The Effects of Money Laundering (ML) on Growth: Application to the Gulf Countries

Issaoui, Fakhri and WASSIM, TOUILI and HASSEN, TOUMI

ESSECT, SFAX UNIVERSITY, ESC TUNIS

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ISSAOUI Fakhri

College of Business Elmajmaa Elmajmaa Unibversity

f.issaoui@mu.edu.sa Tel.: 00216-98-207-208

TOUMI Hassen

University of Economics and Management of Sfax; Street of airport km 4.5; LP 1088, Sfax 3018; Tunisia. E-mail: toumihass@gmail.com Tel : 0021696008081

TOUILI Wassim

Ecole Supérieure de Commerce de Tunis ESCT , Campus universitaire de la Manouba, Tunis 2010, Tunisie. Email: wassim.touili@gmail.com

Abstract: the strategic goal of this paper is to study the effects of the prevention policies against money laundering on growth in the gulf countries (Saudi Arabia, Kuwait, Qatar, Bahrain, UAE and Oman) from 1980 to 2014. Thus, the logistic regression (logit model) had given three fundamental results. The first had shown that the main policies in matter of fight against money laundering (anti money laundering law AMLL, suspicious transaction reporting STR, the criminalizing of terrorist financing CTF) have had positive effects on the increasing of probabilities to realize more growth. The second is that the said policies have had positive effects on the increasing of the degree of openness of the whole sample. The third is that the variable (proximity) had a positive and significant effect on anti-money laundering policies.

Keywords: Money laundering, growth, efficiency, gulf countries

JEL: G14, G21

Résumé: L'objectif fondamental de ce papier est d'étudier les effets des politiques de prévention contre le blanchiment d'argent sur la croissance dans les pays du golfe (Arabie Saoudite, Koweït, Qatar, Bahreïn, les Emirats arabes unies et Oman) et ce durant la période allant de 1980 jusqu'à 2014. La régression logit du modèle a convergé à trois résultats fondamentaux. Le premier est que la politique actuelle de lutte contre le blanchiment a généré un effet positif sur la croissance des pays du golfe. Le deuxième est que lesdites

politiques ont eu un effet positif sur l'ouverture économique de l'ensemble des pays du golfe. Le troisième est que la variable proximity avait un effet positif et significatif sur le blanchiment d'argent

JEL: G14, G21

1. Introduction

Since long time, the phenomena of Money laundering had constituted a major problem for governments because its source was illicit and this type of money is the result of illicit activities (drug, human organ traffics and others). Since 11/09/2011 and the destruction of the world trade tower the UN and their different institutions have gave more importance to money laundering because the major part of this illicit money was accused to finance terrorism. Just after these attacks, a set of lows were adopted such as the anti-money laundering law, the criminalization of terrorism law and the ability given to banks to report the suspicious transactions.

Nevertheless, unlike other economic subjects, the treatment of the problem is more difficult simply because there is not a database on this variable. Also, it is difficult to follow all their stages beginning by their constitution to their entry in the economic circuit. As a consequence we will try in this paper to study the effects of ML on growth with logit models. Thus, on the first section we will try to focus our interest in the origin and definitions of the ML concept. The third section will presents the macroeconomic and microeconomic effects of ML. The fourth section will present the empirical study and discuss the main results.

2. Origin, definitions, and process of money laundering concept

The "economic and financial crime" refers generally to any form of non-violent crime which results in a financial loss. This crime covers a wide range of illegal activities, including fraud, tax evasion and money laundering. The latter is one of the most widespread forms of economic and financial crime. The origin of the term "money laundering" comes from the fact that in 1928 in Chicago, a leader of a mafia family (Al Capone) would have bought a chain of laundries is called "the Sanitary Cleaning Shops ". This legal status allows him to recycle financial resources from numerous illicit activities[1].

However, from the 70s, the term "money laundering" has become widespread and it was used, for the first time, in 1982 in a court case. The first definition of money laundering having an international scope was given in 1988 by the United Nations Convention against trafficking in drugs and psychotropic substances (Vienna, 19 December 1988). She was developing mainly around the notions of conversion or transfer of property acquired illegally. It will be taken up by the Strasbourg Convention of 1990. The FATF in 1990 gave a more inclusive definition: "Money laundering is the process of transformation of criminal proceeds to disguise their illegal origin".

Similarly, the International Monetary Fund (IMF) defines money laundering as "a process by which the illicit source of assets or produced obtained by criminal activity is concealed to obscure the link between the funds obtained and the source of initial offense»[2]. By consequent despite the plurality of definitions of money laundering we can converge to a common element: the transfer of illegally acquired assets towards the legal economic system.

2.1 Process of money laundering

[1] http://www.harmattantv.com/_uploads/complements/le_blanchiment_dargent.pdf
[2] Rapport FMI : https://www.imf.org/external/np/exr/facts/fre/amlf.htm

CD Schaap (1999)[3]usually distinguished three distinct phases in the process of money laundering:

- Placement stage: The purpose of this phase is to place cash into a bank account, hiding its illegal origin.

- Layering stage (dispersion / stacking): to hide one's tracks by complex financial transactions to hide the source of funds or legitimize their possession.

- Integration stage: money being laundered and its initial origin is totally hidden. Thus the investments, in the legal economy, can be beginning.

2.2 Methods of money laundering

We will present the most used methods of money laundering:

- **Hand change**: the aim of this tool is to mask the real origin of ownership of funds. This means that the recycler transfers the money to other persons judged by him as their confidents, and considered worthy of trust in the community, and not attractive of attention (family members, friends or associates).

- **Fractionation (smurfing):** it means that the money launderer tries to divide the money into little sums and, deposit them in several accounts in diverse banks and financial institutions. Also, he can buy bank drafts or money orders at various institutions, usually with a value below the amount that would result in a mandatory reporting. Bank drafts or money orders are generally payable to third parties and deposited in the same way as cash in a central account.

- **Buy in cash of valuable assets:** generally the launderers can recourse to the cash purchase of high value goods (cars, bus, automobiles, boats) and transfer them to the third parties. The goods may subsequently be sold in order to create a legal origin for these goods and products.

[3] CD. Schaap, "Money Laundering: A Prosecutor's perspective" in Journal of Money Laundering Control (1999) Vol. 3, No 2, Henry Stewart Publications, London.

- **Smuggling of currency**: recyclers send their illicit funds abroad, often to countries where the funds will not be severely controlled by the law and systems that record money newly entering into the financial system.

- **Use of exchange offices**: the illicit funds can be used to buy foreign currency which can then be transferred to accounts in foreign banks, or converted into a functional currency to another institution.

- **Investing in casino games**: the launderers can use the casinos as tool for creating licit sources for their dirty money. Indeed, they obtain tokens in exchange of cash. Having played and wagered on minimum sums, they return, to the desk, to convert their tokens into liquid money or in checks.

3. Effects of Money Laundering on economics variables

According to the International Monetary Fund (IMF), the annual volume of money laundering operations in the world accounts for between 2% and 5% of world GDP[4] which corresponds to a sum between 1000 and 3000 billion US dollars. despite that all countries are affected by the phenomenon of money laundering it seems that some areas of the world, are more sensitive than others. Among the sensitive countries, we can find:

- The United States, the Latin America, Central America and the Caribbean Basin (involved in drug production and trafficking and fraudulent financial flows).

- The Europe (historically attractive financial places).

- Africa: especially countries as Nigeria, Togo and Benin

- Countries of the former Soviet Union and former Eastern bloc (Russian mafia and investments in real estate, restaurant, mining)

- The Asian zone (old tradition settlement of cash transactions and the network of underground banks that effectively promote the transfer of capital anonymously).

[4]Site officiel du FMI : *http://www.imf.org/external/pubs/ft/fandd/fre/2006/03/pdf/books.pdf*

According to the IMF, the volume of dirty money laundered in the Asian region is "alarming". If we consider the particular case (Asian zone) Gulf countries, Arab magazine Al-Majalla[5]has revealed, for example, a growing concern of the Saudi authorities concerning the attempts of market infiltrations from the Gulf countries. This is due to the proliferation of institutions and the increase of exchange liberalization, which can incite and encourage the launderers to do all sorts of operations with the abroad, without worrying about being controlled.

In the same line of conduct the inspectors of the central office of exchange in Arab Emirates united found that some important movements of capital seem to have not a commercial rationale. In light of this overview of the importance of laundered financial flows, it would be interesting to focus on the macroeconomic impacts of money laundering.

3 Effects of Money laundering on the economic equilibriums

According to several experts, the consequences of money laundering are very damaging economically. Indeed, this section presents an overall view of the theoretical literature on the macroeconomic effects of money laundering.

3.1 At the microeconomic level

From a microeconomic perspective, the risk comes mainly from the potential destabilization of certain private sectors acting in legal economy by the penetration of illicit funds. According to Novis McDowell (2001), one of the most notorious microeconomic effects of money laundering is that which affect the private sector. Indeed the companies having access to illicit funds could substantially subsidize products or services by selling them at less than the market. In certain case the prices can be below the cost of production. It is therefore clear that these firms have a competitive advantage over those who have to borrow on financial markets. This may create an illicit competition between the enterprises acting in legal way and those who benefit from illegitimate funds at low cost. Although the size of this problem is debatable, it therefore goes against the traditional principle of just and legal

[5] 78 La revue arabe AL-MAJALLA, n° 1069, 6-12 Août 2000, p.1

competition, favoring the criminal companies. The author note that the economy, as a whole may suffer from poor allocation of funds from the crime. Given that priority is given to the protection of the bleaching process and not on seeking gains, money can thus be used to fund activities that are not optimal from an economic point of view. In this way, economic growth could be weakened.

3.2 At the macroeconomic level

From a macroeconomic point of view, government authorities have started to grant significant importance to money laundering since the 80s. The IMF[6] estimates that the laundering activity impacts negatively the GNP of some national economies, and if we consider the abundant successive financial transactions which are usually performed during the stacking phase and cross national borders, we can reasonably assume that nations are under strong macroeconomic disturbances.

Bongard, (2001)[7] and the FATF estimate that the impact can affect many key macroeconomic variables such as prices, economic growth, balance of payments, the exchange rate and therefore on monetary policy for infiltrated country.

McDowell&Novis (2001)[8] state, in their research, that money laundering can influence the exchange rates and the interest rates because the money is invested to avoid its detection and not according to the research of high returns. Thus, this may increase the risk inherent to a monetary instability and leads to a misallocation of resources and creates distortions in the prices of goods and financial assets.

Quirk (1996)[9] and Camdessus (1998) have tried to study the effects of money laundering on the stability of the economy, and the financing of investment. They concluded that money laundering may result in adverse changes in the money demand and increases the volatility of international capital flows, exchange rates and interest rates.

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[6] Rapport FMI 2009 : https://www.imf.org/external/french/pubs/ft/ar/2009/pdf/ar09_fra.pdf
[7] Bongard, Kai (2001), Wirtschaftsfaktor Geldwäsche: Analyse und Bekämpfung, Wiesbaden 2001.
[8] McDowell J., Novis G., « The Consequences of Money Laudering and Financial Crime », Economic Perspectives, Vol. 6, N° 2, May 2001.
[9] Quirk, Peter J. 1996."Macroeconomic Implications of Money Laundering".International Monetary Fund Working Paper 96/66. June.

Quirk (1997)[10] has noted that "Fears that anti-money laundering laws and regulations will undermine efforts to liberalize financial markets, or that opening up financial markets will promote money laundering, are unfounded. Money laundering threatens economic and financial systems in many countries, and the international financial community should strongly support anti-laundering efforts".

Blum & al (1998)[11] think that money laundering has a negative impact on the tax situation of a country. The central argument is that the share of income having illicit sources and which is fed back into the legal economic system is likely to attract the attention of tax authorities. They even argue that criminals swell tax statements from legal enterprises they use as cover and pay over taxes.

Aluko (2012)[12] has studied the effect of money laundering on the financing of the investment. He concluded that money laundering has a negative effect on economic growth and financial stability. Also, the author has concluded that it exists a positive relationship between corruption and money laundering in most countries. The author recommended that countries affected by money laundering are obliged to cooperate to reduce these negative effects.

Idowu (2012)[13] studied the macroeconomic effects of money laundering. He concluded that it has a negative impact on investment financing, government revenue, the rate of economic growth and threatens political stability and internal security of a nation.

hsan et Razi (2012)[14], have studied the macroeconomic effects of money laundering and have concluded that money laundering has an effect on GDP and foreign direct

[10] Quirk, Peter J. 1997 "Money Laundering: Muddying the Macroeconomy." Finance and Development.International Monetary Fund.March. Vol. 34, No. 1

[11] Jack A. Blum, et al., Financial Havens, Banking Secrecy and Money Laundering, *CrimePrevention and Criminal Justice News Letter 8*, no. 34/35 (1998).

[12] AyodejiAluko, MahmoodBagheri, (2012) "The impact of money laundering on economic and financial stability and on political development in developing countries: The case of Nigeria", Journal of Money Laundering Control, Vol. 15 Iss: 4, pp.442 - 457

[13] Idowu, A. (2012). Anti-money laundering policy and its effects on bank performance on Nigeria Dept. of Management and Accounting Faculty of Management Sciences.

[14] IqraIhsan& Amir Razi University of Lahore, Pakistan : Money Laundering-A Negative Impact on Economy,Global Journal of Management and Business Research Volume 12 Issue 17 Version 1.0 Year 2012

investment. Ayodegi (2011)[15] has studied the macroeconomic effects of money laundering and he found that this phenomenon negatively affects economic growth and financial stability. FATF (2009)[16] found that the use of the securities industry to launder money is considered a real threat to the economy because it reduces funding instruments. Bartlett (2002)[17] found that money laundering will reduce the foreign trade and long-term cash flows.

Econometric analysis

In this present research, we will use logistic regression which is defined as a technique allowing to adjust a regression surface to data when the dependent variable is dichotomous (zero or one). Indeed their uses do not pose problem when they are used as explanatory variables. However, when they are used as the dependent variable, the ordinary least squares fails. The major advantage of this technique is to quantify the strength of association between each independent variable and the dependent variable, taking into account the effect of other variables included in the model (adjusted measure) (1.2).

[15] Ayodeji, A., &Mahmood, B. (2012). The impact of money laundering on economic and financial stability and on political development in developing countries: The case of Nigeria. Journal of Money Laundering Control, 15(4), 442–457.

[16] Rapport GAFI 2009 : http://www.fatf-gafi.org/media/fatf/documents/reports/2008%202009%20FR.pdf

[17] Bartlett, Brent. 2002. "The Negative Effects of Money Laundering on Economic Development," For the Asian Development Bank, Regional Technical Assistance Project No.5967, Countering Money Laundering in The Asian and Pacific Region, May.

1-Model specification

We seek to explain the values of Y by X, meaning estimate the probability that Yi = 1 knowing Xi (or Yi = 0, which is the same). We notice that:

$\Pr(Yi = 1|Xi) = \Pr(Xi\theta + \varepsilon i \geq 0|Xi) = \Pr(Xi\theta \geq -\varepsilon i\,|Xi) = F{-}\varepsilon(Xi\theta)$

The logit model corresponds to the logistic law, introduced specifically for this type of model, distribution function Λ:

$$F(X_i\,\theta) = \Lambda\,(Xi\theta) = \frac{e^{-Xi\theta}}{1+e^{-Xi\theta}}$$

Hence the logistic regression in our model is explained by the following models:

$$crime_{it} = \beta 1 lngdp_{it} + \beta 2 lnopness_{it} + \beta 3 proximity_{it} + \varepsilon_{it} (1)$$

$$amll_{it} = \alpha 1 lngdp_{it} + \alpha 2 lnopness_{it} + \alpha 3 proximity_{it} + \varepsilon_{it} (2)$$

$$str_{it} = \gamma 1 lngdp_{it} + \gamma 2 lnopness_{it} + \gamma 3 proximity_{it} + \varepsilon_{it} (3)$$

$$ctf_{it} = \delta 1 lngdp_{it} + \delta 2 lnopness_{it} + \delta 3 proximity_{it} + \varepsilon_{it} (4)$$

With:

$crime_{it}$: takes the value 1 if the country criminalizes the money laundering and 0 if not

$amll_{it}$: takes the value 1 if the country has adopted an anti-money laundering law and 0 if not

str_{it} : takes the value 1 if the country has adopted a system of suspicious transaction reporting and 0 if not.

ctf_{it}: takes the value 1 if the country has adopted a law which criminalizes terrorist financing and 0 if not.

Lngdp: neperian log of GDP per capita (constant 2005 US $).

Lnopness: neperian log of exports and imports (% of GDP).

Proximity: the degree of risk inherent in the proximity of a country to areas highly risked. It takes the value 1 if the country is surrounded by a single risky country, the value 2 if the country is surrounded by two risky countries, 3 if the country is surrounded by 3 risky countries and 4 if the country is surrounded by 4 risky countries.

Table1: estimation of model (logit model)

	lngdp	***lnopness***	***proximity***
crime	1.111875	2.956489	3.207709
	(0.265)	(0.014)**	(0.002)**
amll	1.055298	3.070674	3.219781
	(0.286)	(0.011)**	(0.002)**
str	-.0350545	2.46731	17.39997
	(0.974)	(0.049)**	(0.989)
ctf	.4332262	4.778468	17.64745
	(0.696)	(0.001)***	(0.992)

NB *, **, *** signifie que le paramètre est significatif à 10%, 5%, 1%

According to this estimation we note:

***First model (crime as explained variable)**

- The gdp is positive and non-significant which means that there is no relationship between the two variables

- the degree of openness of the economy has a positive and significant effect on crime at the level of 5% while the proximity has no significant effect.

***Second model (anti money law laundering)**

We note that only openness and proximity have positive and significant effects. This means that after the adoption of this law the imports and exports increased and the terrorism coming from neighbours had been more intense.

***Third model (suspicious transaction report):**

The adoption of this favour for banks allows them to question the depositor on the origin of their money when it exceeds a certain level. So we note that this law had negative effects on gdp meaning that in the past gdp was constructed, even partially, by illicit money. So with the adoption of this law the gdp decreases and a partial part of illicit money have changed destination.

***Fourth model (ctf):**

The adoption of the law of criminalizing terrorism financing had no effect on growth and proximity (exogenous variable) but had a positive and significant effect on degree of trade openness.

Second version

In a second version we add a monetary variable (Money and quasi money (M2) as% of GDP) as an explanatory variable in the four models to detect their effects on money laundering. We obtain the following results in Table (2):

$$crime_{it} = \beta 1 lngdp_{it} + \beta 2 lnopness_{it} + \beta 3 proximity_{it} + \beta 4 lnM2_{it} + \varepsilon_{it} (5)$$

$$amll_{it} = \alpha 1 lngdp_{it} + \alpha 2 lnopness_{it} + \alpha 3 proximity_{it} + \alpha 4 lnM2_{it} + \varepsilon_{it} (6)$$

$$str_{it} = \gamma 1 lngdp_{it} + \gamma 2 lnopness_{it} + \gamma 3 proximity_{it} + \gamma 4 lnM2_{it} + \varepsilon_{it} (7)$$

$$ctf_{it} = \delta 1 lngdp_{it} + \delta 2 lnopness_{it} + \delta 3 proximity_{it} + \delta 4 lnM2_{it} + \varepsilon_{it} \quad (8)$$

Tableau 2: model estimation with lnM2 (logit model)

	lngdp	***lnopness***	***proximity***	***lnM2***
crime	1.382713	3.069148	3.164545	.4118742
	(0.178)	(0.010)**	(0.002)**	(0.137)
amll	1.369955	3.206323	3.170577	.439213
	(0.180)	(0.007)**	(0.002)**	(0.115)
str	.0182944	2.286982	16.65973	.2414161
	(0.987)	(0.062)*	(0.985)	(0.337)
ctf	1.982427	5.701063	16.58791	1.66897
	(0.181)	(0.000)***	(0.990)	(0.061)*

*, **, *** signifie que le paramètre est significatif à 10%, 5%, 1%

* First model (crime as explained variable)

We note that only openness and proximity are positive and significant which mean that on the moment of criminalizing laundering the rate of openness of gulf economies become more important. This leads us to think that the trade (especially the good imports can be a tool of laundering. Also, this law had increased the variable proximity which means that there is a migration of money laundering to other countries.

* Second model (amll as explained variable)

At the moment where the anti-money laundering law has the same sign and significance, on the same variables, we can guard the same interpretation above mentioned.

* Third model (str)

We note that the adoption of this law had contributed to the increase of openness which means that the trade is one of veiled tools of laundering

* Fourth model (ctf)

The effects of openness are always positive and significant. Also, the effect of M2 is positive and significant. This signify that the money creation especially scriptural money is one of the tools through which pass the money laundering

Third version

In the third version we will use the economic growth as the dependent variable which be explained by the crime, amll, str, ctf, lnopness, lnM2 and the proximity. We have used a GMM estimation of dynamic panel (Arellano-Bond (1991)). The used models can be represented as follows:

$$lngdp_{it} = \beta 0 + \beta 1 lngdp_{it-1} + \beta 2 amll_{it} + \beta 3 lnopness_{it} + \beta 4 proximity_{it} + \beta 5 lnM2_{it} + \mu t + \varepsilon_{it} (9)$$

$$lngdp_{it} = \alpha 0 + \alpha 1 lngdp_{it-1} + \alpha 2 crime_{it} + \alpha 3 lnopness_{it} + \alpha 4 proximity_{it} + \alpha 5 lnM2_{it} + \mu t + \varepsilon_{it} (10)$$

$$lngdp_{it} = \gamma 0 + \gamma 1 lngdp_{it-1} + \gamma 2 str_{it} + \gamma 3 lnopness_{it} + \gamma 4 proximity_{it} + \gamma 5 lnM2_{it} + \mu t + \varepsilon_{it} (11)$$

$$lngdp_{it} = \delta 0 + \delta 1 lngdp_{it-1} + \delta 2 ctf_{it} + \delta 3 lnopness_{it} + \delta 4 proximity_{it} + \delta 5 lnM2_{it} + \mu t + \varepsilon_{it} (12)$$

With i = 1; 2…6, t = 1980… 2014. The error terms $e_{it} = \mu t + \varepsilon_{it}$; μt is the specific effect for each country, which is assumed to be constant in the time, while ε_{it} is

assumed to be a random perturbation whose its form is generated by autoregressive process of order 1 and ~ iid. The coefficients βi,αi, γi and δi are the parameters to estimate. The coefficients associate to the delayed explicative variables $\beta 1$,$\alpha 1$, $\gamma 1$ et$\delta 1$mesure the economic convergence of the gulf countries while the coefficients βi,αi, γi etδi(i=2…5) measure the influence of other control variables.

Thus, the model we try to estimate is a dynamic model in which one or more delays of the dependent variable are included as explanatory variables lagged. Unlike the dynamic panel GMM, conventional econometric techniques such as MCO are not able to estimate the effectiveness of such a model, due to biased results.

It is important at this stage of analysis, noted that there are two types of GMM estimators: the GMM estimator in difference of (Arellano & Bond, 1991) and the GMM estimator in system (Blundell & Bond, 1998). Indeed, the objective of the GMM estimator in difference of (Arellano & Bond, 1991) is to eliminate any bias on the variables structure. However, (Blundell & Bond, 1998) led to the result that the GMM estimator is more efficient than the estimator of GMM in first difference (and through the use of Monte Carlo simulations). Therefore, there is a convergence taken unanimously by the fact that the first difference GMM produces biased estimators for small samples. "Based on the procedure (Arellano & Bond, 1991) and (Blundell & Bond 1998), the dynamic model which we will adopt takes the form of models (9) (10) (11) (12).

Table 3: Results and estimation of model (9): $lngdp_{it} = \beta 0 + \beta 1 lngdp_{it-1} + \beta 2 amll_{it} + \beta 3 lnopness_{it} + \beta 4 proximity_{it} + \beta 5 lnM2_{it} + \mu t + \varepsilon_{it}$(9)

Cte	$lngdp(-1)$	$amll$	$lnopness$	$proximity$	$lnM2$

Panel	1.49742	.8644357	-.00238	-.0313452	.020838	-
	(0.000)***	(0.000)***	(0.724)	(0.130)	(0.000)***	
	1.7009	.850247	-.001475	-.0395231	.0221284	-.0062678
	(0.000)***	(0.000)***	(0.826)	(0.055)**	(0.000)***	(0.220)
Bahrain	2.897882	.7943193	-.0378842	-.1750284	.0228002	-
	(0.001)***	(0.000)***	(0.027)**	(0.000)***	(0.515)	
	2.196081	.8389628	-.0327181	-.1306507	.0261146	.0102508
	(0.083)*	(0.000)***	(0.090)*	(0.083)*	(0.487)	(0.426)
Kuwait	2.213269	.7925762	.0150006	-.0221931	.0212642	-
	(0.000)***	(0.000)***	(0.318)	(0.735)	(0.323)	
	2.184788	.7874992	.0299343	-.0255527	.019236	.0216543
	(0.014)*	(0.000)***	(0.080)*	(0.715)	(0.402)	(0.014)**
Oman	1.024897	.8679491	-.0213775	.0519753	-.0034808	-
	(0.140)	(0.000)***	(0.295)	(0.488)	(0.854)	
	.8680679	.8907942	-.0220764	.0570631	-.0003681	-.0229964
	(0.322)	(0.000)***	(0.293)	(0.467)	(0.987)	(0.760)
Qatar	.6173552	.8784244	.0038297	.1595789	.0021009	-
	(0.515)	(0.000)***	(0.893)	(0.090)*	(0.920)	
	.9040418	.8604235	-.004663	.1633948	.0073315	-.0270339
	(0.308)	(0.000)***	(0.861)	(0.060)*	(0.706)	(0.047)**
Saudi Arabia	1.843065	.7528827	.0185952	.1091659	.0162534	-
	(0.000)***	(0.000)***	(0.542)	(0.185)	(0.075)*	
	3.163674	.6857678	.0393813	.0339892	.0244867	-.0990463
	(0.000)***	(0.000)***	(0.193)	(0.690)	(0.009)**	(0.039)**
United Arab Emirates	2.083465	.8518142	-.0353799	-.1113929	.0235007	-
	(0.003)**	(0.000)***	(0.302)	(0.157)	(0.257)	
	2.138071	.848129	-.0329506	-.1103319	.0236567	-.0058833

(0.004)**	(0.000)***	(0.356)	(0.172)	(0.265)	(0.712)

*,**,*** significant at the level of 10%, 5%, 1%

According to table (9) and concerning the whole of our sample we note that the delayed variable is positive at the level of 1% which means that these countries will diverge in their growth level. All other variables are non-significant.

The effects of amll are negative and significant in the cases of Bahrain and Kuwait meaning that the adoption of this law had decreased the GDP. This means that in the past a part of growth is coming from money laundering. The effects of openness are negative and significant in the whole of sample and Bahrain and Qatar. This results are strange because the economic logic approve the confirm logic. The effects of proximity on growth are positive and significant in the cases of According to table (9) and concerning the whole of our sample we note that the delayed variable is positive at the level of 1% which means that these countries will diverge in their growth level. All other variables are non-significant.

The effects of amll are negative and significant in the cases of Bahrain and Kuwait, this means that the adoption of this law had decreased the GDP. The effects of openness are negative and significant in Bahrain and Qatar. This results are strange because the economic logic is not confirmed this one. Concerning the effects of proximity on growth, we note that are positive and significant on the cases of the whole of countries (panel) the Bahrain and Saudi Arabia. A priori the proximity of these countries to risk countries, allows them to produce more follows the increase of the whole demand.

T**ableau 4: estimation of model (10)** $lngdp_{it} = \alpha 0 + \alpha 1 lngdp_{it-1} + \alpha 2 crime_{it} + \alpha 3 lnopness_{it} + \alpha 4 proximity_{it} + \alpha 5 lnM2_{it} + \mu t + \varepsilon_{it}$(10)

	Cte	$lngdp(-1)$	$crime$	$lnopness$	$proximity$	$lnM2$
Panel	1.493517	.8646892	-.0030529	-.0310193	.0210372	-
	(0.000)***	(0.000)***	(0.654)	(0.133)	(0.000)***	
	1.696591	.8505178	-.0021584	-.0391623	.0223259	-.0062455
	(0.000)***	(0.000)***	(0.750)	(0.056)*	(0.000)***	(0.222)
Bahrain	2.897882	.7943193	-.0378842	-.1750284	.0228002	-
	(0.001)***	(0.000)***	(0.027)**	(0.000)***	(0.515)	
	2.196081	.8389628	-.0327181	-.1306507	.0261146	.0102508
	(0.083)*	(0.000)***	(0.090)*	(0.083)*	(0.487)	(0.426)
Kuwait	2.213269	.7925762	.0150006	-.0221931	.0212642	-
	(0.019)*	(0.000)***	(0.318)	(0.735)	(0.323)	
	2.184788	.7874992	.0299343	-.0255527	.019236	.0216543
	(0.029)**	(0.000)***	(0.080)*	(0.715)	(0.402)	(0.014)**
Oman	1.024897	.8679491	-.0213775	.0519753	-.0034808	-
	(0.140)	(0.000)***	(0.295)	(0.488)	(0.854)	
	.8680679	.8907942	-.0220764	.0570631	-.0003681	-.0229964
	(0.322)	(0.000)***	(0.293)	(0.467)	(0.987)	(0.760)
Qatar	.66995	.8758665	.0072213	.1537985	.0017837	-
	(0.482)	(0.000)	(0.801)	(0.087)	(0.932)	
	.9113597	.8606228	-.0040974	.1611872	.0074629	-.02709
	(0.305)	(0.000)***	(0.879)	(0.053)**	(0.701)	(0.048)**
Saudi Arabia	1.843065	.7528827	.0185952	.1091659	.0162534	-
	(0.000)***	(0.000)***	(0.542)	(0.185)	(0.075)*	
	3.163674	.6857678	.0393813	.0339892	.0244867	-.0990463
	(0.000)***	(0.000)***	(0.193)	(0.690)	(0.009)**	(0.039)**
United Arab	2.083465	.8518142	-.0353799	-.1113929	.0235007	-

Emirates	(0.003)**	(0.000)***	(0.302)	(0.157)	(0.257)	
	2.138071	.848129	-.0329506	-.1103319	.0236567	-.0058833
	(0.004)**	(0.000)***	(0.356)	(0.172)	(0.265)	(0.712)

*, **, *** signifie que le paramètre est significatif à 10%, 5%, 1%

In this model version we note the divergence phenomena. The variable crime had negative and significant effects on Bahrain and Kuwait which means that when these countries have criminalized money laundering their growth had decreases. The money had a positive effect on growth in Oman and negative and significant effects on Qatar and Saudi Arabia. The variable openness continues to be negative and significant on the whole sample, Bahrain and positive and significant on Qatar.

Tableau 5 : estimation result of equation (11)

$$lngdp_{it} = \gamma 0 + \gamma 1 lngdp_{it-1} + \gamma 2 str_{it} + \gamma 3 lnopness_{it} + \gamma 4 proximity_{it} + \gamma 5 lnM2_{it} + \mu t + \varepsilon_{it} (11)$$

	Cte	$lngdp(-1)$	str	$lnopness$	$proximity$	$lnM2$
Panel	1.475343	.8654845	-.0077272	-.0286428	.0224721	-
	(0.000)***	(0.000)***	(0.292)	(0.167)	(0.000)***	

	1.67703	.8514173	-.0069474	-.0367245	.0237844	-.006211
	(0.000)***	(0.000)***	(0.340)	(0.074)*	(0.000)***	(0.225)
Bahrain	2.897882	.7943193	-.0378842	-.1750284	.0228002	-
	(0.001)***	(0.000)***	(0.027)**	(0.000)***	(0.515)	
	2.196081	.8389628	-.0327181	-.1306507	.0261146	.0102508
	(0.083)*	(0.000)***	(0.090)*	(0.083)*	(0.487)	(0.426)
Kuwait	2.514535	.7687603	.0204385	-.0355725	.0243424	-
	(0.009)**	(0.000)***	(0.179)	(0.577)	(0.243)	
	2.712711	.7461192	.0394407	-.0517444	.0250072	.023718
	(0.008)**	(0.000)***	(0.023)**	(0.442)	(0.253)	(0.005)**
Oman	.6068614	.8788973	-.0731039	.1231056	.0155313	-
	(0.274)	(0.000)***	(0.003)**	(0.091)*	(0.446)	
	.8403944	.8367887	-.0771723	.1221988	.0104071	.0478537
	(0.219)	(0.000)***	(0.003)**	(0.101)	(0.643)	(0.544)
Qatar	.66995	.8758665	.0072213	.1537985	.0017837	-
	(0.482)	(0.000)***	(0.801)	(0.087)**	(0.932)	
	.9113597	.8606228	-.0040974	.1611872	.0074629	-.02709
	(0.305)	(0.000)***	(0.879)	(0.053)*	(0.701)	(0.048)**
Saudi Arabia	1.717038	.7418009	-.0247405	.1623276	.0268674	-
	(0.000)***	(0.000)***	(0.551)	(0.049)**	(0.022)**	
	2.971214	.6755866	.0095329	.0882599	.0294692	-.0835939
	(0.001)***	(0.000)***	(0.836)	(0.347)	(0.011)**	(0.125)
United Arab Emirates	2.083465	.8518142	-.0353799	-.1113929	.0235007	-
	(0.003)**	(0.000)***	(0.302)	(0.157)	(0.257)	
	2.138071	.848129	-.0329506	-.1103319	.0236567	-.0058833
	(0.004)**	(0.000)***	(0.356)	(0.172)	(0.265)	(0.712)

*, **, *** signifie que le paramètre est significatif à 10%, 5%, 1%

Relatively to other models we note that (str) had a negative effects on growth in Bahrain and Oman and positive and significant effect on Kuwait.

Table 6 : estimation results $lngdp_{it} = \delta 0 + \delta 1 lngdp_{it-1} + \delta 2 ctf_{it} + \delta 3 lnopness_{it} + \delta 4 proximity_{it} + \delta 5 lnM2_{it} + \mu t + \varepsilon_{it}(12)$

	cte	$lngdp(-1)$	ctf	$lnopness$	$proximity$	$lnM2$
Panel	1.475964	.8642183	-.0083803	-.0260659	.0219805	-
	(0.000)***	(0.000)***	(0.315)	(0.223)	(0.000)***	
	1.672868	.8508206	-.0065902	-.0349524	.023061	-.0057779
	(0.000)***	(0.000)***	(0.431)	(0.101)	(0.000)***	(0.263)
Bahrain	3.368812	.7434958	-.0398252	-.1715288	.032888	-
	(0.000)***	(0.000)***	(0.015)**	(0.000)***	(0.352)	
	2.712982	.7876649	-.0352308	-.1339779	.034577	.0087896
	(0.043)**	(0.000)***	(0.058)*	(0.066)*	(0.357)	(0.494)
Kuwait	1.897596	.8240782	-	-.0225232	.0214159	-
	(0.032)**	(0.000)***		(0.731)	(0.319)	
	1.640848	.8437678	-	-.0252859	.0200098	.0162211
	(0.077)*	(0.000)***		(0.710)	(0.371)	(0.042)**
Oman	1.365833	.8415553	-.0105562	.0295306	-.0039074	-
	(0.033)**	(0.000)***	(0.635)	(0.706)	(0.838)	
	1.355106	.8438398	-.0102608	.0293012	-.0035913	-.0028108
	(0.059)*	(0.000)***	(0.670)	(0.715)	(0.867)	(0.972)
Qatar	.66995	.8758665	.0072213	.1537985	.0017837	-

	(0.482)	(0.000)***	(0.801)	(0.087)*	(0.932)	
	.9113597	.8606228	-.0040974	.1611872	.0074629	-.02709
	(0.305)	(0.000)***	(0.879)	(0.053)*	(0.701)	(0.048)**
Saudi Arabia	1.90781	.7354722	.0116422	.1328413	.0180449	-
	(0.000)***	(0.000)***	(0.694)	(0.059)*	(0.039)**	
	4.500745	.5676683	.0772427	.0398906	.0247881	-.1628311
	(0.000)***	(0.000)***	(0.032)**	(0.581)	(0.003)**	(0.006)**
United Arab Emirates	1.722966	.8438248	-.0874638	-.0132717	.0172525	-
	(0.022)**	(0.000)***	(0.072)*	(0.898)	(0.415)	
	1.775458	.84042	-.0853484	-.0130376	.0173996	-.0049812
	(0.024)**	(0.000)***	(0.089)*	(0.902)	(0.422)	(0.753)

The variable *ctf* had a positive and significant effects on Saudi Arabia and UAE and negative and significant effects on growth

5. Conclusion

As a conclusion we can say that the results are consistent. First we have showed that when the crime is the explained variable we note that only the variables openness and proximity are positive and significant. This means that on the moment of criminalizing laundering the rate of openness of gulf economies become more important. This leads us to think that the trade (especially the good imports can be a tool of laundering. Also, this law had increased the variable proximity which means that there is a migration of money laundering to other countries. We note that only openness and proximity have positive and significant effects. This means that after the adoption of this law the imports and exports increased and the terrorism coming from neighbours had been more intense. The same effects are unregistered when amll is the explained variable. In the third case when the explained variable is suspicious transaction report **we** notice that this law had negative effects on gdp meaning that in the past, gdp

was, in part, constructed, even partially, by illicit money. So with the adoption of this law the gdp decreases and a partial part of illicit money have changed destination. In the fourth case we note that when ctf is considered as explained variable the adoption of the law of criminalizing terrorism financing had no effect on growth and proximity (exogenous variable) but had a positive and significant effect on degree of trade openness.

* Third model (str)

We note that the adoption of this law had contributed to the increase of openness which means that the trade is one of veiled tools of laundering

* Fourth model (ctf)

The effects of openness are always positive and significant. Also, the effect of M2 is positive and significant. This signify that the money creation especially scriptural money is one of the tools through which pass the money laundering

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