpretation and translation services, and contact with a multitude of national stakeholders that contribute to the development of their investigations.

It is our hope that this report on local productive capacity will ignite a dialogue around strategies to increase the Dominican Republic's production for export and participation in the global economy, promoting microenterprise, job creation and increased opportunities for all citizens to participate in both the local and global marketplace.

Mandy Sciacchitano
Fellows Program Manager

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Summary

Most international trade theory is based on the premise that countries engaged in free trade each benefit from the ability to import and export to one another and where the cost of goods being imported into any one country is offset by the income generated from that nation's products being sold abroad.

For several decades now, the Dominican Republic has been faced with a persistent negative trade balance, despite exports of goods which, in 2011, represented approximately 16% of the country's GDP. This can be an indicator of a low Dominican production capacity, which is further exacerbated by the fact that almost 80% of all exports were the products of international firms operating in Free Trade Zones and, therefore, having minimal impact on the local economy.

The gap in the external accounts is filled by the tourist sector and by remittances received from Dominicans living overseas. It is not surprising that exports in goods and services produced by locally-owned and operated enterprises represent less than 20% of all Dominican exports.

While there is no denying the importance of the role external sectors play in the local economy, in order to maximize the gains from globalization, a country needs to generate income from transactions with the rest of the world. In other words, foreign investment is meant to complement, and not simply substitute, the growth of local capacity. This is exactly what occurred in the case of the "economic miracle" countries including Japan and South Korea – in the process of producing for their local economies, these nations actively sought to create a solid base of world-class companies which today transact business with a global customer base.

To achieve similar results elsewhere in the world, governments and all national sectors need to work in tandem to create synergies for stimulating entrepreneurship at every level of the economy. In

particular, it is critical to support and foster the growth of smaller enterprises as they represent the bulk of all employment (in the DR, small and medium-sized businesses account for more than 70% of all employment) and most large, well-recognized, firms themselves started out as small businesses.

Given the current structure of the Dominican economy, the annual GDP growth rate of 5%, globally considered to be relatively high, is not sufficient to affect the nation's high unemployment rates. As economic growth is occurring somewhat independent of job growth, fundamental improvements in infrastructure and standards of living, critical to the overall development of the country, are being continually delayed.

Our analysis supports the conclusion that economies with a high concentration of local producers face lower domestic unemployment rates and any improvements in the foreign trade balance serves to increase employment rates. If the Dominican Republic were to increase its own productive capacity, the result would, very likely, be an increase in the currently weak demand for labor (as reflected in the nation's high rates of unemployment and underemployment). An increase in employment would, in turn, have multiplier effects on the rest of the economy as incomes rise and profits get re-invested. This spillover effect would not be as evident with growth in the external sectors as these have historically loose links with the domestic economy itself.

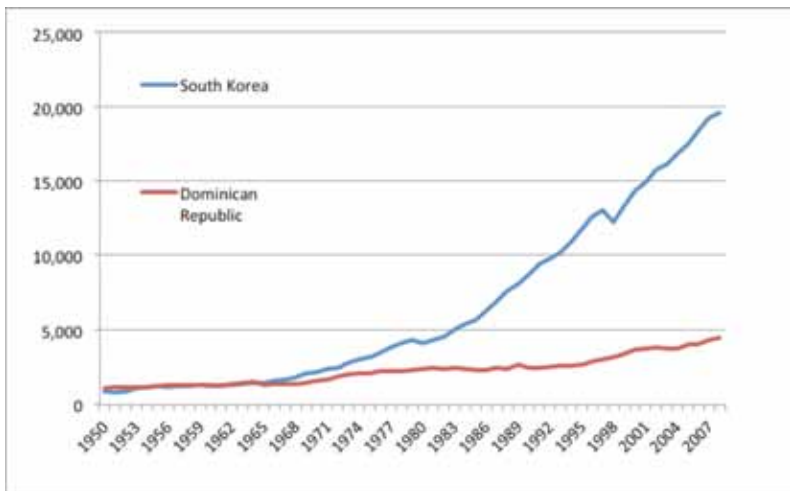
Finally, an increase in the number of local producers can reduce general price levels due to competition and the disruption, and eventual eradication, of the entrenched monopolies that currently control many of the markets within the DR.

Introduction

As a nation, South Korea is generally acknowledged to be a success story in developmental economics. Beginning in the early-1970s, and accelerating through the 1980s, the South Korean economy grew at a rapid pace. Due to the deregulated nature and openness of its financial sector, economic growth abruptly slowed in the mid 1990s with the Asian Financial Crisis, although the economy has since rebounded¹.

Interestingly enough, in 1950, the Dominican Republic (DR) had a larger GDP per capita than many of the so-called “Asian Tigers”, including South Korea (henceforth Korea) and Taiwan². But, as shown in Figure 1, in 2008, GDP per capita in Korea was four times larger than that of the DR. Similarly, in 2008, Taiwan had a GDP per capita quadruple the amount in the DR.

Figure 1. GDP per capita Dominican Republic and South Korea, 1950-2008



Notes: Constant 1990 Prices Geary-Khamis. Source: Maddison (2010)

1. The Dominican Republic itself pursues many similar neo-liberal policies and is well-advised to take note of the consequences as seen in the case of South Korea in 1997.

2. GDP per capita = Gross Domestic Product/ Population. Asian Tigers refer to Korea, Taiwan, Singapore and Hong Kong.

In many important ways, Korea and the Dominican Republic share very similar economic backgrounds. Both benefited from having preferred access to markets and demand in the United States (US); both were open to foreign investments and international trade; both had similar human capital resources in the 1960s (Rodrik, 1995); both were affected by political turmoil at different points in the last century (in the form of the Korean War and political instability in Korea, and military coups in the DR); and both suffered the negative consequences of colonialism. What, then, can explain the differences in how each nation has developed over the past 50 years?

One could argue that the Korean miracle is primarily due to geopolitics and the role the US played in its development. But, the Korean economy did not begin its rapid growth until the early 1970s, relatively long after the beginning of these political influences. Furthermore, it is worth noting that US influences alone are not indicative of economic growth as they can be found in many countries which remain underdeveloped, including the DR (Bogen, 1965; Morgenthau, 1967).

One of the most important differences between the two countries lies in the fact that in cases of countries such as Korea and Japan, there was a national priority placed on developing the country's own productive capacity, while the DR focused attention on increased production for export, rather than stimulating, and then locally fulfilling, domestic capacity (e.g. as early as 1969, the DR created Free Trade areas designed to attract foreign companies who were actively looking to cut expenses by setting up lower-cost operations overseas). Furthermore, while both Korea and the DR pursued policies designed to reduce their reliance on imports in the last quarter of the 20th century, only Korea took the additional step of requiring its firms to achieve quantifiable export levels. This ultimately led to the creation of several world-class Korean companies, while the DR pursued an inward-looking strategy that has produced only a handful of smaller, Dominican-owned multinational corporations. To quote Lall (2003):

Korea started with light industry, but protected, subsidized and intervened in various ways to deepen its industrial structure. It

directed (and often subsidized) credit to promote entry into complex technologies. It forced firms to raise local content. It restricted FDI and intervened in the technology transfer process to raise local capabilities. It created giant conglomerates (the chaebol) to lead its exports and technological push. It guided and promoted R & D and skill formation. It set up a massive technology infrastructure geared to the needs of selected industries. It ignored intellectual property rights to promote copying and reverse engineering (p. 293).

The Dominican Republic, on the other hand, focused on a “branch-plant” system of industrialisation, as did many other nations in the periphery according to Arestis and Paliginis (1999):³

Indeed, Multinationals Enterprises moved to those countries, but the industrialisation of the periphery in the 1960s and 1970s was a branch-plant industrialisation with no linkages with domestic capital and with no transfers of skills or technology... The periphery, in both cases [in the cases of the NAFTA and of E.U.], is dominated by a weak domestic manufacturing sector which could not withstand competition from the manufacturing sector of the core countries (p. 217).

Structural changes also played a major role in the development of the Korean economy (Taylor, 2005).⁴ For most of the twentieth century, the DR has focused on low value-added products, characterized by stiffer global competition and lower wages. In contrast, all the “Tigers” (Korea, Taiwan, Hong Kong and Singapore) actively sought out, and created niches, in high value-added sectors (Ocampo et al., 2009).

When taking all the above factors into account, the case of countries like Korea suggests that success in the world economy today requires a country to have both its own productive capacity and an industrial base focused on the creation of high value-added goods. Clearly, though it may not be possible to exactly replicate the experience of these countries, the need that each country looks for niches and creates its own solid productive capacity is undeniable. Rodrik (2007) summarizes:

3. Periphery refers to the countries outside of the core (as represented by wealthy nations). The concept of center-periphery follows the famous ideas first presented by Raúl Prebisch.

4. Structural change refers to a change in the composition of output. In this case, the structure changed towards high value-added sectors.

Simply put, countries that have benefited the most from globalization are those that did not play by the rules. By contrast, Latin America, which tried harder than any other part of the world to live by the orthodox rules, experienced on the whole a dismal performance since the early 1990s (p.5-6).

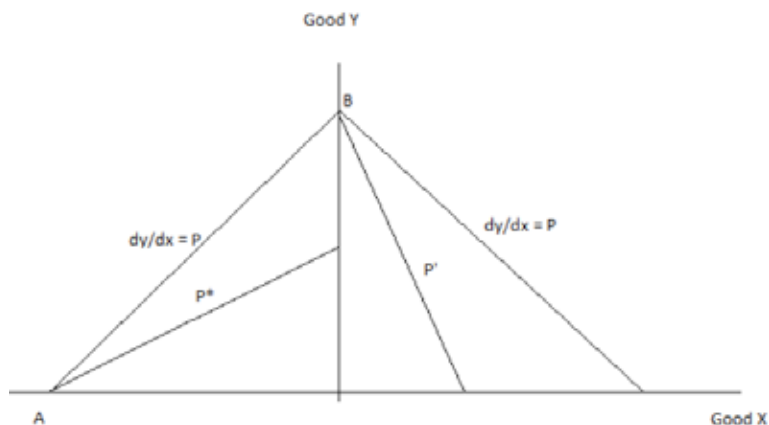
This book studies the Dominican economic model. In particular, it analyzes the impact of external sectors on the economy and the effect of economic growth on job creation and the labor market. The next section discusses the conventional justification for a Free Trade agreement and explains why such an agreement can be counterproductive if there are asymmetries in the productive capacity. The second section explains some theoretical aspects of the labor market and opens the analysis, in the third section, about the results of the current Dominican growth model: jobless growth with stagnant wages.

The Impact of International Trade

Theoretical Considerations

Any trade theory assumes that countries involved in trade have their own productive capacity, enabling them to be both consumers as well as competitive producers capable of generating profits from abroad. In the two-country Ricardian trade model, both countries are trading in autarky and both can export under Free Trade. That theory seems to be behind the rationale to sign the DR-CAFTA.⁵ Following is a review of the highly influential law of comparative advantage central to the Ricardian Trade Model:

Figure 2: Representation of the Ricardian-Trade Model



In Figure 2, when there is no free trade, P^* and P' are the slopes of the production possibility frontiers of country 1 and 2 respectively. Given that country 2 has a comparative advantage producing good Y, and country 1 producing good X, both countries are better-off under free trade if they specialize in what they do best (point A and B) and import products where they have a relative disadvantage. In this scenario, both nations are able to sustain domestic employment in existing industries while enjoying the benefits of consuming lower-priced goods as represented by slope P.

5. DR-CAFTA refers to the Dominican Republic and Central America Free Trade Agreement with the US.

There are a number of crucial assumptions inherent in the above model that are not immediately apparent including: (a) an environment characterized by perfect competition, meaning there are no multinationals wielding monopoly power nor having any other advantages over small competitors; (b) an assumption that real wages equals productivity, a condition that does not apply to many countries, including the DR (below we will see that productivity increases while real wages decrease); (c) an assumption of full-employment irrespective of trade, meaning that displaced workers of a defunct industry can easily and immediately find work in newer, more specialized industries – a situation which does not occur in reality as will be illustrated below; (d) capital and labor factors are homogenous, implying no mismatch of skills, and that equipment, and other physical capital, used in one sector, can be easily reallocated to any other sector (Griffin, 2010); (e) balanced trade conditions (which does not apply to any of the developing countries in the DR-CAFTA), and, finally; (f) each country has its own productive capacity and is able to be successful in at least one of two sectors.

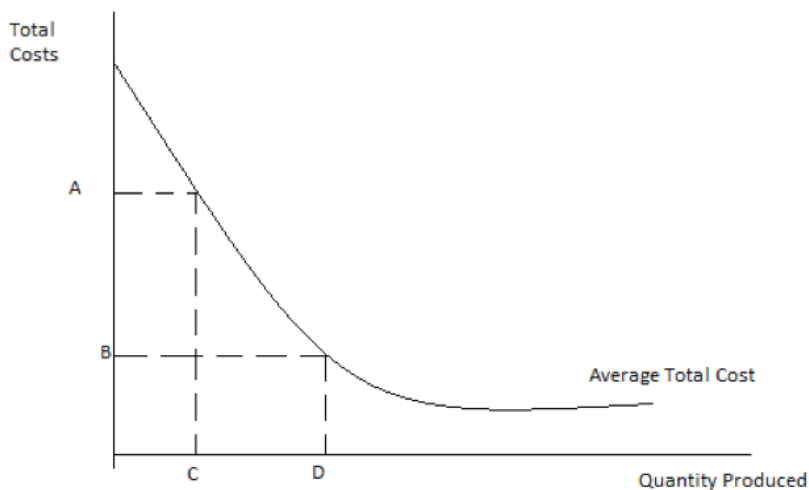
This last assumption is, perhaps, the most problematic of all. Hamilton (1791), List (1856) and more recent authors like Chang (2002) and Greenwald and Stiglitz (2006), contested this last assumption by arguing that premature free trade will adversely impact a country with infant industries. Khor (2003) states:

There is now an emerging trade-policy paradigm that stresses the importance of addressing other factors (such as the need to tailor the rate of import liberalization to the increase in competitiveness of local firms, and the need to increase the supply-side capacity of local firms in order to realize the country's export potential). Failure to address these needs can lead to serious problems of domestic economic dislocation and worsening trade imbalances, should a country liberalize its imports (p. 527).

Now, let us look at a simple representation of trade under economies of scale.⁶

6. "Economies of scale" refers to decreases in total average cost that arise from increased levels of production.

Figure 3. Simple Representation of Trade with Economies of Scale



In Figure 3, if a country such as the US has thousands of multinational corporations producing under conditions of economies of scale [point (D, B)] while the Dominican Republic has infant industries that do not enjoy the same cost benefits [e.g. producing at point (C, A)], it is clear from the outset that the US firms will prevail in free trade. Under these asymmetries, the best policy for the Dominican Republic is one which protects and strengthens its local industries (by, for example, pursuing South-South trade with Haiti, and other countries with similar productive capacity, to bolster infant businesses) and pushing these industries to produce at point (D, B) thereby enabling them to compete under equal conditions, and not run the risk of being displaced, should a foreign company enter the market.

Some argue that international trade has benefited China and, while that may be true, the type of trade that China transacts is often far from “free”. In fact, China did not become a member of the World Trade Organization until relatively recently, in 2001.

The previous analysis is from the productive capacity side. From the consumers’ side, there cannot be price gains from trade if trade

itself exacerbates market concentration. In the next subsection we will see empirically that, under such conditions, prices, at the very least, remain at the level they were previous to free trade.

As with any major undertaking, a Free Trade agreement should be analyzed in terms of its overall benefits, and not by the pros and cons of its individual components: exports might increase (although in the case of the DR-CAFTA, they did not) but the role imports play, and their subsequent impact on local productive capacity, must also be taken into account. For example, while importers themselves might benefit from lower-cost imported goods, those savings may not be passed onto consumers in the absence of competition in the local marketplace.

Empirical Analysis of the Trade Pattern in DR

In the empirical arena, the DR did not generally experience gains from free trade in the form of lower prices. The absolute level of the Consumer Price Index increased by 48% from 2006 to 2010, which is similar to the increase between 1996 and 2000, where the price level increased by 49%. This is also the case for sectors where one might surmise that free trade can offer price gains. For instance, prices in the Food, Beverages and Tobacco sector increased by 23% from 2006-2010, while in the 1996-2000 period, it increased by 16%; Footwear and Apparel prices increased by 22% after free trade, compared to 8% in 1996-2000; Furniture and Accessories prices increased by 14% in the later period vis-à-vis 19% in the previous one. In general, the Free Trade agreement did not create a reduction in prices.

However, the former minister of Industry and Trade, Fadul (2010) maintains: “The Free Trade agreements, as an instrument to support the industry and the trade in our countries, represent important and true opportunities for the development and for the economy” (p. 10). It is well-known that economic growth is not equal to development and below we will see that, despite isolated cases, the DR-CAFTA did not, in net terms, create the improved economic position proponents of North-South agreements seem to assume it did.⁷

Further arguments to include the DR in the CAFTA arose from the disproportionately large volume of exports headed to the US (about 68% in 2006). However, a large percentage of those exports were not from Dominicans, but from US and other foreign companies that were already producing in Free Trade zones before the DR-CAFTA. In fact, in their absence, neighboring Haiti is the best trade partner for present-day DR.

Cigarretes, ferronickel, underwear and sugarcane are among the major Dominican products exported to the US by non-Dominican enterprises (USITC, 2012). Unfortunately, none of these can be considered important industries. There is a declining demand for cigarettes due to

7. Development refers to the overall improvement in well-being including in health, education, economic opportunity, social stability, social equality, etc.

changing consumer habits and aggressive public policy to reduce their consumption; ferronickel is a low value-added commodity, as is the case with most primary products; the underwear industry faces major competition with Mexico and China; and sugarcane is another low value-added product that receives a trade advantage that is considered unfair due to the fact that it is highly subsidized in the US and in other OECD countries (Khor, 2003). Meanwhile, the US has hundreds of thousands of products flooding the DR markets, enabling the repatriation of export profits and pushing the trade balance heavily in the favor of the US.

Figure 4. Trade Balance in Goods and Services, 1960-2011



Notes: Trend Line is polynomial. US constant dollars as of 2000 Source: World Bank (2012)

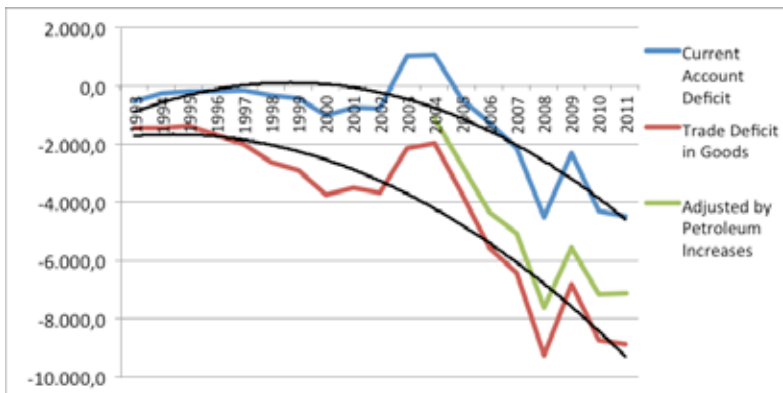
It is interesting to note that the import substitution program in place from 1968-1982 seems to have improved the trade balance whereas the following period is characterized by a marked, negative trend. There was a momentary recovery due to the high devaluation of 2004 that increased the price of imports which, in turn, stimulated exports and helped counteract the local financial crisis at the time. However, the DR-CAFTA deepened the trade balance against the DR.

The increase in the price of petroleum has also played a role but a closer examination will show that it did not have a significant impact

on the trade balance. Imports of petroleum and its derivatives, as a proportion of total imports, increased by 10% between the periods 1994-2002 and 2004-2011. By removing this increase from the analysis, the trade deficit in goods remains as shown in Figure 5. Furthermore, the price and consumption of the barrel in 2006 was at a similar level in 2009, when the trade deficit was larger.

Observa-RD (2010) points out: “The opinions of experts from the World Bank and other specialists is that it is highly possible that the DR-CAFTA will improve the growth levels of the participating countries, due to the positive effects that it should generate on trade and investment” (p.33). However, if a North-South Free Trade agreement is worsening the trade balance (the net effect being a decrease in GDP as import levels rise at a faster rate than exports), the agreement is clearly unable to play a role in improving the jobless growth already taking place in the Dominican economy. It is not surprising, therefore, that such policies and advice from the World Bank have been widely criticized by notable international economists, including 2001 Nobel Prize recipient, Joseph Stiglitz (Stiglitz, 2002).

Figure 5. Trade Balance in Goods and Current Account Movements, 1993-2011



Notes: the black line represents the polynomial trend. In US current dollars. Data on 2011 is subject to revision according to the Central Bank. Current account balance = trade balance + factors-income balance (payments, dividend, etc.). 10% of total imports are subtracted to remove the impact of petroleum on the trade deficit.

Figure 5 shows the chronic and structural imbalance of the DR trade balance and the exacerbating effects of the DR-CAFTA. From 2006 to 2011 the trade deficit in goods increased by 60% and the current account deficit by 250%. Clearly, the Dominican Republic was not prepared to compete in a North-South Free Trade agreement and it is questionable whether the DR should have entered into that agreement in the first place. But the DR is not alone - all the countries participating in the DR-CAFTA currently have a negative trade balance with the US.

The US may also have a large trade deficit but that is to be expected given the US currency is used as reserves throughout the world, and dollar holders tend to prefer to invest those dollars in US assets, rather than in US output. In fact, some economists are of the opinion the trade deficit does not represent a critical problem for the US as it is financed with dollars that the US itself prints. Moreover, the deficit represents a very low percentage of the US GDP, being around 3% in 2012 (BEA, 2012).

The DR, however, is not in the same position, as imports are paid in US dollars, not in Dominican pesos. As a consequence, the nation suffers from persistent deficits in its current-account balance. As Ocampo (2011) explains, current-account deficits represent a source of vulnerability to developing countries lacking the resources to adequately weather external shocks to their economy.

The Dominican trade deficit in goods represented almost 16% of the nation's GDP in 2011. While most South American countries have a positive trade balance that accounts, on average, for 1.8% of their GDP, the Dominican Republic is closely following the negative trend of the Central American economies that have a trade deficit in goods and services of approximately 10% (ECLAC, 2012).

A large trade deficit implies that surpluses in some accounts have to be used to pay for imports, diluting the effect of profitable sectors in the local economy. For instance, in 2011, the USD \$3.2 billion that entered the DR as remittances from abroad, and the \$4.3 billion received from the Travel sector, were not enough to offset the

\$8.9 billion trade deficit in goods. This clearly shows that the DR is importing more than what it is exporting. Given the DR's status as a developing country without, by most measures, any significant obstacles in remaining price-competitive in the global economy, the country's sustained negative trade balance clearly reflects a low local productive capacity.

In 2009, 76% of exports in goods and services came from the Free Trade Zone and Travel (comprised mostly by tourism) sectors, both of which are markets dominated by foreign capital. This is consistent with the data from the preceding eighteen years: an average of 80% of all exports in goods and services originated from foreign companies. Nonetheless, our intention here is not to minimize the importance of foreign investments. Rather, we wish to emphasize that foreign investments should complement, and not substitute, domestic capacity. The low local productive capacity of the DR is reflected in the pattern of trade: of every dollar exported in goods and services, less than \$0.20 were from Dominican firms.⁸ Exports from small and medium-sized businesses appear to play much too minor a role in the economy as a whole.

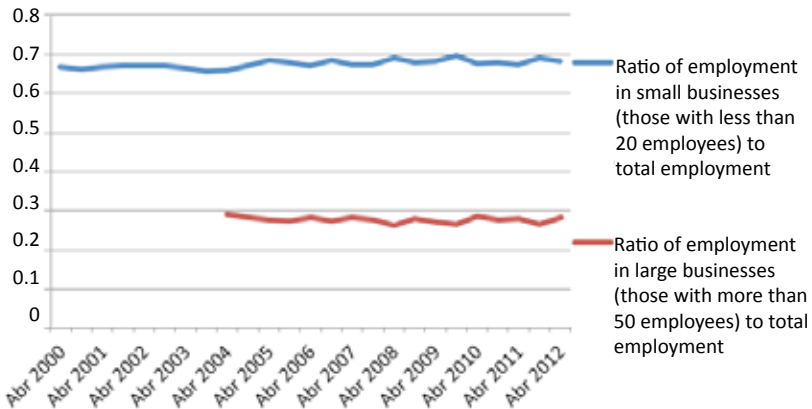
Ironically, without any type of formal agreement, trade with Haiti has increased even in relative terms. In 2006, for example, only 4.5% of Dominican exports were headed to Haiti, while in 2010, that percentage rose to 13.2%. Even without taking into account informal exchanges, Haiti is unquestionably the most important trade partner for Dominican exports - it is currently the DR's second largest trading partner, importing more from the DR than the combined total of all the nations in the European Union.

Although its role is downplayed by both Dominicans and the Dominican government, Haiti is, in actuality, the optimum trade partner for the nation. If the Dominican Republic were to expand its current productive capacity, it could further increase its exports to Haiti.

8. Dominican-owned firms represent the minority of businesses operating in the Free Trade zones. This is largely offset by exports of foreign firms located outside of the Free Trade areas or in the tourist sector.

Haiti demands a wide variety of products that the DR could readily supply, including clothes, meat, sugar, soy oil, wheat flour, and baked goods. In view of the fact that a high proportion of all Dominican exports to Haiti are the products of infant industries (Martínez, 2012) that would directly benefit from expanding into new markets, the Haitian market should be one that local exporters in the DR should actively pursue. It follows that if exports to Haiti were to increase, local employment will also rise as smaller Dominican firms are historically the ones that provide the bulk of all employment within the country (see Figure 6 below).

Figure 6. Employment by Company Size, 2000-2012



Source: Central Bank (2012)

As can be seen in the above illustration, while the DR-CAFTA, and the prospect of conducting business under free trade conditions, may have presumably resulted in an increase of large corporations establishing operations in the DR, the ratio of employment by large businesses did not increase. Instead, small and medium-sized firms (i.e. those with less than 50 employees, most of which are locally-owned and operated) accounted for more than 70% of total employment. This was found to be the case not just in the DR but in countries worldwide (Birch, 1987; Ghani et al., 2011). As the data suggests, a nation can more effectively increase employment rates by stimulating the growth of small and medium-sized firms over their larger counterparts.

Some Labor-Market Considerations

Full employment is one of the key elements necessary for development. Full employment assures that opportunities for finding decent jobs exist, that workers can have bargaining power to increase their well-being, and that inequality, crime and poverty rates all drop as standards-of-living rise. Taken in the context of the Chinese proverbial saying “teach a man to fish and he will eat for life”, full employment is a necessary condition to ensure that everyone can have the necessary tools and equipment to be able to “fish”.

Perhaps the most urgent developmental challenge facing the Dominican Republic today is the country’s high structural unemployment.⁹ As shown in the next section, despite very high rates of economic growth, the unemployment rate has never been lower than 12.3% - a figure which does not even take into account the nation’s exceedingly high rates of underemployment.¹⁰

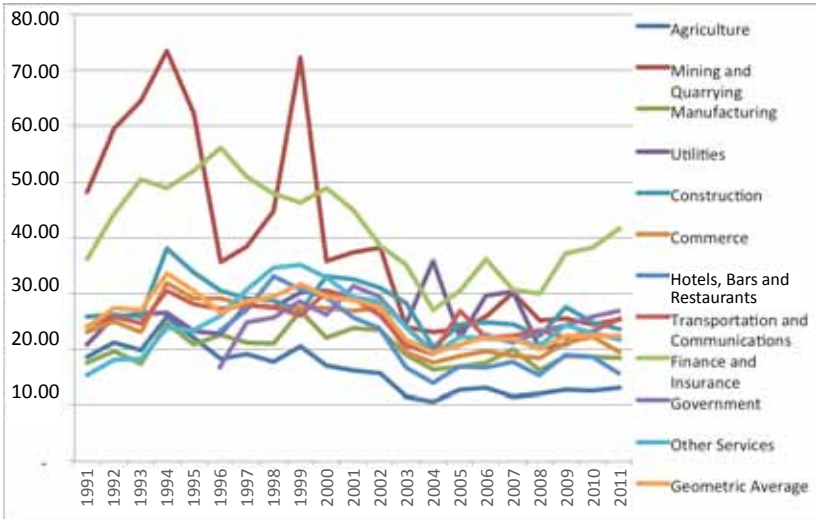
Let us first analyze the impact of widespread unemployment on an increase in real wages. We can expect that high structural unemployment decreases the bargaining power of workers and limits the growth in real wages.¹¹ The next figure shows the pattern in real wages in different sectors.

9. Structural refers to a long-term and persistent case and not to short-term dips and fluctuations.

10. Underemployment means to work fewer hours than desired and/or working below one’s qualifications. The lack of accurate estimates and data undermines a precise calculation. Real figures are derived by removing the effects of price increases. Nominal figures, on the contrary are affected by the growth in the price level.

11. Real figures are derived by removing the effects of price increases. Nominal figures, on the contrary, are affected by the growth in the price level.

Figure 7. Real Wage by Sector, 1991-2011



Notes: Includes both formal and informal sectors
Source: Central Bank (2012)

From 1991 to 2011, real GDP more than tripled. However, in real terms, the vast majority of the population was earning less in 2011 than in 1991 (i.e. as compared under the same price levels). The only workers that saw a marginal increase in salaries were those working in the public sector (Government) and those in Manufacturing. The remaining sectors saw stagnant, or decreasing, real wages, as most notably evident in the Mining and Quarrying sector.

This stagnation of average real wages contrasts with increasing GDP per capita which, in real dollars, grew 128%, from \$1831 in 1991, to \$4176 in 2010, and prompted the World Bank to reclassify the DR as an “upper-middle income country” in 2012.

The notion of a ‘trickle-down effect’, as sound as it may appear

in theory, seems to have no basis in reality.¹² The neoclassical “marginal productivity theory” points out that real wages increase monotonically with productivity. Based on that ideology, the path to higher salaries is via higher levels of productivity. But, in actuality, the theory rarely holds true, in either developed, or developing countries (Dew-Becker and Gordon, 2005; Sharpe et. al, 2008; Van Biesebroeck, 2011).

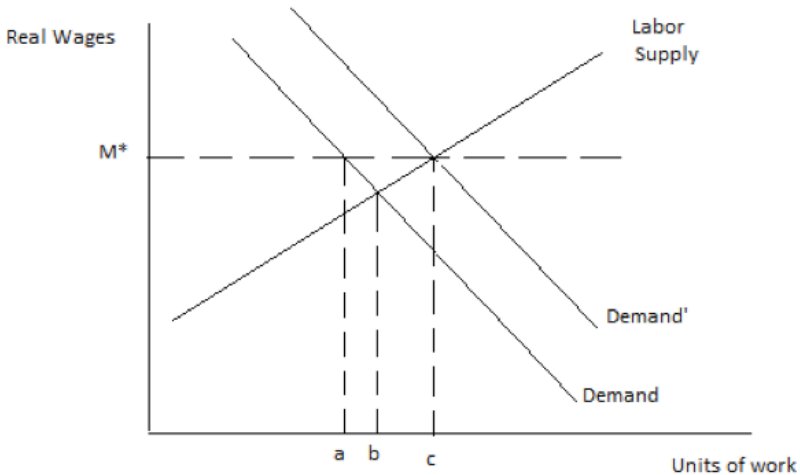
It is worth noting that the Dominican Republic possesses a remarkable record of productivity growth, higher than the average of Latin America in recent years, and even higher than that of productive countries such as Mexico and Brazil in the last 18 years (ECLAC, 2012). However, even when productivity grew, on average, by 2.2% in the 1996-2007 period, real wages remained stagnant (UNDP, 2010, p. 38). This, in turn, contributes to exacerbating economic and social inequality since some factors of production (e.g. labor) do not receive what they are worth, while other factors of production (e.g. capital) reap benefits by reducing the amount of workers needed per unit produced. Stiglitz (2011) describes this situation as proof of the weakening of the marginal productivity theory, “a theory that has always been cherished by the rich”.

Trickle-down economics contests the belief that there is no need for labor standards, including laws governing allowable minimum wages, as it assumes that an automatic and invisible hand will insure that productivity and wages are justly matched. In the absence of any visible proof of this invisible hand, the minimum wage needs to be indexed to productivity gains.

12. Trickle-down is a term used to describe a theory which maintains that stimulating the growth of sectors, or individuals, at the higher levels of the economic ladder will generate gains that then trickle down to the rest of the economy, and to the society in general. The validity of the trickle-down effect has been strongly contested by academics and economists alike and, in the context of the Dominican Republic, we will see that the connection between production growth in certain sectors (namely the Free Trade Zones) and the rest of the economy, is negligible and explains why even Warren Buffett, arguably one of the wealthiest men alive today, has criticized the trickle-down theory (Buffett, 2011).

Neoclassical labor theory argues that labor institutions cause unemployment. Below is a brief overview of the causes of unemployment according to neoliberal ideology.

Figure 8. Neoclassical representation of the Labor Market



Notes: Point C represents full employment.

Under neoclassical theory, unemployment ($b-a$) is produced by M^* , the minimum wage, as it allegedly creates a floor which does not enable the hiring of workers at a “clearing” level (point b), in effect, a lower real wage.¹³ However, several objections have been made against this oversimplification.

First, this representation assumes perfect competition, which in the DR, as in many other oligopolistic economies, is highly implausible.¹⁴ If firms have market power, they will pay less and hire

13. Under economic theory, workers offer labor, as represented and tracked by “labor supply”, and businesses demand labor, as represented, and labeled, by “demand”.

14. An oligopoly refers to the existence of only a few companies operating within a given market. Perfect competition, on the other hand, implies a market where competition is at its maximum as evidenced by a large number of small producers, and other critical assumptions

fewer workers than what the clearing level point suggests (Manning, 2003). Second, in a country such as the Dominican Republic, why does unemployment remain high despite the existence of a large informal market with no minimum wage restrictions? Third, the below illustrated micro-founded derivation will show that unemployment and economic growth have an indirect association: where is this relation in the previous partial-equilibrium analysis? In other words, does a firm make hiring decisions solely on the basis of wages or also as a function of sales? If firms hire additional workers to simply take advantage of lower minimum wages, their productivity may drop if sales remain constant. Fourth, how can we be certain that the clearing level is not above the minimum wage in an oligopsonistic, and therefore, suboptimal economy? Fifth, as shown in Figure 7, we can see that real wages decreased on average 24% from 2000 to 2010, but unemployment increased from 13.9 to 14.3%. This clearly contradicts the neoclassical representation whereby a decrease in real wages increases employment. Sixth, where in the neoclassical representation are the feedback effects in aggregate demand produced by decreasing the real wage (i.e. by decreasing purchasing power)? Seventh, where are the effects of output composition in this partial-equilibrium framework? The production composition of the DR is biased toward absent capital with low linkages to the rest of the economy. Eighth, if 2001's Law #87 (that granted a marginal increase in social security) is one of the causes of unemployment, what explains the difference between the period 2007-2011, when unemployment averaged 14.7%, with a solid 5.5% GDP growth, while in the period 1996-2000 (before the reform), unemployment was higher (14.9%) with a higher GDP growth (6.9% on average)?¹⁵ Ninth, as Solow (1999) notes, this

including, but not limited to: the absence of any start-up costs for new competitors; the presence of perfect information (e.g. "know-how"); the absence of any benefits to be gained from expanding production; the absence of any one company capable of influencing prices; the absence of any economic profits. Oligopsony /monopsony are market forms where there exist only a few /one buyer (or, as in the above case, where there are only few companies hiring). Partial-equilibrium refers to an incomplete state that only takes into account isolated effects of a particular economic decision. General equilibrium attempts to take into consideration all the effects of an economic decision. Productivity is the contribution of each worker to total production.

15. An annual GDP growth of 3%, or higher, is generally considered indicative of solid economic growth.

representation is extended to include all types of labor institutions, but empirically those are not necessarily found to be at the root of unemployment (Howell, 2005).

Based on all of the above reasons, as well as others not discussed here, it is evident that high unemployment in the DR is not produced by any minimum wage requirements, or by other labor standards, but by a suboptimal labor demand due to a faulty growth path driven by misguided economic policies (e.g. by ignoring local entrepreneurs). As used here, “suboptimal” refers to a demand for labor that falls below the optimal clearing point C, attainable by the curve labeled ‘Demand’ in the previous graph.

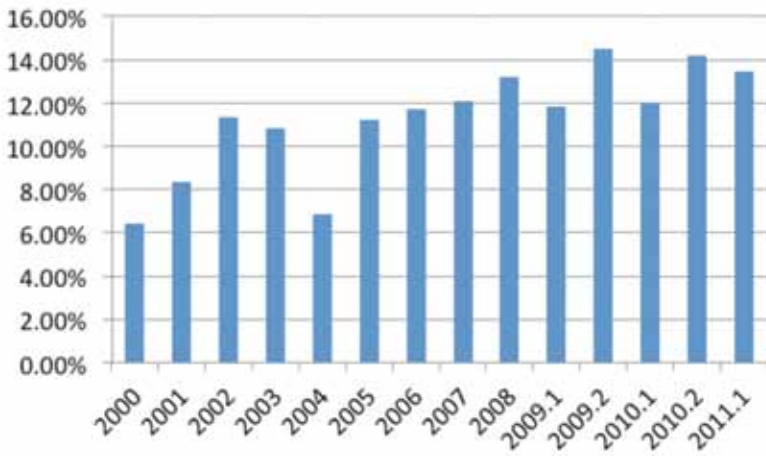
There are no empirical justifications that migrants are causing unemployment by replacing Dominican workers, as migrants tend to be employed in jobs that local Dominicans are generally not willing to undertake, including the harvesting of sugarcane and all manners of non-skilled construction work. One might argue that the decrease in real wages is the effect of the expansion of the labor supply caused by an influx of migrants, which presumably decreases the bargaining power of all workers. However, this theoretical argument does not appear to be supported by the data: in the 1996-2011 period, the decrease in real wages was higher (33%) in sectors such as Commerce and Hotels, Bars and Restaurants, than in sectors such as Agriculture (29%) or Construction (23%) where migrants, mostly Haitian, are concentrated.

The presence of Haitians helps the DR to be competitive in agriculture (as in the case of the sugar industry which, in the US, remains highly subsidized) and in construction, where their presence decreases the cost of housing. However, discrimination, and other human-rights violations, towards Haitians within the DR needs to be addressed, and has to be ended, for moral and economic reasons as there are significant benefits to be gained from increasing the purchasing power of a population that can contribute to the economy as both consumers and workers.

Additionally, the labor market prospects for women and young adults has to be improved for the benefits of development to reach all segments of the DR population. For instance, in the 2003-2004 financial crisis, the unemployment rate for women increased by 7 percentage points in the urban sector, while for men it actually decreased by 0.02 percentage points. Furthermore, the inequality in salaries is disturbing: even in the formal sector, women earned 19% less than men (COPDES, 2009). With this level of gender inequality, the poverty incidence in a country, where, as recently as 2011, 27% of all households were headed by a female (OMLAD, 2012), will be difficult to overcome.

According to the UNDP (2010), half of all young workers in the DR are employed in the informal sector and almost all of the remaining half are without salaries. What recourse do these vulnerable workers have? In the following figure, we see how the gap between the formal and informal sectors has widened, and how the informal sector seems to be acting as a cushion, or buffer, against chronic high unemployment.

Figure 9. Gap between Informal and Formal Employment, 2000-2011



Notes: Gap=employment in the informal sector minus those in the formal sector.
Source: Central Bank (2012)

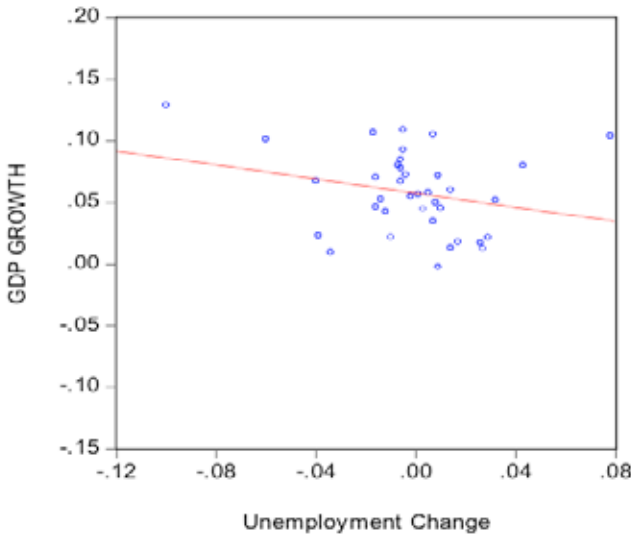
The diminished likelihood of finding decent employment can also cause an increase in the crime rate, which has been steadily rising since 2002. Murder rates in the DR are among the highest in the world, according to the UNODC (2012), which, in 2010, listed the DR as one of 15 nations, out of 85 worldwide, with the highest rates of murder.

Plainly, the economic model currently in place in the DR fails to adequately create neither the quantity, nor the quality, of suitable jobs the country needs. This, in turn, has given rise to a situation that has rendered it virtually impossible to achieve higher national development goals, despite the fact the country continues to experience rapid economic growth.

Jobless Growth

A national growth strategy should ideally generate a sustained demand for labor as its ultimate target (Bruton, 2001). However, while the Dominican economy grew, on average, by an annual rate of 5% for the last 30 years, the unemployment rate in 2011 was at the same level that it was in 1971. Between 2000 – 2010, the unemployment rate actually went up from 13.9% to 14.3%, despite a similarly high annual economic growth rate of 5%. The next figure shows the relation between GDP growth and changes in unemployment.

Figure 10. GDP Growth and Change in the Unemployment Rate, 1970-2011



There is a weak, almost non-existent, relationship between changes in the unemployment rate and GDP growth. In the US, there is currently a discussion taking place about the validity of Okun's Law as the US economy has been growing annually between 2% - 3%, while unemployment has not returned to the lower levels seen prior to the 2008 financial crisis (Basu and Foley, 2011; Gordon, 2010). China is also said to be experiencing similar effects but that is to be expected

given that country's preference to stimulate larger enterprises and capital-intensive industries (Riskin, 2010) rather than focusing on the development of small or medium-sized businesses.

Following, we will plot the relationship between fluctuations in the external sectors and unemployment.

Figure 11. Changes in Unemployment vs. Trade Balance Growth, 1970-2006



Notes: unemployment rate data not available for the years 1985 and 1989.
Source: Central Bank (2012)

As shown in the first section, the DR-CAFTA exerts a negative impact in the trade balance of the DR, which, given the information in Figure 11, seems to significantly increase unemployment. For several periods, the balance between export growth minus import growth had an indirect relation with changes in unemployment.

In the following section, we will examine the reasons behind the paradoxical state in which high unemployment exists alongside high levels of economic growth.

Theoretical Model

We begin by first deriving Okun's model and then applying it to the Dominican economy. There are different ways to derive a model to study the output effect on unemployment. We can use the Kaldor-Verdoorn derivation but in the DR there is simply not enough historical data to study the labor market (e.g. productivity, employment growth, sector employment, etc.) for more than 20 years. For the purposes of this discussion, an econometric model will suffice.

Let us assume that the production of an economy can be summarized by the following equation:

$$Y_t = AL_t^p K_t^r e^{Et}, \quad p + r > 1 \quad (1)$$

where A = stock of technological progress, L = employment, K = capital stock and E = growth rate of entrepreneurship. Note that we consider entrepreneurship a growth determinant, which, in fact, might be the missing factor in the Dominican economic growth. Differentiating with respect to time,

$$\hat{y}_t = p\hat{l}_t + r\hat{k}_t + E \quad (2)$$

We approximate the change in unemployment as $\Delta u = \hat{G} - \hat{l}$, where u = unemployment and G = growth rate of the labor force. Also, we assume that E and the growth rate of capital and labor are constant. Hence,

$$\hat{y}_t = \gamma - p\Delta u_t, \quad \gamma = p\hat{G}_t + r\hat{k}_t + E \quad (3)$$

Empirical Model and Results

Empirically, we wish to invert equation (3) to measure the short-run effects of output on employment. That is,

$$\Delta u_t = \alpha - \beta \hat{y}_t + \varepsilon_t,$$

$$\alpha = \frac{\gamma}{p}, \beta = \frac{1}{p} \text{ and } \varepsilon = \text{error term} \sim N(0, \sigma^2).$$

In dynamic form,

$$\Delta u_t = \alpha - \sum_{i=0}^T \varphi_i \Delta u_{t-i} - \beta \hat{y}_t + \varepsilon_t \quad (4)$$

The estimated coefficients are in the following table.

TABLE 1. Estimation of equation (4)

| | |
|---------------------------|-------------------|
| Constant | 0.02** (0.008) |
| Lagged dependent variable | -0.29** (0.11) |
| Growth of GDP | -0.42** (0.13) |
| R ² | 0.41 |

Notes: 31 observations, annual data, standard errors in parenthesis.
T=3. The *** indicates statistical significance at 99% confidence interval, ** at 95% and * at 90%.

According to Okun's equation (4), a high GDP growth of 4.7% does not change the unemployment rate. We should remember that 5% has been the average growth of the DR for the last 30 years. This is consistent with the facts of the previous sections and with the following version of Okun's "law",

$$\Delta u_t = \alpha - \sum_{i=0}^T \varphi_i \Delta u_{t-i} - \beta (\mathcal{Y}_t - \mathcal{Y}_t^*) + \varepsilon_t, \quad (5)$$

where $(\mathcal{Y}_t - \mathcal{Y}_t^*) =$ Time-varying output gap.¹⁶

Equation (5) is an equivalent representation of equation (4), used here to explain how the output gap can explain movements in unemployment. The results can be seen in the following table.

TABLE 2. Estimation of equation (5)

| | |
|---------------------------|---------------------|
| Constant | 0.04*** (0.01) |
| Lagged dependent variable | -0.317** (0.11) |
| Output Gap | -0.364*** (0.09) |
| R ² | 0.46 |

Notes: 31 observations, annual data, standard errors in parenthesis.
The usual lambda of 100 was applied to the HP filter.

Following the example of equation (4), the GDP growth rate that keeps unemployment constant, according to the Hodrick-Prescott Filter, is approximately 5.4%. In other words, given the growth path taken, only when GDP growth exceeds a figure of approximately 5% will unemployment decrease in the long run. In particular, a percentage increase in GDP over the long-term (approximately 5.5% currently) produces, on average, a long-term decrease in unemployment of about 0.4%.

Which sectors have the highest effect in the unemployment rate? To answer that important question, we need to disaggregate the GDP in terms of specific industries as in the following equation:

16 Some authors put unemployment and output in deviation terms from its “natural” level, but since the natural level is never observed, we avoid using it. If there is a misspecification, the coefficients should be significantly different from the previous equation, but they are not.

$$\Delta u_t = \alpha - \sum_{i=0}^T \varphi_i \Delta u_{t-i} - \sigma Z_t - \omega S_t - \vartheta H_t - \pi M_{t-1} - \theta O_t + \varepsilon_t \quad (7)$$

where Z = growth of the Free Trade Zones sector; S = growth of the Other Services sector, as measured by the Central Bank; H = growth of the Hotels, Bars, and Restaurants sector; M = growth of Non-Free Trade Zone (NFTZ) Manufacturing and O = growth of the rest of the GDP, without the Finance and Insurance sector, which, for the purposes of this analysis, can create fluctuations in the GDP (Basu and Foley, 2011).

TABLE 3. Estimation of equation (7)

| | | | | | |
|--|--------------------|---------------------|--------------------|----------------------|---------------------|
| Constant | 0.002 (0.005) | -0.001 (0.005) | 0.004 (0.005) | 0.016** (0.0067) | 0.025** (0.008) |
| Lagged dependent variable | -0.30** (0.12) | -0.25* (0.13) | -0.28** (0.13) | -0.35** (0.12) | -0.28** (0.12) |
| Growth of Free Trade Zones | 0.02*** (0.005) | 0.02*** (0.0056) | 0.02*** (0.006) | 0.026*** (0.0053) | 0.028*** (0.005) |
| Growth of "Other Services" in period t-1 | | -0.10* (0.07) | -0.05 (0.07) | -0.05 (0.06) | -0.08^ (0.06) |
| Growth of Hotels, Bars and Restaurants | | | -0.05* (0.02) | -0.035* (0.02) | -0.035* (0.02) |
| Growth of NFTZ Manufacturing in period t-1 | | | | -0.28** (0.10) | -0.244** (0.098) |
| Growth of the rest of GDP in period t-1 | | | | | -0.20** (0.10) |
| Adjusted R ² | 0.39 | 0.35 | 0.38 | 0.50 | 0.55 |

Notes: 34 observations, annual data, standard errors in parenthesis.

The above regression has more observations and excludes the Finance and Insurance sector, which does not allow it to be directly comparable to the previous one. However, similar to the last regressions, the GDP growth rates that keep the unemployment rate constant remain close to 5%.

Contrary to standard expectations, an increase of 1% in the growth of the Free Trade Zones sector is related to an increase of 0.03 in the unemployment rate. This can be explained by the high labor productivity in this sector which decreases the need for additional labor, as well as by the fact that this sector shares very weak links with the rest of the economy. On the other hand, an increase of 1% in Non-Free Trade Zone Manufacturing produces a 0.25 decrease in the unemployment rate - the largest effect among all the sectors, and higher than the combined effect of the majority of the sectors included in O. Combining the results of Table 3 and Figure 9, it appears that the exports most responsible for decreasing the total unemployment rate are those that arise from services and from local manufacturing.

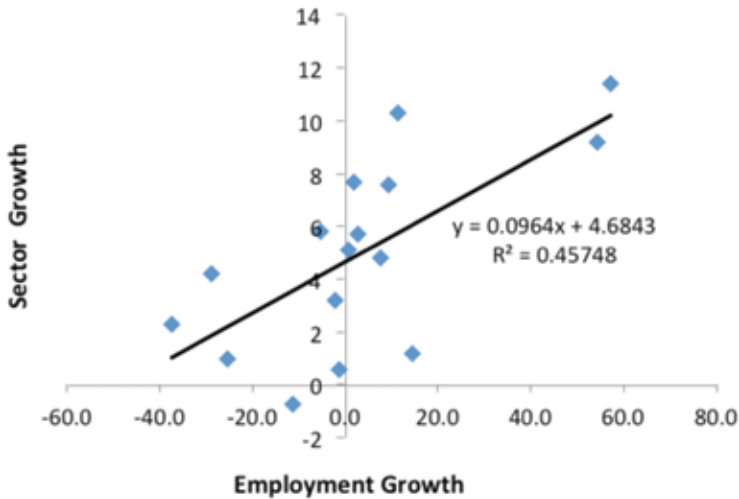
These results contrast sharply with the normative statements of De Castro (2012): “The recent evolution of the sector of Free Trade Zones is clear evidence that this regime continues to be the best bet of the Dominican Republic for the development and diversification of our export-manufacturing industry” (p.20). As shown, the ‘best bet’ for the development is, however, through the growth of the NFTZ Manufacturing sector, especially if job creation, and not simply economic growth, becomes the nation’s top priority. That is not to say that job creation and economic growth are mutually exclusive goals – both can be promoted simultaneously.

It is important to note the low impact of the Tourist sector vis-à-vis the Other Services sector, composed primarily by local firms. In particular, given a similar growth in both sectors, Other Services reduces the unemployment rate by 0.04% more than the Tourist sector. Given these results, authorities in the DR are well-advised to reconsider which sectors are more effective at employment creation.

Sectorial Analysis

A further analysis is presented in the following graph and figures comparing Free Trade Zone Manufacturing and Tourism with other, more local, services.

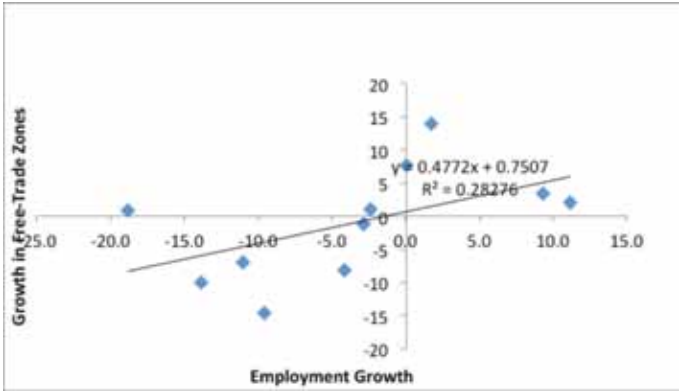
Figure 12. Growth in Conventional Manufacturing and in Employment, 1996-2011



Notes: Conventional Manufacturing refers to Manufacturing outside the Free Trade Zones. Employment growth refers only to that which occurs within the sector.
Source: Central Bank (2012)

Production growth in Manufacturing undertaken outside the Free Trade Zones has a very high correlation with employment growth within the sector. The strong links between the two is most evident in the 1996-2002 period.

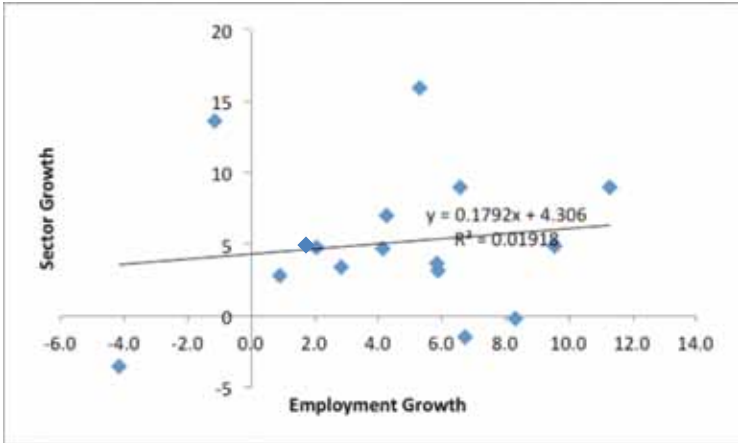
Figure 13. Growth in Free Trade Zone
Manufacturing and Employment, 2001-2011



Production increases within Free Trade areas has not resulted in significant growth of employment within that sector. Figure 13 shows how the connection between jobs created and production is lower within this sector than within the conventional Manufacturing sector. As Table 4 illustrates, the impact of this sector on total employment is low.

Figure 14 presents the correlation between employment and output growth within the Hotels, Bars and Restaurants sector.

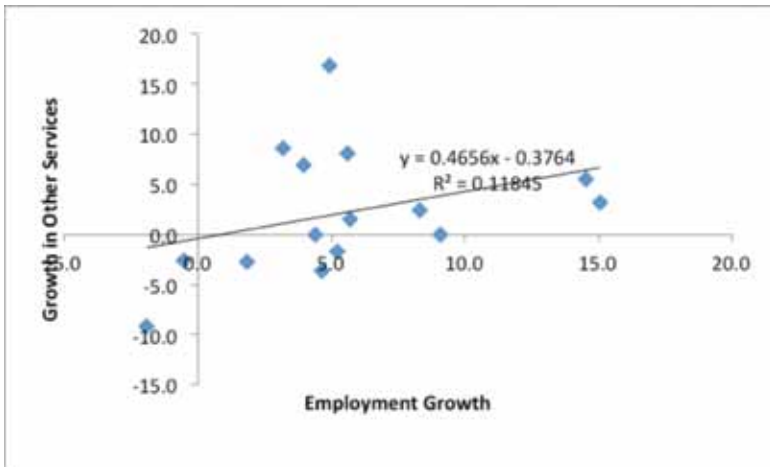
Figure 14. Growth in Tourism and Employment, 1997-2011



Notes: Tourism includes bars and restaurants separate from those found in hotels
Source: Central Bank (2012)

There is almost no correlation at all between production and employment growth in this sector. The most remarkable case occurred in 2003 when production grew by 13.6% but employment decreased. Compare this performance with that of the Other Services sector shown below.

Figure 15. Growth in Other Services and Employment

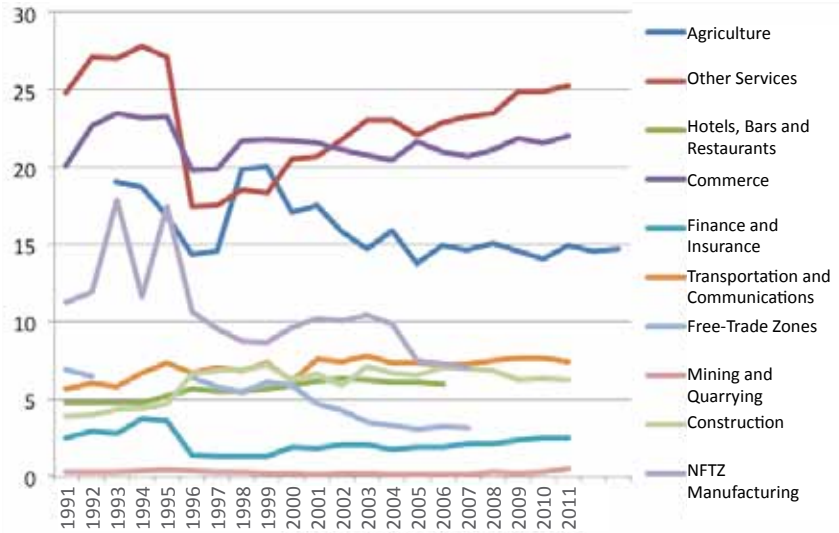


Notes: Other Services does not include activity in finance, insurance, transportation, communications, restaurants or real estate.
Source: Central Bank (2012)

Although the Other Services sector has a large proportion of informal workers, the ties between employment growth and production are stronger in this sector dominated by local entrepreneurs. Unlike the Hotel, Bars, and Restaurants sector, there are, in fact, examples of years where employment grew significantly, despite little, or no, increases in production itself.

As shown in Figure 16, even in absolute numbers, the top four sectors in terms of generating the highest amount of employment seem to be dominated by local entrepreneurs, and not by any significant foreign presence.

Figure 16. Share of Total Employment, 1991-2011



Notes: NTFZ=Non-Free Trade Zones
Source: Central Bank (2012)

Even though the relative number of jobs in manufacturing has been declining over the years, manufacturing outside free-trade areas still represents a significant component of the DR economy. Construction is the only sector that saw an increase in employment share. Government and utilities account for approximately 5% of total employment.

The disjunction between growth and employment can also be studied by looking at the structure of the economy in different years as illustrated below.

Table 4. Share of GDP and Employment by Sector 1996 and 2011

| | 2011 | | 1996 | |
|-----------------------------------|----------------------------|-----------------------------------|----------------------------|-----------------------------------|
| Sector | Contribution to GDP | Contribution to Employment | Contribution to GDP | Contribution to Employment |
| Agriculture | 7.6 | 14.7 | 10.4 | 19.9 |
| Mining and Quarrying | 0.4 | 0.05 | 1.0 | 0.4 |
| NFTZ Manufacturing | 18.9 | 7.0 | 22.1 | 12 |
| Free Trade Zones | 2.7 | 3.1 | 4.7 | 6.5 |
| Construction | 4.2 | 6.2 | 5.9 | 6.7 |
| Commerce | 9.0 | 22.0 | 10.8 | 19.8 |
| Hotels, Bars and Restaurants | 6.1 | 5.9 | 6.7 | 4.8 |
| Transportation and Communications | 21.3 | 7.4 | 9.0 | 6.7 |
| Utilities | 1.3 | 0.8 | 1.6 | 0.5 |
| Finance and Insurance | 4.0 | 2.5 | 2.2 | 1.4 |
| Public Administration | 1.0 | 4.9 | 7.7 | 4 |
| Other Services | 5.0 | 25.2 | 8.3 | 17.4 |

Source: Central Bank (2012)

From 1996 to 2011, production saw increases occur in the services sector, especially in the Finance and Communications sector, which more than doubled. Concurrently, there was a sharp decline in contributions from the Free Trade Zones and Public Administration sectors. In terms of employment, only two markets grew significantly: Other Services and Commerce. In 2011, the Other Services sector had 386,129 more workers than in 1991.

Agriculture, Commerce and Other Services are sectors that represent a relatively low contribution to GDP, but a very high one to

employment. Those three sectors represented 22% of total production but provided 62% of all employment - a significant point to note if the DR wishes to change focus from jobless growth to job creation.

Agriculture provides more jobs to the Dominican economy than the Mining, Free Trade Zones and Hotels sectors combined. However, Agriculture is a sector that the government appears to generally overlook in national stimulus efforts. For at least the last fifteen years, the DR was a net importer of food, despite the fact that it has sufficient arable land and its domestic labor costs are nowhere as high as in wealthier, more developed nations. Two of the most serious problems facing this sector are the presence of unfair competition from highly subsidized products coming in from the US, and the continued use of unsophisticated technology and farming techniques by local farmers. For instance, in a world ranking of tractors used per 100 square kilometers of arable land, as reported by the World Bank (2012), the Dominican Republic is in 67th place among 78 countries. DR has proportionally fewer tractors than countries such as Kenya or Djibouti, both of which have gross incomes far below that of the DR: the Dominican GDP is more than double Kenya's and 48 times more than Djibouti's.

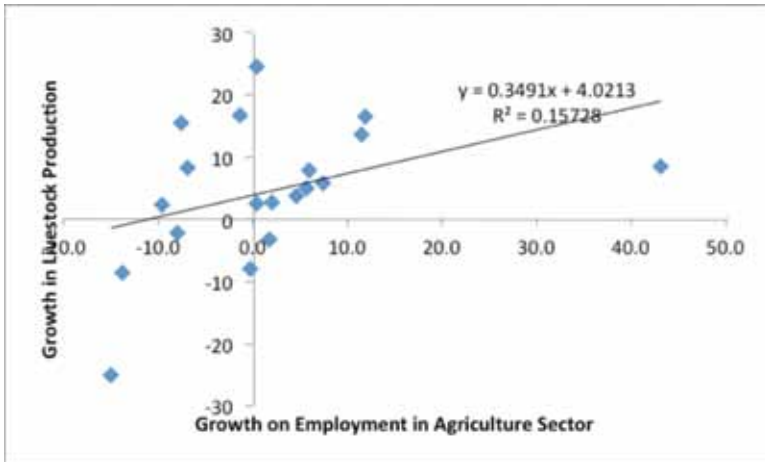
With proper supervision and stimulus, the agricultural sector could bring important changes to the DR economy as it is responsible for producing the necessary raw materials for several key industries (e.g. the sugar and rum industry) and has higher productivity than many other sectors. In fact, from 1996-2007, Agriculture was the fifth most productive sector among eleven (UNDP, 2010).

Technology and farmer education programs can play an important role in stimulating growth and solving many of the problems currently facing the agricultural sector. Some of the more important benefits include: (a) a reduction in imports and/or an increase in exports, either of which can reduce overall unemployment as illustrated above; (b) an increase in domestic investment from local farmers re-investing profits within the country; (c) a growth in the concatenation of the economy by supplying inputs to other sectors (e.g. chicken products, alcoholic beverages, among others); (d) a reduction in vulnerability

to foreign economic and political fluctuations; (e) increased food security and, more importantly, a reduction in the incidence of low calorie consumption – the DR having one of the highest rates in the Americas (USDA, 2010). Under the correct policies, this last point can become reality as low income families in rural areas produce more and develop the ability to independently manage, and fulfill, their nutritional needs.

One of the most dynamic agricultural sectors in terms of employment is livestock. The following graph shows the correlation between livestock growth and agricultural employment.

Figure 17. Growth in Livestock Output and in Agricultural Employment



Source: ONE (2012)

Given that our focus is on employment, and not on economic growth per se, livestock is highlighted here as it represents an important component of agricultural employment. As can be seen, an increase in the production of livestock is highly correlated with an increase in agricultural employment. In other words, an effective policy to promote the production of livestock can, at once, address several key issues such as increasing the competitiveness of the sector, thereby reducing imports and promoting exports; reducing unemployment; and increasing food production and safety.

Conclusions and Recommendations

Foreign capital should complement, and not substitute, domestic capital. The current GDP growth in the Dominican Republic may have led to the modernization of the country but, unfortunately, has not resulted in measurable improvements in domestic productive capacity, employment, and, as a result, social well-being. While an argument can be made that poverty levels have dropped, it is difficult to correlate the change to any causal mechanisms from GDP growth that does not decrease the high structural unemployment nor increase the average real wage. Instead, significant factors in poverty reduction may have resulted from the effects of global efforts, such as the Millennium Development Goals, and the work of non-governmental organizations (NGO's), and not from GDP growth that essentially has not decreased the structural unemployment.

It is therefore evident that the focus on GDP growth as the most important economic goal is misguided, and oftentimes counterproductive. Job creation in the formal sector has to be the ultimate goal, as only the creation of new jobs can effectively improve overall well-being and reduce all forms of social ills including poverty, gender inequality, and crime.

As we saw above, the trickle-down effect is not in evidence in the DR, yet the government continues to rely on it as the path to development. In the “Strategic Plan of the Center for Exports and Investment in the Dominican Republic (CEI-RD)”, for example, the focus is on increasing foreign investment and duplicating the usual exports “to impulse the socioeconomic development” (Martínez, 2010, p. 45). But, if those exports do not contribute to reducing unemployment (as illustrated earlier), there is little reason to believe they can contribute to development beyond economic growth. Montás (2010) supports our conclusions:

However, the fact that in the last decade 75% of the economic growth was produced in the non-tradable sector (sic) of the economy forced us to rethink very seriously the sustainability basis of the Dominican economic model, because it is not sustainable in the long run given the impact that it has on the external accounts and because it does not produce an adequate solution to unemployment (p.64).

One of the primary goals of the DR's recent National Strategy for Development (a nationwide development initiative) is the creation of a unified society with equal opportunities and lower levels of poverty and social inequality. A necessary means toward that end includes the creation of decent jobs in the formal sector and an increase in real wages. We do not advocate a state-led growth, but, rather, a state-led program of development. In other words, we need a democratic and regulating government that facilitates the path to a type of development in which the state itself does not participate as a producer nor is controlled by special interests.

In order to create jobs, the government needs to stimulate, and give preferential treatment to, local entrepreneurs and businesses as compared to foreign interests. The emphasis on modernization and in pursuing large investments should be secondary and the priority should, instead, lie firmly on job creation.

The strategy that we propose, which is to actively support and foster both existing, and new, local entrepreneurs (in an effort to break monopoly power, increase the intake of profits from the rest of the world, and decrease domestic unemployment), can be achieved by increasing taxes on gambling, inheritances, luxury housing, capital gains and tourism. Gambling contributes relatively little in the way of revenues (in 2010, only USD \$12 million was generated from poker machines, a figure that is decreasing annually and represents only 0.25% of total tax revenues) yet it carries significant economic and social consequences from its detrimental effects on local savings and family unity.

Less than 1% of total tax revenues are generated from taxes on luxury housing and inheritances. This figure has to be increased since both represent key areas that can help the redistribution of income, which, as discussed below, is highly unequal in the DR. Perhaps the most surprising statistic, however, is the tax amount earned from capital gains – a figure amounting to only USD \$2,700. Capital gains are passive income from wealth, while salaries represent income earned from work and which, in the DR, are taxed at much higher rates. Such a low tax on capital gains, vis-à-vis the high regressive taxes on the average worker, can be indicative of a national policy that is not focused on

overall development (i.e. the reduction of poverty, inequality, and the increase of opportunities in areas such as education and employment). It is interesting to note that even Warren Buffett, arguably one of the world's wealthiest billionaires, does not support a policy of low taxes on capital gains (Buffett, 2011). There is a proportionately large tax burden placed on consumption, which might be an effective strategy if the goal was to reduce high levels of consumption, but, again, it represents a highly regressive one.¹⁷

To effectively decrease the high rates of tax evasion in the DR, the government needs to monitor its tax collectors more aggressively, but it also needs to consider paying higher wages to the collectors themselves to reduce the likelihood of corruption. The resulting increase in payroll costs will be largely offset by a decrease in tax evasion and, hence, an increase in tax collections.

Tourism incentives represent benefits that are far too great, for the benefit of far too few. Only 2.5% of total tax revenues are generated from the Tourism sector. Despite the fact that the DR is one of the most popular tourist destinations in the Caribbean, with lower prices than the Bahamas or Jamaica, both of which offer all-inclusive packages, the tax on hotel rooms is unreasonably low. An increase in tax will, most likely, have to be borne by both the hotel owners and the hotel guests - as any textbook on microeconomics can explain, complete pass-through of a tax is not possible in a competitive market due to the elasticity of demand.¹⁸

The DR, having already created a strong name for itself in tourism, no longer needs to provide tax incentives to the tourism sector, which, in effect, is tantamount to providing welfare benefits to the hotel chains and corporations that own the popular resorts. However, tax incentives can, and should, be given to promote hotels away from the main beach

17. A taxation system that supports higher tax rates on higher incomes is a progressive tax system. One that supports lower tax rates on higher incomes is a regressive system. Since one dollar has higher utility (i.e. is worth more) to the poor than the rich, the type of taxation that is in place is an important consideration of any national economic development plan.

18. If there is high competition, companies cannot pass-through the entire burden of a new tax onto consumers as that will represent a loss of competitiveness.

resorts, as those represent real ecotourism. The low multiplier effect of tourism comes from the simple fact that hotels operating on the coast do so in much the same manner as firms operating in the Free Trade Zones.¹⁹ That is, tourists, on the whole, do not spend as much in local sectors as they do in the tourist areas themselves. A higher multiplier can be expected from ecotourism as it will have a more direct impact on communities in the interior of the country.

The DR has neglected to take the opportunity to create a money market that could improve the finance sector and the availability of credit.²⁰ It needs to institute a tollgate tax based on the amount of time profits circulate within the country: if profits are removed immediately, a higher tax rate would be imposed. If, on the other hand, profits remain in the local financial system for longer (e.g. six months), lower tax rates (e.g. 15%) would apply. This system of taxation was successfully applied to the profits of transnational companies operating in Puerto Rico in the 1990s and led to the creation of a money market worth approximately USD \$2 billion, an amount that is possible to attain in the DR where exports in the travel sector represented \$4.3 billion in 2011 alone. The tollgate tax should be the least requirement for companies profiting from the natural and human resources of the country. Furthermore, as long as profits can be invested, be it in the DR or abroad, corporations should not have significant issue with the funds remaining within the country for the required short period of time, especially in light of the significant tax advantages to be gained.

As a sector, Mining and Quarrying accounts for less than 0.5% of total employment, yet it receives more attention from the government than even Agriculture. Mining is an economic activity with significant negative externalities (e.g. high pollution and adverse effects on the pattern of trade specialization) and demands higher taxation to counteract its effects.²¹ In general, attracting and encouraging the

19. As used here, multiplier refers to the spillover effects of one sector onto the rest of the economy.

20. A money market is a highly liquid market (short-term investment) that yields typically low return rates for the investment and low interest rates for the debtor. Car loans and even some business loans can be originated in this market.

21. Externality is an action that has repercussions in third parties. Referring to mining and

growth of firms that pollute indiscriminately is counterproductive as correcting those damages can be far more costly in the long run.

The Agriculture sector needs to be revitalized and moved towards more profitable products, capable of competing aggressively in the global market, thereby increasing exports, and which pay higher wages to the individuals responsible for their production, thereby raising standards of living. Proof of the profitability of the agricultural sector can be found in the high numbers of multinational companies currently operating as intermediaries in the DR and in the world. Nevertheless, care must be taken to avoid allowing agriculture from becoming the nation's number one priority as that could result in developmental problems, including a low rate of technological progress and the creation of growth constraints (Greenwald and Stiglitz, 2006; Dutt, 2002). However, being a net importer of food increases the country's vulnerability to external food-price shocks as well as taking attention away from domestic market opportunities that have not yet been maximized.

An important step towards modernizing the agricultural sector is the removal of intermediaries from the value-added chain. The agricultural sector in the DR is severely underdeveloped and can barely meet the demands of the local market. As in the case of Argentina, where soy production played a pivotal role in pulling the country out of the economic depression it experienced in the last decade (Cohen, 2011), the DR needs to look for high value-added substitutes for tobacco, which has a declining demand worldwide. It is also worth noting that, in general, exporting high value-added products has the added benefit of improving terms of trade for any given nation.

To stimulate the agricultural sector, the government should develop a program of affordable, low interest rate loans for the acquisition of agricultural technology. If the equipment is to be imported, it follows that no, or very low, import taxes should be applied. If, however, the

trade specialization, it is worth reviewing the economic state known as "Dutch Disease" which refers to how a nation's focus on natural resources can actually cause its manufactured goods to increase in price and thus render them less competitive on the world market.

equipment is available locally through one single supplier, government sponsored loans should be made available as part of a whole package.

The production of high value-added agricultural products, such as processed foods and the cultivation of crops that have multiple uses, should be encouraged. Corn, for example, can be used to produce ethanol, thereby substituting some portion of imports on fuel, as well as being used to reduce the dependence on feed, and other imported products, necessary for raising chickens. Programs as described in Coscione's "Fair Trade in the Dominican Republic: Coffee, Cocoa and Banana" (2011) should be expanded. Small and medium-sized producers could improve their economic situation and the well-being of their families if they, themselves, can actively participate in the market of processed foods instead of selling low-cost primary products (e.g. cocoa) to foreign companies that then convert them into products (e.g. chocolate) capable of being sold for far higher prices in the world market.

The DR government needs to engage in an ongoing dialogue with both existing and future local businesses in order to adequately gauge what is required to help them grow and prosper. Improved communication and information will also facilitate the monitoring and evaluation of any government-sponsored programs to determine their efficacy. In order for information to be accurate, however, both the quantity and the quality of collected data have to be improved. Currently, for example, there is no data available demonstrating the multiplier effects of employment and production and, while volumes of information may be available for limited periods of time, there is a scarcity of longer-term data necessary for historical analysis and evaluation.

Competition has to be managed: oligopolies which resist entering the export market, or price wars that harm infant industries, have to be avoided. Corporate taxation needs to be managed closely in order to insure that companies have an incentive to reinvest excess profits in other local markets which will stimulate further diversification in the economy. FDI (Foreign Direct Investment) and Free Trade Zones serve only as adjuncts to a comprehensive growth strategy and only when

control over outflows in the former, and labor regulations in the latter, are implemented. A policy of careful review of the type and quality of industries permitted to operate in Free Trade Zones should also be instituted. By allowing these foreign-owned companies to operate in these zones, the DR is, in effect, subsidizing production costs. It is therefore in a position to demand decent wages for all local hires as well as requiring horizontal linkages, wherever possible, with other sectors of the economy.

Except in the case of the high-tech sector, FDI related tax exemptions are not justified as foreign participation often occurs at the cost of domestic investment. In the high-tech sector, FDI tax incentives can be justified provided they are made contingent upon the low-cost transfer of both technology and knowledge which can serve to boost the domestic tech sector. Irrespective of sector, FDI tax incentives can only be instituted in conjunction with tightly managed capital controls as such incentives can represent destabilizing macroeconomic factors for a growing economy.

Periodic increases in the minimum wage (e.g. every 5 years), to account for increases in productivity and the cost of living, can function to reduce real wage stagnation, improve income distribution and, ultimately, increase overall well-being as wage-earners represent the vast majority of the population. It is important that the DR supports efforts for the improvement of worldwide labor standards by organizations, such as the International Labor Organization and the World Trade Organization, given how improvements in labor standards are intrinsically linked to overall improved standards of living.

Increases in the minimum wage have been beneficial for Latin America, especially in terms of reducing the high levels of income inequality in the region (Keifman and Mauricio, 2012). Minimum wage increases can have similar effects in the DR, rated as one of seven nations out of a total of forty-seven, with the highest levels of income disparity in 2008 (World Bank, 2012), and reduce poverty levels throughout the country: in 2009, 47.8% of the Dominican population earned less than the minimum required to purchase the necessary basket of goods (SISDOM, 2010).

Whenever a large percentage of any given population earns less on a year-to-year basis, while a small percentage earns more, it gives rise to imbalanced, and politically destabilizing, social conditions. Increasing taxes on gambling (and the other items earlier listed), creating progressive taxation rates (i.e. lower tax rates for lower earnings), and establishing effective mechanisms of redistribution (e.g. land reform, education grants, etc.) are indispensable to reducing social inequalities and boosting economic and social development.

The two largest political parties within the DR refer to themselves as “progressive”, with ideologies that are either moderately conservative or moderately liberal. If that is indeed the case, the government would do well to attract more progressive economists to offset the disproportionately large number of conservative advisors it currently employs – individuals who do not always offer the best advice (e.g. as in the case of those in support of the DR-CAFTA) and who may also have conflicting interests, especially in the case of those retained in some capacity by private corporations. It is worth remembering that prudence and good judgment tend to always be enhanced in the presence of a diversified body of knowledge – that is, after all, the central concept behind the institution of the “university”. Differing viewpoints, working in concert, can lead to better national decisions while, at the same time, limiting the corrosive influence of special interest groups (Chang, 2003).

As shown, the Dominican Republic is not prepared for a North-South trade agreement as that form of exchange appears to be unequal. However, opportunities do exist for South-South type of agreements where the DR can effectively compete and enjoy more competitive advantages. Furthermore, almost half of all of the international trade currently being transacted in developing countries is comprised of South-South trade and this figure is increasing rapidly – the volume of South-South trade is expected to surpass that of North-North trade within a few years (ECLAC, 2010).

Since most exports are generated from foreign companies operating within the DR, and not from local Dominican-owned enterprises, the criteria to sign a Free Trade agreement should not be based on the level

of the Dominican exports to the receiving country but, rather, on the basis of how those exports can compete in the markets of the importing country and whether they will lose market share locally. In other words, any decision relating to foreign trade must first take into account its effects on the trade balance. That is, any decision should consider net effects since consumers are also producers.

Without the binding restrictions of Free Trade agreements, providing incentives to local producers could become considerably easier. That is not to suggest it is impossible to achieve the same results in the presence of such agreements – it simply means that the government will need to resort to more creative ways of stimulating local production including, for example, controlling energy costs and taking steps to make imports less attractive. Furthermore, incentive programs need to be directly linked to achievable goals, rather than on government handouts which have the effect of creating a welfare state for businesses as occurred during the imports substitution program of the 1970s. In the case of Korea, local manufacturers and industries benefited from a development program that had companies compete with one another (known as “picking winners”) for top placement. This type of challenge is particularly important in the case of promising industries and market niches, producing goods with a high likelihood of success in the export market. Incentive programs can be designed in numerous ways and around several metrics, including volume of exports, employment and sales growth.

By establishing a minimum investment amount for firms to be eligible to enjoy the benefits of an export incentive program, economies of scale can be built into a nation's trade development plan. Similarly, subsidies, low-interest credit, and assistance with marketing, can all serve as important elements of any incentive program. Marketing assistance, in particular, is critical as many firms do not possess the marketing knowledge, or know-how, to effectively cater to international markets.

Yet another incentive strategy would be the creation of similar clusters in different market niches (although it must be noted that the exact composition of the cluster needs to be carefully studied as

what works in some countries may not in some others). Finally, the establishment of cooperatives, as well as improvements in public education, could also serve as incentives. All of the above measures have been shown to have a positive effect on job creation and on the improvement of both economic and social well-being.

The use of free, or low-cost, technology for accepting remittances from abroad (e.g. the elimination of bank fees for incoming wire transfers, allowing the domestic use of ATM cards issued by foreign banks, etc.) will facilitate the flow of funds into the country. Currently, approximately 5% of all remittances received (or approximately \$150 million annually) represents the amount spent on fees to privately-owned multinational companies handling the transfers. Providing lower-cost alternatives of receiving funds from abroad would enable more money to remain in the hands of the general population thereby having a positive effect on both well-being and production levels within the country.

Affirmative action laws, essential to ending gender and age discrimination, as well as widespread discrimination towards Haitians living within the DR, must be instituted and enforced. In the US, where, according to the US Census, more than 1.4 million Dominicans live, children that are born from Dominican parents have the same legal rights as all US citizens. Children born of Haitian parents in the DR should, likewise, enjoy the same treatment as all Dominican citizens.

On a final note, individualism in the DR needs to be replaced by a more socially-conscious and collective attitude. Ignoring the living conditions of large segments of the population, and a focus on solutions benefiting a limited few, will not serve to elevate the DR, or any other country, to meaningful long-term development. As Isa Conde (2012) reminds us: “And the individualism that is hitting and cracking the Dominican social fabric, comes from a philosophy that promotes that ‘everyone should survive as they can’...And most of this has to do with the economic model, which is one of the aspects required to transform” (p. 18).

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Appendix: Regression Tests

Autocorrelation test for disaggregated GDP:

Breusch-Godfrey Serial Correlation LM Test:

| | | | |
|---------------|----------|---------------------|--------|
| F-statistic | 2.112446 | Prob. F(2,23) | 0.1438 |
| Obs*R-squared | 4.810731 | Prob. Chi-Square(2) | 0.0902 |

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 08/05/12 Time: 20:15

Sample: 1973 2011

Included observations: 31

Presample and interior missing value lagged residuals set to zero.

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C(3) | -0.074132 | 0.144771 | -0.512066 | 0.6135 |
| C(5) | -0.031014 | 0.092182 | -0.336446 | 0.7396 |
| C(2) | 0.056680 | 0.111241 | 0.509528 | 0.6152 |
| C(4) | -0.028490 | 0.052551 | -0.542137 | 0.5929 |
| C(6) | -0.031860 | 0.131312 | -0.242631 | 0.8104 |
| C(1) | 0.002634 | 0.008622 | 0.305515 | 0.7627 |
| RESID(-1) | 0.481775 | 0.245533 | 1.962159 | 0.0620 |
| RESID(-2) | -0.184033 | 0.254236 | -0.723868 | 0.4764 |
| | | | | |
| R-squared | 0.155185 | Mean dependent var | | 3.02E-18 |
| Adjusted R-squared | -0.101933 | S.D. dependent var | | 0.017259 |
| S.E. of regression | 0.018118 | Akaike info criterion | | -4.966237 |
| Sum squared resid | 0.007550 | Schwarz criterion | | -4.596176 |
| Log likelihood | 84.97667 | Hannan-Quinn criter. | | -4.845606 |
| F-statistic | 0.603556 | Durbin-Watson stat | | 1.802411 |
| Prob(F-statistic) | 0.746796 | | | |

Breusch-Godfrey Serial Correlation LM Test:

| | | | |
|---------------|----------|---------------------|--------|
| F-statistic | 2.212105 | Prob. F(2,25) | 0.1304 |
| Obs*R-squared | 4.661145 | Prob. Chi-Square(2) | 0.0972 |

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 08/13/12 Time: 21:13

Sample: 1973 2011

Included observations: 31

Presample and interior missing value lagged residuals set to zero.

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|--------|
| C(1) | 0.001938 | 0.004743 | 0.408545 | 0.6864 |
| C(2) | -0.027053 | 0.050920 | -0.531275 | 0.5999 |
| C(3) | -0.014516 | 0.034608 | -0.419446 | 0.6785 |
| C(4) | -0.075981 | 0.130361 | -0.582846 | 0.5652 |
| RESID(-1) | 0.471290 | 0.232109 | 2.030465 | 0.0531 |
| RESID(-2) | -0.179728 | 0.240952 | -0.745908 | 0.4627 |
| R-squared | 0.150360 | Mean dependent var | -3.87E-17 | |
| Adjusted R-squared | -0.019569 | S.D. dependent var | 0.017282 | |
| S.E. of regression | 0.017450 | Akaike info criterion | -5.086942 | |
| Sum squared resid | 0.007613 | Schwarz criterion | -4.809396 | |
| Log likelihood | 84.84760 | Hannan-Quinn criter. | -4.996469 | |
| F-statistic | 0.884842 | Durbin-Watson stat | 1.788198 | |
| Prob(F-statistic) | 0.505802 | | | |



José G. Caraballo-Cueto

José G. Caraballo-Cueto holds a Ph.D. in Economics from The New School for Social Research, with a specialization in the areas of Economic Development and International Trade. Mr. Cueto additionally holds an M.A. in Economics from the University of Puerto Rico, College of Social Sciences, and a B.A. in Business Administration from the University of Puerto Rico, College of Business Administration.

Professionally, Mr. Cueto has had extensive experience teaching both micro and macroeconomics at Berkley College and has also worked as a research associate at the Center of Puerto Rican Studies at Hunter College, a division of the City University of New York (CUNY). A frequent guest speaker at conferences worldwide, Mr. Cueto is also an active contributor of op-ed articles on economic policy, and related topics, at Puerto Rico's *El Nuevo Día* newspaper.

Mr. Cueto participated in the GFDD/FUNGLODE Fellows Program in the summer of 2012. Through his association with the program, Mr. Cueto had the opportunity to connect with other professionals conducting work on similar topics. The final draft of this paper was handed for review and commentary

to Magdalena Lizardo, Director of the Advisory Unit of Social and Economic Analysis of the Ministry of Economy, Planning and Development of the Dominican Republic.

In Local Capacity Development: The Key to Benefiting from Globalization and Reducing Unemployment in the Dominican Republic, José G. Caraballo-Cueto delivers an incisive analysis on how increases in employment and entrepreneurship contribute to poverty eradication and enhanced market competitiveness in the Dominican Republic. His study comprehensively dissects the Dominican economy, from the impact of international trade, to the situation in the domestic labor market, and succinctly explains why the expansion of native entrepreneurial productive capacity is key to maximizing gains from the global market. Through the use of historical data and hard evidence, Mr. Caraballo Cueto concludes by proving why locally made exports have demonstrably higher multiplier effects on the rest of the economy than those produced in the numerous free-trade Free Trade zones found across the country.

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GFDD is a non-profit, non-partisan, organization dedicated to the advancement of global collaboration and exchange relevant to Dominican professionals, general audiences and institutions in the homeland and abroad by implementing projects that conduct research, enhance public understanding, design public policies, devise strategies, and offer capacity building in areas crucial to social, economic, democratic and cultural sustainable development.

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FUNGLODE is a private, nonprofit, pluralistic think tank dedicated to high-level research, academic excellence and creativity. The institution works to devise public policy designed to strengthen democracy, respect for human rights, sustainable development, creativity and modernization of the Dominican Republic.

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Fellows Program

The Fellows Program, an extension of the internship and academic exchange program InterDom, was developed in 2009 to respond to the desire of GFDD and FUNGLODE to develop a community of scholars that contributes to the Foundations' growing body of research on matters of international concern that directly impact the Dominican Republic. The Program complements the overall mission of GFDD and FUNGLODE to promote academic exchange, generate scholarship, and influence the creation of public policy related to economic and social development both at the national and international levels.

Through the Fellows Program, GFDD and FUNGLODE seek to generate scholarship on issues at the forefront of the United Nations' agenda in order to give voice to national and regional concerns and offer viable solutions to domestic and international challenges.

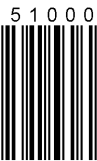
The Fellows Program provides opportunities for MS., MA., and PHD. candidates interested in conducting high-level research in the Dominican Republic on issues related to sustainable development. The final output of the investigation is a comprehensive report, which includes empirical data. Fellows do their research in coordination with GFDD and FUNGLODE staff, National Academic Advisors, and their university professors.

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