Money Laundering, Corruption and Growth: An Empirical Rationale for a Global Convergence on Anti-Money Laundering Regulation

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ABSTRACT

This paper provides empirical evidence on the impact of anti-money laundering regulations on growth and, it examines the rationale for a global adoption of these rules. The empirical results have led us to confirm a positive relation between low corruption levels and high investment and growth. We approached the impact on growth of money laundering prevention (MLP) initiatives in two ways: first, by verifying that the existence of these initiatives affects the perception of corruption. Second, by verifying that MLP variables, such as the ones we are focusing in this article – which criminalize types of money laundering activities different from those drug-related; make it an obligation to inform of suspicious financial activities; and establish a Financial Intelligence Unit (FIU) – showed to be related to growth and investment. We noticed, however, that these relations presented variations according to the set of countries to which variables were applied, i.e., Latin American and African countries showed a positive relation between growth an criminalizing money laundering crimes other than those drug-related, while OCDE high-income countries showed a negative relation.

Keywords: Money laundering, Corruption, Growth, Regulation, Investment, Institutions.

JEL Codification: G18, G28, H73

1. INTRODUCTION

Is free-riding a real problem for anti-money laundering regulation? Is it possible to implement a strict control program within a country, while the neighbor does not adopt a similar one? The common sense is that there will be a capital flight from the strict country and the intended criminality reduction will not be effective. In addition, due to technological development of the financial system, the adjective “neighbor” refers virtually to any country in world.

Although some may skeptically argue that anti-money laundering regulation is meant for hidden reasons other than control crime, even these goals will not bee achieved if the regulations do not apply.

Corruption and money laundering are two sides of the same coin. Even though money laundering is practiced in order to clean the proceeds of several crimes, corruption is also a form of providing a free territory for money laundering. It is impossible to think about an effective money laundering control in a country where corruption exists.

There is an available plethora of economic analysis on corruption and its effects, however, this is not the main purpose of this article. There are however, results and methodologies that we will use and replicate as instruments to verify the money laundering impacts on a country’s growth.

Probably one of the most popular ideas about how to avoid money laundering is focused on enforcing Offshore Financial Centers (OFC) or on non-cooperative countries. Conversely, Mitchell [2002] calls attention to the role of industrialized countries on laundering proceeds of crime. In fact, there is an avenue of opportunities to clean dirty money on larger economies than on poor countries, which have very small commercial and industrial structures. As well noted by Mitchell [2002], United States government bodies include in their money-laundering blacklists (or concern lists) the larger industrialized countries [U.S. State Department, 2000, CIA, 2006].

Within a particular territory, the financial industry is the main concern of money-laundering fighters, because money actually needs to pass through it. Currently, they act as

agents in a principal-agent formulation for combating money laundering [Masciandaro, 2001]. Nevertheless, it is inside the real economy where good cleaning takes place. Quirk [1997] showed a shift in money-laundering techniques, as he noticed a reducing pressure on money demand, what made him conclude that laundering is going away from the banking system.

It is licit to expect that when cleaning is done the money is ready to get back into the formal economy, providing funds for investment or consumption [Araujo and Moreira, 2005, Masciandaro, 1999]. It is also supposed that even if the control of illegal money laundering is fully efficient, crime will still exist and, accordingly, the demand for transforming "potential purchasing power into cash" will elevate the price of cleaning services [Masciandaro, 1999, 2001].

The use of e-banking technology made money-laundering services become even more "tradable", thus these services can bee imported or exported as services' home prices rise or fall. When price and demand exists, cleaning will take place wherever procedures are available.

The above-mentioned explanation leads us to this plausible political economy outcome: when larger economies adopt anti-money laundering regulations, due to highly developed institutional and enforceable frameworks, cleaning activities will move towards lax regulated countries. As a consequence, these rich countries will have a loss of the funds available for the licit economic activity, thus, having their growth reduced. It will trigger political pressure[1] from developed economies over the less stringent ones. Developed countries can materialize the political pressure in the form of shortage of financial support from the multilateral bodies[2] or from the international community, or even denying access to international financial markets[3]. As a second-best[4] result, the less developed countries

[1] Refer to Helleiner [2000] for a deeper analysis.

[2] Kaufmann, Kraay, and Mastruzzi [2005], p 2.

[3] Quoting Helleiner [2000]: "Some limited action along these lines has, in fact, already been taken in the money laundering case. As part of its effort to encourage financial institutions to know the identity of their customers, the FATF pressed the electronic messaging system SWIFT to broadcast a message on July 30, 1992 to all its users asking them to include the names and addresses of all senders and receivers of electronic messages who were not financial institutions. This was an important move since SWIFT is a central body in

will adopt the regulations, get better grades on their institutional scores, and get access to international funds and financial markets, thus raising growth rates.

The empirical results have led us to the outcome described in the last paragraph. We first confirmed Mauro's [1995] results on the existence of a positive relation between low corruption levels and investment and growth. We then addressed the impact of money laundering prevention initiatives on growth. We did it in two ways: first, by verifying that the perception of corruption is affected by the existence of money laundering prevention initiatives, such as the ones we are focusing in this article – which criminalize other types of money laundering activity different from drug-related ones; make it an obligation to inform of suspicious financial activities; and establish a Financial Intelligence Unit (FIU). Second, by confirming that the impact of some of the mentioned variables (called here money laundering prevention - MLP) showed to be related to growth and investment but, when these variables were applied to a different set of countries, presented different relations, i.e., the Latin American and African countries showed a positive relation between criminalizing money laundering for crimes other than drug-related, and growth, while Organization for Economic Co-operation and Development (OCDE) high-income countries showed a negative relation.

This work is organized as follows: Section two provides an overview of Money Laundering and some of its economics. Section three assesses the empirical effects of money-laundering control regulation on growth, the relationship between two different corruption ratings, and the impact on growth of having an anti-money laundering regulation. The forth and last section presents the conclusion.

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the 'plumbing' of the international financial system, transmitting instructions for a very large portion of the financial transactions that move through cleaning houses such as Fedwire and CHIPS. Initiatives of this kind may signal the first step along a potential route of transforming CHIPS, Fedwire and SWIFT into 'closed-circuit systems' that can be used only by those willing to adopt certain responsibilities vis-a-vis the regulation of money laundering. Such a move would be very effective in controlling money laundering around the world."

[4] A first-best result for the less developed countries would be let crime happen on bigger economies, laundry the criminal proceedings fostering local economy and continue participating of the international financial system and receiving foreign aid and funds.

2. MONEY LAUNDERING

Almost all crime-for-profit uses money-laundering techniques to make the financial fruits of the crime enjoyable. After the transgression, it is necessary to reinsert the proceeds illegally earned back into the formal economy. Besides, "dirty money" is of little use to criminals, because it leaves a trail of incriminating evidence [U.S. Department of The Treasury, 1999].

Therefore, money laundering can be defined as the use of commercial and financial operations aimed at inserting (or legalizing) into the formal economy money illicitly earned.

The United Nation's International Money Laundering Information Network (IMOLIN) gives a good example of a three-stage process where money is laundered "that requires: firstly, moving the funds from direct association with the crime; secondly, disguising the trail to foil pursuit; and, thirdly, making the money available to the criminal once again with its occupational and geographic origins hidden from view" [United Nations, 2006][5].

Although the above-mentioned has been well-known for a long time, for some reason, nothing was done about it, until a global pressure on narcotics control made it inevitable to impose restrictions on financial activity of criminals, in order to reduce that specific type of crime.

Fortunately it was not reasonable to publicly justify the application of money laundering crime penalties only to narcotics-related crimes, even though some countries still keep doing so.

The first step globally taken towards the criminalization of money laundering activities came from The United Nations Conference for the Adoption of a Convention

[5] U.S. Department of State [2000] qualifies the Netherlands, UK and US as of primary concern relative to money laundering, while disclaiming that the lest two are big economies. The CIA's World Factbook [2006] classifies UK and US as money-laundering centers (no disclaimer) and the Netherlands as a country with a "large financial sector vulnerable to money laundering".

against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (Vienna Convention) held in Neue Hofburg, Vienna, from November 25 to December 20, 1988. Article 3 of the Vienna Convention established that "each Party shall adopt such measures as may be necessary to establish as criminal offences under its domestic law" the use or possession of assets earned from drug crimes (among other provisions).

From the Vienna Convention came guidelines for implementing the framework to prevent money laundering, including all control/cooperation bodies, like the Financial Action Task Force (FATF)[6], United Nations Office on Drugs and Crime, etc.

2.1 - SOME MONEY-LAUNDERING ECONOMICS

Obviously, it is almost impossible to measure the total amount of money laundered within any country. There is a widely known estimate, attributed to the IMF, of the global amount of cleaned dirty money: US$500 billion (approximately 2% of World's GDP). However, Quirk [1997] blames it on the October 18th, 1994 edition of the Financial Times. He goes further saying: "the basis for the estimate was not given". Money laundering impacts nevertheless, are more measurable than its figures.

Although Quirk [1997] concludes that money laundering "threatens economic and financial systems in many countries, and the financial community should strongly support anti-laundering efforts", having given no evidence for such statement, he empirically observed a shift in the use of money directly as a means of exchange (reducing the pressure on money demand), moving laundering away from the banking system.

Masciandaro [1999] developed a theoretical model showing how money laundering can be seen as a multiplier of criminal activities, by transforming potential purchasing power into effective, and providing criminals with laundered money to reinvest on their illegal activities. He also derived an inverse relationship between the degree of diffusion of

[6] The Financial Action Task Force on Money Laundering is an inter-governmental body whose purpose is the development and promotion of policies to combat money laundering.

money laundering activities and the effectiveness of anti-money laundering regulation in a given economy.

Araujo and Moreira [2005] present a basic growth model. Their results are: (i) the effectiveness of anti-money laundering regulations positively affects consumption, (ii) there exist equilibrium solutions where legal and illegal activities coexist, and (iii) when the steady state results of two economies in a Sidrausky framework, the proportion between consumption and the capital stock is the same, but the level of consumption and capital stock is greater in a legal economy.

From a principal-agent perspective, Masciandaro and Filotto [2001] name financial institutions as agents of regulators to fight money laundering. They assert a regulation economics statement that "any form of regulation tends to alter the structure of the incentives, and thus the conduct, of the (financial) intermediaries." Then, they explore the real incentives through which regulation will succeed.

3. EMPIRICAL EVIDENCE

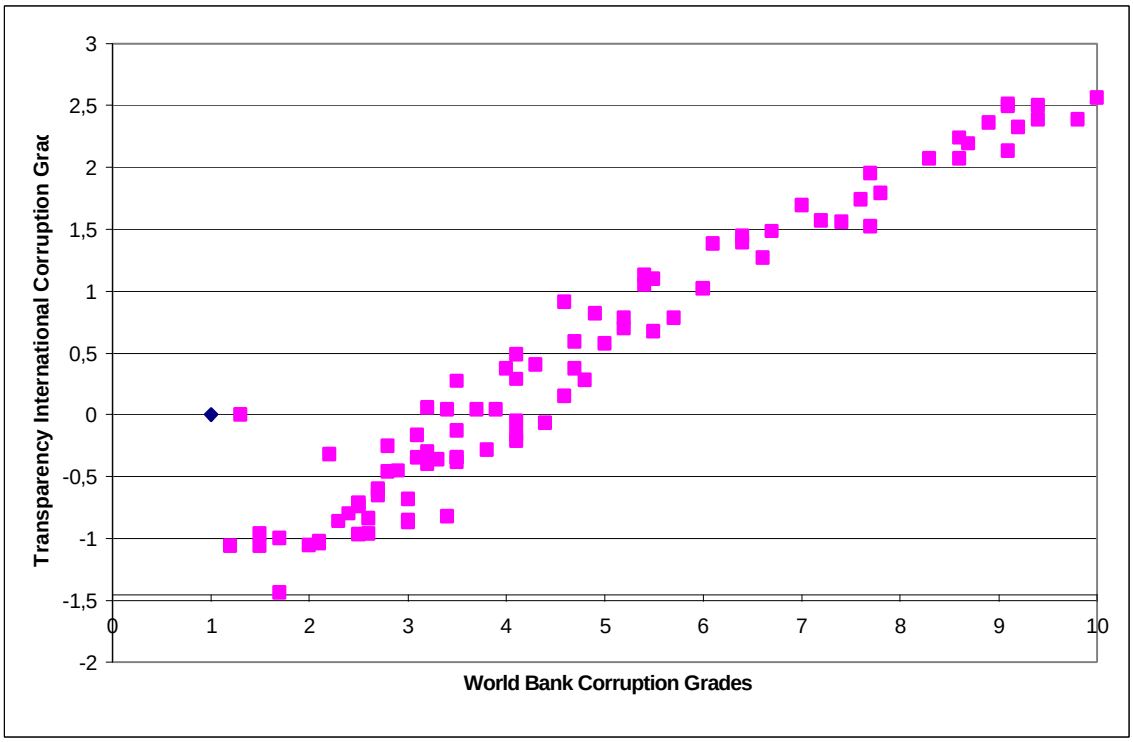
Corruption indexes have become a very fruitful source of research [Mauro, 1995, 1997, Leite and Weidmann, 1999, Alesina and Weder, 2002, Damania, Fredriksson and Muthukumara, 2003]. We had two providers of such indexes to choose: World Bank's Governance Indicators and Transparency International's Corruption Perception Index (CPI). Briefly describing, we could say that those indexes are mainly formed from several sources[7] reflecting as Kaufman, Kraay and Mastruzzi [2005] say "the perceptions of a very diverse group of respondents."

Our decision to use World Bank's Governance Indicators in lieu of Transparency International's CPI was, first, because of the size of their databases. World Bank's database is larger, comprising 209 countries, while CPI's encompasses only 90. Second, CPI uses World Bank's Governance Indicators as a source for its estimate.

[7] See Kaufman, Kraay and Mastruzzi [2005] p.50 and 51 for a complete list of providers.

As a matter of verification, we compared World Bank (WB) assessment of corruption against that of Transparency International (TI) CPI, to check if it was possible to use WB's larger dataset. The result was a 97.82 correlation. A picture of this high correlation is shown in Graph 3.1. TI data ranges from 1.2 to 10 (higher governance), while WB lowest grade is –1.44 and its highest is 2.56. From now on, all reference this text makes on corruption assessment will come from WB Governance Indicators.

Graph 3.1- World Bank vs. Transparency International Grades for Corruption



Source: Kaufmann, Kraay and Mastruzzi [2003] and **Transparecy International [2000]**

Money laundering prevention (MLP) variables were obtained from a U.S. Department of State [2000] (again a survey on drug control), the International Narcotics Control Strategy Report (INCSR), which provided a cross-country list of "dummy" variables that we used to represent the country's want of money laundering control.

Variable CRIME takes the value one, if the country criminalizes money-laundering activities connected to crimes other than drug-related ones. We assume here that if a country is willing to fight against corruption it is necessary to criminalize beyond drug

money laundering.

There is also an important measure to be taken on money laundering control activities that is to report suspicious transactions. Variable INFORMAR takes value one when financial institutions are obligated to inform of suspicious transactions. This variable has a very important meaning because it discloses any kind of suspicious financial transaction, not only drug-related ones. Even if it is not a crime subject to second or first generation anti-money laundering law, this obligation exposes criminals and makes them vulnerable to enforcement bodies.

UNIDADE is the last variable from the MLP list. This variable takes value one if the country has a Financial Intelligence Unit (FIU). The implementation of a FIU is also an important measure for a country that is really fighting money laundering.

As a starting point, we verified the relationship between money laundering prevention (MLP) variables and corruption. The results are displayed in Table 3.1 below:

Table 3.1 - Correlation between corruption and MLP variables

	CRIME	CORRUPCAO	UNIDADE	INFORMAR
CRIME	1.000000			
CORRUPCAO	0.500517	1.000000		
UNIDADE	0.500242	0.620725	1.000000	
INFORMAR	0.531081	0.496742	0.576022	1.000000

As one can readily observe from Table 3.1, corruption is positively correlated with MLP variables. Notice that there is a minor correlation among MLP variables as well.

We estimated the following equation on MLP variables and CORRUPCAO. Results are as follows:

$$CORRUPCAO = -0.51 + 0.47\ CRIME + 0.34\ INFORMAR + 0.69\ UNIDADE + ? \quad (1)$$

$R^2 = 0.37$. All variables are significant at 6%. Refer to footnote[8] for t-statistic and p-value of all variables. The results are robust for White's heterocedasticity test. Here, we

[8] t-satatistic, p-value of each regressor: Constant (-5.19,0.00), CRIME (2.81, 0.01), INFORMAR (1.91, 0.06), UNIDADE (3.85, 0.00), regression's results are in Appendix 1 labeled as Regression A.

used MLP variables as a proxy for anti-corruption regulation to empirically verify Barroso's [2000] model of corruption.

Notice that CORRUPCAO is a better indicator as it increases, that means that the implementation of a money-laundering control program increases the perception of less corruption. In fact as "a very diverse group of respondents" set the grades on corruption, the implementation of anti-money laundering regulation can demonstrate a country's commitment to fight against crime, which generates a positive feeling on survey respondents.

3.1 - INVESTMENT AND MONEY LAUNDERING

The first step was to assess the impact of money laundering prevention variables on investment. We used a procedure similar to Mauro's [1995]. Mauro [1995] himself followed Barro's [1991], and Levine and Renelt's [1992] specifications to assess investment and growth responses to corruption. Variable INVGDPM is the 1991-2000 average of total investment as a fraction of Gross Domestic Product (GDP) (Heston, Summers, and Bettina [2002]). We regressed investment against all MLP variables.

Table 3.2 - Investment and Money Laundering Prevention Variables Alone

Dependent Variable: INVGDPM
Method: Least Squares – 99 observations

Regr. #	Constant	Coefficient	MLP	R^2/Adj.R^2	
1	11.70875 (10.98/0.00)	7.473520	CRIME	0.225935 0.217955	
2	11.94248 (11.23/0,00)	7.193767 (5.09/0,00)	INFORMAR	0.210561 0.202423	
3	13.99321 (15.40/0.00)	5.877317 (3.79/0.00)	UNIDADE	0.128991 0.120012	
4	10.93342 (9.95/0,00)	4.821080 (2,66/0,01) 4.070476 (2.25/0.03)	CRIME INFORMAR	0.264891 0.249576	
5	11.42407 (10.74/0.00)	6.184973 (3.98/0.00) 2.989131 (1.85/0.07)	CRIME UNIDADE	0.252584 0.237012	
6	11.89101 (11.20/0.00)	5.940999 (3.40/0.00) 2.213253 (1.21/0.23)	INFORMAR UNIDADE	0.222468 0.206269	
7	10.93218 (9.94/0,00)	4.634404 (2.55/0.01) 3.210345 (1.60/0.11) 1.733243 (0.97/0.33)	CRIME INFORMAR UNIDADE	0.272111 0.249125	

t-stat/p-value are reported in parenthesis. Complete results available in Appendix 1.

Given the results from Table 3.2 above, we can observe the impact of criminalizing money laundering, and of imposing to financial entities the obligation of informing authorities of their clients' suspicious behavior (regression #4). Variable UNIDADE seems to have less influence on investment, especially when controlled by INFORMAR and CRIME.

We now turn to the investigation of investment behavior when controlled by a variety of other determinants of investment.

Gross Domestic Product per capita in 1991 was gathered from Heston, Summers, and Bettina [2002] and named GDPPC91. Primary and Secondary education data was obtained from World Bank at http://www1.worldbank.org/education/edstats/, a dataset developed and maintained by the Education Group of its Human Development Network (HDNED). We used an average (1991-2000) percentage of gross enrollment in primary

(EDUPRIM) and secondary (EDUSECM) education as a fraction of total students at the corresponding grade age.

The average (1991-2000) government spending (GOVGDPM) as a percentage of GDP was also sourced by Heston, Summers, and Bettina [2002], as well as variable CRESPOP that represents population growth (average 1991-2000), and PPP91 is the purchasing-power parity value for the investment deflator.

In order to control for political stability as specified by Barro [1991], variable ESTABPOL was obtained from Kaufmann, Kraay and Mastruzzi [2003].

Table 3.3 - Investment and Money Laundering Prevention plus other Variables

Dependent Variable: INVGDPM
Method: Least Squares

Regr. # / Variable	8	9	9-A	10*	11*	11-A*
Constant	7,17 (2.34/0.02)	6.811490 (2.23/0.03)	6.828476 (2.26/0.03)			
GDP per capita in 1991	0.000519 (3.73/0,00)	0.000473 (3.31/0,00)	0.000474 (3.29/0,00)			
Secondary education (average 1991-2000)	0.064258 (1.82/0.07)	0.066240 (1.93/0.06)	0.066846 (1.89/0.06)	0.089331 (3.01/0.00)	0.093000 (3.33/0.00)	0.090412 (3.03/0.00)
Population growth	0.027305 (0.31/0.76)	0.028285 (0.32/0.75)	0.027366 (0.31/0.76)			
Government spending as a fraction of total GDP (average 1991-2000)				-0.023047 (-0.28/0.77)	-0.003796 (-0.04/0.96)	-0.004879 (-0.06/0.95)
Primary education (average 1991-2000)				0.093297 (3.52/0.00)	0.085415 (3.01/0.00)	0.086007 (3.00/0.00)
PPP91				0.003127 (1.40/0.16)	0.002963 (1.32/0.19)	0.002942 (1.30/0.20)
Political stability				2.123771 (2.28/0.03)	2.008717 (2.12/0.04)	1.991162 (2.08/0.04)
CRIME	0.787154 (0.51/0.61)		-0.144027 (-0.08/0.93)	1.089439 (0.66/0.51)		0.482865 (0.26/0.80)
INFORMAR		1.796488 (1.32/0.18)	1.853637 (1.21/0.23)		1.501213 (0.91/0.36)	1.270448 (0.68/0.50)
Number of Observations	97	97	97	93	93	93
R2/Adj.R2	0.515939 0.494892	0.523642 0.502931	0.523679 0.497507	0.487822 0.458387	0.490140 0.460838	0.490532 0.454988
F-statistic/Prob. F-stat.	24.51464 0.000000	25.28302 0.000000	20.00952 0.000000			

t-stat/p-value are reported in parenthesis. Complete results available in Appendix 1. *The constant was excluded from regressions #10 to #11-A given it was not significant here and in Mauro's [1995] article.

Table 3.3 shows that MLP variables are not significant to investment. Results from

regressions are similar to Mauro's [1995], but there, when corruption was used as an independent variable, it was significant. Given that we used political stability (ESTABPOL) to represent a social environment variable, and it was really significant, we can suppose that the propensity to invest in an economy is more closely connected with the overall social environment than to specific behavior laws.

Table 3.4 - Investment and Primary Concern on Money-Laundering

Dependent Variable: INVGDPM
Method: Least Squares

Variable / Regression #	Constant	EDUSECM	CRESPOP	GDPPC91	US_PRIMARY
12	5.504054 (4.28/0.00)	0.080829 (2.55/0.01)	0.060693 (0.57/0.57)	0.000419 (3.30/0.00)	3.195131 (2.52/0.01)

White heteroskedasticity-consistent standard errors and covariance. Number of observations: 97; R2/Adj.R2: 0.547/0.528; t-stat/p-value are reported in parenthesis. Complete results available in Appendix 1.

To confirm this finding we used Mitchell's [2002] compilation of the year 2000 list of money-laundering primary concern countries published by US Department of State. As we can see from Table 3.4, being of "primary concern" on money-laundering has a positive effect on investment, confirming that countries that have a higher investment proportion of GDP are perceived as more vulnerable to money-laundering, as the later classification is attributed subjectively by the US Department of State.

3.2 - MONEY LAUNDERING AND GROWTH

The next step is to examine the impacts of money laundering prevention variables on growth. The average (1991-2000) GDP per capita (GDPPC2000) was sourced by Heston, Summers, and Bettina [2002]. We first regressed growth as a dependent variable, and corruption as an independent variable, and found the same as Mauro [1995]:

$$GDPPC2000 = 1.63 + 0.60\ CORRUPCAO + ? \qquad (2)$$

Low corruption affects[9] growth positively, confirming Mauro's [1995] findings. But the question is: how money-laundering prevention could influence growth? We found that CRIME has an effect on growth while the other MLP were not significant (see Table 3.5).

After having used all available data, we split the sample in two: Latin America and Africa (first) and OCDE high-income countries (second). The findings were as follows: the first group showed a positive relation (at 10%) between CRIME and growth. The second group showed a different result as the relation turned to be negative (at 6%).

Table 3.5 - Growth & Criminalizing - differences between poor and rich countries

Dependent Variable: GDPPC2000
Method: Least Squares

Variable / Regression	Constant	CRIME	Number of Observations	R2/Adj.R2
C	1.356489 (4.28/0.00)	0.800572 (1.91/0.06)	98	0.0365/0.0264
C-1	0.773380 (1.74/0.09)	1.109801 (1.69/0.10)	48	0.0586/0.0381
C-2	4.913000 (3.69/0.00)	-2.748273 (-2.02/0.06)	23	0.1622/0.1228

t-stat/p-value are reported in parenthesis. Complete results available in Appendix 1.

The results for the total sample, and for Latin America and Africa together, generate a kind of common sense expectation that the improvement of legal frameworks for fighting money laundering will certainly produce an also improvement in the institutions. This development is positively considered because "societies with economic institutions that facilitate and encourage factor accumulation, innovation and the efficient allocation of resources will prosper" [Acemoglu, Johnson and Robinson, 2004].

The statement above can be seen as a sort of self-fulfilling prophecy, as World Bank states that "reformers in many governments, as well as civil society and investors, increasingly view governance as key for development and the investment climate" [Kaufmann, Kraay and Mastruzzi 2003][10].

[9] Constant (7.78/0.00), CORRUPCAO (3.14/0.00) (t-stat/p-value). Regression results can be found in Appendix 1 labeled "B".

[10] Kaufmann, Kraay and Mastruzzi [2003] state that: "For example, the International Development Association (the highly concessional loan window of the World Bank) relies heavily on the World Bank's Country Policy and Institutional Assessment, one of the ingredients in our aggregate governance indicators.

Contrarily from this statement, there was the negative relation between criminalizing money laundering (for crimes other than narcotics) and growth, reported in the third row (C-2) of Table 3.5. A possible explanation for this case is the fact that, in line with anecdotal evidence [Mitchell, 2002] that indicates that larger countries are more vulnerable to money laundering than poor economies, when larger economies adopt anti-money laundering regulations, due to their highly developed institutional and enforceable framework, cleaning activities will shift to lax regulated countries. As a consequence, the richer ones will suffer a loss of the funds available for the licit economic activity, thus reducing growth.

It will trigger political pressure from developed economies [Helleiner, 2000] over the less stringent ones. Developed countries can materialize the political pressure in the form of shortage of financial support from the multilateral bodies [Kaufmann, Kraay, and Mastruzzi, 2005] or from the international community, or even by denying access to international financial markets [Helleiner, 2000]. As a second-best result, less developed countries will adopt the regulations, get better grades on their institutional scores, and get access to international funds and financial markets, thus raising growth rates.

This entire possible outcome, however, is not enough to ensure a money-laundering free environment in less developed countries (as it is impossible in developed countries too). If the country's social behavior is corrupt (even in the higher levels of government), it does not matter if the legal framework is in place, it will always be possible to break the law and get no punishment, due to the possibility of "buying" the result of a judgment (either in the administrative or the judiciary areas).

4. CONCLUSION

Through this work, we have confirmed previous studies results that point to a positive relation between low corruption levels and investment and growth. From this finding, we can think of two possible explanations: (1) one that relies on developed

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The U.S. government's Millennium Challenge Account bases country eligibility in part on five of our governance indicators." Alesina and Weder [2002], however, do not support this statement once they found no evidence that corrupt governments receive less foreign aid.

institutional framework to explain a better economic performance or (2) another that expects possible financial shortages from international investors, multilateral bodies aides and financing, or access to international financial systems.

Further, we addressed the growth impact of money laundering prevention initiatives. We did it in two ways: first, by verifying that the perception of corruption is affected by the existence of anti-money laundering regulation, such as the ones we focused here: which criminalize other types of money laundering activity different from drug-related ones; make it an obligation to inform of suspicious financial activities; and establish a Financial Intelligence Unit (FIU). Second, by verifying that the impact of some of the mentioned variables (MLP) showed to be related to growth and investment, however, when applied to a different set of countries, presented different relations, i.e. the Latin American and African countries showed a positive relation between criminalizing money laundering for crimes other than drug-related, and growth, while OCDE high-income countries showed a negative relation.

The empirical results lead us to favor a political economy explanation for a global convergence on anti-money laundering regulation, as developed economies tend to impose these rules on less developed countries that depend on access to international financial markets, through aid or financing.

5. REFERENCES:

ACEMOGLU, Daron. Johnson, Simon and Robinson, James. "Institutions as the fundamental cause of long-run growth". National Bureau Of Economic Research Working Paper 10481, May 2004.

ALESINA, Alberto. Weder, Beatrice. "Do Corrupt Governments Receive Less Foreign Aid?" The American Economic Review, Vol. 92, No. 4, September 2002.

ARAÚJO, Ricardo Azevedo and Moreira, Tito Belchior. "Na Inter-Temporal Model of Dirty Money". Journal of Money Laundering Control, March 2005.

Central Intelligence Agency. "The World Factbook", at http://www.odci.gov/cia/publications/factbook/index.html, visited on March 2006.

DAMANIA, Richard. Fredriksson, Per G. and Mani, Muthukumara, "The Persistence of Corruption and Regulatory Compliance Failures: Theory and Evidence" IMF Working Paper No. 03/172, September 2003

HELLEINER, Eric, “The Politics of Global Financial Regulation: Lessons from the Fight Against Money Laundering”, Center for Economic Policy Analysis Working Paper Series III, Working Paper No. 15, April 2000.

HESTON, Alan. Summers, Robert and Aten, Bettina, Penn World Table Version 6.1, Center for International Comparisons at the University of Pennsylvania (CICUP), October 2002.

KAUFMANN, Daniel. Aart Kraay, and Massimo Mastruzzi. “Governance Matters III: Governance Indicators for 1996-2002” World Bank Policy Research Working Paper No. 3106, June 2003.

KAUFMANN, Daniel. Aart Kraay, and Massimo Mastruzzi. “Governance Matters IV: Governance Indicators for 1996-2004” World Bank, May 2005.

LEITE, Carlos A. and Weidmann, Jens, "Does Mother Nature Corrupt? Natural Resources, Corruption, and Economic Growth". IMF Working Paper No. 99/85, June 1999.

MASCIANDARO, Donato. “Money Laundering: the Economics of Regulation”. European Journal of Law and Economics, May 1999.

MASCIANDARO, Donato. “Money Laundering Regulation and Bank Compliance Costs: What Do Your Customers Know? Economics and the Italian Experience”. Journal of Money Laundering Control, Autumn 2001.

MAURO, Paolo. “Corruption and Growth”. The Quarterly Journal of Economics, August 1995.

MAURO, Paolo. "The Effects of Corruption on Growth, Investment, and Government Expenditure: A Cross-Country Analysis". In Corruption and the Global Economy, Institute for International Economics, 1997.

MITCHELL, Daniel J. “U.S. Government Agencies Confirm That Low-Tax Jurisdictions are not Money Laundering Havens”. Prosperitas, Vol. II, Issue I, January 2002.

QUIRK, Peter J. “Money Laundering: Muddying the Macroeconomy”, Finace & Development, March 1997.

Transparency International. “Corruption Perceptions Index - Releases the Year 2000”, http://www.transparency.org/cpi/2000/cpi2000.html, September 2000

United Nations. “Financial Havens, Banking Secrecy and Money Laundering”, at http://www.imolin.org/imolin/en/finhaeng.html , visited on march 2006

U.S. Department of State, “International Narcotics Control Strategy Report (INCSR) - 1999” http://www.state.gov/p/inl/rls/nrcrpt/1999/ - March, 2000.

U.S. Department of State, “International Narcotics Control Strategy Report (INCSR) - 2000” http://www.state.gov/p/inl/rls/nrcrpt/2000/ - March, 2001.

U.S. Department of The Treasury. “National Money Laundering Strategy for 1999”, at http://www.ustreas.gov/press/releases/docs/money.pdf - September, 1999.

World Bank “World Development Indicators 2005” http://www.worldbank.org/data/wdi2005/index.html - 2005.

World Bank “World Development Indicators 2005” http://www.worldbank.org/data/wdi2005/index.html - 2005

APPENDIX 1

Regression A – All MLP variables as independent and CORRUPCAO as dependent.

Dependent Variable: CORRUPCAO
Method: Least Squares
Date: 02/16/06 Time: 13:30
Sample: 1 153
Included observations: 153

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.508288	0.097917	-5.190995	0.0000
CRIME	0.472828	0.168561	2.805085	0.0057
INFORMAR	0.341118	0.179028	1.905387	0.0587
UNIDADE	0.693701	0.179797	3.858238	0.0002

R-squared	0.371740	Mean dependent var	0.103856
Adjusted R-squared	0.359090	S.D. dependent var	0.996392
S.E. of regression	0.797680	Akaike info criterion	2.411578
Sum squared resid	94.80777	Schwarz criterion	2.490805
Log likelihood	-180.4857	F-statistic	29.38761
Durbin-Watson stat	1.642931	Prob(F-statistic)	0.000000

Regression B

Dependent Variable: GDPPC2000
Method: Least Squares
Date: 02/21/06 Time: 22:06
Sample(adjusted): 3 153
Included observations: 98
Excluded observations: 53 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.632019	0.209673	7.783637	0.0000
CORRUPCAO	0.602165	0.191905	3.137822	0.0023

R-squared	0.093021	Mean dependent var	1.813959
Adjusted R-squared	0.083574	S.D. dependent var	2.083682
S.E. of regression	1.994712	Akaike info criterion	4.239073
Sum squared resid	381.9721	Schwarz criterion	4.291828
Log likelihood	-205.7146	F-statistic	9.845924
Durbin-Watson stat	1.612615	Prob(F-statistic)	0.002261

Regression C

Dependent Variable: GDPPC2000
Method: Least Squares
Date: 03/07/06 Time: 22:06
Sample(adjusted): 3 153
Included observations: 98
Excluded observations: 53 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.356489	0.317232	4.276012	0.0000
CRIME	0.800572	0.419659	1.907672	0.0594

R-squared	0.036524	Mean dependent var	1.813959
Adjusted R-squared	0.026488	S.D. dependent var	2.083682

S.E. of regression	2.055901	Akaike info criterion	4.299502
Sum squared resid	405.7658	Schwarz criterion	4.352257
Log likelihood	-208.6756	F-statistic	3.639212
Durbin-Watson stat	1.642729	Prob(F-statistic)	0.059422

Regression C-1

Dependent Variable: GDPPC2000
Method: Least Squares
Date: 03/07/06 Time: 22:13
Sample(adjusted): 5 153 IF (RENDA_LATINA=1) OR (RENDA_AFRICA = 1)
Included observations: 48
Excluded observations: 2 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.773380	0.444169	1.741184	0.0883
CRIME	1.109801	0.656081	1.691561	0.0975

R-squared	0.058561	Mean dependent var	1.282039
Adjusted R-squared	0.038095	S.D. dependent var	2.309240
S.E. of regression	2.264828	Akaike info criterion	4.513648
Sum squared resid	235.9544	Schwarz criterion	4.591615
Log likelihood	-106.3276	F-statistic	2.861377
Durbin-Watson stat	1.918944	Prob(F-statistic)	0.097495

Regression C-2

Dependent Variable: GDPPC2000
Method: Least Squares
Date: 02/21/06 Time: 22:13
Sample(adjusted): 7 145 IF (RENDA_OCDE=1)
Included observations: 23 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.913000	1.330644	3.692196	0.0014
CRIME	-2.748273	1.360550	-2.019971	0.0563

R-squared	0.162689	Mean dependent var	2.284217
Adjusted R-squared	0.122817	S.D. dependent var	1.420748
S.E. of regression	1.330644	Akaike info criterion	3.492145
Sum squared resid	37.18291	Schwarz criterion	3.590884
Log likelihood	-38.15967	F-statistic	4.080285
Durbin-Watson stat	0.293174	Prob(F-statistic)	0.056327

Regression #1

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 14:10
Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	11.70875	1.065752	10.98637	0.0000
CRIME	7.473520	1.404547	5.320947	0.0000

R-squared	0.225935	Mean dependent var	16.01168
Adjusted R-squared	0.217955	S.D. dependent var	7.810249
S.E. of regression	6.906862	Akaike info criterion	6.722903
Sum squared resid	4627.360	Schwarz criterion	6.775330
Log likelihood	-330.7837	F-statistic	28.31247
Durbin-Watson stat	1.695703	Prob(F-statistic)	0.000001

Regression #2

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 14:57
Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.94248	1.063695	11.22736	0.0000
INFORMAR	7.193767	1.414297	5.086460	0.0000

R-squared	0.210561	Mean dependent var	16.01168
Adjusted R-squared	0.202423	S.D. dependent var	7.810249
S.E. of regression	6.975114	Akaike info criterion	6.742570
Sum squared resid	4719.265	Schwarz criterion	6.794996
Log likelihood	-331.7572	F-statistic	25.87208
Durbin-Watson stat	1.689689	Prob(F-statistic)	0.000002

Regression #3

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 15:00
Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.99321	0.908755	15.39823	0.0000
UNIDADE	5.877317	1.550689	3.790132	0.0003

R-squared	0.128991	Mean dependent var	16.01168
Adjusted R-squared	0.120012	S.D. dependent var	7.810249
S.E. of regression	7.326615	Akaike info criterion	6.840900
Sum squared resid	5206.891	Schwarz criterion	6.893326
Log likelihood	-336.6245	F-statistic	14.36510
Durbin-Watson stat	1.866460	Prob(F-statistic)	0.000261

Regression #4

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 15:06

Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.93342	1.099120	9.947429	0.0000
INFORMAR	4.070476	1.804682	2.255508	0.0264
CRIME	4.821080	1.809951	2.663652	0.0091

R-squared	0.264891	Mean dependent var	16.01168
Adjusted R-squared	0.249576	S.D. dependent var	7.810249
S.E. of regression	6.765787	Akaike info criterion	6.691469
Sum squared resid	4394.484	Schwarz criterion	6.770109
Log likelihood	-328.2277	F-statistic	17.29640
Durbin-Watson stat	1.668181	Prob(F-statistic)	0.000000

Regression #5

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 15:12
Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.42407	1.063873	10.73819	0.0000
CRIME	6.184973	1.552341	3.984287	0.0001
UNIDADE	2.989131	1.615672	1.850086	0.0674

R-squared	0.252584	Mean dependent var	16.01168
Adjusted R-squared	0.237012	S.D. dependent var	7.810249
S.E. of regression	6.822187	Akaike info criterion	6.708072
Sum squared resid	4468.055	Schwarz criterion	6.786712
Log likelihood	-329.0495	F-statistic	16.22123
Durbin-Watson stat	1.722840	Prob(F-statistic)	0.000001

Regression #6

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 15:16
Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.89101	1.061976	11.19706	0.0000
INFORMAR	5.940999	1.748767	3.397250	0.0010
UNIDADE	2.213253	1.825425	1.212459	0.2283

R-squared	0.222468	Mean dependent var	16.01168
Adjusted R-squared	0.206269	S.D. dependent var	7.810249
S.E. of regression	6.958275	Akaike info criterion	6.747575
Sum squared resid	4648.089	Schwarz criterion	6.826215
Log likelihood	-331.0049	F-statistic	13.73376
Durbin-Watson stat	1.717440	Prob(F-statistic)	0.000006

Regression #7

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/08/06 Time: 15:20
Sample(adjusted): 3 153
Included observations: 99
Excluded observations: 52 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.93218	1.099451	9.943312	0.0000
CRIME	4.634404	1.820679	2.545427	0.0125
INFORMAR	3.210345	2.010944	1.596436	0.1137
UNIDADE	1.733243	1.785448	0.970761	0.3341

R-squared	0.272111	Mean dependent var	16.01168
Adjusted R-squared	0.249125	S.D. dependent var	7.810249
S.E. of regression	6.767818	Akaike info criterion	6.701800
Sum squared resid	4351.320	Schwarz criterion	6.806653
Log likelihood	-327.7391	F-statistic	11.83814
Durbin-Watson stat	1.683889	Prob(F-statistic)	0.000001

Regression #8

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/13/06 Time: 20:15
Sample(adjusted): 3 153
Included observations: 97
Excluded observations: 54 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.172712	3.063469	2.341369	0.0214
GDPPC91	0.000519	0.000139	3.730363	0.0003
EDUSECM	0.064258	0.035311	1.819806	0.0720
CRESPOP	0.027305	0.089296	0.305779	0.7605
CRIME	0.787154	1.538688	0.511575	0.6102

R-squared	0.515939	Mean dependent var	16.11553
Adjusted R-squared	0.494892	S.D. dependent var	7.695586
S.E. of regression	5.469323	Akaike info criterion	6.286357
Sum squared resid	2752.042	Schwarz criterion	6.419074
Log likelihood	-299.8883	F-statistic	24.51464
Durbin-Watson stat	1.771985	Prob(F-statistic)	0.000000

Regression #9

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/13/06 Time: 20:53
Sample(adjusted): 3 153
Included observations: 97
Excluded observations: 54 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.811490	3.045371	2.236670	0.0277
GDPPC91	0.000473	0.000143	3.311555	0.0013
EDUSECM	0.066240	0.034350	1.928358	0.0569

CRESPOP	0.028285	0.087911	0.321748	0.7484
INFORMAR	1.796488	1.356579	1.324279	0.1887

R-squared	0.523642	Mean dependent var	16.11553
Adjusted R-squared	0.502931	S.D. dependent var	7.695586
S.E. of regression	5.425629	Akaike info criterion	6.270315
Sum squared resid	2708.245	Schwarz criterion	6.403032
Log likelihood	-299.1103	F-statistic	25.28302
Durbin-Watson stat	1.736998	Prob(F-statistic)	0.000000

Regression #9-A

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/13/06 Time: 21:02
Sample(adjusted): 3 153
Included observations: 97
Excluded observations: 54 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.828476	3.068614	2.225264	0.0285
GDPPC91	0.000474	0.000144	3.290690	0.0014
EDUSECM	0.066846	0.035283	1.894545	0.0613
CRESPOP	0.027366	0.089064	0.307263	0.7593
INFORMAR	1.853637	1.524315	1.216046	0.2271
CRIME	-0.144027	1.715129	-0.083974	0.9333

R-squared	0.523679	Mean dependent var	16.11553
Adjusted R-squared	0.497507	S.D. dependent var	7.695586
S.E. of regression	5.455147	Akaike info criterion	6.290856
Sum squared resid	2708.036	Schwarz criterion	6.450117
Log likelihood	-299.1065	F-statistic	20.00952
Durbin-Watson stat	1.740210	Prob(F-statistic)	0.000000

Regression #10

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/14/06 Time: 13:13
Sample(adjusted): 3 153
Included observations: 93
Excluded observations: 58 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EDUSECM	0.089331	0.029682	3.009626	0.0034
EDUPRIM	0.093297	0.026471	3.524435	0.0007
CRIME	1.089439	1.644397	0.662516	0.5094
GOVGDPM	-0.023047	0.081019	-0.284466	0.7767
PPP91	0.003127	0.002232	1.400650	0.1649
ESTABPOL	2.123771	0.931802	2.279207	0.0251

R-squared	0.487822	Mean dependent var	16.18623
Adjusted R-squared	0.458387	S.D. dependent var	7.821319
S.E. of regression	5.756050	Akaike info criterion	6.400721
Sum squared resid	2882.494	Schwarz criterion	6.564115
Log likelihood	-291.6335	Durbin-Watson stat	1.628990

Regression #11

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/14/06 Time: 13:23
Sample(adjusted): 3 153
Included observations: 93
Excluded observations: 58 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EDUSECM	0.093000	0.027917	3.331249	0.0013
EDUPRIM	0.085415	0.028412	3.006260	0.0035
INFORMAR	1.501213	1.641459	0.914560	0.3630
GOVGDPM	-0.003796	0.085034	-0.044643	0.9645
PPP91	0.002963	0.002242	1.321343	0.1899
ESTABPOL	2.008717	0.947497	2.120025	0.0369

R-squared	0.490140	Mean dependent var	16.18623
Adjusted R-squared	0.460838	S.D. dependent var	7.821319
S.E. of regression	5.743011	Akaike info criterion	6.396185
Sum squared resid	2869.450	Schwarz criterion	6.559579
Log likelihood	-291.4226	Durbin-Watson stat	1.638248

Regression #11-A

Dependent Variable: INVGDPM
Method: Least Squares
Date: 02/14/06 Time: 13:34
Sample(adjusted): 3 153
Included observations: 93
Excluded observations: 58 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EDUSECM	0.090412	0.029818	3.032161	0.0032
EDUPRIM	0.086007	0.028659	3.001077	0.0035
INFORMAR	1.270448	1.878514	0.676305	0.5007
CRIME	0.482865	1.877613	0.257170	0.7977
GOVGDPM	-0.004879	0.085598	-0.056994	0.9547
PPP91	0.002942	0.002256	1.304255	0.1956
ESTABPOL	1.991162	0.955066	2.084842	0.0400

R-squared	0.490532	Mean dependent var	16.18623
Adjusted R-squared	0.454988	S.D. dependent var	7.821319
S.E. of regression	5.774085	Akaike info criterion	6.416922
Sum squared resid	2867.245	Schwarz criterion	6.607548
Log likelihood	-291.3869	Durbin-Watson stat	1.621409

Regression #12

Dependent Variable: INVGDPM
Method: Least Squares
Date: 03/09/06 Time: 22:14
Sample(adjusted): 3 153
Included observations: 97
Excluded observations: 54 after adjusting endpoints
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.504054	3.332538	1.651610	0.1020
EDUSECM	0.080829	0.031686	2.550961	0.0124

CRESPOP	0.060693	0.105988	0.572643	0.5683
GDPPC91	0.000419	0.000127	3.302629	0.0014
US_PRIMARY	3.195131	1.263575	2.528644	0.0132

R-squared	0.547223	Mean dependent var	16.11553
Adjusted R-squared	0.527538	S.D. dependent var	7.695586
S.E. of regression	5.289630	Akaike info criterion	6.219544
Sum squared resid	2574.177	Schwarz criterion	6.352261
Log likelihood	-296.6479	F-statistic	27.79769
Durbin-Watson stat	1.785390	Prob(F-statistic)	0.000000