APPLYING DEPENDENCY THEORY TO JAMAICA'S CYCLICAL PARADIGM OF ECONOMIC COLLAPSE

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ABSTRACT

With roughly 2.8 million people, Jamaica is the largest English speaking country in the Caribbean region. Also, a former colony of Great Britain, Jamaica was essentially the West Indian production haven for sugar. After centuries of colonization, independence was granted forcing self-governance and economic reliance on the newly formed Jamaican citizens. However, the country was left dependent on foreign capital, aid and investment. The purpose of this study is to answer the primary research question: How does dependency theory explain and examine Jamaica's high level of income inequality and poor economic performance in the past three decades from 1976 to 2010.After which, I provide initial data on Jamaica's economic retardation and highlight the relationships "between the external penetration by the dominant powers and the internal domination of a country's [Jamaica's] political economy by local elites, and the impact of that interrelationship on peripheral societies" (Rose, 2002, p. 5). The data shows varying level of cyclical dependence on foreign trade and investment. Research suggests future implications that ensure both domestic and foreign investments fit into the prevailing factor endowments and infrastructure of Jamaica.

Keywords: *dependency theory, Jamaica, economic retardation, social stratification, GDP, income inequality*

INTRODUCTION

With roughly 2.8 million people, Jamaica is the largest English speaking country in the Caribbean region. Its motto Out of Many One People is exemplary of the kaleidoscope of many races and cultures that make up the population. The country is popularly known for its beautiful beaches, majestic rainforests, global reggae music influence, addictive foods and the fastest man in the world, Usain Bolt. However, high crime and corruption, large-scale unemployment and underemployment, and a debt-to-GDP ratio of more than 120% plagues Jamaica's potential for economic growth (CIA World Factbook, 2011).

The United States being a close neighbor of Jamaica, has become its most influential ally in terms of economic trade and investment (Duncan, 2008), however the ramifications of this influence have left Jamaica dependent and contingent on foreign aid and capital.

Jamaica, a former colony of Great Britain, was essentially the production haven for sugar (Rose, 2002). After centuries of colonization, independence was granted forcing self-governance and economic reliance on the newly formed Jamaican citizens. Paradoxically, after independence many of the colonizers returned to England, leaving the former colonies with a few educated plantation owners and a majority of uneducated laborers (Bacchus, 2006). As such, inequalities in class, wealth, income, land ownership and education were the norm. The challenge for the newly independent Jamaica would be to educate the masses, build sustainable economic programs and foster mutually beneficial trade. However, this was not the case and Jamaica fell into a modified system of the planation economy, a conduit to dependency theory (Levitt & Best, 1975).

Towards this end, the purpose of this study will be to answer the primary research question: How does dependency theory explain and examine Jamaica's high level of income inequality and poor economic performance in the past 3 decades from 1976 to 2010. To accomplish this, I will present a general overview of dependency theory and review the literature most pertinent to the application of dependency theory in Jamaica. Following the review, I will examine two principle economic consequences of dependency theory by analyzing relevant data from the World Bank's Deininger and Squire data set, other World Bank data, and the Statistical Institute of Jamaica. It is with hope, that this analysis will provide much needed data to problematize the effects of dependency and highlight measures to rectify Jamaica's economic collapse.

Due to the unpopularity of dependency theory, little has been done to chronicle, analyze and explore the contributions of dependency theory in Jamaica's economy (Rose, 2002). More specifically, economists such as George Beckford (1978), and Lloyd Best and Kari Levitt (1975) have been blamed for not developing rigorous structural analyses for the

neoclassical economists to buy-in to, and as a result "dependency and all its inherent characteristics have been overlooked or ignored by Caribbean and other Third world social scientists" (Elliot & Harvey, 2000, p. 395). This study will attempt to fill the gaps in Caribbean economic dependency literature and add to the existing amalgamation of critical ideologies in the field. In analyzing the effects of dependency theory in Jamaica, I will test the hypotheses that the greater the degree of foreign reliance and aid, the greater the social stratification and the lower the economic performance of the Jamaican economy. Thereby, I will be able to pinpoint the source of Jamaica's economic retardation and highlight the causal relationships "between the external penetration by the dominant powers and the internal domination of a country's [Jamaica's] political economy by local elites, and the impact of that interrelationship on peripheral societies" (Rose, 2002, p. 5). It is with hope that the results will provide critical implications of interdependence and dependency on Jamaica and strive for solutions that ensure that both domestic and foreign investments fit into the prevailing factor endowments and infrastructure of Jamaica.

Dependency Theory

In order to examine the effects of dependency theory on Jamaica's economy, I will use key principles derived by Kaufman, Chernotsky and Geller's (1975) study to test their social stratification and economic performance hypotheses. Accordingly, an analysis refracted through a dependent theoretical lens will highlight the implication for change to generate economic growth in Jamaica.

General Description

At its core, the roots of dependency theory can be traced to Marxist and Leninist theories of imperialism as well as the works of several Latin American scholars and economists (Kaufman, Chernotsky & Geller, 1975; Rose, 2002). Birthed out of frustration, dependency theory in Latin America emerged as a mechanism to describe economic underdevelopment, subsequent trade exploitation and continued income and wealth inequalities in the 1960s. Dos Santos (1970) described dependency as "a situation in which the economy of certain countries is conditioned by the development and expansion to which the former is subjected" (p. 231). Dependency theory effectively designates less

developed countries (LDCs) or the Global South as primary producers of raw materials and consumers of manufactured goods to further the development of developed countries or the Global North (Rose, 2002). The Global North, which includes the United States, is comprised of fully industrialized Western states that enjoy the advantages of functioning in a competitive market economy, trading in free, economic markets while enjoying a high quality of life for its citizens (Pirages & DeGeest, 2004). The Global South on the other hand is comprised of many developing states functioning at a regional level, hindered by issues within their economic, political, and societal sectors (Pirages & DeGeest, 2004). Together, these definitions can be visualized in Figure 1 below:

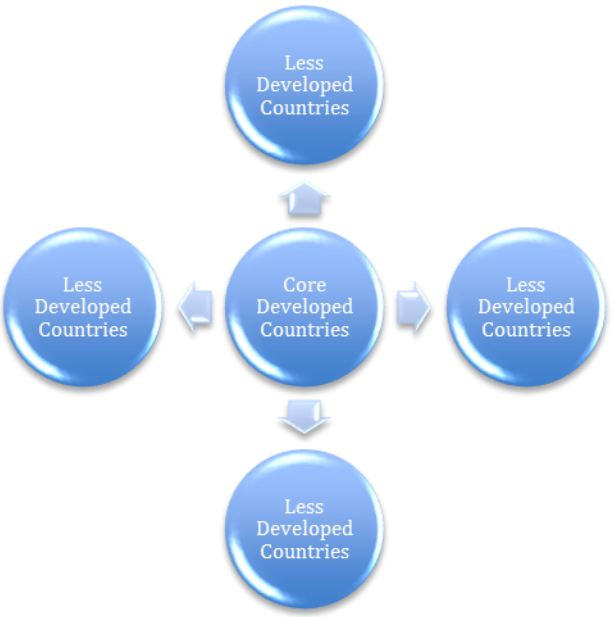

Figure 1. Diagram explaining Dependency Theory as it affects LDCs.

Figure 1 essentially illustrates the mechanism of dependency theory, in which the core of the model contains developed countries and on the periphery, are less developed countries (LDCs). The periphery or satellite countries exports their raw materials to the core or developed countries and in turn, the developed countries use the raw materials to manufacture goods that they then export to the LDCs at a higher cost. The ramifications of dependency theory essentially lie within the weaknesses of LDCs and their willingness to perpetuate the traditional export sector as the main source of government revenue and foreign exchange (Kaufman, et al., 1975). Subsequently due to LDCs high dependence on

foreign capital and technology from developed countries, the domestic capital-labor ratio continues to decrease because of abundant labor with low skills needed to effectively utilize, sustain and replicate foreign capital and technology. As such, many of the LDCs natural resources are foreign-owned and there is a growing trend by developed countries to export management skills and the "alleged unwillingness of foreign firms to train local people to take over management positions" (Ahiakpor, 1985, p. 536). This replicates a continuous deficit model in which LDCs are repeatedly dependent on foreign capital and technology.

Caribbean Dependency Theory

The nations of the Caribbean differ greatly from each other regarding geography, history, culture, politics and economies. Essentially it has been described as being the only true diaspora in the world (Blake, 2000; Girvan, 2000). With over 27 island and mainland countries, the Caribbean has a population of over 6 million people speaking more than ten different languages and creole dialects (Rose, 2002) comprising of Africans, East Indians, Chinese, Europeans, and Native Amerindians: the Caribbean is an amalgamation of several races and cultures. However, the commonality between the various Caribbean nations is the phenomenological experiences and legacies of European colonialism. Rose (2002) explains the resulting effects of these phenomena as "the direct legacy of the British mercantilist policy and development of sugar plantations based on slave labor from Africa" (p. 3). As such, the economic and social structure of the Caribbean has remained fragmented and dependent. Consequently, dependency theory in the Caribbean is a result of "outside" economic and political influences that have relegated the territories of the region to a subordinate and often exploited status in the contemporary international capitalist system" (Rose, 2002, p. 49). Distinct to the Caribbean are the consequences of the plantation economy (Best & Levitt, 1975; Beckford, 1978) and the ricochet effects of the international capitalist system. Both of which have left the Caribbean vulnerable and reliant on foreign trade, investment, and capital. For the purposes of this empirical study, I will focus on Jamaica's economy from 2000 to 2010, by examining two significant economic consequences of dependency theory as outlined by Kaufman et al., (1975): 1) social stratification; and 2) economic performance.

Plantation Economy

Economically, Britain left Jamaica vulnerable and open to exploitation by pillaging the country of its resources for British gain instead of reinvestment (Rose, 2002). The economic system of using Caribbean land, African labor and European capital set up the foundations for the plantation economy (Beckford, 1978).

Best and Levitt (1969) first coined the term plantation economy in the Caribbean to describe the "historical and structural analysis of the evolution of the plantation system in the Caribbean from the early seventeenth century to the modern period" (as cited in Rose, 2002, p. 64). Dependency as a conduit of Jamaica's plantation economy "destroyed their national capacity to act as an autonomous unit because the power to exercise economic control and influence employment, process and development are controlled by the core capitalist countries" (Rose, 2002, p. 61). Today, the modified plantation economy resembles a hybrid mercantilist system in the form of global trade where there is a high level of dependence on foreign investment, trade, capital, technology, and managerial skills. As such, multinational corporations have continuously entered the Jamaican economy and plundered the resources with exploitative settlements and agreements with the government (Thomas, 1988).

Political Economy

Another argument to be analyzed looks at the political economy of Jamaica during the post-independence era. Borrowing from Acemoglu and Robinson's (2013) essay, "economic reforms implemented without an understanding of their political consequences" (p. 189) can significantly reduce economic efficiency. More specifically, even well-intentioned economic reforms can alter the balance of political power and change the distribution of income to benefit dominant groups in society. Jamaica's political climate has been dominated by two primary political parties,

— the People's National Party (PNP) and the Jamaica Labor Party (JLP) — have dominated the political system since before the country's 1962 independence. In the 1970s and 1980s, the two parties had distinct ideological differences, with the PNP under Michael

Manley (1972-1980) espousing democratic socialism and increasing state ownership of the economy, and the JLP under Edward Seaga (1980-1989) adopting a policy of economic liberalization and privatization. (Sullivan, 2006, p. 1)

Prime Minister Michael Manley resumed power between 1987 and 1992, however due to health issues he stepped down; at which time Prime Minister Percival James Patterson assumed office from 1992 to 2006. In 2006, Prime Minister Patterson stepped down and Portia Simpson Miller assumed the office of the Prime Minister. The Jamaica Labor Party won the elections in 2007 and Prime Minister Bruce Golding assumed office between 2007 and 2011. He however stepped down due to political scandal surrounding the Tivoli massacre and was succeeded by Prime Minister Andrew Holness (2011 to 2012). The scandal surrounding the Tivoli massacre, arguably led to the opposition party winning the election and Prime Minister Portia Simpson-Miller resuming office from 2012 to 2016.Holness was reelected in 2016 and is the current Prime Minister. Arguably, "there have been few ideological differences between the two parties" since Michael Manley in 1989 (Sullivan, 2006, p.1). The current economic deficiencies can be attributed to securing political equilibria at the expense of distorted economic policies.

Examining the Effects of Dependency Theory in Jamaica from 1976 – 2010

Dependency theory essentially provides a paradigm or framework in which to analyze the general problems of economic underdevelopment (Kaufman, et al., 1985). From the literature, dependency theorists and scholars have discerned that there are two main consequences to economic development: 1) social stratification; and 2) economic performance (Ahiakpor, 1985; Barrett& Whyte, 1982, Dos Santos, 1970; Kaufman et al, 1975; Rose, 2000).

Social Stratification

The inheritances of colonial social classes by the upper echelons of the bourgeois class continue to dominate LDCs today (Bruhn & Gallego, 2012). The elite classes of the country continue to exacerbate the legacies of income disparities from the days of plantation systems to now. Dependency theory essentially problematizes the ramifications

of colonial legacies and explains how the continued urban-rural imbalances are "tied to the flow of capital resources" (Kaufman, et al. 1985, p. 307). Furthermore, these resources are transformed into "privileged export and industrial enclaves, which grow at the expense of the underdeveloped periphery" (Kaufman, et al. 1985, p. 307). Therefore, national incomes grow but are only afforded to the upper class while the majority of the population continues to be marginalized. As such, the hypothesis of social stratification proposes that countries with high levels of dependency have highly unequal income distributions (Kaufman, et al., 1975).

Economic Performance

Developed countries gain structured benefits due to the exploitative system of dependency theory in which LDCs export raw materials to developed countries at a cheaper rate and then import the manufactured goods at a higher cost. As such, Kaufman et al, (1975) summarized this system as resulting in "lagging growth rates, a drain of resources, excessive rates of capital repatriation, burdensome foreign debts, and highly unstable 'boom and bust' economies geared to the ebb and flow of the world capitalist market economy" (p. 308). This key principle provides three systematic arguments to test:

1. The greater the degree of economic dependency, the lower the rates of economic growth
2. Countries with high levels of economic dependency are likely to have an unfavorable balance of trade
3. Countries with high levels of dependency are likely to have unstable, fluctuating growth patterns (Kaufman, et al, 1975, p. 308).

Accordingly, I attempted to test the above hypotheses using time series econometrics analysis. From my findings, there was significance for only hypothesis 2. As a result, I used descriptive statistics grounded in the aforementioned literature to show rationale for future research to test hypotheses 1 and 3. I will only report the econometrics results for hypothesis 2, as those findings yielded some significance to report.

Empirical Analysis

This section provides a descriptive analysis of the social stratification and economic performance in Jamaica. Using indicators such as the GINI coefficient and the gross national income (GNI) I examine the distribution of income inequality between the bottom and highest 20% of the population. To explore economic performance, I examine indicators such as gross domestic product (GDP), foreign domestic investment (FDI) and trade measures.

Examining Social Stratification

As aforementioned, countries with high levels of dependency have highly unequal income distributions. From the examined data, the distribution of income is reflected in different inequality measures. The Gini Coefficient is a measure of inequality and is widely used to measure income inequality (Todaro & Smith, 2006). The Gini index for 2000, 2002 and 2004 were 37.9%, 48.34%, 45.51% respectively, reflecting high inequalities in income distribution (see Figure 2). Additionally, using Kuznets's (1955) ratios, which compares top quintile and bottom quintile show a similar picture. The Kuznets ratios comparing top and bottom quintiles are shown in Table 1. The ratio of richest 10% to poorest 10% was 18.9 in 2002 and 15.9 in 2004. However, when comparing the richest 20% to the poorest 20% the ratio was 11.2 and 9.6 in 2002 and 2004 respectively. These ratios are very low reflecting an income disparity from 2002 to 2004.

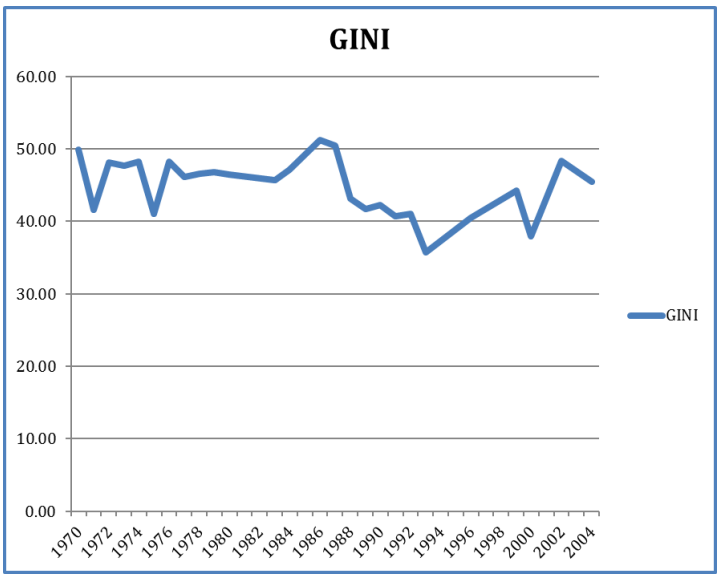

Figure 3 shows the graphical representation of the income share percentages between 1988 and 2004. There is a significant increase in the income share held by top 10 and 20 percent as shown below. This significance equates to high levels of income disparities between 1988 and 2004.

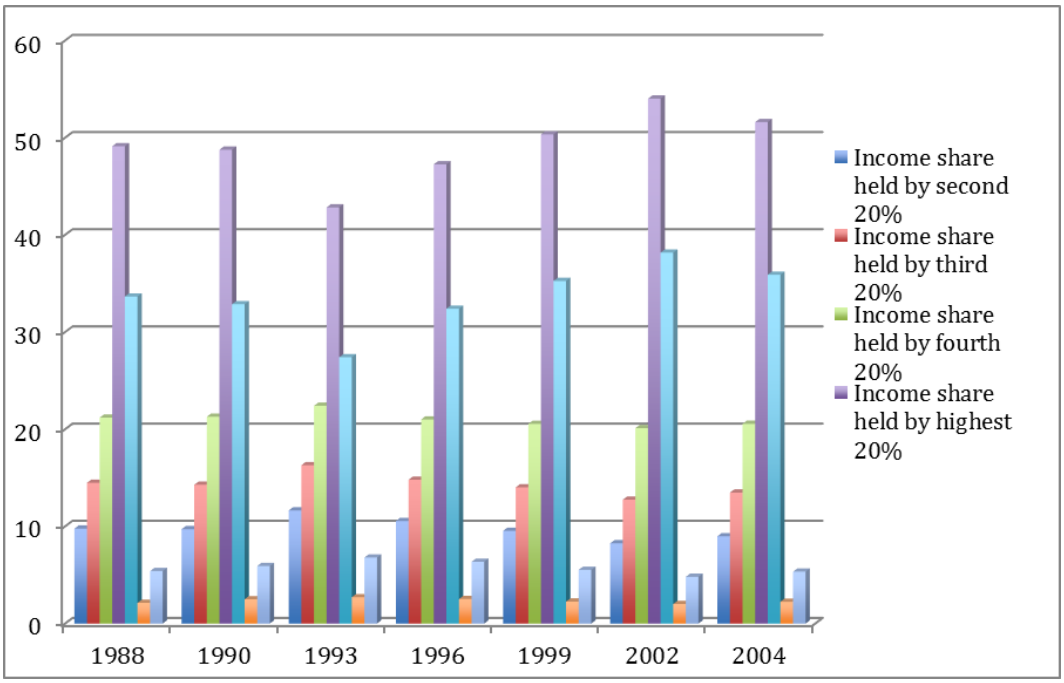

Figure 3. Percentage share of incomes in Jamaica in 1998, 1990, 1993, 1996, 1999, 2002, 2004 showing income share held by the highest and lowest percentages in the population

Source. World Bank Data 2011

Gross National Income (GNI)

I also reviewed the gross national income (GNI) over the past 35 years and concluded that from 2000 to 2008 there was a steady increase in GNI, however in the last couple of years, the GNI dropped which correlates to the effects of the global recession in 2008 to present. Although the GNI is seen as a good predictor of dependency theory in the literature (Kaufman, et al., 1975), I was unable to find any significant coefficient estimators as a result of lack of data needed or able to collect for the purposes of this paper.

Examining Economic Performance

To examine the economic performance, I analyzed the economic growth rate, balance of trade, fluctuating growth patterns between 2000 and 2010.

GDP Indicator

Table 1 and Figure 4show the economic growth percentage on a continuous decline with a resulting negative growth rate in 2010 at -0.5%. Jamaica as a service dominated economy, where tourism accounts for almost 10% of the GDP (World Bank Data, 2011), had roughly 60% of its GDP in the service sector. The agricultural sector declined significantly over the past decade due to decrease in demand of traditional aggregate produce such as sugar canes, bananas and coffee. Arguably, Jamaica is heavily dependent on foreign investment and capital to sustain its service sector especially the tourism industry.

Table 1. GDP Measures of Economic Collapse

Year	GDP growth (annual %)	GDP per capita (current)
2000	0.878703546	3479.056754
2001	1.344929556	3495.299336
2002	0.970408982	3697.005381
2003	5.032568007	3579.595088
2004	1.392775773	3841.776787
2005	1.029633059	4207.563937
2006	2.710341019	4502.021752
2007	1.428750285	4818.647814
2008	1.7	5255.070809
2009	-2.5	4693.427462
2010	-0.5	5178.749315

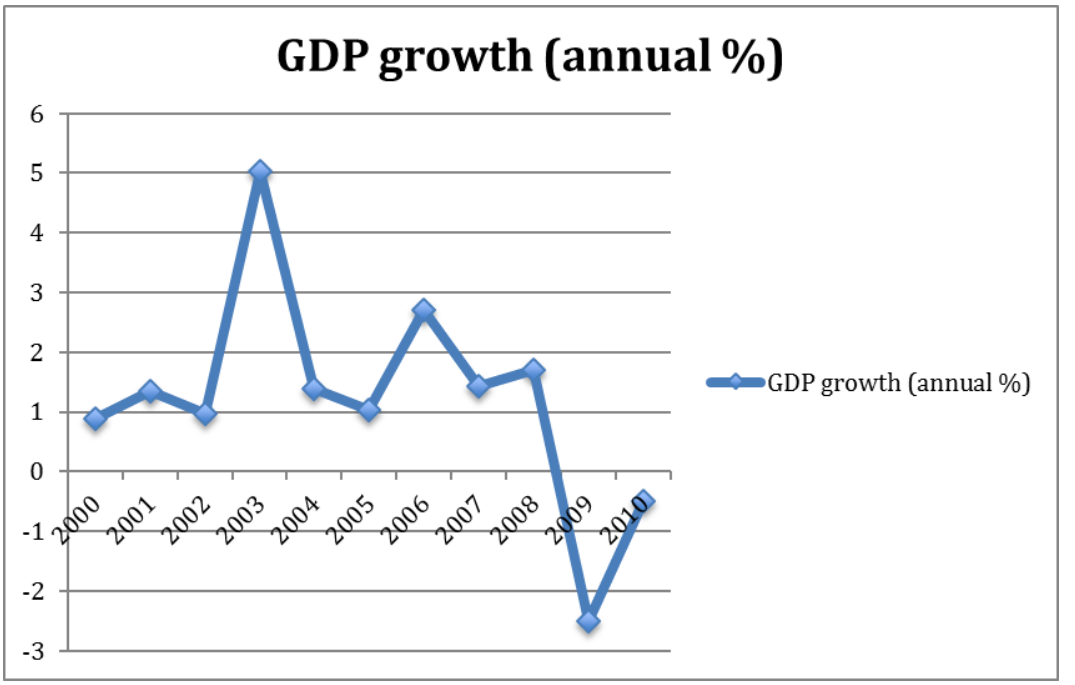

Figure 4.GDP growth rate in Jamaica from 2000 – 2010.

Source. World Bank Data 2011

Foreign Direct Investment (FDI)

Essentially, Table 2 shows an expanding economy with increasing GDP and foreign direct investment (FDI) from 2000 to 2008 with a drop in both GDP and FDI from 2009 – 2010. Coupled with the income shares data in Figures 2 and 3, only a small percentage of Jamaicans benefits from this expansive economy, reflecting in high capitalist and middle class purchasing power growth as reflected in the literature (Elliot & Palmer, 2008; Rose, 2002).

Table 2. Foreign Direct Investment in Jamaica, 2000 - 2010

Years	GDP (current US$)	Foreign direct investment, net (BoP, current US$)	Foreign direct investment, net inflows (% of GDP)
2000	9008629729	394000000	5.198348851
2001	9104515930	524900000	6.742807687
2002	9676893929	407200000	4.971636597
2003	9398942821	604400000	7.667883651
2004	10134991342	541644805	5.935896961
2005	11151727459	581471995.9	6.119987171
2006	11989334129	796768451	7.358006357
2007	12893737821	751496215.3	6.720217084
2008	14121426277	1360725411	10.17302567
2009	12651603067	479765232.9	4.275200214
2010	13994534275	227673925.7	1.626877474

Trade Indicators

Concurrent with the literature (Duncan, 2008; Elliot & Palmer, 2008; Rose, 2002), there is a significant imbalance of Jamaican trade between imports and exports. The most recent data gathered from the Statistical Institute of Jamaica (STATIN) showed the stark contrast between Standard International Trade Classification (S.I.T.C.) sections in imports and exports.

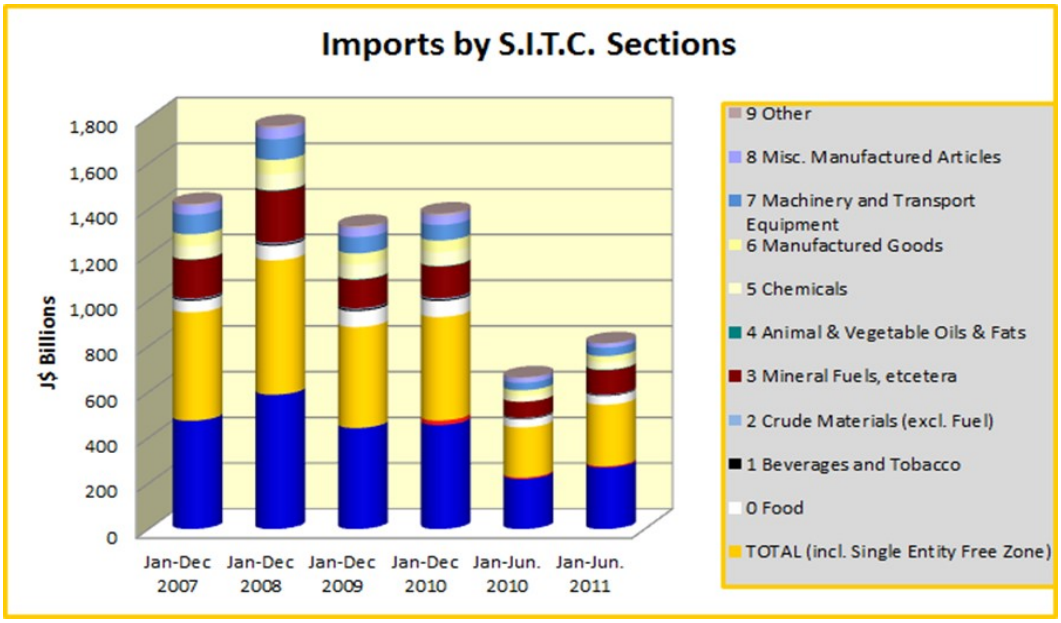

Figure 5. Total imports by S.I.T.C. section in Jamaica from 2007 to 2011.

Source: Statistical Institute of Jamaica

Evident in Figures 5 and 6, Jamaica faces a consistent trade deficit that continues to negatively impact its economic growth and increase its debt. Jamaica's main trading partner is the United States "which accounts four about 40 percent of Jamaica's total trade" (Duncan, 2008, p. 1). Figure 5 shows that Jamaica's main imports are machinery and transport goods, whereas its main exports are crude materials. Figures 6 and 7 clearly show the disparities in trade deficit in Jamaica as a result of exacerbated imports and low exports. In some cases, as in 2007 and 2008, the amount ($US) of exports is more than double the amount of imports ($US). Coupled with an alarming trade deficit is also the foreign exchange and currency devaluation that continues to hinder the economic growth and trade equity needed for Jamaica to prosper (Duncan, 2008).

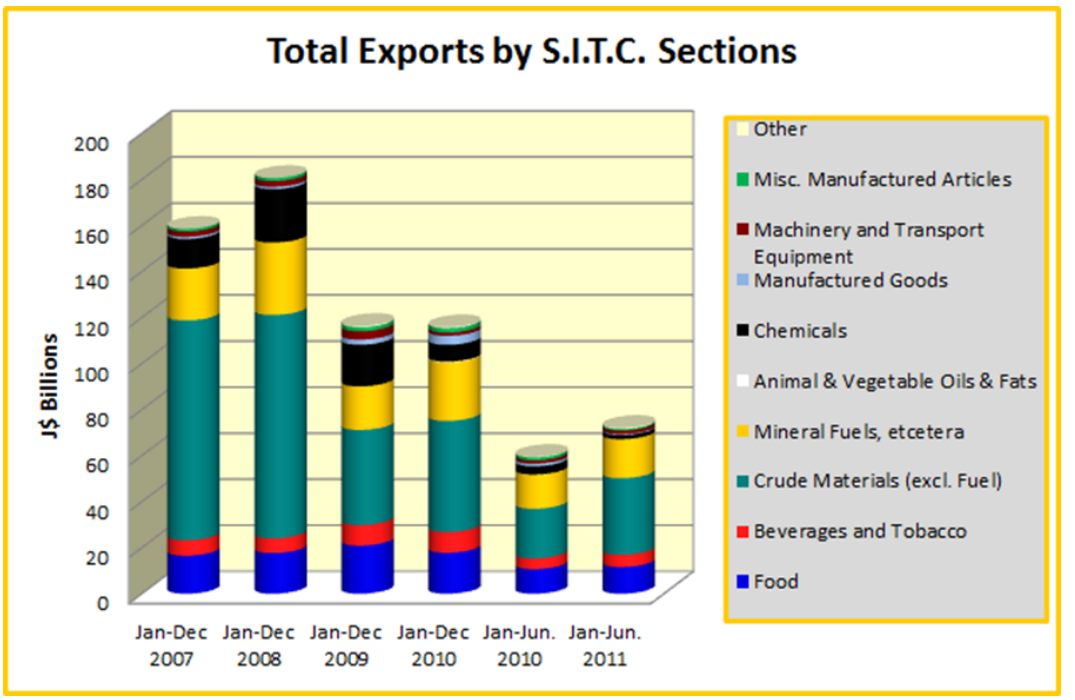

Figure 6. Total exports by S.I.T.C. section in Jamaica from 2007 to 2011.

Source: Statistical Institute of Jamaica

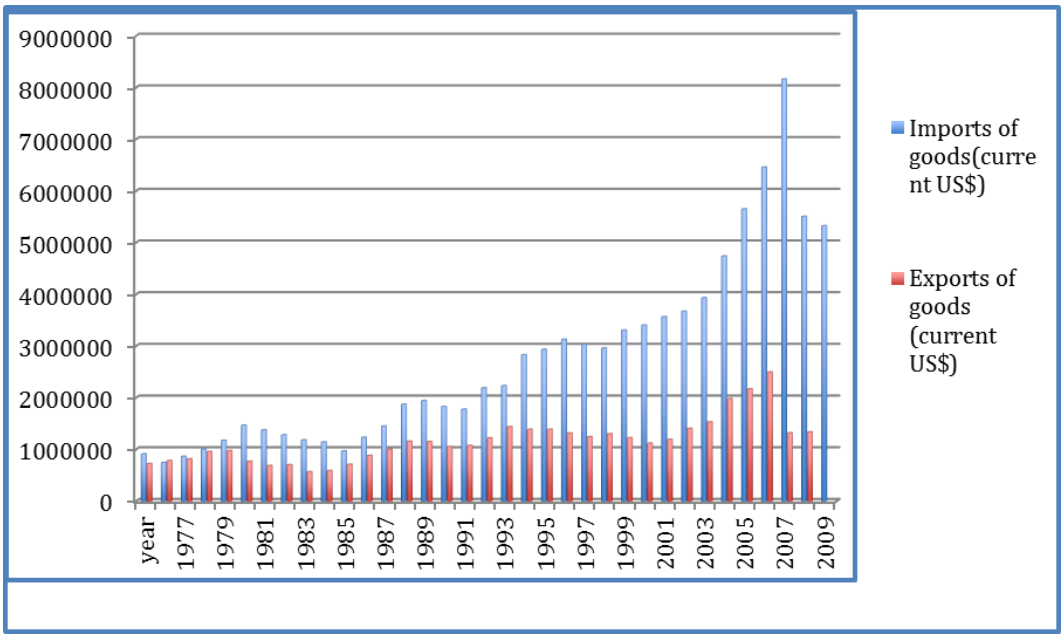

Figure 7. Merchandise imports and exports in Jamaica, 1976 - 2010.

Source: World Bank Data 2011

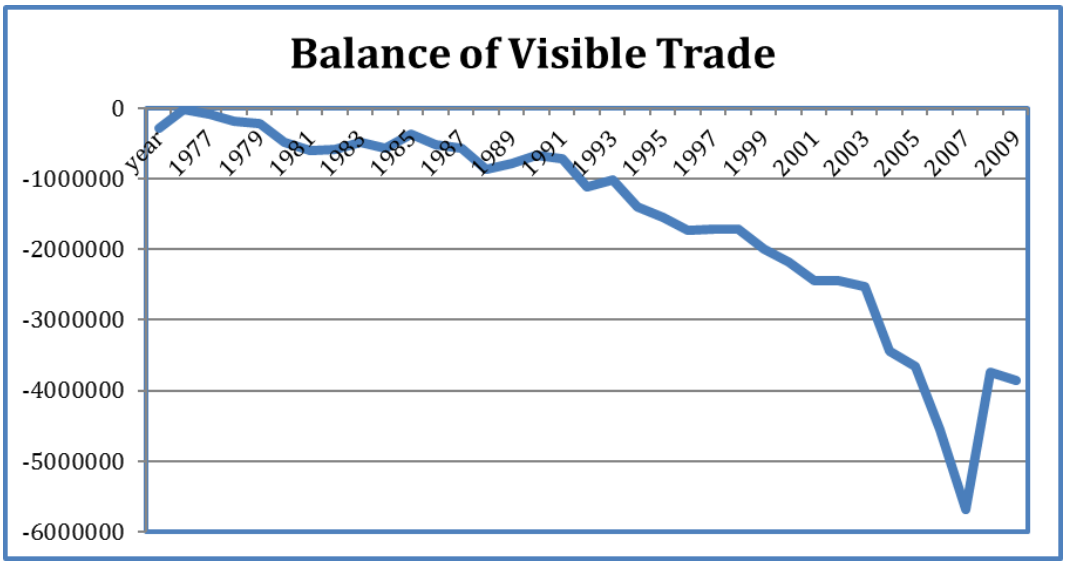

Figure 8. Balance of trade data in Jamaica from 1976 to 2010.

Source: World Bank Data 2011

Econometrics Analysis

Data Set

I constructed a data set that covers a yearly time period of 35 years (1976 – 2010) in Jamaica using STATA 11.2. Data was collected from the following: Estimated Household Income Inequality Data Set (EHII), the World Bank's Deininger and Squire data set, Statistical Institute of Jamaica and World Bank Data Set (Jamaica). Due to missing GINI coefficients data, I calculated moving variable means to fill the missing data. Below are summary statistics of the all the variables used in the analysis.

Table 3. Summary Statistics of Variable Data

Variable	Obs	Mean	Std. Dev.	Min	Max
date1	0				
gdp	35	2568.953	1348.848	908.7617	5301.078
gdpgrowth	35	1.117034	3.430192	-6.694245	9.417103
gni	35	6.12e+09	3.70e+09	1.83e+09	1.37e+10
fdi	35	2.35e+08	3.14e+08	-2.66e+07	1.36e+09
bot	35	-1567334	1421179	-5678102	-22880
imports	35	2721580	1813085	746850	8162874
exports	35	1237528	595071.4	568556	3641819
pop	35	2427177	205427.9	2037716	2702000
**gini	30	43.799	3.930079	35.67	51.17
consumption	35	85.79911	6.830507	71.11668	105.1949
exchangerate	35	29.39787	27.71076	.90909	87.89412
datevar	35	12053.63	3742.712	5844	18263
time	35	18	10.24695	1	35
lgdp	35	7.716693	.5282985	6.812083	8.575665
lgni	35	22.35098	.6227372	21.32893	23.34272
limports	35	14.61374	.6472889	13.52362	15.91511
lexports	35	13.94359	.4002291	13.25086	15.10799
lpop	35	14.69866	.0865054	14.52734	14.8095
gniL1	34	5.90e+09	3.52e+09	1.83e+09	1.37e+10
lgniL1	34	22.32214	.6079201	21.32893	23.34272
lgniL2	33	22.29546	.5967906	21.32893	23.34272

```
      giniD1 |        29   -.0989656    3.336271 -7.299999   7.799999
      giniD2 |        28    .0700001    5.602402     -13.88   9.330002
       botL1 |        34    -1499715     1384222   -5678102     -22880
-------------+---------------------------------------------------------
       botL2 |        33    -1431880     1347073   -5678102     -22880
```

Regression Analysis

Using foreign direct investment (FDI) as a proxy for dependency foreign reliance, I ran a regression analysis with fdi as dependent variable and bot lgdp lgni lpop consumption and exchange rates the independent variables (see Table 4). Coefficients of bot and exchange rate showed to be significant at t(-4.39) p=.0000 and t(-2.24) p=.033

Table 4. Regression Analysis

```
Source |       SS       df       MS              Number of obs =      35
-------------+------------------------------      F(  6,    28) =   26.25
       Model |  2.8437e+18     6  4.7395e+17      Prob> F       =  0.0000
    Residual |  5.0564e+17    28  1.8059e+16      R-squared     =  0.8490
-------------+------------------------------      Adj R-squared =  0.8167
       Total |  3.3494e+18    34  9.8511e+16      Root MSE      =  1.3e+08
------------------------------------------------------------------------------
         fdi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         bot |  -324.5118   72.19443    -4.49   0.000    -472.3954   -176.6282
        lgdp |   7.86e+08   1.46e+09     0.54   0.594    -2.20e+09    3.77e+09
        lgni |  -5.57e+08   1.31e+09    -0.43   0.674    -3.24e+09    2.13e+09
        lpop |  -1.89e+07   1.17e+09    -0.02   0.987    -2.41e+09    2.38e+09
 consumption |  -1.04e+07    8705123    -1.19   0.244    -2.82e+07     7472053
exchangerate |   -7121835    3184664    -2.24   0.033    -1.36e+07   -598346.5
       _cons |   7.50e+09   1.50e+10     0.50   0.622    -2.33e+10    3.83e+10
------------------------------------------------------------------------------
```

I then removed the insignificant variables and ran another regression analysis (see Table 5)

Table 5. Regression Analysis with Significant Variables

	(1)
bot	-281.8***
	(44.70)
exchange~e	-4566535.9
	(2292616.7)
cons	-72260991.1*
	(33849358.4)
N	35
r2	0.830
r2_p	
aic	1411.7
bic	1416.4

According to Oscar Torres-Reyna (n.d.) too many lags could increase the error in the forecasts, too few could leave out relevant information. As such, I ran a lag selection criterion test and deduced that I need to lag bot 10 times and run a regression analysis including botL10 (see Table 6).

Table 6

Selection-order criteria
Sample: 11 - 35 Number of obs= 25

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-896.224				5.5e+28	71.8579	71.885	71.9554
1	-868.994	54.46	4	0.000	8.6e+27	69.9995	70.0807	70.292
2	-859.795	18.399	4	0.001	5.7e+27	69.5836	69.7188	70.0711
3	-857.979	3.6317	4	0.458	7.0e+27	69.7583	69.9476	70.4409
4	-853.535	8.8877	4	0.064	7.0e+27	69.7228	69.9662	70.6004
5	-847.178	12.714	4	0.013	6.2e+27	69.5342	69.8317	70.6069
6	-838.469	17.418	4	0.002	4.7e+27	69.1575	69.5091	70.4252

7	-835.808	5.3229	4	0.256	6.0e+27	69.2646	69.6703	70.7273
8	-828.383	14.85	4	0.005	5.7e+27	68.9906	69.4504	70.6483
9	-8325.911	4.9441	4	0.293	9.1e+27	69.1128	69.6267	70.9655
10	-796.998	57.825*	4	0.000	2.2e+27*	67.1198*	67.6878*	69.1676*

Note. Endogenous: fdi bot
Exogenous: _cons

Accordingly, I lagged for 10 years as suggested by selection order criteria above and reported the results below which are problematic as only a lag of two years showed significance.

Table 7

	(1)
bot	-207.7*
	(80.96)
L.bot	-75.39
	(88.56)
L2.bot	362.4**
	(118.1)
L3.bot	-303.5
	(166.0)
L4.bot	142.5
	(199.4)
L5.bot	90.73
	(219.7)
L6.bot	-416.8
	(224.4)
L7.bot	247.9
	(227.5)
L8.bot	-46.38
	(234.1)
L9.bot	-23.08
	(233.8)
L10.bot	-76.40
	(217.7)
_cons	-99578299.1
	(53728786.2)

N	25
r2	0.917
r2_p	
aic	1011.5
bic	1026.1

Note. Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

I wanted to explore autocorrelation as well as the relationship between fdi and bot. At lag 0 there is a negative immediate correlation between fdi and bot (see Table 8). This means that a drop in fdi causes an immediate increase in bot. As seen in Table 9, there is significant autocorrelation.

Table 8

LAG	CORR	-1 0 1 [Cross-correlation]
-10	-0.0931	|
-9	-0.1363	-|
-8	-0.1952	-|
-7	-0.2505	--|
-6	-0.3192	--|
-5	-0.3632	--|
-4	-0.4216	---|
-3	-0.5275	----|
-2	-0.6169	----|
-1	-0.7744	------|
0	-0.8997	-------|
1	-0.8592	------|
2	-0.8415	------|
3	-0.6488	-----|
4	-0.5746	----|
5	-0.4826	---|
6	-0.4081	---|
7	-0.3558	--|

Table 9

LAG	AC	PAC	Q	Prob>Q	[Autocorrelation]	[PartialAutocor]
1	0.8938	0.9721	30.428	0.0000	|-------	|-------
2	0.7994	0.1550	55.504	0.0000	|------	|-
3	0.6445	0.7877	72.313	0.0000	|-----	|------
4	0.5142	-0.1747	83.357	0.0000	|----	-|
5	0.4317	1.4398	91.401	0.0000	|---	|--------
6	0.3543	0.9200	97.005	0.0000	|--	|-------
7	0.2982	-0.0523	101.12	0.0000	|--	|
8	0.2422	0.5973	103.93	0.0000	|-	|----
9	0.1768	0.2427	105.49	0.0000	|-	|-
10	0.1272	1.3286	106.33	0.0000	|-	|--------
8	-0.2600	--|				
9	-0.1986	-|				
10	-0.0944	|				

Limitations

There are several notable limitations related to this study. There was significant difficulty with data collection, however they draw predictive inferences for further research. Statistical data were cumbersome to acquire given the lack of current resources and diversity in data. The data analysis could not account for endogenous factors such as illiteracy, unemployment and poverty.

DISCUSSION AND CONCLUSION

Based on the econometrics analysis the increasing and sustained imbalance of trade (bot) and the continuous decrease in exchange rate (exchange rate) over the past 35 years has a statistically significant increase in foreign dependence and aid (fdi). The distribution of data displayed in the tables and figures above illustrated continued economic underdevelopment, trade exploitation and persistent income and wealth inequalities. Both social stratification and poor economic performance continues to stagnate the economic growth of Jamaica. Jamaica is arguably plagued by the colonial legacies of exploitation and dependency theory, and as a result the country has seen little economic growth since its independence.

Additionally, the focus on securing political equilibria through the removal of market failures and economic reforms have affected "the distribution of income and rents in society in a direction that further strengthens already dominant groups" (Acemoglu& Robinson, 2013, p. 190).

Based on the data analyzed, the leading contributor to economic dependence is the trade reliance on the United States and its overreliance on one primary economic resource – tourism. However further research needs to be done to examine endogenous variables such as illiteracy, unemployment, underemployment, political movements and poverty rates.

To reduce the effects of trade imbalance, Jamaica should revisit its trade policies and currency devaluation approaches in order to develop better equity between merchandise exports and imports. By holding the "real" value of the dollar, inflation rates were underestimated. Additionally, mechanisms should be put in place to relook at pre-post -independence sale agreements for Jamaica's natural resources. Recent mechanisms to grow the macro-economy has proven successful but at the cost of the micro-economy and the Jamaican entrepreneur business sector. Setting policies in place to safeguard, develop and invest in the Jamaican-borne industries such as the master builders and engineering sectors are quintessential to Jamaica's economic growth. Jamaican engineers should be given first preference to public sector bids, thereby investing in the growth of the micro-economy.

Lastly, there needs to be better diversification of trade partners so that Jamaica is not solely dependent on the United States. There is hope in the diversification of trade partners and foreign investors as China and countries in Latin America have shown great interest in the development and investment of the country's infrastructure (The Jamaican Observer, 2011). Due to its location, climate and proximity to the United States and Latin America, Jamaica is a highly attractive country for investors as evidenced by China's interest in developing the Kingston harbor as a logistics shipping hub.

The island attracts about twice as much foreign direct investment than may be expected by its relative economic size.

This study provides initial analysis for future research on economic problem areas that can be transformed into expansive economic change domains. As such, it is evident that Jamaica has potential for development regarding the key areas to long-term economic growth and prosperity, but the issues of dependency theory, if overlooked will continue to hinder Jamaica's success and growth.

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