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ANALYSIS

Money Laundering: Has the Financial Action Task Force Made a Difference?

Jackie Johnson and Y. C. Desmond Lim

INTRODUCTION

Money laundering is the process of disguising assets so that they can be used without detection of the illegal activity that produced them. It is defined by the US Senate Report (1989)[1] as 'the conversion of profits, from illegal activities, into financial assets which appear to have legitimate origins'. Although originally seen as an extension of the drug trade, it is now recognised that anti-money laundering legislation should encompass not only gains from the sale of illegal drugs but also from organised crime. The US President's Commission on Organised Crime (1984)[2] in its review of the relationship between money laundering and organised crime emphasised that without the means to launder money, organised crime could not flourish as it does now.

However, judging the size of the problem is virtually impossible, given its secretive nature. Annual estimates of laundered funds range from a conservative US$300bn to as much as US$1,000bn.[3] The International Monetary Fund (IMF)[4] estimates this as 2–5 per cent of global gross domestic product (GDP), with the bulk of laundering proceeds coming from the nearly US$400bn a year generated by the illegal drug trade.

Furthermore, the severity of the problem is exacerbated by increased globalisation and liberalisation of the world's financial markets. The UN[5] reports that organised crime and enterprising individuals are taking advantage of open borders, privatisation, free trade zones, weak states, offshore banking centres, electronic financial transfers, smart cards and cyberbanking to launder millions of dollars of illegal profits each day.

Over the past decade or so, concern has been raised by much of the international community about the integrity and stability of the financial system, given the amount of money being laundered. Banks and other financial institutions may be willingly or unwittingly used as intermediaries for the transfer or deposit of funds derived from criminal activities as they remain an important mechanism for the disposal of criminal proceeds. While there has been some shift of laundering into non-traditional areas such as bullion dealing, banks are still the 'lynch-pin' for most money laundering operations and fraudulent money transfers.[6] This is because the placement and movement of criminal funds into and out of the banking system is vital in giving dirty money the appearance of legitimacy. Masciandaro[7] reinforces this theory when he stipulates that money laundering occurs either by passively utilising a bank agent or actively utilising a criminal bank. Even the Bank of International Settlements (BIS)[8] notes that the integration of financial systems, improvements in technology and reduction of the barriers to the free movement of capital mean that 'transnational' money launderers are increasingly using banks to hide their ill-gotten gains.

Anecdotal evidence also highlights the continuing involvement of banks in laundering money. Examples range from the collapse of the Bank of Credit and Commerce International (BCCI),[9] Mexican banks' involvement in laundering drug money, brought to light in Operation Casablanca,[10] Citibank's handling of its private accounts[11] and the Bank of New York's alleged involvement in laundering money for the Russian mafia.[12] These examples portray an apparently intimate relationship between banks and illegal activities leading directly to the involvement of the banking sector in the laundering of funds.

At the root of the problem are governments' attitudes towards money laundering, which dictate its level of acceptance and the extent of the involvement of the banking sector in this activity. Governments must recognise that money laundering poses a serious threat to democracy and to the soundness of the financial system. Furthermore, they must also accept that globalisation of financial markets and financial crime means that money laundering countermeasures must be universally

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applied. According to Lasco,[13] if governments are unwilling to accept this, then money laundering and the ills associated with it will become detrimental to society. Indeed, one of the most significant developments of the 1990s has been the shift in governments' attitudes to money laundering. From a non-committal defensive posture adopted by governments prior to 1990, many governments now take a serious view of the threats it poses, particularly since the 11th September terrorist attacks in the USA.

The magnitude and seriousness of money laundering motivated the General Assembly of the United Nations at the Vienna Convention in 1988[14] to adopt a universal pledge to put a halt to money laundering and in 1989 the G7 group of nations established a Financial Action Task Force (the FATF) to examine measures to combat money laundering, particularly the laundering of the profits from the sale of illegal drugs. In April 1990, the FATF issued 40 Recommendations designed to provide a comprehensive strategy for action against money laundering. They cover the criminal justice system and law enforcement, the financial system and its regulation and matters relating to international cooperation. The FATF currently has 26 member countries and monitors their progress in implementing anti-money laundering procedures through both annual self-assessment and more detailed mutual evaluation. Although not legally binding, members are expected to adopt the FATF's 40 Recommendations. Other regional anti-money laundering groups have formed but evaluation of member countries is in its infancy.

The objective of this paper is to examine the involvement of the banking sector in money laundering, over the last two decades. In particular, evidence is gathered to describe the relationship between banks and money laundering when governments' attitudes towards money laundering differ and change. Of importance to this study is Masciandaro's proposition that banks form a fundamental link in the money laundering sequence.

In the second part of the paper the bank/money laundering relationship is discussed. The third part covers governments' attitudes to money laundering, outlining the hypotheses to be tested. The fourth part is a discussion of the necessary data and the countries selected for analysis. Research methods are outlined in the fifth part, followed in the next part by a discussion of results. Conclusions are drawn in the final part.

THE BANK/MONEY LAUNDERING RELATIONSHIP

Why are banks so attractive to money launderers? Banks provide three major advantages when compared with other avenues of money laundering: convenience, accessibility and security. By utilising banks, criminals can gain access to the international payments system and have the convenience of being able to move money electronically rather than transporting physical currency. It is for this reason that the US Federal Reserve Board[15] describes banking organisations and their employees as the strongest line of defence against money laundering, and it is possible to see a large number of anti-money laundering measures target the operations of banks and bank-like financial institutions. Therefore, any research that adds weight to the evidence supporting or rejecting the link between money laundering and banks may, in the longer term, provide guidance to government agencies in regulating banks with regard to the relationship they establish with their customers and the cash handling facilities they offer.

Masciandaro[16] is the first to examine empirically the relationship between money laundering and the banking sector. In the process of examining the Italian banking sector, he creates a viable method of assessing bank involvement in money laundering. His proposition is that the financial side of a given economy does not only reflect legal transactions but also illegal transactions. Further, he hypothesises that due to the presence of money laundering, the financial aggregates, ceteris paribus, will be larger in countries with more developed illegal markets. Masciandaro examines the relationship between the Italian banking system and the country's legal and illegal economies. Given each of these is difficult to quantify, he uses gross national product to represent the legal economy, the crime rate to represent the illegal economy and bank deposits as an indicator of the activity within the banking system.

Before proceeding further, it is useful for the reader to understand the interaction between banks and the legal and the illegal economies. Briefly, banks accept cash from the legal economy in the form of everyday deposits, from normal day-to-day transactions. Banks may also accept illicit funds from the illegal economy (assuming these funds are not reported as suspicious transactions). These illicit deposits enter the financial system and under instruction from the 'unknown' launderer are transferred through layers of complex financial transactions being finally integrated into the legal economy. This may include transferring the funds offshore. The money laundering process involves many different features of the banking system, ranging from over the counter deposits to the use of the international payments system. Masciandaro chose to use bank deposits to represent the movement of funds through the Italian banking system. His analysis of the relationship between the Italian legal and illegal economies and its banks leads him to conclude that, as a result of the laundering of illegally acquired funds, the banks' association with the illegal economy is more significant in regions with a larger criminal presence. He concludes that his findings are consistent with criminological, institutional and legal studies that highlight the increasing relationship between the growth of illegal activities and the more or less conscious involvement of banks in the money laundering business.

GOVERNMENTS' ATTITUDES TO MONEY LAUNDERING

Governments' attitudes to money laundering are mixed. Many oppose it, others turn a blind eye to it, some court it. The purpose of this study is to examine the effect that government attitude has on the bank/money laundering relationship. The FATF's Annual Reports from 1994 state that anti-money laundering measures taken by some governments are helping to minimise money laundering and that with the imposition and enforcement of anti-money laundering legislation, money launderers will find it a lot harder to launder illicit funds. Therefore preliminary evidence suggests that governments' attitudes play an important part in curbing or encouraging money laundering.

A good indicator of governments' attitudes is their participation in global anti-money laundering initiatives and their willingness to adopt anti-money laundering legislation. For the purpose of this study, a government is considered to be against money laundering if it is a member of the FATF and adopts the FATF's 40 Recommendations, while non-membership (even if the recommendations are adopted) indicates a lack of opposition to money laundering. While adoption of the recommendations is to be encouraged, the FATF does not consider the mere adoption to be a clear commitment against money laundering as countries do not face either internal or mutual evaluation.

The FATF is one of the most important organisations in the fight against money laundering. Membership requires adoption of its 40 Recommendations, which are regarded by the IMF as 'a comprehensive and authoritative set of international standards for anti-money laundering policies, and procedures for their applications and development'. Furthermore, the FATF's process of mutual evaluation amongst member countries gives increased credibility to its anti-money laundering mechanism.

Prior to anti-money laundering legislation, most banks had no incentive to acknowledge or stop money laundering, hence maintaining the bank/laundering link. While some countries, prior to being FATF members, had voluntary adopted some form of anti-money laundering measures, the measures adopted varied in their enforcement due to a lack of international evaluation by an organisation such as the FATF. Mutual evaluation by the FATF countries forces members to become more proactive in their anti-laundering enforcement, implying either ineffective or ineffectual anti-money laundering measures in the pre-FATF period. With the advent and growth of anti-money laundering measures, such as the reporting of suspicious bank transactions, money laundering activities should decrease as criminals find it harder to move their illegal proceeds through the banking system. A weakening of the bank/laundering relationship for countries that become FATF members should then be observed. There is no reason to believe that the bank/laundering relationship will change for non-FATF members unless criminal organisations transfer their illegal funds to alternative money laundering centres as it becomes increasingly difficult to launder through FATF countries. As a consequence the bank/laundering relationship could be seen to strengthen, rather then weaken, in these non-FATF countries.

There follows an attempt to find evidence to support the following (alternative) hypotheses:

H1: Individual countries witness a weaker bank/money laundering relationship after becoming FATF members.

H2: FATF countries have a weaker bank/money laundering relationship than non-FATF countries.

Table 1: *Countries included in the analysis*

FATF countries	*Non-FATF countries*
Australia	Chile
Denmark	Colombia
Germany	Ecuador
Italy	Indonesia
Japan	Israel
The Netherlands	Malaysia
Singapore	Poland
United Kingdom (UK)	South Korea
United States of America (USA)	Venezuela

DATA

The final list of countries includes nine FATF and nine non-FAFT countries. They are detailed in Table 1. There is a lack of data and for that reason some countries generally associated with money laundering cannot be included: Switzerland, Nigeria, Mexico and Russia.

Time frame

Data restrictions limit the examination period to 17 years: 1980 to 1996. This allows for the 10-year period prior to the formation of the FATF through to 1996, which gives the most recent crime data. This period is split into pre- and post-FATF: 1980–89 and 1990–96 respectively.

Country data

Ideally it would be preferable just to separate money as it enters a country's banking system, into that earned legally and being deposited or transferred in the normal course of business and that which is derived from illegal activities and which is being deposited or transferred as part of a money laundering process. But, given the secretive nature of money laundering an alternative approach must be adopted. The positive association observed by Masciandaro between the banking sector and the illegal economy allows an assumption of an increase in laundered funds when illegal activities increase. Given this link, it is possible to use the illegal economy as a proxy for laundered funds while the legal economy acts as a proxy for the non-laundered funds. Therefore for each country data is collected that represents the banking sector and the legal and illegal economies.

The legal economy

The measure for the legal economy used by Masciandaro is gross national product (GNP) per capita. Due to its wide availability and acceptability as a source of measurement of the legal economy, it is preferable to use gross domestic product (GDP) here. It is used by Giles,[17] Bajada,[18] Klovland[19] and Giles and Caragata[20] to measure the legal economy. GDP data, denominated in units of national currency are extracted from the IMF's International Financial Statistics (IFS) database.[21] Population figures are also retrieved from this database so that GDP can be restated in terms of GDP per 100,000 persons.

The illegal economy

Both Bajada and Giles look at various methods to measure the illegal economy, including: the 'initial discrepancy' between national income and national expenditure; fluctuations in labour force participation rates; the monetary 'transactions approach'; modifications of the currency demand equations. Most of these measures focus on tax evasion, which is believed to be an inferior proxy for the purpose of this study, given that money laundering encompasses much more than the proceeds of tax evasion. Therefore following Masciandaro and using crime rates as proxy for the illegal economy, enables the capture of illegal activity at all levels — not merely tax related activity. Crime rates are taken from Interpol's 'International Crime Statistics'[22] and the United Nations' 'Surveys of Crime Trends and Operations of Criminal Justice Systems'.[23] To measure the illegal economy total crime per 100,000 persons has been used. While critics may argue that crimes such as murder and rape are not motivated by financial gain, this criticism is not totally justified since many of these crimes are perpetrated by organised crime groups that profit indirectly from these acts. Not all the countries in the sample supplied crime data to Interpol or the United Nations each year and some crime data are unavailable. In this case the number of observations is reduced and the statistics adjusted accordingly.

Crime rates for the UK are not published in aggregate form, and due to the unavailability of crime rates for some countries which make up the UK, crime rates for England and Wales are used. Given that Northern Ireland and Scotland make up only 16 per cent of the population of the UK, these rates are considered to be representative of the whole of the UK and adequate for the current analysis.

Initially it was hoped to include Transparency International's corruption ratings to aid in measuring the illegal economy but there are not enough data covering the pre-FATF period.

The banking sector

In terms of the banking sector, the aim is to capture banking activity, so that it is possible to deduce what activity relates to the legal and illegal economies. Unfortunately, banks do not give details, even in their annual reports of cash deposits, withdrawals and transfers, and aggregate figures are not released by central banking authorities. Measures such as profitability, size, asset base and liabilities are deemed to be inappropriate, as laundered funds have first to be introduced into a bank's operating activity before impact on these areas of the bank can occur. In addition, the desire by criminals to prevent authorities from tracing a link between laundered funds and criminal enterprises causes funds to move about too quickly to significantly alter bank profitability or size. Banks do however report, at the end of each year, the balance in customer demand deposit accounts. These are the only data reported on a consistent basis, from year to year and country to country, and although they represent only a net position at a point in time they do give some idea of size in relation to customers' monetary holdings. For a bank to report stable or increasing deposit levels a significant amount of activity during the year would be expected. Total bank deposit levels in national currency units are extracted from the IFS database and converted into bank deposits per 100,000 persons.

RESEARCH METHOD

Pearson correlation analysis, partial correlation analysis and multiple regression are used to test the hypotheses. The correlation between the legal and illegal economies determines whether the second stage of the analysis is done using multiple regression and/or partial correlations.

With medium to low correlation between the legal and illegal economies, multiple regression is used as a method of assessing the structural change in the bank/laundering relationship pre- to post-FATF. The actual comparison is made using Chow[24] and dummy variable tests which allow the factors influencing the structural change to be determined. The Chow test, on its own, may indicate a change but does not pinpoint the factors that change.

When the correlation between the legal and illegal economies is high, regression analysis will not separate the influence of each factor and the Chow test cannot be used successfully. In this instance partial correlations are used to help identify the bank/laundering relationship after removing the interaction between the legal and illegal economies. Interpretation of the results from this analysis makes it possible to deduce the impact of the FATF on the bank/money laundering relationship.

Multiple regression

Multiple regressions examine the combined ability of more than one independent variable to explain interactions between the dependent and independent variables. For this analysis bank activity, represented by demand deposits per 100,000 is regressed against two variables, namely the legal and illegal economies, represented by GDP per 100,000 and crime rates, respectively. The following regression is run for each country for the whole period and each sub-period, that is, for 1980–96, 1980–89 and 1990–96.

$$\mathrm{BA}_{\mathrm{i,j}} = \alpha + \beta_1 \mathrm{LE}_{\mathrm{i,j}} + \beta_2 \mathrm{IE}_{\mathrm{i,j}} + \mu_{\mathrm{i,j}}$$

where

$\mathrm{BA}_{\mathrm{i,j}}$ = bank activity in year i, for country j
$\mathrm{LE}_{\mathrm{i,j}}$ = the legal economy in year i, for country j
$\mathrm{IE}_{\mathrm{i,j}}$ = the illegal economy in year i, for country j
$\mu_{\mathrm{i,j}}$ = the error or disturbance term

The Chow test uses the residual sums of squares of each country's set of three regressions to calculate the Chow statistic.

Unfortunately multicollinearity is a problem for some countries. It occurs when two or more explanatory variables in the regression analysis are highly correlated. It increases the variances and standard errors of the coefficients of the independent variables and they become unreliable. Therefore this analysis is not suitable for countries where there is a high correlation between the legal and illegal economies. Even though these variables are measuring completely different attributes of a country's economy, high correlations mean that regression analysis is unsuitable.

Dummy variable regression

A dummy variable regression is used in addition to the Chow test. By pooling the observations from both periods the following regression can be estimated:

$$\mathrm{BA}_{i,j} = \alpha_1 + \alpha_2 \mathrm{D}_{i,j} + \gamma_1 \mathrm{LE}_{i,j} + \gamma_2(\mathrm{LE}_{i,j}\mathrm{D}_{i,j}) + \gamma_3 \mathrm{IE}_{i,j} + \gamma_4(\mathrm{IE}_{i,j}\mathrm{D}_{i,j}) + \mu_{i,j}$$

where

$\mathrm{D}_{i,j} = 0$ for the pre-FATF period and 1 for the post-FATF period
$\mathrm{BA}_{i,j}$ = bank activity in year i, for country j
$\mathrm{LE}_{i,j}$ = the legal economy in year i, for country j
$\mathrm{IE}_{i,j}$ = the illegal economy in year i, for country j
$\mu_{i,j}$ = the error or disturbance term

Now α_2 the differential intercept and γ_2 and γ_4 the differential slope coefficients can be identified. The statistical significance of these indicates the strength of the changes that have taken place over the two periods. This provides the detail omitted with the Chow test.

Partial correlation

When correlation is observed between two variables, there is always the possibility that this is due to the association between each of the two variables and a third variable. This correlation may not reflect any genuine or direct relationship between these two variables, but rather may result from the fact that both variables are associated with a third variable. Statistically this may be attacked by use of partial correlation, in which the effects of variation by the third variable upon the relation between the other two is eliminated. Unfortunately there are no tests of significance so a visual inspection of the partial correlation results will have to aid in understanding the relationships involved.

In this case partial correlations are used as an aid in determining the structural change in the bank/legal economy/illegal economy relationships from the pre- to the post-FATF periods for countries where multicollinearity is a problem.

RESULTS

All countries in the sample are analysed pre- and post-FATF, that is for 1980–89 and 1990–96. Simple correlations, Chow and dummy variable tests and partial correlations are detailed in the Appendix. Summaries of these results are contained in Tables 2–5.

Throughout this analysis comment cannot be made on the level of money laundering, only on the observed change in the bank/money laundering relationship from the pre- to the post-FATF periods. Any weakening of the bank/money laundering link may mean that launderers have not moved out of the country but have found within the same country other avenues for laundering funds or have simply moved to the non-bank financial institutions.

The FATF countries

The expectation is, that with the advent of the FATF and the implementation by individual countries of its 40 Recommendations, the bank/money laundering relationship should weaken. This can be achieved by a strengthening of the bank/legal economy relationship and/or a weakening of the bank/illegal economy link. Table 2 details the FATF countries where this is observed: Australia, Denmark, Japan, Netherlands and the UK.

Table 2 is set up as a summary of the details in the Appendix. Simple correlation coefficients are detailed in Table A1 and the significance of the correlation (collinearity) between the legal and illegal economies is indicated. A high correlation between these variables means that the Chow and dummy variables test are unreliable. Summary statistics only include details of these tests if the collinearity problem is limited to a maximum of one period. Tables A3 and A4 contain details of these tests for countries where collinearity is not severe. Partial correlation coefficients for all countries are listed in Table A2.

Australia

The Australian result is excellent, indicating the success of the Government's 'whole system' approach to dealing with money laundering. They have put in place appropriate law enforcement structures, legislation and operational techniques. The Australian system also gives high priority to the use of financial reports and related information in locating the money trail. In this respect, the government has established AUSTRAC (Australian Transaction Reports and Analysis Center), a financial intelligence unit to work with the financial sector, to receive reports of significant and suspicious transactions and to analyse financial transaction data. AUSTRAC also provides financial intelligence to appropriate agencies such as the Federal Police and the Australian Taxation Office. These results are evidence of the high standard of the Australian system.

Denmark

The Danish anti-money laundering system is based on close cooperation between the government and private sector. Major anti-laundering initiatives include the 1993 Act on Measures to Prevent Money Laundering, and establishment of the Money Laundering Secretariat within the Public Prosecutor's office. The 1993 Act covers customer identification and mandatory suspicious transaction reporting. The Money Laundering Secretariat provides a central point for collection of all intelligence relating to money laundering. Overall, the Danish anti-money laundering system meets the FATF's 40 Recommendations and from this analysis appears reasonably effective in implementing them.

Japan

Results for Japan indicate a system in transition, with the bank/money laundering link only marginally weaker. The 1997–98 FATF Annual Report states that substantial amounts are laundered in Japan,

Table 2: *FATF countries with a weaker bank/money laundering relationship*

Country	*Test*	*Bank/legal economy*	*Bank/illegal economy*	*Bank/money laundering outcome*
Australia	Simple correlation:	+ve★★ → +ve★★ ↑	+ve → −ve★ ↓	B/LE — stronger
	Dummy variable test:	change★★	change^{+}	B/IE — weaker
	Partial correlation:	+ve → +ve ↑	+ve → −ve ↓	
	Collinearity (pre/post):	No/No		B/ML — weaker
	Chow test:	★★		
Denmark	Simple correlation:	+ve★★ → +ve★★ ↓	+ve★★ → −ve ↓	B/LE — stronger
	Dummy variable test:	change$^{n.s.}$	change$^{n.s.}$	B/IE — weaker
	Partial correlation:	+ve → +ve ↑	+ve → −ve ↓	
	Collinearity (pre/post):	Yes ★★/No		B/ML — weaker
	Chow test:	n.s.		
Japan	Simple correlation:	+ve★★ → +ve★★ ↓	+ve → +ve ↑	B/LE — weaker
	Dummy variable test:	change★★	change$^{n.s.}$	B/IE — weaker
	Partial correlation:	+ve → +ve ↓	+ve → −ve ↓	
	Collinearity (pre/post):	No/Yes★★ ↓		B/ML — marginally weaker
	Chow test:	★★		
Netherlands	Simple correlation:	+ve★★ → +ve★★ ↓	+ve★ → +ve ↓	B/LE — stronger
	Dummy variable test:	change$^{n.s.}$	change$^{n.s.}$	B/IE — weak
	Partial correlation:	+ve → +ve ↑	−ve → −ve ↑	
	Collinearity (pre/post):	Yes★★/No		B/ML — marginally weaker
	Chow test:	★★		
United Kingdom	Simple correlation:	+ve★★ → +ve★★ ↑	+ve★ → −ve ↓	B/LE — stronger
	Dummy variable test:	change^{+}	change★	B/IE — weak
	Partial correlation:	+ve → +ve ↑	−ve → −ve ↑	
	Collinearity (pre/post):	Yes★★/No		B/ML — weaker
	Chow test:	+		

★★	significant at 1% level	↓	value declines
★	significant at 5% level	↑	value increases
+	significant at 10% level	→	implies the move from 1980–89 and 1990–96
n.s.	not significant	+ve	positive relationship
		−ve	negative relationship

though not all these acts are criminalised. The principal source of funds is probably drug and organised crime related. Japanese financial institutions are obliged to identify customers and report suspicious activity, but until recently the Japanese government has focused its attentions on combating only drug-related laundering. The Japanese government did not begin, until 1996, to remedy defects identified in their first mutual evaluation. All this points to only limited success in reducing the bank/money laundering relationship.

The Netherlands

The Netherlands too, only shows some improvement. This could be due to the amount of funds flowing in over their borders.[25] The Netherlands currently has strong, comprehensive anti-money laundering laws in place. Financial transaction reporting is required for transactions over 25,000 Dutch guilders, as well as any unusual transactions. The Financial Services Act requires customer identification for all financial transactions unless identity has previously been established. Non-bank financial institutions are also subject to reporting requirements under Dutch law. Commercial service rendering organisations, accountants and lawyers, established reporting requirements within their professions in 1996. Finally, the government has established the Meldpunt Ongebruikelijke Transacties (MOT) which is the financial intelligence unit in Netherlands and is the recipient of unusual transaction reports. Banks are reported to be in full compliance with the reporting requirements.

Table 3: *FATF countries with a stronger bank/money laundering relationship*

Country	*Test*	*Bank/legal economy*	*Bank/illegal economy*	*Bank/money laundering outcome*
Germany	Simple correlation:	+ve★★ → +ve★★ ↓	+ve★ → +ve ↓	B/LE — weaker
	Dummy variable test:	change★★	change$^{\text{n.s.}}$	B/IE — remains weak
	Partial correlation:	+ve → +ve ↓	−ve → −ve ↑	
	Collinearity (pre/post):	Yes★/Yes★		B/ML — marginally stronger
	Chow test:	★★		
Italy	Simple correlation:	+ve★★ → +ve★★ ↓	+ve → −ve ↓	B/LE — weaker
	Dummy variable test:	change★★	change$^{\text{n.s.}}$	B/IE — weaker
	Partial correlation:	+ve → +ve ↓	+ve → −ve ↓	
	Collinearity (pre/post):	No/No		B/ML — stronger
	Chow test:	★		
Singapore	Simple correlation:	+ve★★ → +ve★★ ↑	+ve★★ → −ve ↓	B/LE — stronger
	Dummy variable test:	n.a.	n.a.	B/IE — continuing strong
	Partial correlation:	+ve → +ve ↑	+ve → +ve ↑	
	Collinearity (pre/post):	Yes★★/Yes★★		B/ML — stronger
	Chow test:	n.a.		
USA	Simple correlation:	+ve★★ → +ve★★ ↓	+ve★ → −ve ↓	B/LE — weaker
	Dummy variable test:	change$^{\text{n.s.}}$	change$^{\text{n.s.}}$	B/IE — weaker
	Partial correlation:	+ve → −ve ↓	+ve → −ve ↓	
	Collinearity (pre/post):	No/No		B/ML — stronger
	Chow test:	n.s.		

★★	significant at 1% level	↓	value declines
★	significant at 5% level	↑	value increases
+	significant at 10% level	→	implies the move from 1980–89 and 1990–96
n.s.	not significant	+ve	positive relationship
n.a.	not available	−ve	negative relationship

United Kingdom

The United Kingdom remains a drug consumer country, with drug profits as the major source of illegal proceeds to be laundered. Proceeds of other offences such as fraud and smuggling are also becoming increasingly important.[26] Among the money laundering trends observed is an increasing use by money launderers of non-bank financial institutions and non-financial businesses such as lawyers. The Money Laundering Regulations (1993) lay down requirements as to customer identification, record keeping, supervision and the reporting of suspicious transactions for a wide range of businesses. Mutual evaluation in 1996–97 complimented the UK on an 'impressive and comprehensive anti-money laundering system'. Evidence here supports a weakening of the bank/illegal economy relationship, which implies less involvement by the banking sector in money laundering.

Disappointing amongst the FATF countries are Germany, Italy, Singapore and the USA. There, the bank/money laundering link is stronger. These countries, detailed in Table 3, have seen a decline in the bank/legal economy relationship and/or an increase in the bank/illegal economy relationship implying a stronger bank/money laundering link.

Germany

The FATF's 1997–98 Annual Report states that profits from crime inside Germany have increased significantly and large amounts of funds are being transferred to Germany from Eastern Europe. This will be responsible for the decline in the bank/legal economy relationship. Legislation is extending the list of predicate offences for money laundering, the threshold for customer identification has increased to transactions over DM30,000 and there is increased involvement of the tax authorities in combating money laundering. Their system has extensive reporting obligations for some sectors of the financial system but inconsistencies in others. Germany's bank/money laundering relationship will not weaken until the system is tightened up and illegal cross-border transfers stopped.

Italy

The results for Italy are not surprising. Italy serves as a significant money laundering centre for the proceeds of drug trafficking and organised crime.[27] Italy's 1994 comprehensive money laundering law is fully consistent with the FATF's Recommendations and the European Union Money Laundering Directive. Italy has an established system for identifying, tracing, freezing, seizing and forfeiting narcotics related assets and cooperates fully with the USA and other countries. Under existing regulations, businesses used for money laundering can be seized and the assets forfeited. Italian anti-money laundering legislation has been developed, taking into account the need to combat organised crime. Italy has some way to go, particularly in relation to the amount of funds flowing into Italy from Italian criminal organisations operating outside Italy.

Singapore

Singapore has the strongest bank/illegal economy relationship of all the FATF countries examined with a significantly high correlation between the legal and illegal economies. Future research will need to focus on the reasons for such a strong link between the legal and illegal economies in Singapore and a number of other countries. With a strong anti-drug regime it is more likely that laundered funds come from economic crimes. Being an important regional financial centre it is attractive to money launderers. There is strict supervision of financial institutions but the law enforcement is weak and this is allowing money laundering to continue.[28]

USA

Due in part to the size and sophistication of the US financial system and its geographical proximity to the drug producing countries of South America, the USA continues to have a serious money laundering problem. Significant illegal proceeds are also generated by offences connected to organised and white-collar crime. Generally, US money laundering offences and forfeiture provisions are sound and actively used in practice. US law enforcement agencies are increasingly coordinating their activity through the use of task forces and cooperation with the Financial Crimes Enforcement Network (FinCEN) and financial institutions. International co-operation is also strongly promoted. Banks and banking regulators are also doing much to tighten money laundering controls. However, there is an urgent need to introduce effective anti-money laundering measures for non-bank financial institutions, particularly those not currently subject to financial regulation. Overall, the US anti-money laundering system meets the FATF's Recommendations in most respects, and in a number of areas it actually takes the lead in developing countermeasures against money laundering. If the relationship between the illegal economy and the banking sector, which is weaker than in the pre-FATF period, is taken into account, they seem to be winning, but losing if the now negative relationship between the banking sector and the legal economy is taken into account. The USA is difficult to assess with the size of cash inflows distorting the relationship between the banking sector and the domestic legal economy. It is more likely that the US banking sector is a reflection of both internal and external legal and illegal economies. An analysis of this relationship is beyond the scope of this paper.

Non-FATF countries

Only one of the non-FATF countries analysed has a weaker bank/money laundering relationship in the post-FATF period: South Korea. The relationship between the banking sector and the legal economy strengthens and its relationship with the illegal economy weakens. This can be seen in Table 4. Although South Korea has no anti-money laundering legislation they have joined the Asia/Pacific Group on money laundering. This group has just conducted its first self-assessment exercise, using FATF-like questionnaires.

The remaining non-FATF countries, detailed in Table 5, have not done well. The problem is generally a positive relationship between bank activity and the illegal economy. It either remains positive over the period of analysis of worse, goes from negative in 1980–89 to positive in 1990–96. The South American countries are all affected by the illegal drug trade and it is not unexpected that Chile, Colombia, Ecuador and Venezuela all have a strong bank/money laundering relationship. However, even governments in these countries are trying to implement some anti-money laundering legislation.

For example:

- — the Government of Venezuela recently announced an aggressive anti-drug, anti-money laundering strategy. In July 1997, Venezuela adopted laws to regulate the uncontrolled gambling houses industry. In November 1997, Superintendency of Banking laws went into effect, requiring the reporting of all transactions of more than 4.5m bolivars (US$10,000), introducing the reporting of suspicious transactions, and requiring banks to set up internal financial investigation units. Overall, Venezuela has put a huge amount of effort into anti-money laundering measures but the lack of effective enforcement continues to create an atmosphere conducive to money laundering.
- — in 1991, Ecuador's Superintendency of Banks issued regulations requiring financial institutions to report currency transactions over US$10,000 or its equivalent in foreign currency.

Table 4: *Non-FATF countries with a weaker bank/money laundering relationship*

Country	*Test*	*Bank/legal economy*	*Bank/illegal economy*	*Bank/money laundering outcome*
South Korea	Simple correlation:	+ve★★ → +ve★★ ↓	+ve★★ → +ve★★ ↓	B/LE — stronger
	Dummy variable test:	n.a.	n.a.	B/IE — weaker
	Partial correlation:	+ve → +ve ↑	+ve → −ve ↓	
	Collinearity (pre/post):	Yes★★/Yes★★		B/ML — weaker
	Chow test:	n.a.		

★★	significant at 1% level
n.a.	not available
↓	value declines
↑	value increases
→	implies the move from 1980–89 to 1990–96
+ve	positive relationship
−ve	negative relationship

Table 5: *Non-FATF countries with a stronger bank/money laundering relationship*

Country	*Test*	*Bank/legal economy*	*Bank/illegal economy*	*Bank/money laundering outcome*
Chile	Simple correlation:	+ve** → +ve** ↑	+ve → −ve ↓	B/LE — stronger
	Dummy variable test:	change**	change^{+}	B/IE — marginally stronger
	Partial correlation:	+ve → +ve ↑	−ve → +ve ↑	
	Collinearity (pre/post):	No/No		B/ML — marginally stronger
	Chow test:	$\star\star$		
Colombia	Simple correlation:	+ve** → +ve** ↓	−ve** → −ve ↑	B/LE — weaker
	Dummy variable test:	change$^{\text{n.s.}}$	change$^{\text{n.s.}}$	B/IE — stronger
	Partial correlation:	+ve → +ve ↓↓	−ve → +ve ↓	
	Collinearity (pre/post):	Yes**/No		B/ML — stronger
	Chow test:	n.s.		
Ecuador	Simple correlation:	+ve** → +ve** ↓	−ve → +ve* ↑	B/LE — weaker
	Dummy variable test:	n.a.	n.a.	B/IE — remains strong
	Partial correlation:	+ve → +ve ↓	+ve → +ve ↓	
	Collinearity (pre/post):	No/Yes**		B/ML — stronger
	Chow test:	n.a.		
Indonesia	Simple correlation:	+ve** → +ve** ↑	−ve → −ve ↓	B/LE — weaker
	Dummy variable test:	change$^{\text{n.s.}}$	change$^{\text{n.s.}}$	B/IE — marginally weaker
	Partial correlation:	+ve → +ve ↓	−ve → +ve ↑	
	Collinearity (pre/post):	No/Yes*		B/ML — stronger
	Chow test:	n.s.		
Israel	Simple correlation:	+ve** → +ve** ↓	−ve → +ve ↑	B/LE — weaker
	Dummy variable test:	change$^{\text{n.s.}}$	change$^{\text{n.s.}}$	B/IE — strong
	Partial correlation:	+ve → +ve ↓	+ve → +ve ↓	
	Collinearity (pre/post):	No/No		B/ML — remains strong
	Chow test:	n.s.		
Malaysia	Simple correlation:	+ve** → +ve** ↑	−ve → −ve ↓	B/LE — stronger
	Dummy variable test:	change*	change$^{\text{n.s.}}$	B/IE — stronger
	Partial correlation:	+ve → +ve ↑	−ve → +ve ↑	
	Collinearity (pre/post):	No/Yes*		B/ML — marginally stronger
	Chow test:	$\star\star$		
Poland	Simple correlation:	+ve** → +ve** ↓	+ve* → +ve ↓	B/LE — stronger
	Dummy variable test:	change$^{\text{n.s.}}$	change$^{\text{n.s.}}$	B/IE — continuing strong
	Partial correlation:	n.a.	n.a.	
	Collinearity (pre/post):	Yes**/No		B/ML — strong
	Chow test:	n.s.		
Venezuela	Simple correlation:	+ve** → +ve** ↑	+ve** → −ve ↓	B/LE — signif. weaker
	Dummy variable test:	change$^{\text{n.s.}}$	change$^{\text{n.s.}}$	B/IE — remaining strong
	Partial correlation:	+ve → −ve ↓↓	+ve → +ve ↓	
	Collinearity (pre/post):	Yes**/No		B/ML — stronger
	Chow test:	$\star\star$		

$\star\star$ significant at 1% level
$\star$ significant at 5% level
+ significant at 10% level
n.s. not significant
n.a. not available
↓ value declines
→ implies the move from 1980–89 to 1990–96
↑ value increases
+ve positive relationship
−ve negative relationship

Indonesia, Israel and Malaysia do not have anti-money laundering laws in place and although there is some legislation in Poland, due to vague wording prosecutors have not yet initiated a criminal case for the crime of money laundering.

Summary

Although not all the FATF countries have achieved a weakening of the bank/money laundering relationship, Australia, Denmark, Japan, The Netherlands and the UK are making progress and provide support for hypothesis H1. The USA is a special case and difficult to assess, which leaves Germany, Italy and Singapore, which have seen a stronger bank/money laundering relationship develop since the country joined the FATF. Therefore not all, but a majority of the FATF countries examined witness a weaker laundering/bank relationship after becoming FATF members.

There is also support for hypothesis H2. Non-FATF countries have on average a much stronger bank/illegal economy relationship than FATF countries in the post-FATF period. This is most clearly seen in Table A2, where the majority of the non-FATF countries have a positive bank/illegal economy relationship in the 1990–96 post-FATF period. This implies a stronger link between the banking sector and the illegal economy in these countries leading to the conclusion that there is a strong likelihood of significant money laundering activity in the banking sector.

CONCLUSION

Taking into consideration the data limitations and the difficulties of using proxies for the attributes of the banking system and economy that must be measured, the FATF does appear to have made a difference and in this sample of FATF countries the majority do have a weaker bank/money laundering relationship in their post-FATF period. For the majority of non-FATF countries either the status quo or an even stronger bank/money laundering link is discovered. Of course, if the FATF's anti-money laundering recommendations work, illegal profits will need to be physically transported to some non-FATF country for entry into the global financial system, thereby increasing further the money laundering problems in non-FATF countries.

Further research into the impact of anti-money laundering legislation is a priority and with this comes the need for better measurement of the underlying variables. Waiting for prosecutions to reach the court system and counting convictions is not good enough. Other ways must be found to measure the effect of the anti-money laundering legislation as legislative changes are made by governments around the world. This paper is just the start.

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APPENDIX

Table A1: *Correlations between bank activity, legal and illegal economies*

	1980–89			*1990–96*		
	Bank activity/legal economy	*Bank activity/illegal economy*	*Legal/illegal economy*	*Bank activity/legal economy*	*Bank activity/illegal economy*	*Legal/illegal economy*
FATF						
Australia	0.9396★★	0.0170	−0.1533	0.9775★★	−0.6894★	−0.4095
Denmark	0.9401★★	0.9323★★	0.9717★★	0.9144★★	−0.1266	−0.1247
Germany	0.9940★★	0.6670★	0.7163★	0.9257★★	0.5697	0.7679★
Italy	0.9984★★	0.5435	0.5393	0.9460★★	−0.4749	−0.4595
Japan	0.9637★★	0.5772	0.5877	0.8968★★	0.7600★	0.9311★★
Netherlands	0.9884★★	0.8460★★	0.8939★★	0.9678★★	0.1919	0.2161
Singapore	0.9201★★	0.8768★★	0.9346★★	0.9469★★	−0.8331★	−0.9088★★
UK	0.9529★★	0.7178★	0.8704★★	0.9790★★	−0.1578	−0.0414
USA	0.9310★★	0.5514	0.2515	0.3047	−0.3598	−0.9859★★
Non-FATF						
Chile	0.9931★★	0.2494	0.3018	0.9950★★	−0.2248	−0.2838
Colombia	0.9990★★	−0.9207★★	−0.9085★★	0.9938★★	−0.6711	−0.6653
Ecuador	0.9872★★	−0.3589	−0.3828	0.9817★★	0.9710★	0.9389★★
Indonesia	0.9475★★	−0.0493	−0.0209	0.9537★★	−0.6819	−0.7328★
Israel	0.9824★★	−0.3982	−0.4552	0.9712★★	0.2697	0.3569
Malaysia	0.9186★★	−0.6100	−0.4100	0.9610★★	−0.7044	−0.7805★
Poland	0.9970★★	0.7874★	0.8654★★	0.9762★★	0.5839	0.5065
South Korea	0.9867★★	0.9630★★	0.9580★★	0.9766★★	0.9025★★	0.9489★★
Venezuela	0.8580★★	0.8900★★	0.9100★★	0.9950★★	−0.2101	−0.1450

★★ significant at 1% level
★ significant at 5% level

Table A2: *Partial correlations between bank activity, legal and illegal economies*

	1980–89		*1990–96*	
	Bank activity/ legal economy	*Bank activity/ illegal economy*	*Bank activity/ legal economy*	*Bank activity/ illegal economy*
FATF				
Australia	0.9536	0.4762	0.9787	−0.5447
Denmark	0.4005	0.2335	0.9130	−0.0312
Germany	0.9930	−0.5901	0.9137	−0.4693
Italy	0.9978	0.1065	0.9311	−0.1396
Japan	0.9451	0.0502	0.7977	−0.4643
Netherlands	0.9577	−0.4492	0.9668	−0.0701
Singapore	0.5916	0.1177	0.8224	0.2046
UK	0.9575	−0.7488	0.9857	−0.5760
USA	0.9280	0.2652	−0.3198	−0.3721
Non-FATF				
Chile	0.9942	−0.4520	0.9966	0.6013
Colombia	0.9981	−0.7912	0.0887	0.0046
Ecuador	1.0000	0.9838	0.9034	0.7888
Indonesia	0.9492	−0.0936	0.9121	0.0828
Israel	0.9809	0.2942	0.9709	0.2477
Malaysia	0.9250	−0.6477	0.9859	0.6651
Poland	n.a.	n.a.	0.9643	−0.1404
South Korea	0.8302	0.3806	0.9292	−0.5123
Venezuela	0.9969	0.6709	−0.6553	0.2592

n.a. not available due to lack of data

Table A3: *FATF countries — Evidence of structural change from pre-FATF to post-FATF period*

	Period	α	β_1	β_2	r^2	*Chow test*
Australia	1980–89	−0.04961	0.07591⋆⋆	0.0000070	0.8835	40.192⋆⋆
	1990–96	−0.58376⋆⋆	0.36899⋆⋆	−0.0000094	0.9530	
	Change	⋆⋆	⋆⋆	+		
Denmark	1980–89	−3.67455	0.23924	0.0003298	0.8588	0.842
	1990–96	0.07638	0.27663⋆	−0.0000303	0.7543	
	Change	n.s.	n.s.	n.s.		
Germany	1980–89	−0.07347	0.19002⋆⋆	−0.0000213^{+}	0.9900	8.730⋆⋆
	1990–96	−0.56425	0.36952⋆	−0.0000365	0.8327	
	Change	+	⋆⋆	n.s.		
Italy	1980–89	50.90370⋆⋆	0.27612⋆⋆	0.0014900	0.9959	4.276⋆
	1990–96	343.45300	0.17809⋆⋆	−0.0124600	0.8455	
	Change	n.s.	⋆⋆	n.s.		
Japan	1980–89	8.96950	0.16549⋆⋆	0.0023500	0.9085	9.867⋆⋆
	1990–96	−117.29500	1.37812^{+}	−0.2156300	0.7696	
	Change	n.s.	⋆⋆	n.s.		
Netherlands	1980–89	−0.42852⋆⋆	0.33449⋆⋆	−0.0000150	0.9670	4.716⋆
	1990–96	−1.22348⋆	0.51684⋆⋆	−0.0000025	0.9055	
	Change	⋆⋆	n.s.	n.s.		
UK	1980–89	0.05142	2.04413⋆⋆	−0.0001425⋆	0.9481	3.328^{+}
	1990–96	−0.26241	1.46684⋆⋆	−0.0000294	0.9584	
	Change	n.s.	+	⋆		
USA	1980–89	−0.03502	0.09616⋆⋆	0.0000121	0.8406	0.735
	1990–96	1.79639	−0.20649	−0.0001811	−0.1723	
	Change	n.s.	n.s.	n.s.		

⋆⋆ significant at 1% level
⋆ significant at 5% level
+ significant at 10% level
n.s. not significant

Table A4: *Non-FATF countries — Evidence of structural change from the pre-FATF to the post-FATF period*

	Period	α	β_1	β_2	r^2	*Chow test*
Chile	1980–89	0.67794	0.05213★★	−0.0005216	0.9860	8.744★★
	1990–96	−3.43767	0.06909★★	0.0016700	0.9905	
	Difference	★	★★	+		
Colombia	1980–89	0.26924	0.05977★★	−0.0001993	0.9989	0.041
	1990–96	0.27108	0.05856★★	0.0000437	0.9815	
	Difference	n.s.	n.s.	n.s.		
Ecuador	1980–89	n.a.	n.a.	n.a.	n.a.	n.a.
	1990–96	−5.74253	0.03145^{+}	0.03081	0.9790	
	Difference	n.s.	n.s.	n.s.		
Indonesia	1980–89	0.11236	0.06161★★	−0.0018300	0.8684	1.157
	1990–96	1.71437	0.04792★	0.0025800	0.8652	
	Difference	n.s.	n.s.	n.s.		
Israel	1980–89	−0.03073	0.03411★★	0.0000048	0.9590	1.105
	1990–96	−0.05271	0.04019★★	0.0000092	0.9201	
	Difference	n.s.	n.s.	n.s.		
Malaysia	1980–89	0.02163	0.12096★★	−0.0000545^{+}	0.8835	7.269★★
	1990–96	−0.14112★	0.26505★★	0.0000786	0.9765	
	Difference	+	★	n.s.		
Poland	1980–89	0.00022★	0.10932★★	−0.0000001^{+}	0.9788	0.036
	1990–96	0.00809	0.07602★★	−0.0000048	0.9307	
	Difference	n.s.	n.s.	n.s.		
Venezuela	1980–89	−0.02290	0.07978+	0.0001979	0.8476	2.377
	1990–96	3.01889	0.06679★★	−0.0024800	0.9902	
	Difference	+	n.s.	n.s.		

★★ significant at 1% level
★ significant at 5% level
+ significant at 10% level
n.s. not significant
n.a. not available due to lack of data