

# The Observed Effects of Money Laundering for Jamaica

Student, MSc. Degree in Economics,  
UWI, Mona

Student's Name: Naderah Gray-Farquharson

## **INTRODUCTION**

Caribbean countries have implemented measures to fight against money laundering in order to avoid being placed on the list of non-cooperative states against money laundering by the Financial Action Task Force. However in order to determine the appropriate policy response to take against the fight against money laundering further research needs to be done on the impact of money in laundering and the channels through which money laundering takes place Caribbean countries.

Jamaica is a small open economy that is vulnerable to money laundering. The stability of the financial sector of Jamaica is imperative for its economic growth. However the stability of the financial sector is threatened by the growing phenomenon of money laundering. In order to lessen the impact of money laundering on the financial sector and on the economy, Jamaica has taken various actions as recommended by the Financial Action Task Force (FATF) to fight against money laundering. The fight against money laundering in Jamaica can be increased, in order to do this the relationship between money laundering and the economy needs to be captured.

The objectives of this paper are to provide a relevant definition of money laundering, with special reference to the Caribbean and identify the factors that make the Caribbean an increasing destination for laundering money. This paper will also attempt to document Jamaica's and the Caribbean's experience with money laundering. Furthermore to determine empirically the impact of money laundering on the financial sector, the real sector.

The following paper is organised in the following manner Section 1 provides a literature review, Section 2 will do a review of factors believed to contribute to the pervasiveness of money laundering in the Caribbean. Section 3 will address empirically the impact of money laundering on the economic development of Jamaica and section 4 will address empirically the impact of money laundering on the financial sector, after which will be the conclusion and policy implications based on the results obtained.

**I**

**LITERATURE REVIEW**

**AN OVERVIEW OF EXISTING DEFINATIONS OF MONEY  
LAUNDERING**

There are varied definitions of money laundering. One of the definitions that is widely used is by the Financial Action Tasks Force who defines money laundering as “the processing of criminal proceeds to disguise there illegal origin”. The FATF further highlighted that importance of this process to criminals as it allows them to enjoy there criminally gained funds. Though the FATF has provided a definition of money laundering this definition, from my perspective this is an ambiguous definition of money laundering. However the International Monetary Fund further defines Money Laundering “transferring illegally obtained money or investments

through an outside party to conceal the true origin". This definition gives a better idea to the concept of money laundering.

The definition of money laundering is further extended by the Australian Transaction Reports and Analysis Centre as "the process by which illicit source of moneys are introduced into an economy and used for legitimate purposes. AUSTRAC further stated that "illicit source moneys" implies that only moneys which are proceeds of crime can be laundered. AUSTRAC further stated that money that money laundering can therefore be applied to the proceeds of any crime as long as income accrues to the offender and some laundering takes place.

AUSTRAC also pointed out that the concept of money laundering can only be applied to the money that is invested to be liquidated at a later time and not the part that is used for current expenditure. However this body also highlighted that the term money laundering has a "grey spot". This grey spot in the definition is the funds that have a legitimate source can be made illegitimate by persons subjecting their funds to unlawful tax evasion. This definition is further extended by Takáts (2007) who included terrorism financing which is the transfer of legal funds for illegal purposes, other definitions failed to include this upcoming trend in money laundering.

The Bank of Jamaica has defined money laundering as “all procedures, methods, and transactions designed to change the identity of illegally obtained money so it appears to have originated from a legitimate source.

### **OVERVIEW OF MONEY LAUNDERING STAGES**

Money laundering has three basic steps that launderers follow. These are

- 1) Placement
- 2) Layering
- 3) Integration

AUSTRAC which defines placement as also the initial stage of money laundering and further stated that this stage is the physical disposal of bulk cash profits that are a result of an illegal activity. However though Schaap (2002) agrees that placement is a stage of money laundering he states that prior to the placement stage there is the exchange phase. Schaap (2002) further stated that the exchange phase in the first stage of the laundering process and is also known as the prewash phase.

Schaap (2002) highlighted that in this phase, in order to avoid increased alertness and break the audit trail, at times foreign currency is traded in another currency, smaller notes are traded in

larger elements that are easier to handle and cash is exchanged into easily traded valuable assets. However organizations such as AUSTRAC regard this process as a part of the placement stage. Within the placement stage methods such as smurfing are used. Smurfs (low level criminals) break down large amounts and deposit these moneys in the financial system. Sienkiewicz (2007) discussed a new trend of launderers in this stage which is to use prepaid money cards. This is commonly used because of the anonymity and it is transferable from one person to the next, also there is no need for direct contact with bank personnel.

The second stage of money laundering after the funds are entered into the financial system is called Layering. The Caribbean Bulletin states that the layering stage is the process by which there is the separating of the illicit proceeds from their source by creating complex layers of financial transactions designated to disguise the audit trail and provide anonymity.

Upon completion of the prior stages the next step is called integration. Schaap (2002) describes this stage as the process when the money returns to the legal monetary system as long or short term investment. This is where funds are fully integrated in the legal

system. Sienkiewicz (2007) gave an example of how prepaid cards are used in recent times to integrate illegal moneys in the financial sector.

However Schaap (2002) continues to state in his paper that this is not the final stage of laundering. He stated in his article that there is a stage after integration called legitimization. Schaap (2002) further stated that the purpose of this stage is in order for funds to be in the legal upper world. In this stage funds are finally made legitimate however popular literature on money laundering does not differentiate this stage from the integration stage of the money laundering process.

Background Brief(1996)<sup>1</sup> gave a detailed description of this stage and stated at the integration stage or as it is referred in this article as re-integration and describes this stage as when the is brought back, supposing legitimately into the financial system, where it is safe from enquiry. This document further suggested that at this stage one technique of re-integration is for the launderer to control a bank in a financial centre.

## **THE EFFECTS OF MONEY LAUNDERING ON THE ECONOMY**

---

<sup>1</sup> Background Brief, Foreign and Common Wealth Office, London December 1996. This paper was prepared for general briefing purposes.



There is a vast amount of literature surrounding the impact of money laundering on the economy however with regards to the study on the impact of the growing phenomenon on the Jamaican economy the literature is almost none existent. However I will attempt to highlight some of the literature regarding the qualitative and quantitative impact of money laundering on the economy based on analyses done globally. This paper will focus on the empirical effects on the financial and real sector of money laundering.

The effect of money laundering in the economy was tested by Unger, B., Seigal, M., Ferwerd, J., Kruijg, W. (2006). In this report they did a qualitative and quantitative assessment of money laundering on a small open economy, Netherlands. There results were that money laundering has a negative effect on the economic growth, and financial stability of the Netherlands. The model used in this report will be used to test empirically the effects of money laundering in Jamaica as they are similar in the sense that both are small open economy.

Though there are limited empirical studies of the effect of money laundering on the economy, the above results can be substantiated Bartlett(2002), who outlines the negative effect of money laundering on the financial sector, as it undermines domestic

capital formation and it erodes the financial institutions. He further highlighted in his analysis how money laundering depresses growth in the economy and facilitates illegal capital flight which is detrimental to the economy.

An analytical study that was done was by Quirk (1996). This was an analytical review of how money laundering can affect the macro economy. He implies that money laundering which often has money moving from one country to another and causes misleading data which has an adverse impact on interest rates, exchange rate volatility and tracking becomes more uncertain. He further supported his views that money laundering has an impact on the economy by highlighting his empirical study that showed that money laundering has a negative impact on growth.

Quirk (1996) view of the macroeconomic effect of money laundering was also shown by Unger (2006) which used Quirk's methodology and proved that money laundering has an effect on the economy through the impact on economic growth and on the financial sector of the Netherlands.

In summary most of these studies carried out have shown that money laundering has a negative effect on the economy. One study to

speak of is the impact of money laundering on economic growth through the real sector by the impact of the level of corruption that flows from money laundering. The literature shows that there is a positive relationship between the money laundering prevention initiatives and economic growth through a study conducted by Andrade (2006). The study concluded that the economic growth is affected by investment. Therefore if the level of investment is affected by high corruption then there is a decrease in economic growth. This can happen in the Caribbean.

One of the few empirical studies of the effect of money laundering on developing countries is by Nair, V. & Vaithilingam (2007). He tested empirically the factors that underpin the pervasiveness of money laundering. He studied the relationship between technology, quality of human capital, efficiency of legal framework, ethical behavior and capacity for innovation on the pervasiveness. The findings were the legal framework with good corporate governance lower the pervasiveness of money laundering. Jamaica was one of the developing countries used in this study. Though it is impossible to identify the results for Jamaica alone, the overall effect can be concluded for the Caribbean. Furthermore the policy suggestions made in this paper can be adopted in the Caribbean.

Ali (1998) highlighted the risks factors within the Caribbean that makes it an ideal destination to launder money. He looked at the geographical location and the offshore financial centres. This contributed to the pervasiveness of money laundering in the Caribbean.

## **MONEY LAUNDERING IN THE CARIBBEAN: IS IT A GROWING PHENOMENON?**

- **FACTORS THAT CONTRIBUTE TO THE PERVASIVENESS OF MONEY LAUNDERING IN THE CARIBBEAN**

The goal of criminal act is to generate a profit from the group or the individual that carries out the act. Therefore money launderers have to find the most efficient and less hassle way to launder there monies whilst generating a profit.

In recent times the Caribbean has been described as an appropriate destination to launder dirty money due to its minimal law enforcement for laundering money and also its relatively stable financial system. UN GENERAL ASSEMBLY noted “riding on the wave of globalisation, organized crime syndicates and enterprising individuals are taking advantage of open borders, privatization, free trade zones, weak states, offshore banking centres, electronic transfers, cyber banking to launder millions in drug profits”. From these factors listed the Caribbean is affected by predominantly all the factors.

Even though money laundering can occur anywhere in the world money launderers choose destinations which have two key factors (1)

where there is a low risk of detection due to ineffective anti-money laundering laws and (2) and they prefer areas with stable financial systems.

This section will attempt to highlight the factors within the Caribbean that has made it an ideal destination to launder money and the factor that contribute to the pervasiveness of money laundering. Among the factors that are believed to affect the Caribbean are the Corruption levels, legal framework and geographical factors.

During the literature search there was no empirical studies found on the pervasiveness of money laundering in the Caribbean. There closet study was by Nair and Vaithilingam who highlighted the factors that affect the pervasiveness of money laundering in developed and developing countries the factors used in this study were infrastructure, Intellectual Capital, Institutions, Integrity and Innovation. In this paper he found that there is an inverse relationship between efficient legal framework, good corporate governance on money laundering. In relating these finding the Caribbean, or specifically Jamaica, attained a corruption rating of 3.3/10 in 2007. The rating means Jamaica has become more corrupt and hence in the eyes of launderers this is an attractive destination to launder money.

In the Caribbean the low risks of detection of launderers are due to many factors, which include lack of resources due to budgetary constraints by the government, to aid in the fight of money laundering. Within the Caribbean most of the countries have severe budgetary constraints and the government choose to invest in areas which pose immediate problems or will aid the social well being of the populous. Furthermore the lack of financial intelligent units in many Caribbean countries which specialise in the fight against money laundering rather it is the limited man-power of the police forces which has to be divided between what are deemed as the 'more serious' crimes and the fight against money laundering.

The Caribbean's geographic location has made it a convenient location to launder money. Due to its convenient location between North and South America has made it convenient spot to transit drug from one point to the next. Jamaica in particular is a main transshipment port for drugs from Columbia to North America. Hence most of the money from the export of drugs is sent back to Jamaica. Other countries which have been noted as a transshipment point are Bahamas, Dominica Republic and Haiti; therefore most of the drug money is repatriated to these Caribbean countries. In order to repatriate the proceeds to the drug lords of the Caribbean this take

the form of the use of remittance services and also the use of money couriers. With the emergence of a large Diaspora of Jamaicans the emergence of the Western Union Money Transfer system has provided as an ideal way used by launderers to send their dirty money to Jamaica.

The UN General Assembly noted that the Trade Liberalization and free trade zones provided additional venues for laundering money. This notion is further supported by Ali (2000). The UN General Assembly further noted that the laundering system is shifting from the banking system to the use of international trade. An example of the used of this method was provided by FATF report on money laundering Typologies where it was noted that launderers would pay large sums of money for worthless goods, which the payments were in fact proceeds for illegal activities. When the goods were received they were either thrown away or sold as junk.

The Caribbean has the seventh largest deposit base in the world with 550 banks only 17 are subject to Anti-Money Laundering Laws which makes it very attractive for launderers. Offshore financial sector can be defined as “hosts financial activities that are separated from major regulating units by geography and/or legislation”, DESG Annual Conference. The Un General Assembly noted that “the



existence of offshore banks and tax haven has allowed drug traffickers to develop complex international networks". The offshore financial centres is attractive to money launderers as it offers offshore trust as they aid drug traffickers to take advantage of the lack of a requirement in most jurisdictions to register the trust with a government authority and confidentiality laws that incorporate a general prohibition against the disclosure of information of information relating to the trust, including the identity of the beneficiary. This is mostly used by sophisticated launderers and is often layers of complex paperwork. This method has aided the pervasiveness of money laundering in the Caribbean.

"The relatively free circulation of foreign currency in several Caribbean countries is attractive to persons seeking to assimilate wealth into the local economy as a part of a laundering scheme" Ali(2000). Ali further notes that the flexibility of being able to convert from foreign currency to local currency as aided criminals immensely in facilitating their laundering activities by compounding the money trail.

This fact is further compounded by the fact that the Caribbean has always been a cash oriented society, which facilitates drug traffickers to pay for expensive items with cash. Launderers can easily pay for these items with cash and then resell them. Ali (2000) that the wide

such wide use and convertibility of foreign currency and cash oriented society increases the risk of the region falling prey to the illicit influx of illegal proceeds.

In recent years Bermuda has been a growing destination for the establishment of insurance companies. With the growth of the establishment of insurance companies it has benefited Bermuda's economy drastically; unfortunately it has aid laundered in their activities as well. Boyle(2003) noted that insurance policies has been increasingly used to launder money. Therefore this is one of the factors that attract launderers to the Caribbean. Boyle(2003) highlighted how money launderers take advantage of insurance schemes, by purchasing the insurance policy with cash then request an early redemption of the policy or make a claim against property insurance, which will then result in the insurance company making a payment to the bank.

Another factor that can contribute to the pervasiveness of money laundering in the Caribbean with the aid of lack of monitoring by the authorities is through the use of the Stock Exchange. In recent years there has been a buoyant Stock Exchange presently there are seven stock exchanges in the Caribbean. The stock exchange has been noted

to be used by launderers by Peter Lilley<sup>2</sup>. He noted that the London Stock Exchange used to transfer money by using listed companies that are used for nothing else than a laundering operation. Another form he noted is by criminal funds transferred into alternative financial instruments, ownership of shares and criminal bonds.

The factors discussed is believed to contribute to the pervasiveness of money laundering in the Caribbean.

- **REVIEW OF THE TECHNIQUES USED TO LAUNDER MONEY IN JAMAICA AND THE  
CARIBBEAN**

Methods of laundering money are ever changing with the globalisation. The Caribbean poses various opportunities for launderer. In this section I will attempt to do a review of some of the methods used recently to wash dirty money in Jamaica.

---

<sup>2</sup> Proximal consulting Press extract "Money Laundering is a growing Problem in world Markets, Particularly Stock Exchanges: Peter Lilley explores the Inherent Problems.

Chris Hamblin<sup>3</sup> highlighted that criminals in Jamaica are moving toward money remittance services, the national lottery, stage shows, automobile dealerships, hotels and real estate. Hamblin(2003) goes in-depth to describe how each method is used to launder money.

Hamblin(2003) highlighted that the fact that Jamaica does not require declarations of cross border movements of currency has aided the criminals in their movement of funds. Presently there is a requirement for declaration of currency greater than US\$10000 coming in Jamaica, if it is carried on the person. However with the evolution of the declaration of currency criminals are increasingly using the remittance method to transfer funds. Chaplin (2003) noted that with the use of remittances it is not easy to distinguish between legitimate funds and illegal transfers. Therefore criminals have taken advantage of this avenue.

Another method of laundering money in Jamaica that was pointed out by Hamblin (2003) is the used by promoting dances. He pointed out that the launderers would declare an amount that they received at the gate far more than what they really were. Hamblin also pointed out that the purchase of lottery money is another method that is used to launder money in Jamaica. This method is done by

---

<sup>3</sup> "Jamaica's money laundering scam explained" Chris Hamblin  
[www.complinet.com/ml/](http://www.complinet.com/ml/)

launderers purchasing the lottery winning ticket from the winner, thus receiving a clean cheque that is deposited in the bank.

The use of lottery tickets to launder money is by purchasing the winning lottery ticket from the winner and receiving a cheque from the lottery company to be deposited in their account.

Along with this method launderers often own car dealerships, which they often falsify car purchase transaction, as a cash purchase. Here this becomes a legitimate purchase of a vehicle as a cash purchase hence this will be a proven source of which will be able to be deposited in a bank.

### **III**

#### **IMPACT OF MONEY LAUNDERING ON ECONOMIC DEVELOPMENT**

With the vast amount of money laundering taking place around the world it is inevitable that this will not have an impact on the economic development of a country. Bartlett (2003) discusses the negative impact which money laundering can have on an economy, he noted that money laundering diverts resources to less productive activity and facilitates domestic corruption and crime which depresses economic growth and causes macroeconomic instability.

Ragnar Nurkse economic growth theory for developing countries postulates a supply side argument for a low level of investment in an economy stems from the country's small amount of savings, caused by a low income. He further states that the low level of income is in turn a result of low productivity, which is a result of the small amounts of capital used in the production process that in turn can be attributed to the low domestic saving available in the economy.

For the case of the developing country where there is a large amount of money laundering taking place, the investment in sterile activities will result in low productivity, which results in low income levels and low level of savings. Therefore it is undeniable how money laundering can affect the economic growth of the economy.

Bartlett (2003) discusses how money laundering activities distorts investment and depresses productivity which conforms to Ragnar Nurkse economic growth theory. It is argued that money laundering funds are generally place in sterile investments, such as Real estate is a non transparent market hence it is used by money launderers a lot. These are investments that do not generate productivity. Therefore in a developing country where investment is needed the funds that are placed in investments will not increase the

productivity and therefore which will cause an increase of income in order for there to be economic development.

Another means by which criminal elements tend to distort the investment flow within the economy is through transforming productive investments into sterile investments which serves the only propose of catering to their laundering activities. Bartlett (2003) pointed out that this reallocation of resources will result in crowding pout of productive investment resulting in a decrease of economic growth. This view is supported by Kennedy(undated) says that that monies laundered is often tied up in non productive activities thereby lowering the amount of capital available for investment and places pressure on interest rates and makes it more expensive for business to add productive capacity.

An example of the effect of money laundering activities on the economy was a study highlighted by Bartlett (2003), Applying an Input-Output Model to “estimate the Lost Economic Activity from /domestic Money Laundering: The Case of Australia”. This study reflected a negative relationship between Money Laundering activities and the unemployment rate, which contributed to the output loss of Australia and subsequently losses in the GDP. This chain of activity is called the multiplier effect as the return in terms of employment,

income and output is less than if the money was invested otherwise. Therefore money laundering activities can cause the same result in the Caribbean and restrict economic growth.

It is a deniable fact that the financial system of the Caribbean is essential to the economic growth. However this will be discussed in Section 4.



## **EMPIRICAL**

The effects of money laundering on the economic growth in Jamaica will be tested. The data set is relatively small from 1972-2005. The model that will be used to estimate the effect that money laundering has on the Jamaican economic growth is specified as follows:

$$DGDP = DGDP (PI, H, ML)$$

Where *DGDP* is a measure of the growth rate of Gross Domestic Product, *H* is the measure for Human Capital, *PI* is fixed capital formation and *ML* is the measure of Money laundering. We therefore specify the econometric model as:

$$DGDP = \alpha_0 + \alpha_1 LPI + \alpha_2 LH + \alpha_3 ML + \varepsilon$$

All variables are placed in logarithmic. The independent variables of the above equations, they are defined as follows:

### ***Gross Fixed Capital Formation***

For most developing countries the data is not available for depreciation and capital stock. We therefore used fixed capital formation instead as this the amount of the capital within the economy at that particular point in time that will be available for investing. The Gross fixed capital formation is the amount of investment within an economy by enterprises and is highlighted as a measure of investment by Blavy (2006). Hence the greater the capital

formation the greater the investment for that period in time hence there will be more productivity and greater economic growth. Hence this will have a positive relationship with the dependent variable.

### ***Income***

The growth of the economy will be measured by the level of productivity, reflected in the GDP at produces values. The measure will be the rate of Gross Domestic Product. Hence as the dependent variable it is believed that the above variables has an impact on the productivity within the economy and hence the economic growth. Therefore the growth rate will be used.

The GDP at 1996 constant prices was used. This was calculated used the formula below:

$$GDP_t^{1996} = GDP_{1976} \times \frac{GDP_t}{GDP_{1976}}$$

### ***Human Capital***

Human Capital is essential to economic growth of a country. This is expected to have a positive relationship with economic growth. The reasoning behind this relationship is that the greater the investment in human capital, the greater the labour force will be equipped with

the skills necessary for increased productivity, the labour force will also be in a better position for research and development which will increase efficiency. The increase of efficiency will result in higher productivity at a lower cost.

Human Capital Stock is proxy as follows:

$$H_t = E_t \times L_t$$

This index was highlighted by Perala(2008). The respective variables were defined as follows,  $H$  is defined as the total stock of human capital whereas  $E$  and  $L$  is defined as average years of educational attainment and stock of individuals engaged in productive activity respectively, where the latter will be proxy by the total population over the age of 25. The average years of education is derived from Robert J. Barro and Jong-Wha Lee series<sup>4</sup>, which are the average years of schooling for the population over the age of 15 years.

### ***Money Laundering***

Money laundering is expected to have a negative effect on economic growth. The relationship between economic growth and money laundering is not necessarily a direct effect between the two variables, but the effect that money laundering has on crime which will in turn affect the economic growth rate. Money laundering will be proxy by the total of fraud and breaches of the dangerous drug act.

---

<sup>4</sup>

The additive values of these two variables were used as fraud and drug crimes necessitate a lot of money laundering(Unger 2005). Therefore if there is an increase of any of these two crimes will imply that there is an increase of money laundering within Jamaica. Furthermore the large amounts of illegal funds gained from these activities need to be legitimize hence the need to launder these funds.

## **EMPIRICAL MODEL**

### ***Augmented Dickey Fuller***

Firstly, to established the presence of a unit root in this dataset by performing the Augmented Dickey Fuller test. The ADF test will be performed using the following regression model for each variable.

$$\Delta Y_t = \text{constant} + \delta Y_{t-1} + \beta T + \sum_{s=1}^n \beta_s \Delta Y_{t-s} + \varepsilon_t$$

Where  $Y_t$  is the time series,  $\varepsilon_t$  is the residual and  $T$  is the time trend.

$$H_0 : \delta = 0$$

$$H_1 : \delta \neq 0$$

The null hypothesis is that the variables have a unit root, if we have a unit root the dataset is not stationary. This follows the distribution of

the *tau* statistic. This test is done until we have stationary dataset, whether at differences or at levels.

Here it is important that the dataset is stationary as a stationary dataset means that the mean and the variance is not time varying and we can use it to make predictions for the future of a study that is carried out during a different time period.

### ***Cointegration and Error Correction Mechanism***

In order to avoid the result of spurious regression by regressing non-stationary time series on non-stationary series determine whether money laundering has any long run effect on economic growth, this paper adopts the concept of cointegration. If the variables are cointegrated the model will yield long run relations among the variables.

Firstly, using Ordinary Least Square, regress the time series. After which we shall subject each time series to separate unit root.

Secondly, we subject the error term of the OLS regression to unit root analysis and if it is stationary at levels then we conclude that the regression is a cointegrating regression and not spurious, which makes the OLS regression its long run estimates.

Thirdly using the error correction mechanism we use the following model

$$\Delta Y_t = \alpha_0 + \alpha_1 \Delta X_t + \alpha_2 \Delta u_{t-1} + e_t$$

Where the variables are regressed in the order which they are stationary and  $u_{t-1}$  representing the one period lag of the error of the cointegrating equation. If the error term is nonzero then the model is out of equilibrium

## EMPIRICAL RESULTS

The model was estimated using annual data for the years 1972-2005. Preceding section gave a brief description of the unit root test and the error correction mechanism. The results of the unit root test performed in eviews are as follows:

TABLE 5.1

Variabl e	levels	First Differenc e	Second Differenc e
DGDP	0.0011		
LOGHC	0.4766	0.9792	0.0001
LOGPI	0.8658	0.0001	
Fr dr	0.9245	0.0001	

Firstly, it should be noted that large sample properties do not hold for this sample so t-statistics are not valid.

The above results of the p-value are shown above these indicate that growth is stationary at levels, whereas PI and ML is stationary at first differences and Human capital if stationary at second differences

Now that we have established the unit root of the variables, the OLS regression was then run in eviews which provided the following results were obtained using eviews

Table 5.2

Dependent Variable: DGDP				
Method: Least Squares				
Sample (adjusted): 1 34				
Included observations: 31 after adjustments				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.113796	0.157578	0.722155	0.4764
LOGPI	0.041566	0.021753	1.910835	0.0667
LOGHC	0.061317	0.042012	1.459514	0.1560
LOG(FR_DR)	-0.103429	0.037592	-2.751356	0.0105
R-squared	0.314927	Mean dependent var		0.007882
Adjusted R-squared	0.238807	S.D. dependent var		0.035083
Durbin-Watson stat	1.804587	Prob(F-statistic)		0.015508

p-value are shown above these indicate that growth is stationary at levels, whereas PI and ML is stationary at first differences and Human capital if stationary at second differences

On further analysis of the economic growth model for Jamaica indicates that fixed capital formation and human capital has a positive relationship with economic growth as expected. However only fixed capital formation is significant at the 10% level of significance. Whereas the model reveals that human capital is not significant with economic growth.

The coefficient of determination of the model is 0.3145, which implies that the model explain economic growth by 31.5%. The Prob(f-sta) reveals the model is statistical significant at the 5% level of significance.

Moving on to the next stage of our analysis which indicates that the equations have a cointegrating relationship as the error term is stationary at levels, we shall now determine the short run dynamics of the model. The results in Table 5.3

Table 5.3

Dependent Variable: DGDP				
Method: Least Squares				
Sample (adjusted): 3 34				
Included observations: 28 after adjustments				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001298	0.004439	0.292464	0.7726
D(LOGPI)	0.132225	0.032924	4.016057	0.0005
D(LOGHC,2)	-0.037274	0.053115	-0.701751	0.4899
D(LOG(FR_DR))	0.014702	0.045172	0.325471	0.7478
RESID02(-1)	-0.097998	0.177804	-0.551158	0.5868



R-squared	0.413033	Mean dependent var	0.004893
Adjusted R-squared	0.310952	S.D. dependent var	0.033818
Durbin-Watson stat	1.366187	Prob(F-statistic)	0.012552

This result for the residual in the system for model is -0.097998. This result, though close to zero indicates that any disequilibrium to the system is not restored in the same period. Looking at our main variable of interest  $fr\_dr$  indicates a positive relationship with economic growth in the short run.

Human capital shows a negative and a statistical insignificant relationship with economic growth in the short run. However fixed capital formation shows a positive and significant relationship with economic growth in the short run. Furthermore the coefficient of determination indicates that the independent variables explain short-run variations in the model by 41% and the model is statistically significant.

## **IV THE EFFECTS OF MONEY LAUNDERING ON THE FINANCIAL SYSTEM AND THE DEMAND FOR MONEY**

- FINANCIAL SYTEM

The growth of money laundering around the world is believed to have varied effects on the economies of the countries which this activity takes place. This section will attempt to do an analysis of the effect of money laundering on the financial sector of Jamaica.

Money laundering on the financial system in developing countries poses three effects. These are by increasing the risk of financial sector failure faced by institutions that face the potential risk of being defrauded, the increasing probability that customers of the

financial institutions will be defrauded by individuals within the institutions and the probability that the financial institution will be greatly influence or controlled by criminal element.

The above mention risk Hussain (undated) noted will played in the financial sector by the money laundering impairs the sustainability and the growth of the financial sector in two ways, these are wreaking the correlation between money laundering and fraudulent activates undertaken by employees in the institution and secondly the Customer trust reflects the level of capital accumulated by these institutions.

With the large amount of money that is pumped into the economy through money laundering it is likely that this will have an impact on the financial sector in varied ways. These effects stem from impacting the reputation of the financial sector within an economy, interest rates, expectations and the equity market may be affected directly or indirectly. Hussain (undated) noted that these institutions impetus to furtherance of investment prospects by providing conducive environment and efficient allocation of the resources to investment projects which contributes substantially to economic growth. Therefore if these variables are affected then this will have a negative effect for the long term growth of a country in this case Jamaica.

Therefore if the financial institution is known to be associated with money laundering activity then this will undeniably affect the customer trust. Hussain (undated) further stated that this effect on customer trust will negatively affect capital accumulation by these institutions; he further stated that this will affect the stock of capital which contributes to investment.

The IMF in a recent paper noted “that a problem can arise, as seen during the international financial crises in 1997 jurisdictions through the "contagion effect," and such financial problems can quickly become larger, macroeconomic problems. A factor underlying the contagion effect is the perception that whatever serious problem sparked a liquidity crisis in one financial institution or system may also exist, heretofore unappreciated, in another financial institution or system. Another factor is that there are perceived to be a significant number of interrelationships between the problem institution and to other jurisdictions that will raise the possibility of liquidity problems in the former being spread to the latter”. With this in mind with the case of Jamaica if money laundering is causes a lot of hot-money flows then this can result in a severe liquidity crisis which will result in the contagion effect as mentioned above resulting in financial sector crises. The effects of another financial crisis will be detrimental to the Jamaican economy.

- DEMAND FOR MONEY

The rise of money laundering is believed to have an effect on the demand for money particularly in the developing country. Quirk (1996) investigated the impact of money laundering on the demand for money within the economy. His result concluded that money demand has a negative relationship with money laundering activities.

The negative relationship between money demand and money laundering stem from the fact that increases in money laundering activities will result in a decrease in the demand for money. This can be as a result of a shift of money laundering activities from the banking system to other activities. It should also be noted that there can be a positive relationship between the demand for money and money laundering activities.

The establishment of the relationship between money demand and Jamaica is necessary as it relates to fighting money laundering in Jamaica. The existence of a relationship between money demand and money laundering and the sign of the relationship will aid in the government to determine if money laundering mostly occurs through the financial system, positive relationship or through other non-monetary variables such as barter. Hence policies to be implemented will know how to best address the problem of money laundering.

The relationship between money laundering and money demand has yet to be established in Jamaica however in this section we will attempt to decipher if there is such an empirical relationship. If there is a relationship then this can imply that our financial system is widely used to launder money if not then money laundering activities are mostly through non-financial means such as barter and other non-sterile investments in Jamaica.

The estimation procedure is the same as explained in section 3.

The model that will be used is:

$$M = (\alpha, \beta_1, \beta_2, \beta_3, \beta_4, e)$$

$$M = \beta_0 + \beta_1(Y) + \beta_2(R) + \beta_3(P) + \beta_4(ML) + e$$

The function natural log will be

$$\lg M = \lg \beta_0 + \beta_1 \lg Y + \beta_2 \lg R + \beta_3 \lg P + \beta_4 ML + e_i$$

$$m = \alpha + \beta_1 y + \beta_2 r + \beta_3 p + \beta_4 ml + e_i$$

The variable used in the estimation is as follows Y represents Gross Domestic Product in purchaser's values. The log will be taken for this variable. Furthermore this variable is expected to have a positive relationship with money demand.

The variable P represents the price level within the economy. This is expected to have a positive relationship with money demand. The price level in the Jamaican economy is measured by the consumer price index.

The variable R represents the interest rates measured by annual T-bill rates. This variable is expected to have a negative relationship with money demand. Since this variable is in rate it will not be logged.

The variable ML represents money laundering the definition of this variable is in section 3 and is expected to have a positive relationship with money demand. The reasoning is that with increases of money laundering in the banking sector there will be an increased demand for money.

This model is specified by Fiona Atkins (2005)<sup>5</sup> with an alteration by adding in the Money Laundering variable. Estimating the OLS estimated of this equation. Since the form of heteroskedasticity in the data set is known we obtained efficient parameters estimates by using White's heteroskedasticity consistent covariance matrix estimator. The results obtained in eviews are as in Table 6.1:

Table 6.1

Included observations: 29 after adjustments				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.40254	3.664622	4.475916	0.0002
Y	-0.811470	0.304262	-2.667015	0.0135
T BILL	0.009734	0.004291	2.268831	0.0326
LOGP	0.022029	0.051698	0.426103	0.6738
FR_DR	0.000115	3.34E-05	3.454840	0.0021

<sup>5</sup> "Financial Crises and Money Demand in Jamaica" Fiona Atkins, Birbeck School of Economic, Mathematics and Statistics



R-squared	0.779530	Mean dependent var	7.548791
Adjusted R-squared	0.742785	S.D. dependent var	0.322439
Durbin-Watson stat	1.193802	Prob(F-statistic)	0.000000

Firstly it should be noted that the Chow Test performed on the dataset reveals that structural adjustment enforced by the IMF on Jamaica in 1980 which intensified in 1983 and the liberalization of the interest rate, indicates that these had an impact on the result obtained.

The results indicate that all variables with the exception of LOGP are statistically significant at the 5% level of significance in the model in order to determine money demand in Jamaica. However the coefficient of determination reveals that the model explains 77% variation in money demand in Jamaica. Furthermore the Prob(f-stat) is zero which represent that the model is statistically significant.

Looking at the variables the model represents a negative relationship between income and money demand which is not consistent with economic theory. This of the small dataset, a larger data may result in a more unbiased estimate. Other reasons may be as a result of behavioral patterns in Jamaica or measurement errors of the Gross Domestic Product.

All other variables are consistent with economic theory. The positive relationship with Treasury bill rates and money demand can be as a result of the structural adjustment programs which had a an effect on money demand.

The positive relationship between Treasury bill rates and money demand was explained by Atkin (2005) as it may be

*“A data problem: in the context of a shallow financial system the Treasury bill rate and deposit rate move together (Correlation: 0.9 for Jamaican rates). In this context it is possible that the treasury bill rate is proxying for ‘own rate’ rather than opportunity cost (Crockett & Evans, 1980). Alternatively it may reflect problems associated with risk since the measured interest is not a risk adjusted rate. Unaccounted risk aspects could relate to inflation and institutional insolvencies, both of which increased in the financial crises of the early 1990s, and coincided with the much greater interest rate variability resulting from financial liberalisation. The consequence may be that adjustments in the reported rate have not accurately captured the relevant underlying risk adjusted rate. In practice the liberalisation of the 1990’s was associated with higher real interest rates, financial deepening and a greater holding of money. Thus the interest rate may be acting as a proxy for liberalisation. The significant and positive trend suggests increased monetisation of the economy over time”*

Our variable of interest which is the proxy for money laundering indicates a positive and significant relationship between Money demand and money laundering in the long run. This indicates that an increase in money laundering by 1% increases the money demand by 0.01%. This result implies that money laundering activities does have an impact on money demand. This can be as a result that money laundering activities are taking place through the banking sector of

Jamaica. The results obtained are contrary to the result of the IMF who found a negative result between the variables of the proxy for money laundering which is crime and money demand. However the IMF notes that this relationship can be due to the fact that increasing money laundering is taking place through cashless instrument.

Performing cointegration analysis to decipher the short run effect of money laundering on money demand all variables are stationary at first differences except money which is stationary at levels resulted in the following results:

Table 6.2

Sample (adjusted): 1973 2003				
Included observations: 27 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.511561	0.110756	67.82058	0.0000
D(Y)	1.563763	1.622594	0.963743	0.3461
D(T_BILL)	-0.008236	0.008485	-0.970669	0.3428
D(LOGP)	0.137002	0.490729	0.279181	0.7828
D(FR_DR)	6.56E-05	6.02E-05	1.089875	0.2881
RESID01(-1)	0.936882	0.429580	2.180925	0.0407
R-squared	0.294265	Mean dependent var	7.575287	
Durbin-Watson stat	0.643749	Prob(F-statistic)	0.166853	

The P-value indicates that none of the variables are statistically significant except the lag residual term. However analyzing the p-

value indicates that all variables have the sign as expected in the short run however the residual of 0.93 indicates that shocks to the system do not restore the system to the equilibrium in the same period of the shock. The variable of interest which is money laundering indicates that money laundering does not have a significant effect on money demand in the short-run.

Therefore the results indicate that in Jamaica the focus of anti-money laundering efforts should be geared towards the financial sector, as the focus of the money laundering activities in the financial system can have the effects discussed above.

#### **IV CONCLUSION AND POLICY RECOMMENDATIONS**

The goal of this study is to give an overview of the factors that contribute to the pervasiveness of money laundering in the Caribbean. This paper has contributed to money laundering research of Jamaica by attempting to determine the impact of money laundering on economic development and the relationship with financial stability through the demand for money.

The results obtained indicate that there is a positive and significant relationship between the economic growth and money laundering in Jamaica in the long run. The implication of this relationship for Jamaica is that more aggressive Anti-Money Laundering policies should be geared toward the need to be taken by the Jamaican government.

The results also indicate a positive relationship between money demand and money laundering, which indicates that money laundering activities can threaten the financial stability of Jamaica. This can in turn affect economic growth. Therefore anti-money laundering efforts should target our financial systems.

Further research is needed in order to determine the impact of money laundering for the Caribbean and the flows of money

laundering in the Caribbean. However, given the seriousness of the money laundering problem improved data analysis is needed to conclusively determine the impact on the economy.

With regards to policy responses against money laundering law enforcement agencies and financial institutions have to identify the various ways which makes the Caribbean vulnerable to money laundering. The authorities will have to identify anti-money laundering strategies which have been successful in other countries that can be applied to the Caribbean which will fight money laundering effectively.

The fight against money laundering has evolved to a twin track approach, which consist of a preventative approach and a repressive approach. The preventative approach is founded in banking law and the repressive approach is founded in criminal law (Stessons, 2000). The Swiss model adapts the preventative approach, which focus on banking laws. The relationship between the financial sector and money laundering, the Jamaican authorities can take the preventative approach. Furthermore Stessons(2000) highlights that the preventative approach is best as it is undertaken by the Swiss as funds from money laundering are from foreign entities which attempt to legitimize there illegal money.

Recently the Jamaican Government has implemented various constitution amendments and anti-money laundering recommendations in order to aid in the fight against money laundering, however the attractiveness of Jamaica to money launderer has not yet changed. This section will attempt to provide policy recommendations in order o aid in the fight against money laundering.

The proposals that are proposed by this paper in order to aid in the fight against money laundering:

- (i) Recently it has been noted that the relationship between money demand and money laundering has changed (McDonnell1998). This change is that the demand for money and money laundering is a negative relationship as launderers are now doing a different type of laundering.

Though a positive relationship is established, eventually money laundering will occur in order forms. Therefore the Government of Jamaica has to implement new detection methods to suite the changing face of money laundering, from cash based system to a more non monetary phenomenon.

- (ii) Jamaica is rather inexperienced in the fight against money laundering with regards to the expertise and the methodology to be applied. The government of Jamaica can seek the expertise of countries that has successfully declined the incidence of money laundering. These “experienced” countries can provide training to financial institutions and other bodies on how to effectively fight against money laundering.
  
- (iii) The Government of Jamaica can consider implementing measures to detect or monitor cash at the national border (Hussain, undated). Most of the money that comes in Jamaica is via the national border through avenues such as money mules and other conspicuous way. If person are aware that there are strict monitoring of these national borders then will serve as a deterrent.
  
- (iv) The government of Jamaica can implement a body of professionals that are responsible for the monitoring and the detection of money laundering within financial and non-financial institutions. Currently the limited resources of the security forces are divided between what are deemed as the “more serious crimes” and



money laundering which is not deemed to pose much of a threat. However if there is a specialized body designed to investigate only suspected incidence of money laundering and the enforcement of anti-money laundering policies then prevention of money laundering will be more successful.

- (v) Larger compliance with FATF with regards to monitoring designated non-financial institutions and professions. Presently Jamaica is rate as non-compliant by the FATF with regards to this recommendation.

## **BIBLIOGRAPHY**

Alexander, K. (2000). 'The International Anti-Money Laundering Regime: The Role of the Financial Action Task Force'. *Financial Crime Review*.

Ali, S. A. (1998). 'A Tale of Two Regions: The Latin American and Caribbean Money Laundering Connection'. *Paper based on an article presented at the 16<sup>th</sup> Cambridge International Conference on Economic Growth*.

Ali, S. A. (2000). 'Stick and Stones...? Or will Name Calling Really Hurt the Caribbean?' *Financial Crime Review*.

Ali, S.A. (2003). 'Money Laundering Control in the Caribbean'. *Kluwer Law International Vol 16*.

Andrade, J.P. & Veiga, L. H. (2006). 'Money Laundering, Corruption and Growth: An Empirical Rationale for a Global Convergence on Anti-Money laundering Regulation'. *Latin American and Caribbean Law and Economics Association Annual Papers*.

Bagallea, M., Becchetti, L., Lo Cicero, M., (2004). 'Regional externalities and direct effect on legislation against money laundering: A test on Excess money balances in the five Andean Countries'. *Journal of Money Laundering Control, Vol. 7*, pp. 347-366.

Bank of Jamaica (2004). 2004 Guidance Notes on the detection and Prevention of Money Laundering and Terrorism Financing Activities.

Bartlett, B.L. (2002). "The Negative Effects of Money Laundering on Economic Development. Prepared for the Asian Development Bank.

Duyne, P.C. (1998). 'Money-Laundering: Pavlov's Dog and Beyond'. *The Howard Journal Vol. 37 No. 4.*

International Monetary Fund and World Bank (2003). 'Twelve-Month Pilot Program of Anti Money Laundering and Combating the Financing of Terrorism Assessment and Delivery of Technical Assistant'. *Prepared by the Monetary and Exchange Affairs and Legal Departments, IMF & The Financial Sector, World Bank.*

McDonnell, R. (1998). 'Money Laundering Methodologies and International and Regional Counter-Measures'. *Paper presented at the conference Gambling, Technology and Society Regulatory Challenges for the 21<sup>st</sup> Century, Sydney, 7-8 May.*

<http://www.aic.gov.au/conferences/gambling/mcdonnell.pdf>

Mitselas, V. (2003) 'Money Laundering Counter-Measures in the European Union- A New Paradigm of Security Governance versus Fundamental Legal Objectives'. *Kluwer Law International. The Hague/London/New York.*

Monetary and Exchange Affairs Policy Development and Review Departments (2001). *Financial System Abuse, Financial Crime*

*and Money Laundering background paper.* International Monetary Fund.

Myers, J.M. (1998). 'International Strategies to Combat Money Laundering'. *Remarks presented at the International Symposium on the Prevention and Control of Financial Fraud, Beijing, 19-22 October.*

Nair, V. & Vaithilingam (2007). 'Factors Affecting Money Laundering: lesson for developing countries'. *Journal of Money Laundering Control*, Vol. 10 No. 3, pp. 352-366.

Porteous, S.D. (2000). 'The Impact of Money Laundering'. *Presentation at the Pacific Rim Money Laundering Conference in Vancouver, Canada.*

Quirk, P. (1997). 'Money Laundering: Muddying the Macroeconomy'. *Finance and Development.*

Schaap, C.D. (1998). 'Money Laundering: General Remarks' Unknown publisher.

Sienkiewicz, S. (2007). 'Prepaid Cards: Vulnerable to Money Laundering?' Discussion Paper, Payment Cards Center, Federal Reserve Bank of Philadelphia.

Stessens, G. (2000). 'Money Laundering: A New International Law Enforcement Model'. *Cambridge University Press.*

Unger, B., Seigal, M., Ferwerd, J., Kruijg, W.(2006). 'The Amounts and the Effects of Money Laundering'. *Report for the Ministry of Finance.*

Takats, Elod (2007). 'A Theory of 'Crying Wolf': The Economics of Money Laundering Enforcement'. *International Monetary Fund Working Paper 0781.*

Tanzi, V.(1996). 'Money laundering and the International Financial System'. *International Monetary Fund Working Paper.*

\_\_\_\_\_ (1998) 'Control of Money Laundering: A Bribe gone too far'. *Onshore Law Workshop. Legal issues in offshore Financial Services. The Caribbean Law publishing Company.pp157-178*

Zagris, Bruce (1998). 'Regulation of Financial Services in the Caribbean'. *Onshore Law Workshop. Legal issues in offshore Financial Services. The Caribbean Law publishing Company. pp 178-227*

\_\_\_\_\_ (2003) [http://www1.oecd.org/fatf/MLaudering\\_en.htm](http://www1.oecd.org/fatf/MLaudering_en.htm)

1<sup>st</sup> Progress Report on Jamaica's Implementation of Recommendations in the October 2005 Mutual Evaluation Report (2006). *Caribbean Financial Action Task Force. Mutual Evaluation/ Detailed Assessment Report Anti Money Laundering and Combating the Financing of Terrorism (2005). Ministerial Final Caribbean Financial Action Task Force.*