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Macroeconomic Implications of Money Laundering *

Prepared by Peter J. Quirk

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Abstract

This paper reviews the main analytical, empirical, and policy issues related to the macroeconomic implications of money laundering. The paper discusses, first, how money laundering can be measured, given that it is unobservable, and reports cross-section econometric estimates of the displacement of monetary behavior in industrial countries attributed to money laundering. It then examines the various potential channels by which money laundering influences macroeconomic performance, including an econometric estimate of its effects on GDP growth rates. Finally, the paper discusses macropolicy implications, particularly in the areas of exchange controls, prudential banking supervision, tax evasion, statistical reporting, and legislation.

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Summary

Money laundering and measures to counter it have become the focus of an intense international effort. Evaluation of the resource costs and benefits of the countermeasures depends in part on an understanding of the macroeconomic effects of money laundering. The wide range of activities and financial instruments involved in money laundering is not directly observable, and comprehensive, microeconomic-based estimates are difficult to compile. Indirect macroeconomic-based techniques that involve estimating the extent of money laundering are, therefore, the focus of most empirical work. This paper introduces an international cross-section econometric examination of the role of money laundering, tax evasion, and employment opportunities in determining monetary behavior, and concludes that money laundering has a significant role. A shift is detected from the use of currency in the 1980s to noncash money laundering in the 1990s.

The economic literature suggests that money laundering can distort economic data and thus distort macroeconomic analysis and policymaking. In addition, there may be direct effects on saving resulting from induced changes in income distribution and from the erosion of confidence in financial markets. The paper reports a first attempt at econometric estimation to link differences in economic growth rates among industrial countries to crime as a proxy for money laundering; some evidence is found of a depressant effect on growth.

Finally, the paper examines the implications for economic policymakers. Freedom to launder money could promote private economic welfare for some while undermining social welfare. Public policy considerations, therefore, suggest an antilaundering role for financial institutions involved in prudential banking supervision, tax evasion monitoring, statistical reporting, and legislation. However, in order to minimize the negative consequences of macroeconomic efficiency, care must be taken in designing the form of the interventions.

I. Introduction

Money laundering and measures to counter it have become the focus of an intense international effort. However, questions have been raised by some governments undertaking extensive programs of economic and financial sector liberalization, many supported by the IMF, of the consistency of these efforts with the need for surveillance to counter money laundering. It has even been suggested that the liberalization of financial markets, particularly for cross-border capital flows, promotes money laundering. On the other hand, it has also been suggested that measures to combat money laundering may run counter to the requirements of macroeconomic efficiency. These are important issues, with potential consequences both for the design of macropolicies and anti-money laundering measures, and their evaluation depends in part on an understanding of the macroeconomic effects of money laundering.

Money laundering is defined by Webster's as "transferring illegally obtained money or investments through an outside party to conceal the true source." While there is widespread recognition that virtually any form of financial or real asset transfer can be used for laundering, there is less agreement about what forms of illegal activities should be included in the definition for purposes of international anti-laundering efforts. For example, should laundering of the proceeds from tax evasion be included, or for international policy purposes should the focus be on the harder criminal activities? The approach of the analysis in this paper is therefore to separate these two broad forms of illegal activity in examining money laundering.

By the nature of the subject there is difficulty inherent in obtaining any measure of money laundering, however defined. There is a broad range of activities and financial instruments involved in money laundering, which is not directly observable, and comprehensive and meaningful estimates are difficult to compile. This difficulty has been reflected in the extensive literature that examines the measurement of the illegal or "underground" economic transactions in which transactors attempt to conceal their sources of income. ^{1/} The considerable attention given to the measurement issues has reflected a concern with the costs and benefits of combating the diversion of financial activity to the underground economy by money laundering. If such activity is large or growing rapidly, then more resources must be brought to contain it or existing resources used more efficiently to that end. Aside from the impact on the financial sector reflected in the diversion of financial activity, there are also issues relating to the more general effects of money laundering on macroeconomic performance, including growth, stabilization, and investment.

^{1/} Aside from the issue of coverage noted above, there is no conceptual difference between money laundering transactions and those in the underground, parallel, or "hidden" economies; all refer to attempts to conceal income through outside parties and transactions.

The purpose of this study is to examine these various linkages in the transmission of the macroeconomic effects of money laundering, and especially their significance. The study has an international focus. In contrast to the existing studies, it uses cross-section data for a group of 19 industrial countries to obtain estimates of the effects of money laundering on monetary behavior. It also differs from earlier studies in that international crime data and "above-ground" labor market data, in addition to the indirect impact of tax rates on tax evasion, are used as explanatory variables to isolate the effects of money laundering on financial behavior. The study finds that the level of money laundering is highly significant in determining currency and money balances, and may have a perceptible influence on economic growth rates. Taking into account the resulting estimates of the effects of money laundering, the study considers the macropolicy implications, including the role of the IMF in anti-laundering efforts.

An efficient resource allocation is typically taken to be the situation where there is free play of market forces and risk-adjusted returns from all the various forms of economic activity are equalized at the margin. If externalities and market failures are negligible, a privately efficient allocation of resources would correspond to a socially efficient allocation. However, in the case of money laundering this view of the world no longer holds. The free play of market forces without government restrictions could lead to a privately efficient allocation of resources with massive adverse social consequences because of market failures and externalities. Thus, a free and unrestricted market in narcotics (or weapons) would lead to the equalization of private risk-adjusted returns between drug-dealing (or weapons selling) and other economic activities, but massive social costs would make this socially undesirable. Money laundering, and the crime it facilitates, can therefore promote private economic efficiency for certain individuals while undermining social welfare. Hence, there is a need for an active public policy role to deter it. The IMF is closely involved in technical assistance to member governments on operations in foreign exchange and money markets--including arrangements for bank supervision, drafting of legislation and regulations, and statistical aspects--which, together with its role in helping members combat tax evasion, have implications for international efforts to counter money laundering.

The paper is organized as follows: Section II discusses the definition and scope of money laundering incorporated in anti-laundering treaties, reviews the main empirical issues in the economic literature, and reports the results of cross-section econometric analysis of industrial country money laundering behavior. Section III discusses the macroeconomic implications of money laundering, including the various channels of influence and an empirical reduced-form estimate of the impact on industrial country GDP growth rates. Linkages with international macropolicies and monitoring are explored in Section IV, under the headings of exchange controls, prudential banking supervision, tax evasion, statistical reporting for balance of payments and other purposes, and legislation for banks and other financial institutions. Section V concludes the paper by bringing

together the main aspects of the analysis and discussing ways in which the international financial institutions could enhance their role in money laundering countermeasures.

II. Measurement Issues

Money laundering is by definition a concealed activity, and therefore direct observation by the macroeconomist or statistician is not possible. Observation and definition of significant economic activities (economic variables) is normally an iterative process, with each contributing to the refinement of the other. In the case of money laundering, it is therefore useful to begin with the commonly accepted "traces" of this form of activity in international relations between governments. Econometric detection of money laundering and its effects also proceeds with indirect techniques of observation, through the use of indicators or proxies.

1. Concepts of money laundering in international treaties

In the report of its February 1990 meeting, the Financial Action Task Force (FATF) ^{1/} agreed to the following description of money laundering, based on the Vienna Convention of 1988:

- The conversion or transfer of property, knowing that such property is derived from a criminal offense, for the purposes of concealing or disguising the illicit origin of the property, or assisting any person who is involved in the commission of such an offense, or offenses, to evade the legal consequences of his action;
- The concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of

^{1/} Since the establishment of the FATF at the July 1989 Economic Summit in Paris, its brief regarding the financial sector has been to prevent banking systems and financial institutions from laundering the proceeds of criminal activities. The FATF also addresses the need to improve national legal frameworks by criminalizing money laundering, and to strengthen international cooperation between criminal investigation agencies and the judiciaries in different countries. The twenty six FATF member countries and governments are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Italy, Japan, Luxembourg, the Kingdom of the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States. In addition, FATF-sponsored seminars and missions have taken place in a number of FATF nonmember countries. Since the formation of the FATF, the IMF has acted as an observer at meetings conducted by the FATF.

property, knowing that such property is derived from a criminal offense; 1/ and

- The acquisition, possession, or use of property, knowing at the time of receipt that such property was derived from a criminal offense or from an act of participation in such offense.

In many countries money laundering has been made a criminal offense in itself, in addition to the criminality that attaches to the activity whose proceeds are laundered. The range of *underlying activities* requiring laundering of financial flows is potentially as broad as the various forms of illegality. However, certain aspects of criminal activity, especially drug trafficking, have been emphasized in anti-laundering policies. For example, an October 1994 agreement between the United States and Mexico to combat money laundering referred specifically to narcotics, profits from arms smuggling, and illegal profits from tax evasion. Other criminal activities in which money laundering is recognized to play an important role are theft and embezzlement, including holdups and kidnappings, insider trading, traffic in nuclear materials, usury, and prostitution. The FATF brief has focussed in particular on the laundering of the proceeds from sales of controlled substances, organized criminal activities, and manipulation of markets by insiders.

The annex to the second EU banking directive contains a summary of standard types of *instruments* for financial activities as performed by banks and, except for deposit-taking and credit reference services by nonbank financial institutions, this list can also serve as a summary of financial instruments that could be used for money laundering purposes (Table 1). Foreign exchange trading is recognized in the EU Directives to be particularly prone to use as a vehicle for money laundering, which is believed in many cases to be carried out internationally in order to disguise better the source of the funds. Because of the traditional focus of money laundering on cash, there is also an emphasis in the countermeasures on currency transactions. However, other instruments, such as cashier's checks, traveler's checks, wire transfers, and bearer instruments can perform functions similar to cash for purposes of money laundering. A modification by the U.S. Treasury of reporting requirements for banks in October 1994 in part reflected recognition that money laundering now involves more sophisticated means than depositing cash in bank accounts or buying money orders and traveler's checks. 2/ The more sophisticated laundering instruments now include derivatives transactions.

1/ In countries where the formal markets are relatively small, some governments have resorted to obtaining budgetary funds from informal markets by using "whitener securities" and other instruments with no questions asked or registration sought.

2/ For a review of the currency reporting requirements in the United States since 1972, see Hilsher (1992).

Table 1. Potential Instruments of Money Laundering 1/

-
1. Acceptance of deposits and other repayable funds from the public.
 2. Lending. 2/
 3. Financial leasing.
 4. Money transmission services.
 5. Issuing and administering means of payment (e.g., credit cards, traveler's checks and bankers' drafts.
 6. Guarantees and commitments.
 7. Trading for own account or for account of customers in:
 - (a) money market instruments (checks, bills, CDs, etc.);
 - (b) foreign exchange;
 - (c) financial futures and options;
 - (d) exchange and interest rate instruments;
 - (e) transferable securities.
 8. Participation in share issues and the provision of services related to such issues.
 9. Advice to undertakings on capital structure, industrial strategy and related questions and advice and services relating to mergers and the purchase of undertakings.
 10. Money brokering.
 11. Portfolio management and advice.
 12. Safekeeping and administration of securities.
 13. Credit reference services.
 14. Safe custody services
-

1/ Annex to European Union Council Directive 89/646, 1989.

2/ Including inter alia: consumer credit, mortgage credit, factoring with or without recourse, and financing of commercial transactions (including forfeiting).

A somewhat different emphasis is provided by the 1991 Organization of American States (OAS) Model Regulations for anti-money laundering, which focus on the *institutions* traditionally thought to be most commonly involved in laundering proceeds related to drug trafficking: (a) commercial banks, trust companies, savings and loan associations, building and loan associations, savings banks, industrial banks, credit unions, and other thrift institutions or establishments authorized to do business under domestic banking laws; (b) brokers or dealers in securities; (c) currency dealers or exchanges; (d) systematic or substantial cashers of checks; (e) systematic or substantial issuers, sellers, or redeemers of traveler's checks or money orders; (f) systematic or substantial transmitters of funds; and (g) any other activities subject to supervision by government, bank, or other financial institution authorities. In addition, certain nontraditional financial institutions have been identified as potentially involved in money laundering, including precious metals dealers and brokers,

commodities brokers, casinos, telegraphic services, postal services, and quick stop markets. A 1990 FATF study also identified nonfinancial markets in which money laundering is especially prevalent as automobile sales, agricultural markets, jewelers, gambling and casinos, art auctions, small businesses, and real estate.

International treaties therefore recognize a broad range of transactors, instruments, and institutions that are potentially involved in laundering the proceeds of illegal activities. Some examples of common money laundering transactions are as follows:

- *Smurfing* involves the use of multiple cash deposits, each smaller than the minimum cash reporting requirement.
- *Misinvoicing* of international trade transfers and the resulting falsification of import letters of credit and customs declaration can conceal cross-border transfers of, say, the proceeds of drug trafficking.
- *Stolen property* (e.g., antiques or automobiles) can be exchanged cross-border or domestically in *barter transactions* for illegal substances.
- *Parallel credit transactions* can be used to avoid the need to enter the formal economy, except in the final use of the net proceeds of illegal activity to purchase legally-marketed goods or services.
- *Interbank wire transfers* may not be subject to anti-money laundering reporting, and therefore bribery of bank officials can facilitate the disguising of large illegal transfers between accounts.
- *Derivatives* that replicate insider trading opportunities, e.g., a synthetic version of a company stock subject to merger or takeover, can be used to avoid detection of an unusual change in the listed stock price.

2. Empirical work

There is an extensive economic literature that can be brought to bear on the problem of money laundering. First, there is the literature on investigation of money laundering itself, which is relatively limited and has largely anecdotal evidence regarding the involvement of the various financial institutions and instruments discussed above. Second, there is a large empirical literature on the underground macroeconomy, a segment of which uses monetary aggregates and estimates of implied money laundering for analytical purposes. Third, there is a growing literature on the economics of crime that places emphasis on the welfare aspects, including both social and economic costs. Fourth, there is the related topic of international capital flight that deals in part with concealed cross-border flows of money. To date, the macroeconomic evidence that can help in assessing the

size of the laundering problem derives mainly from the studies of the underground economy, the methodological approach of which provides the focus for the empirical work in this section.

The aim here is not to provide a review of the literature but to extract the main empirical features bearing on the overall magnitude of money laundering. Comprehensive surveys of the various macroeconomic and micro-based methodologies involved in estimation of money laundering and the underground economy are provided in Greenfield (1993), Feige (1989), Frey and Weck (1983), and Tanzi (1982). However, it should be noted from the outset that estimates obtained from these methodologies differ widely. For example, Greenfield notes that estimates for the United States of the size of the underground economy range from 1.4 percent to 28 percent of GDP, but he argues against rejecting the evidence provided by any of the alternative methodologies, some verging on the anecdotal, for none is conclusive.

a. Macroeconomic methodologies

The most obvious and direct method of assessing the extent of the money laundering problem would be to take actual data for money laundering prosecutions. Prosecutions data for cross-border money laundering in the United States, for example, were of the order of US\$50 million in 1991-92. However, when compared with total outbound flows of cash from the United States of approximately US\$30 billion they likely convey only a very small part of the overall magnitude of money laundering activity. The absence of direct observations on the scale of money laundering activity has led to the use of several analytical techniques of varying indirectness, of which the two main analytical approaches use monetary and tax compliance data.

The first attempt to investigate the extent of the underground economy using the monetary technique was Cagan (1958). Cagan's approach to modeling the underground economy assumed that the share of currency in the money supply in a base year represented normal behavior. Because the residuals about this ratio were assumed to reflect money laundering, they were then used as a gauge of the size of the underground economy in the United States using a velocity assumption. Similar approaches based on the assumption that proceeds of underground activity were laundered through currency and currency substitutes were taken by Guttman (1976) and Feige (1979). In order to eliminate the velocity assumption, the approach was modified by Tanzi (1982) so that the influence of the underground economy on currency demand, proxied by tax rates to indicate the incentive to avoid taxes and participate in the cash-based underground economy (negative relationship), was estimated directly in the regression equation linking currency demand and tax rates. Houston (1987) uses a technique of unobserved dependent variables and introduced additional indicators of underground activity that

included inflation rates and law enforcement levels. ^{1/} Bhattacharyya (1990) is essentially a refinement of the Cagan/Guttman/Feige approach and uses dynamic analysis of residuals about a currency demand function, with income, price, and the interest rate as independent variables.

More direct macro-based estimates of the underground economy do not rely on econometric estimation, but because they do not use currency and monetary data also do not yield evidence on money laundering. An approach based on discrepancies in national income accounts data assumes that expenditure will be reasonably well reported, while income will be concealed when it is derived from illegal activities. Estimates of the residual accounts could therefore be imputed to illegal activity. However, Carson (1984) shows that the available discrepancies, including adjusted gross income gaps, differences between tax authorities' and national accounts income estimates, adjustments for tax payments reporting, or purely statistical discrepancies are inappropriate as a measure of the underground economy. Greenfield (1993) also rejects the approach because "without a detailed knowledge of the sources of income, it would be impossible to attribute the excess of spending over income to underground activity." Another empirical approach relates underground activity to above-ground labor market participation. The analysis includes both illegal activity and unreported but legal activity such as home repairs, child care, domestic service, also other irregular purchases from irregular sources (with legal activity being undertaken by both legal and illegal immigrants). Moreover, legally employed workers may engage in underground activities after or even during regular working hours.

The aim of the econometric analysis conducted in this paper is to provide as broad a synthesis as possible of the various macroeconomic indicators of activity subject to money laundering, using available international cross-section data for industrial countries. As noted above, econometric estimation of the extent of the underground economy has focused on estimating displacements due to money laundering activity in the demand for currency and near-currency.

The model estimated here, like that of Bhattacharyya (1990) has standard demand-for-money arguments, but unlike previous studies of money laundering uses cross-section data for industrial countries (for two

^{1/} Houston's iterative estimation approach uses as input Tanzi's measure of the U.S. underground economy and a measure based on national incomes account discrepancies, the AGI gap--see Feige (1990).

separate time periods, 1983 and 1990), including Interpol crime data. 1/ In addition to income and inflation-adjusted interest rate arguments it incorporates various indicators of criminal, illegal, and informal sector activity that would require laundering and therefore displace the demand for currency and money. Interpol data for offenses contained in national crime statistics are used to indicate the effects of laundering behavior corresponding to criminal motives. 2/ Tax revenue levels are used as an indicator of the laundering of the proceeds of tax evasion. Labor participation data (unemployment and participation rates) are used to indicate incentives to engage in underground activity--legal and illegal employment in the informal sector--due to lack of above-ground employment opportunities. Obviously, the three forms of motivation overlap; for example, employment in the informal sector may be motivated by the desire to evade taxes, the wish to evade taxes may reflect the criminal nature of the income, and so on. The model is therefore of the form

$$M_i = M_i (y, p, i_d, L_j)$$

where, according to the conventional demand-for-money specification, income (y) has a positive sign, expected inflation (p) a negative sign, and the sign on the deposit interest rate variable (i_d) varies with the particular component of the money supply (M_i)--e.g., an indeterminate sign for currency in circulation 3/ and a positive sign for deposits. L_j represents the set of variables proxying the influence of money laundering on the demand for money. Separate variables are included for money laundering associated with crime (L_1), tax evasion (L_2), and unemployment

1/ A study of international cross-section data for several indicators of the underground economy by Frey and Weck (1983) used a ranking approach but did not test the indicators, tax morality and labor participation, econometrically for their relevance. Greenfield (1993) notes that the Frey-Weck rankings do not accord with common perceptions (Sweden is placed high and Spain low on their list), and the overall scale of European underground economies (10 percent of GDP) puts their estimates well above EC and FATF estimates.

2/ International crime data derive from two published sources, Interpol and the United Nations, and of these, the Interpol data are the most recent. Both publications and their commentators qualify the international comparability of the data series. Kalish (1988) notes the instability of the series over time. Boggess and Bound (1993) report that a dramatic increase which occurred in drug law violations in the United States in the 1980s was unreported in the official data contained in the Uniform Crime Reports and National Crime Survey because those data do not measure the incidence of victimless crimes.

3/ Substitution from cash into deposits occurs as the interest rate rises, but this will be offset by increased overall demand for money as higher interest rates contribute to financial intermediation.

and labor participation (L_3). The crime variable serves as a proxy for the types of money laundering that are typically the focus of FATF policies.

The traditional assumption that money laundering is conducted largely through the medium of currency was tested first, and estimation results are shown in Table 2, equations 1-4 and 7-8 for the 1990 and 1983 data sets, respectively. In all these equations, the income variable is highly significant. ^{1/} The real deposit interest rate has a positive sign in all but one equation, suggesting that the impact of higher yields on banking sector intermediation overwhelms substitution from non-interest bearing currency into deposits. However, the result does not hold for the 1983 data set, in which the signs of the interest rate coefficients are all negative. This reversal of the interest rate sign is consistent with the widespread liberalization and globalization of financial markets that took place between these periods. Among the money laundering variables, the crime variable is highly significant and shows *reduced* demand for currency as financial disintermediation results from higher crime rates. The tax evasion variable is weakly significant, but unlike the crime variable is unstable both in sign and magnitude across the various specifications. The same applies to the labor market variables. The tax variable has a positive sign in the 1990 data set and a negative sign in the 1983 data set. The latter (1983) result is consistent with previous time series studies using tax variables as arguments of currency demand, most of which were undertaken around that time. In contrast, the 1990 results suggest that in industrial countries, proceeds of tax evasion, like those of crime, are no longer laundered primarily through cash transactions.

^{1/} In order to avoid unnecessarily constraining the functional relationship of money or currency demand to income (or to money), the dependent variable is not specified in these equations as velocity (nor as a ratio of broad money). In addition, in order to avoid possible spurious correlations, independent and dependent variables are not scaled in the equations.

Table 2. Currency and Money Equations 1/

Equation Number	Dep. Var.	Coefficients and T-ratios of Independent Variables							\bar{R}^2	DW-1	DW-2	
		GDP\$	IRE	TAX\$	EMP%	UNE%	CRIM	FCRIM				Intercept
<u>1990 Data Set</u>												
(1)	CURR\$	0.091 (10.8)	4.04 (1.5)	0.07 (1.3)	-32.4 (0.4)		-0.023 (6.5)		16.4 (0.5)	0.97	2.2	1.7
(2)	"	0.091 (8.1)	-2.90 (1.0)	-0.02 (0.4)	42.6 (0.4)			-0.124 (4.2)	-11.3 (0.2)	0.94	1.8	1.3
(3)	"	0.09 (10.0)	4.23 (1.4)	0.07 (1.3)	-39.2 (0.4)	-15.1 (0.2)	-0.023 (6.2)		20.5 (0.5)	0.96	2.2	1.6
(4)	"	0.09 (11.4)	3.53 (1.5)	0.08 (1.4)			-0.022 (6.7)		2.42 (0.4)	0.97	2.3	1.6
(5)	MON\$	1.12 (9.4)	40.1 (1.1)	0.27 (0.3)	14.5 (0.3)		-0.188 (3.8)		145.3 (0.3)	0.96	2.5	1.3
(6)	"	1.13 (10.2)	45.6 (1.4)	0.24 (0.3)			-0.190 (4.0)		-9.4 (0.1)	0.96	2.4	1.3
<u>1983 Data Set 2/</u>												
(7)	CURR\$	0.082 (17.3)	-0.222 (0.6)	-0.055 (2.0)	0.07 (0.4)		-0.0025 (2.8)		-2.38 (0.3)	0.97	1.8	1.6
(8)	"	0.083 (18.7)	-0.150 (0.5)	-0.058 (2.2)			-0.0025 (2.9)		0.71 (0.5)	0.97	1.7	1.5
(9)	MON\$	0.996 (19.4)	-7.15 (1.7)	-0.351 (1.2)	2.59 (1.4)		-0.04 (3.8)		-120.1 (1.4)	0.98	2.2	1.8
(10)	"	1.015 (19.8)	-4.53 (1.2)	-0.451 (1.5)			-0.04 (3.6)		-6.91 (0.4)	0.98	1.7	1.5

1/ For definitions of variables, see Table 3; \$ suffix denotes variable converted into U.S. dollars at the relevant period average or end-of-period exchange rate, and % suffix denotes variable as a percentage of labor force. The number of observations is 19, for a cross-section of countries composed of Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

2/ Excluding the United States (for which 1983 crime data were not published in *International Crime Statistics, 1983/84*).

Table 3. List and Definitions of Variables 1/

CRIM	Total number of offenses contained in national statistics (number of cases known to the police)
FCRIM	Number of offenses contained in national statistics relating to fraud, currency counterfeiting, and drugs
MON	Money and quasi-money: currency outside banks; demand deposits; and time, savings, and foreign currency deposits (in billions of national currency)
CURR	Currency circulating outside deposit money banks
ERA	Exchange rate, annual average (national currency units per U.S. dollar)
ERE	Exchange rate, end-of-year
GDP	Gross domestic product (in billions of national currency)
DGDP	Growth of GDP, 1983-90
GDPCAP	Per capita GDP
DEF	GDP deflator (1970 = 100)
TAX	Tax revenue of the consolidated central government (in billions of national currency)
IR	Deposit interest rate (in percent per annum)
IRE	Real interest rate; deflated by GDP deflator
EMP	Total civilian labor force employed (in millions)
UNE	Total labor force unemployed
POP	Population
PI	Private gross domestic capital formation in constant prices (billions of national currency)
GC	Government consumption in constant prices
TER	Student enrollment at the tertiary level (in millions)
SEC	Student enrollment at the secondary level

1/ Sources: Interpol, *International Crime Statistics*, 1983/84 and 1989/90; IMF, *International Financial Statistics Yearbook*, 1995; IMF, *Government Statistics Yearbook*, various issues; OECD, *Labor Force Statistics*, 1973-93; United Nations, *Statistical Yearbook*, various issues.

Empirical results from multivariate equations with overall money balances (currency, demand and time deposits, and foreign currency balances) as the dependent variable also bear out this hypothesis. The crime variable is highly significant, with a consistent negative sign and stable size of the coefficient (Table 2). ^{1/}

Elasticities calculated from these equations suggest that a 10 percent rise in crime leads to a 6 percent fall in broad money demand and a 10 percent fall in currency demand (unit elasticity) as the related proceeds are laundered in parallel financial markets. The negative sign on the crime variable in the 1990s is consistent with the view that diversion into noncash parallel financial markets now outweighs any increased demand for currency for certain forms of money laundering, e.g., smurfing. Elasticities derived from the 1983 data set indicate a smaller elasticity for currency, both absolutely and relative to the elasticity of money. This is consistent with the positive elasticity of currency/money ratios obtained in studies around that time for industrial countries. ^{2/}

How do the resulting cross-section estimates of the magnitude of the effects on currency and money balances of crime compare with other estimates of the extent of money laundering? Such comparisons are difficult to make meaningfully because, due to the concealed nature of the activities and the range of methodologies applied, estimates of the scale of activity subject to money laundering tend to be subject to a wide margin of error. Estimates of the size of underground economies in selected countries are surveyed in Carson (1984) and examples of the ranges in percent of GDP are as follows: United States 4-33 percent; Australia, 4-12 percent; Germany, 2-11 percent; Italy, 10-33 percent; Japan, 4-15 percent; and United Kingdom, 1-15 percent. Such variations in the magnitudes of the estimates have led to emphasis on "consensus" numbers for headline purposes. Applications of the various historic forms of macro-based methodology directly to the measurement of money laundering would no doubt be subject to similar uncertainties.

An estimate for the maximum size of money laundering in industrial countries that is associated with criminal (and criminally-related) motives can be made from equation 5 in Table 2. On the heroic assumptions that all crime is eliminated and the coefficient in equation 14 remains constant over such a wide range, measured broad money stocks including currency and deposits would increase by the equivalent of over 40 percent of GDP. It

^{1/} Table 2, equations 5, 6 and 9, 10. For the *bivariate* relationship between the level of crime and currency and money velocities see Charts 1 and 2. There is the caveat that the regressions do not establish causality, e.g., high money balances might serve to stimulate crime. But this would suggest a positive sign on the crime coefficient, while a negative sign is observed in all equations. Moreover, the highly significant and a priori consistent coefficients on the crime variable suggest that measurement problems with these data, in the sense of inter-country differences, might not be as great as is sometimes thought (c.f., footnote 2, page 12).

^{2/} See Tanzi, Feige, etc.

should be noted that this form of estimate differs conceptually from the statement that a certain percentage of all annual national income is laundered, e.g., the estimates reported in Carson (1984) and in the press, because it represents the cumulative effects on money stocks of the crime buildup over many years.

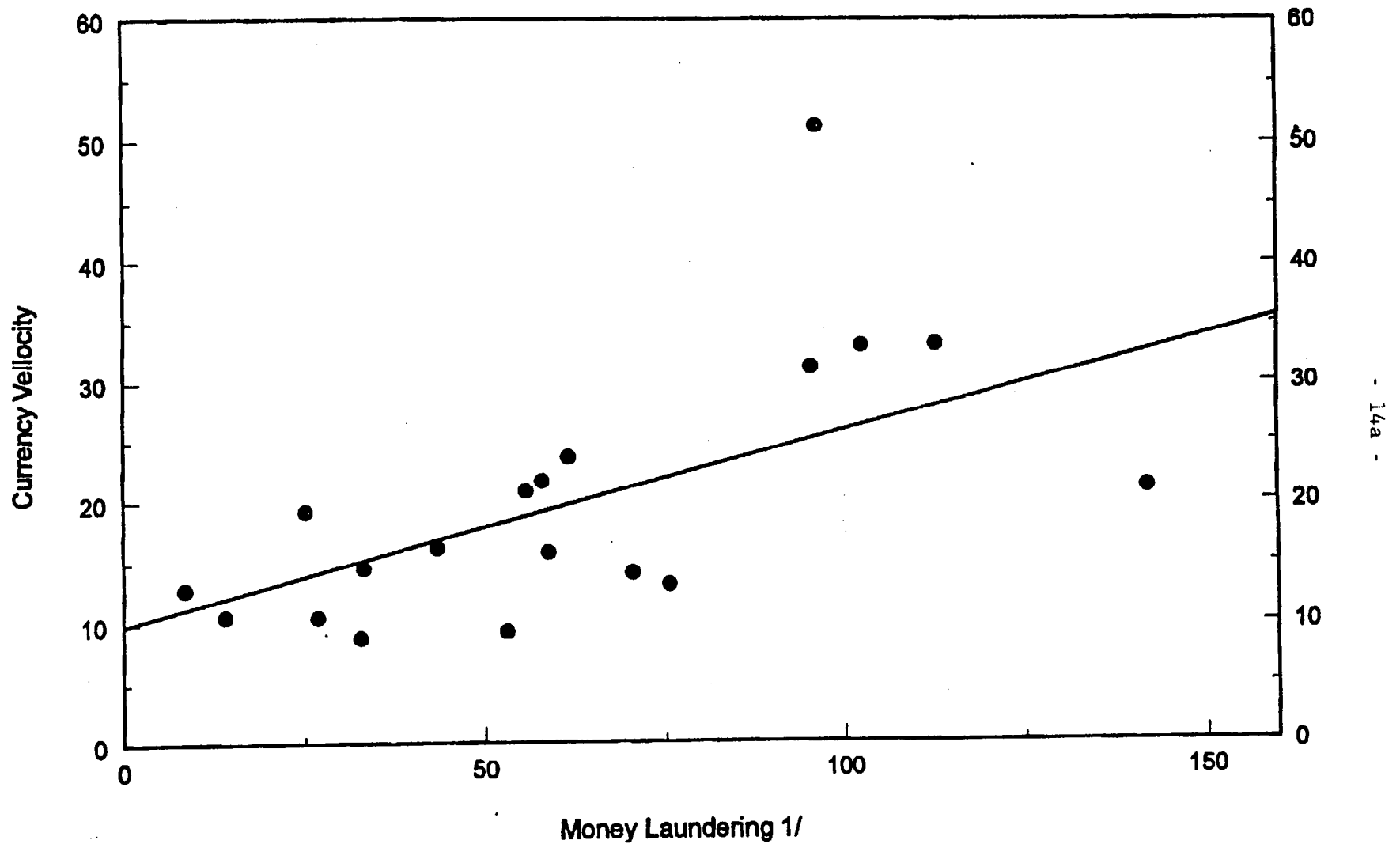
b. Micro-based methodologies

Evidence of a significant macroeconomic impact of money laundering from earlier macro-based methodologies led to subsequent investigation of micro- or sectorally-based data sources. These latter studies use prosecutions or survey data for specific illegal activities, with heavy reliance on tax records and other government data sources. The methodology requires accessing a large and disparate set of data for various sectors of the illegal economy--including stolen goods, arson, fraud, counterfeiting, embezzlement, bribery, drug trafficking, smuggling, pornography, illegal gambling, loan sharking and prostitution. Moreover, the form of the estimates obtained in the published studies using this approach are not tailored specifically to the measurement of money laundering. One major study aims at measuring value-added in illegal activity (unreported national income), although it is transactions turnover that is most relevant to concealment of the proceeds and thus to money laundering. The study notes that the proceeds of theft are equivalent to transfer payments in the national income sense, and it considers that only 10 percent of the turnover value represents value-added in the process of transfer. However, differences in timing between income and receipt of the good or service at various stages of the transfer necessitate financing of the turnover value (from liquid and/or borrowed resources) and thus money laundering. Particularly in the case of drugs there can be many intermediate transactions between production and final sale. The concealed financial transaction at each stage of this process, whether it is in the form of a credit arrangement between the two parties (parallel or formal banking transactions), cash or barter, represents money laundering. Because of the higher rates of return in such transactions, it is likely that the velocity of money in these parallel unrecorded financial transactions is higher than the velocity of money in the formal, recorded sector.

The resulting estimate of value-added in illegal activities in 1974, which specifically excluded proceeds of tax evasion and tax avoidance, was the equivalent of 4-9 percent of GDP. The turnover in these activities subject to money laundering through the medium of parallel banking, cash, and barter is likely to have been a multiple of the value-added. Crime also grew rapidly after 1974. For example, drug sales in the U.S. are estimated to have risen sixfold between 1973 and 1990, as against a fourfold increase in overall consumption.

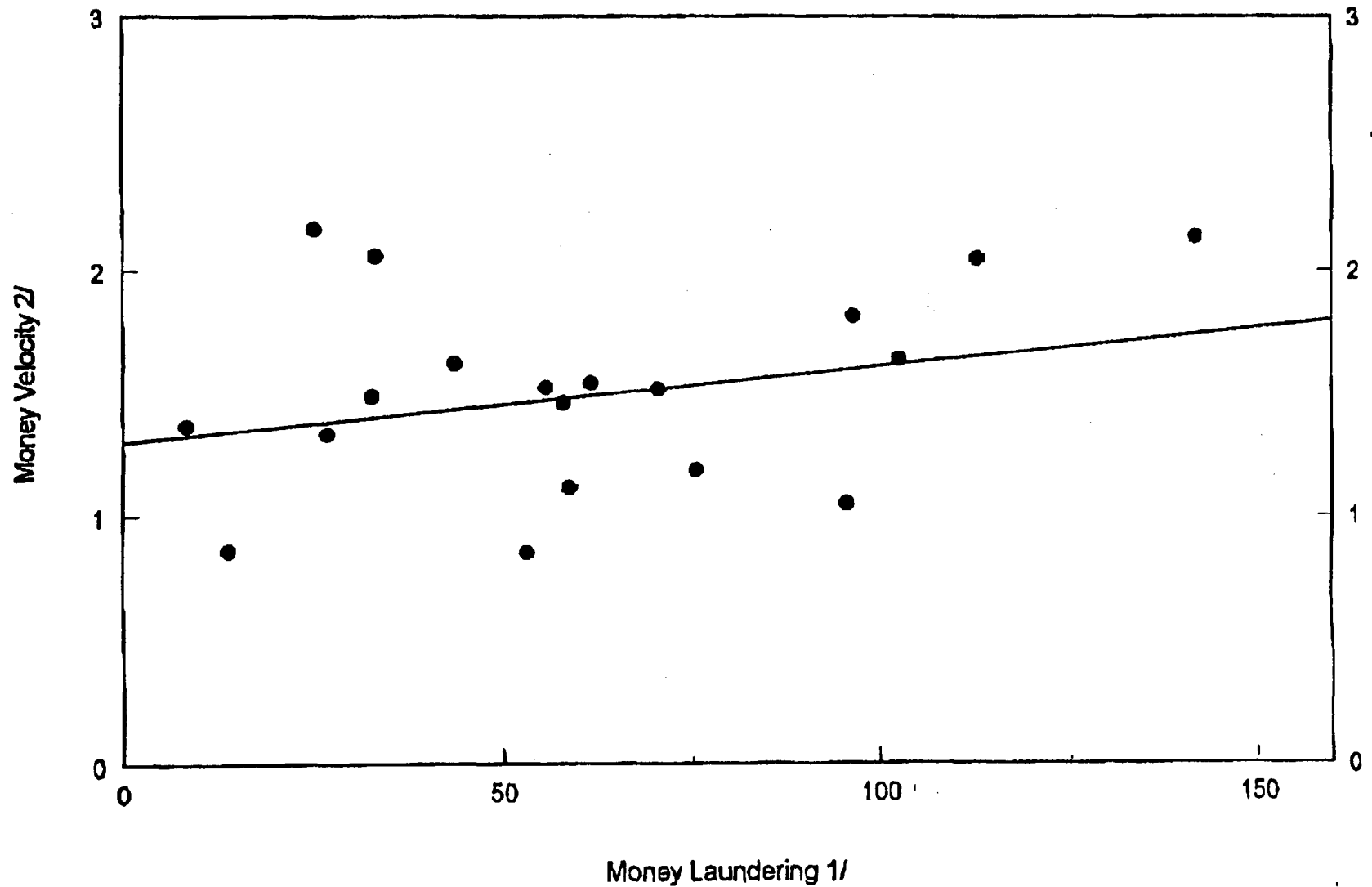
The same methodology formed the basis for an extensive 1984 study of *unreported taxable income* from selected illegal activities in the United States. This study noted that there are many activities which generate income that appears to be legitimate although it is in fact illegal, including various forms of white-collar crimes where the appearance of

Chart 1: Money Laundering and the Velocity of Currency in Circulation



1/ Proxied by reported crimes per capita (crimes per million of population).

Chart 2: Money Laundering and Money Velocity



1/ Proxied by reported crimes per capita (crimes per million of population).
2/ Includes quasi-money.

legitimacy is important (e.g., insider trading). The study also noted that incentives exist to report some but not all of the illegal income. More sophisticated criminals will represent the income as being generated by a legitimate activity, with the illegal funds laundered so that the source is difficult to detect. ^{1/} However, like the earlier study on which it was based, the objective of this study was not to measure money laundering per se. Although its methodology could be adapted, the empirical estimates of are not necessarily relevant to assessing the magnitude of the money laundering problem. In certain respects, money laundering associated with an illegal activity could be either higher or lower than tax misreporting or the understatement of national income associated with the same activity. Unlike some of the macroeconomic estimations, existing micro-based studies therefore do not yield empirical evidence of the extent of money laundering.

At the official level, an FATF report tabled at the July 1989 Paris Economic Summit estimated that sales of cocaine, heroine, and cannabis amounted to approximately US\$122 billion per year in the United States and Europe, of which 50-70 percent, or as much as US\$85 billion per year, could be available for laundering and subsequent investment. A systematic attempt to estimate the extent of financial flows arising from drug trafficking was made in a February 6, 1990 report of the FATF. The report cited various indirect methods of estimation, based on world drug production (for example, a United Nations estimate of drug trafficking at the US\$300 billion level in 1987). These estimates of the international extent of money laundering are based on micro-data for the estimated retail sales value of certain drugs, although it was noted in an FATF (1990) study that a portion of the proceeds of almost any stage of production and distribution are likely to be laundered. The study also noted that its estimate of US\$122 billion for the U.S.A. and Europe did not take into account hashish or psychotropic drug sales in the U.S.A. or Europe, or sales in other countries. This figure likely forms the basis for informal statements that money laundering could

^{1/} Large uncertainty was present in the survey responses reported by the study. For example, the numbers of those replying that they had needed drugs suggested a drug-user population that was only one-fifth of the population implied by responses that the respondents' friends used drugs. Moreover, because drugs are produced and consumed internationally, single-country studies cannot cross-check aggregate drug supply against aggregate drug demand, without strong assumptions and interpolation. The landmark 1984 study also excluded the following crimes for lack of any relevant data, which would also limit any investigation of the associated money laundering: insurance fraud, consumer fraud, mail fraud, maritime cargo theft, customs violations, fraud in retirement and survivors' insurance, fraud in veterans' benefits, loan sharking, business embezzlement, bribery, securities theft and counterfeiting, computer crime, alcohol and petroleum excise tax evasion, theft of pension assets, illegal firearms trading, credit card fraud, and check fraud.

be in the range US\$300-500 billion in the industrial countries. 1/ The report did not contain estimates of money laundering associated with other priority areas such as organized crime and insider trading, and tax evasion. 2/

Examination of available empirical estimates of the extent of money laundering suggests the need for better micro-data. While macroeconomic data-based estimates can provide indications of the direct and indirect influences of money laundering, the necessary inclusion of the indirect influences due to the lack of direct observation creates uncertainty as to exactly what is being measured. On the other hand, a micro-based approach requires a very large amount of data that must be created specifically for this purpose. Existing data collected to ascertain national income, labor market, or tax evasion aspects of illegal activity are insufficiently tailored to the task of assessing the extent of money laundering. However, there is the considerable methodological experience to be gained from existing studies which suggests that sampling and survey approaches offer a means of extrapolating to otherwise unobservable aspects of money laundering. In pursuing such an approach, care needs to be taken to ensure that a comprehensive methodology is applied in the sampling and in-depth follow-up of transactions. A consistent international methodology would offer economies of scale as well as the sharing of insights across countries.

III. Macroeconomic Effects

There is no theoretical literature on the macroeconomic effects of money laundering per se. However, the empirical studies reported in the previous section, coupled with an a priori pervasive role of money laundering in criminal and illegal activity, 3/ suggest the close

1/ For example, the October 18, 1994, *Financial Times* reported that, according to recent estimates by U.S. and U.K. officials, the overall amount of money laundered in the financial system worldwide each year is roughly US\$500 billion or some 2 percent of global GDP. The basis for estimating this figure was not cited, although it may have derived from an informal updating and generalization of the earlier FATF estimates.

2/ Tax evasion--and by implication the laundering of its proceeds--is widely acknowledged to be a serious and growing international problem, although available estimates are also far from precise. For example, it is estimated by the U.S. Internal Revenue Service that total unreported income from both legal and illegal sources in 1992 was US\$267 billion, almost 5 percent of U.S. GDP, resulting in unpaid taxes of US\$130 billion. Losses in other countries with less sophisticated tax collections are thought to be proportionately higher.

3/ It seems reasonable to expect that virtually all income from criminal and illegal activities must be laundered. An exception might be the theft of unidentified banknotes; in this case the "income" would need to be concealed from the authorities, but not necessarily through an outside party.

relevance of discussion of these effects in available studies of the underground economy and crime. However, even taking into account these studies, the discussion is limited and somewhat speculative.

1. Theory

A literature survey by Lewis (1987) concludes that interest has grown rapidly in the economics of crime, which weighs expected benefits against expected costs. Lewis notes that studies attribute little significance to macroeconomic incentive variables as determinants of crime. However, more recent studies by Fadaei-Tehrani (1989) and Meera and Jayakumar (1995) find unemployment to be significant in explaining variation in the level of crime in the United States and Malaysia, respectively. At the other end of the cause-and-effect spectrum, estimates of the *microeconomic costs of crime* vary widely. For example, it has proven difficult to establish a link between crime rates and costs to society reflected in property values because these rates are closely correlated with other neighborhood features. Available empirical estimates of social costs are also described by Lewis as too crude for most practical purposes. It seems reasonable to expect that similar considerations would apply to money laundering undertaken for criminal motives.

Several studies introduce illegal or underground activity into simple macroeconomic models. Houston (1990) develops a theoretical macro model of business cycle and tax and monetary policy linkages with the underground economy. His investigation of the growth of the underground economy concludes that its effect must be taken into account in setting tax and regulatory policies. More generally, Houston notes that controlling the money supply and forecasting shifts in the price level and interest rates may be made more difficult by the presence of an underground economy that is unobserved. His conclusion is that the presence of significant hidden transactions could lead to overstatement of the inflationary effects of fiscal or monetary stimulus. For example, the increased currency holdings assumed to be induced by money laundering result in reduced inside money expansion. Houston thus sees the growth of crime as possibly contributing to the stagflation phenomenon of the late 1970s and early 1980s. ^{1/} A study for Belgium by Adam and Ginsburgh (1983) focusses on the implications for growth. On certain assumptions, including insignificant entry costs into the underground sector due to a low probability of enforcement and unlimited supply of resources in that sector, the study concludes that leakages of fiscal stimulus to the informal economy will grow disproportionately larger as the formal economy approaches full employment, but that fiscal expansion will be generally positive for both the formal and informal economies. Subrahmanyam (1991) uses a standard IS-LM model to derive inconclusive results; the effect of an increase in illegal activity

^{1/} More recent estimates presented above in Section II which show decreased rather than increased currency holdings would reverse this argumentation, and would thus be consistent with the better inflation/growth mix observed in the 1990s.

on measured income is *a priori* indeterminate. Fichtenbaum (1989) argues that the U.S. productivity slowdown in the 1970s and 1980s was to a significant degree overstated, as the underreporting of income due to the more rapid growth of the underground economy in this period was not taken into account.

The common theme of the available research is that if crime, underground activity, and the associated money laundering take place on a sufficiently large scale, then macroeconomic policymakers must take them into account. Failure to do so would result in misdiagnosis and incorrect policy-setting. For example, at the international level, there is little disagreement that the behavior of monetary aggregates has become in the 1980s and early 1990s more difficult to interpret. This is attributed mainly to the very rapid growth of financial technology and economic structures associated with deregulation and privatization in many countries. However, aggregate growth in money laundering over the same period may also have contributed to the increased volatility of the aggregates, as suggested by the literature. 1/ There is the very large size and the timing of some individual criminal activities to consider. 2/ Large and irregular individual activities could serve to obscure the economic data base and complicate economic policy making. In addition, a key aspect of the understanding of monetary behavior is being able to identify statistically the country and currency of issuance and the residency of the deposit holder. To the extent that there is a shift in apparent money demand from one economy to another due to cross-border laundering, and the data are thus misleading, this could have consequences for interest and exchange rate volatility, particularly in dollarized economies, as the tracking of monetary aggregates becomes more uncertain.

Income distribution effects of money laundering are not discussed in the literature, but cannot be ignored. To the extent that the underlying criminal activity redirects income from high savers to low savers, or from sound investments to risky and lower-quality investments, economic growth will suffer. For example, there is evidence that in the United States tax evasion is particularly focused on income derived from the more risky but higher yielding noncorporate capital. 3/ Fraud, embezzlement, and insider trading seem likely also to be biased toward more rapidly growing and profitable businesses and markets, because "that's where the money is." Similarly, crimes against the person, such as thefts and kidnappings, seem likely to be directed at wealthier individuals and thus be biased against savings. On the other hand, a drug lord might well have a higher propensity to save than a drug user, so that not all distributional effects negatively

1/ Criminal activity subject to laundering (CRIM in Tables 2 and 3, summed across the industrial countries) increased by 17 percent between 1983 and 1990.

2/ For example, it was reported that a U.K. £6.5 billion fraud was attempted on the Agricultural Bank of China in 1993-94. This attempt was unsuccessful, but successful fraud is not detected.

3/ Fullerton and Karayannis (1993).

impact saving and thus economic growth. There is also a particular distributional impact of the money laundering that facilitates tax evasion. Economic costs are compounded in this case because many countries rely on means testing based on declared income for access to a range of government benefits (Tanzi and Shome 1993).

There are indirect macroeconomic effects of money laundering:

(1) Illegal transactions can deter legal ones by contamination effects. For example, some valid legal transactions by foreigners with Russian entities have been reported to have become less desirable because of their association with money laundering. More generally, an erosion of confidence in markets, and in the efficiency-signaling role of profits, occurs if there is widespread insider trading, fraud, and embezzlement. (2) Money that is laundered for reasons other than tax evasion represents income that also tends to evade taxes, compounding the economic distortions. (3) There is the contamination bred by contempt for the law, because when one aspect of the law is broken, other financial infringements seem easier to make. ^{1/}

The above discussion relates to money laundering *flows*. Accumulated balances of laundered assets seem likely to be larger than the annual money laundering flow figures. ^{2/} The potential for destabilizing and economically inefficient movements, either across borders or domestically, is therefore heightened. The balances accumulated after laundering could be used to corner markets or even smaller economies to the extent that they remain controlled by large-scale organized crime interests. With organized crime contacts, there is the further possibility that the control of economic activity can be compounded by insider trading using the balances.

2. Empirical estimation of growth effects

Although there has been theoretical (and anecdotal) discussion of the macroeconomic implications of money laundering activity, the author is not aware of any empirical work to assess the magnitude of the effects. As a start in this direction, the analysis of Section II.3 is extended here to test for the effects of crime, as a proxy for money laundering responding to criminal motives, on measured GDP growth rates in industrial countries. The basis for the estimation is the work of Barro (1991), which for a sample of industrial and developing countries found a positive relationship between growth and beginning-of-period human capital (proxied by primary and secondary school enrollment rates) and private investment-to-GDP ratios, and a negative relationship between growth and the share of government

^{1/} This is argument that the IMF has used against exchange controls: to the extent that such controls impede transactions regarded as reasonable and fair by the public at large, they tend to undermine compliance with the law in other areas.

^{2/} Money laundering operations that involve multiple transactions between the first deposit and the final laundered deposit reduce the extent of this cumulative effect.

consumption to GDP. In addition to these variables, we test for the influence of crime rates, using the Interpol data. 1/

The results of the cross-section econometric work presented in Table 4 for 18 industrial countries covering the period 1983-90 show a surprisingly close fit (\bar{R}^2 s of 0.82-0.97). In all equations, private investment is significantly related to GDP growth with a positive sign, and public consumption is significantly related to growth with a negative sign. (Both investment and saving variables are beginning-of-period, smoothed over a five-year period centered on 1983 as the beginning of period in order to remove cyclical effects). The signs estimated for the coefficients of the money laundering/crime variable differ; when government consumption is included, the sign is positive and significant, but when government consumption is excluded from the equation, crime is negatively related to growth (with t-ratios of 1.4-1.6). The direct implication is that money laundering proxied by crime is closely and positively related to the level of government consumption, which is lagged by some four years in the equations (Table 4 and Chart 3). Neither the tertiary nor secondary school enrollment variables are significant, although the signs are positive as expected for tertiary enrollment.

An estimate of the magnitude of the overall macroeconomic impact of money laundering can be obtained from the coefficient of CRIM in equation 14, from which government consumption is excluded. The elasticity at the means in the equation is an estimated 0.1 percentage point reduction in industrial country annual GDP growth rates for each 10 percent rise in money laundering associated with crime. This estimate includes all effects, direct and indirect, as efficiency of the above-ground sector is diminished and activity is transferred to the illegal economy. 2/ However, the estimated growth effect cannot be equated with overall welfare effects because non-economic costs and benefits, and any net economic value of laundered activity, are excluded from measured GDP. Trumbull (1989) shows evidence of the reverse causation running from income levels to crime--also negative. However, the long lags chosen for the crime variable with respect to growth suggest that the causation in the empirical results reported here is from crime to growth.

1/ Given that the data on growth relates to an industrial country sample, tertiary level school enrollment is also added to the variables in Barro's tests.

2/ The extensive financial disintermediation caused by crime, as money laundering replaces above-ground transactions in the equations of Table 2, suggests that the transfer of activity to the illegal economy is likely to be the dominant effect.

Table 4. Growth Equations 1/

Equation Number	Dep. Var.	Coefficients and T-ratios of Independent Variables							\bar{R}^2	DW-1	DW-2
		GDPCAP \$	PI \$	GC \$	TER	SEC	CRIM	Intercept			
(11)	DGDP\$	0.0014 (0.9)	2.28 (7.7)	-2.51 (7.2)	0.003 (0.1)		0.022 (3.2)	-8.80 (0.6)	0.96	1.9	1.9
(12)	"	0.0005 (0.3)	2.54 (8.5)	-2.66 (7.3)		-0.007 (0.9)	0.027 (3.8)	0.16 (0.0)	0.96	1.8	1.9
(13)	"	-0.0007 (0.2)	1.09 (2.0)		0.064 (0.8)		-0.015 (1.5)	4.02 (0.1)	0.82	1.4	1.2
(14)	"		1.06 (2.0)		0.068 (0.9)		-0.015 (1.6)	-1.94 (0.1)	0.83	1.4	1.2
(15)	"		1.47 (8.8)				-0.009 (1.4)	2.67 (0.2)	0.83	1.3	1.3
(16)	"		2.29 (17.5)	-2.45 (7.7)			0.021 (4.3)	2.67 (0.3)	0.97	1.8	2.0
(17)	CRIM			34.3 (5.3)				494.0 (1.1)	0.61	1.4	1.6

1/ For definitions of variables, see Table 3; \$ suffix denotes variable converted into U.S. dollars at period average exchange rates. The 18 observations exclude the United States (see footnote 2 to Table 2).

IV. Macropolicy Implications

The large scale of the money laundering problem and the significant effects on financial systems and potential impact on economic growth lead naturally to consideration of the international macropolicy implications of anti-laundering efforts. Discussion has focused on several specific areas: the implications of liberalizing exchange controls, the role of prudent supervision of the financial system, anti-tax evasion efforts, statistical reporting, and legislation.

1. Exchange controls

An important development in the international economic system in recent years has been the globalization of world capital markets aided by liberalization of exchange controls. While there are obvious benefits from greater global integration and free capital flows in permitting more efficient use of the world's savings, concern has been expressed in some quarters that there may be costs of such freedom in the form of the greater facility provided to criminal elements for laundering the proceeds from criminal activities as exchange controls are freed. ^{1/}

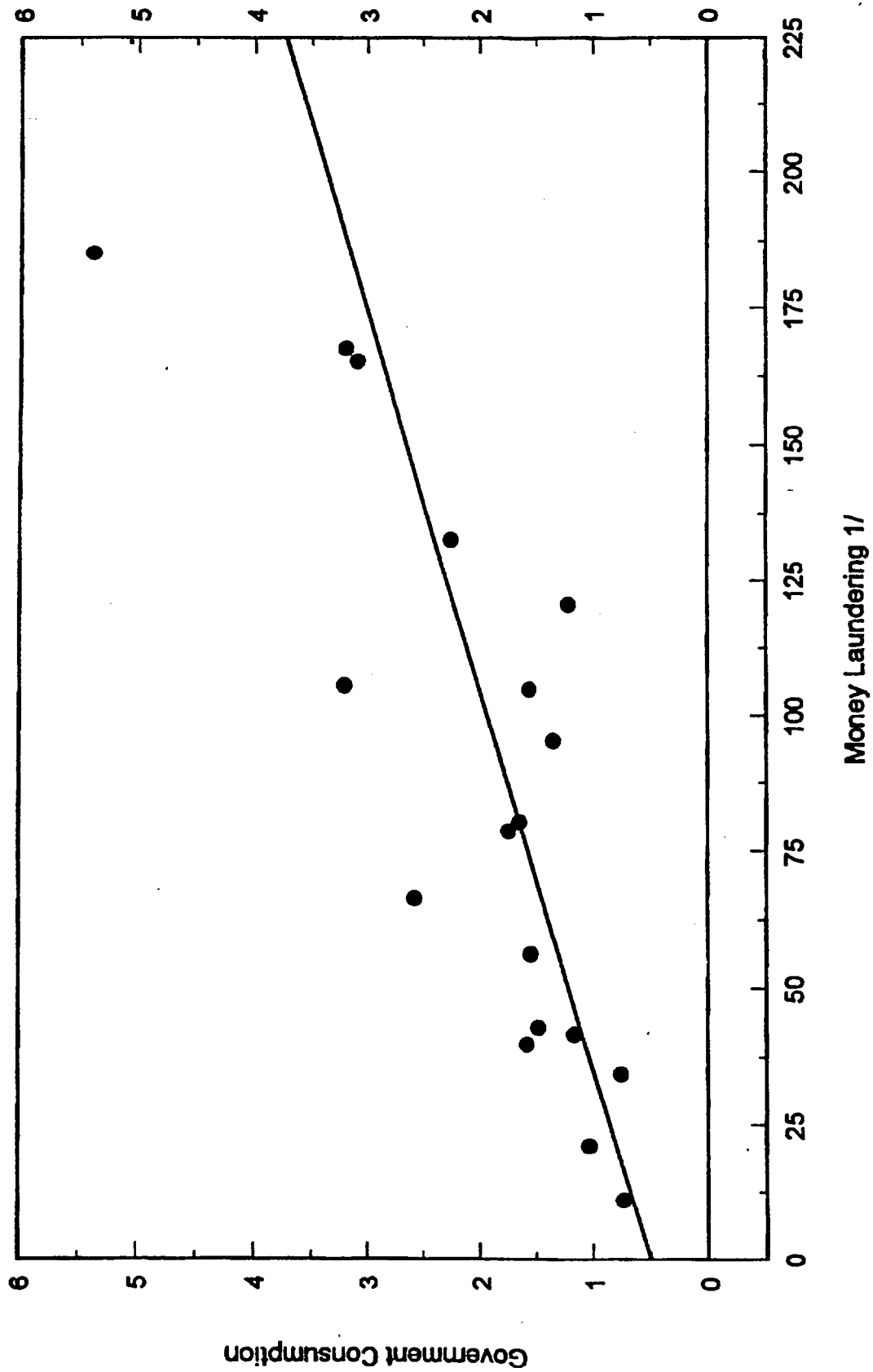
Recommendation 23 of the 40 recommendations of the FATF report states that:

The feasibility of measures to detect or measure cash at the border should be studied subject to strict safeguards to ensure proper use of information and *without impeding in any way the freedom of capital movements* [emphasis added].

In practice, evasion of exchange controls has not in itself been regarded by the international community as criminal action equivalent to money laundering, as such controls have been abolished in all industrial countries

^{1/} Money laundering is reported to be widespread in the republics of the former Soviet Union, with international capital transfers as a primary instrument despite the presence of capital controls. It is estimated that flight capital from Russia, part of it laundered funds, was running at US\$10-12 billion per annum (6-7 percent of GDP) through 1994. Activities focussed especially on laundering of funds from trade in high-technology equipment, sales of weapons, illegal commodities and precious metals, including radioactive materials, and the transfer of official funds. Available estimates of the capital flight do not include under-invoicing of exports, as the export passport system introduced in 1995 does not involve price and quality checks on exports. More recent capital inflows into Russia may have muddled further the extent of money laundering abroad, by making it difficult to estimate the gross export and import misinvoicing involved. Nevertheless, the inflows at this stage appear to represent a response to economic incentives, including market interest and exchange rate structures, rather than to progress in combating money laundering.

Chart 3: Money Laundering and Government Consumption



1/ Proxied by reported crimes per capita (crimes per million of population).

and in a large number of developing countries. 1/ In addition, the accepted forms of monitoring for money laundering require *information* on the foreign exchange transaction rather than control of the transaction. The form of information also differs. In countries where they remain, exchange controls require information on the economic function of the transaction for enforcement, while monitoring for money laundering is focused on establishing the identity of the individual transactor and the pattern of his transactions.

The main point of potential conflict with exchange control deregulation is the effect of the deregulation in increasing vastly the overall volume of international transactions, which provides more opportunity to disguise sources of funds if information available for enforcing the controls is imperfect. However, the same could be said of economic growth and the growth of financial markets in general, and it has been clear that exchange controls have led to thriving parallel markets with close connections to the underground economy. 2/ What this suggests is not to set back the clock on economic and financial reforms, but instead to devise means and devote resources to keep the effectiveness of money laundering countermeasures ahead of the accelerating pace of financial market development. In the case of the foreign exchange markets, there are at least two important aspects. One is to place less formal dealing, such as bureaux de change, within the reporting and monitoring framework for money laundering. 3/ The second is to ensure that opportunities are taken to propagate information and training in anti-laundering surveillance by dealers, including in the foreign exchange codes of conduct that are generally drawn up and adopted by national foreign exchange dealer or banking associations, often with IMF technical assistance.

There is the possibility to consider that anti-money laundering measures could impose restrictions on payments and transfers for current international transactions. In this way, Article VIII, Section 2(a) of the IMF Articles of Agreement, which imposes obligations on IMF members with regard to such restrictions on noncash transactions, could potentially be involved. The IMF makes the determination of the involvement, in consultation with the member maintaining the restriction, and on the basis of a detailed examination of the practice. However, no determination of restrictions arising from money laundering countermeasures has been made by the IMF, and anti-laundering regulations that could impede normal noncash foreign exchange transactions would need to give rise to "undue delays" within the meaning of the Fund's policy in order to involve Article VIII

1/ See Quirk, Evans, et al. (1995).

2/ Theobald (1990) notes that "laissez faire ideas were given a new lease on life in key international agencies such as the IMF and the World Bank...Corruption can be limited by striving to avoid administratively created scarcities of the kind which in centrally planned economies have led to the emergence of a second economy" (i.e., underground economy).

3/ Bureaux de change operating out of travel agencies have been identified by the FATF as a strong nexus of money laundering.

jurisdiction. The imposition of anti-money laundering regulations will normally not give rise to exchange restrictions subject to the Fund's jurisdiction.

2. Prudential supervision

Banks in a growing number of countries have become subject to official monitoring to ensure their prudent operation. They have also become subject to prudential regulation--for example, compliance with capital-to-assets ratios and foreign exchange exposure limits. There is some tension, at least at the theoretical level, between such regulation and economic efficiency, unless significant externalities exist. The tension arises because banks have their own profitability and survival as internal objectives, and therefore the costs of official intervention such as anti-laundering efforts need to be weighed carefully against the benefits.

In the absence of a laundering law and the resulting measures, it is not necessarily in the *direct* financial interest of financial institutions to adopt anti-laundering behavior. For this reason, both the FATF and the Basle Committee on Banking Supervision have issued statements on the prevention of criminal use of their members' banking systems for the purpose of money laundering. The statements deal with cooperation with law enforcement agencies in identifying customers and their behavior, keeping relevant records, and reporting possible illicit behavior. One statement noted that "... the members of the Basle Committee consider that banking supervisors have a general role to encourage standards of professional conduct among banks and other financial institutions." This statement was also commended by the Basle Committee members to supervisory authorities in nonmember countries.

The IMF has for several years been engaged actively in assisting a number of its developing and transition economy members in establishing effective financial market supervision. In many of the transition economies, supervisory capabilities are as yet at a basic level, affording relatively little assistance to law enforcement authorities in their anti-laundering efforts. However, in many developing countries, central banks are among the most organized and effective institutions and are being urged by governments to take on increasingly both support and core functions in countering money laundering. In some cases, the new emphasis has raised questions of the adequacy of the supervisors' training and the extent of monitoring (e.g., normal bank supervision does not focus on small accounts).

Money laundering activities can corrupt parts of the financial system and undermine governance of banks. Once bank managers have become corrupted by the sizable sums involved in money laundering, nonmarket behavior can be introduced into operating areas other than those directly related to the money laundering, which creates risks for the safety and soundness of the bank. Bank supervisors also can be corrupted or intimidated, which would reduce the effectiveness of supervision. At the same time, it is clear that

law enforcement efforts should not crowd out the traditional banking supervision responsibilities. ^{1/}

3. Tax evasion

Of the underlying forms of illegal activity, tax evasion has perhaps the closest relationship to macroeconomic stabilization. At the center of economic difficulties in many countries has been a government budget deficit, and it is rare that correcting such a deficit is not the primary focus of an economic stabilization program. The IMF has therefore been involved closely in efforts to improve members' tax collection capability.

As noted above in Section III.1, the noncorporate (small business) sector is an important nexus of tax evasion, but it is also important for economic growth. It is therefore possible that many countries at a relatively early stage of economic organization will be especially prone to tax evasion and the associated money laundering. However, with few exceptions developing countries are not at present members of the FATF.

There is no obvious conflict between the macroeconomic purposes of monitoring for tax evasion and for money laundering--in fact, quite the reverse. Both forms of monitoring focus on identifying individuals and economic entities, and their revenues. The need for an efficient monitoring system is widely agreed, even by those generally averse to more than minimal taxation, for it allows the reduction of assessed rates of taxation. Moreover, there is considerable synergy in improving both tax collection and anti-laundering systems, because laundered income from crime is also subject to tax evasion.

4. Statistical reporting

As the result of an attempt to estimate directly the flows of laundered money from international banking statistics and capital accounts of the balance of payments, it was concluded several years ago by the Bank for International Settlements (BIS) and the IMF that, although deposits covered by international banking and balance of payments statistics may include a substantial amount of drug money, this component cannot be singled out, in that it probably accounts for only a small (but, unfortunately, significant) percentage of the totals. In particular, the data for banks' liabilities suffer from insufficient coverage of offshore financial centers for this purpose.

^{1/} Traditionally, anti-money laundering efforts are closer to the responsibilities of government bodies such as ministries of justice. Anti-money laundering efforts tend to be more politically sensitive than the traditional areas of central banking, and an assumption of such responsibilities could possibly lead to less autonomy for the central bank, with spillover effects into the monetary policy area.

One early method of attempting to gauge the importance of money laundering has been by cash-to-GDP ratios, such as those reported in the IMF's *International Financial Statistics*. However, as noted above, this ratio varies widely between countries, in part because cash substitutes have become available in more developed financial systems. There is recent evidence of a secular decline of the use of cash in G-7 countries that indicates a trend toward ultimate convergence on a cashless society. In several of the major countries, large cash balances have apparently moved abroad. 1/ A completely cashless economy could create problems for some types of money launderers, but bearer securities, derivatives, and parallel financial markets would remain as vehicles for laundering.

Techniques exist in the balance of payments area for estimating aggregate capital flight in individual countries, which in some instances is thought to be associated with money laundering. 2/ Macroeconomic estimates of misinvoicing involve comparing domestic trade data with partner-country data on the home country's trade from the IMF's *Direction of Trade* and combining them with errors and omissions in the balance of payments. However, there are practical difficulties with this approach, because the c.i.f./f.o.b. factors to convert data to the same basis are not generally available. Moreover, gaps and imperfections in trade and balance of payments data raise questions of the accuracy of the estimates. 3/ There is also the basic issue raised in Section IV.1, namely, that capital flight has been seen thus far largely to have responded to economic incentives created by exchange controls and nonmarket exchange and interest rates, and therefore not generally as a product of criminal activity.

5. Legislation

Many countries have in recent years reformulated their basic central banking, commercial banking, and foreign exchange laws. A survey of these laws in a sample of IMF member countries 4/ indicates that to date they have in most cases not included specific provisions for money laundering. One reason why basic banking and foreign exchange laws formulated recently for most transition countries have not included anti-laundering provisions is because such legislation in the industrial countries, on which the new legislation has been partly modeled, does not generally integrate money

1/ Porter (1993) estimates the amount of U.S. currency circulating worldwide at about US\$350 billion, of which about two thirds is held abroad.

2/ On a global level, in the IMF's balance of payments statistics on portfolio capital flows, recorded credits (liabilities) exceeded measured debits (assets) by nearly US\$350 billion over the three-year period 1991-93.

3/ On the other hand, examination of customs data at the microeconomic level might provide a useful anti-laundering tool for identifying suspicious transactions. See, "Customs Targeting Fraudulent Trade Data", *Journal of Commerce*, December 12, 1994.

4/ Botswana, Canada, Chile, European Union, Japan, Korea, New Zealand, Norway, Switzerland, and the United States.

laundering provisions with the basic banking law. ^{1/} It may be more appropriate for separate law and regulations, rather than core banking law and regulations, to include provisions that require banks to report certain banking transactions for nonprudential purposes. Prohibitions on financial institutions' engaging in transactions with unfamiliar clients, e.g., if the principal amount of the transaction exceeds a specified ceiling, would require careful weighing of the potential for obstructing normal banking transactions. Criminal penalties on money laundering activities, including violations of these provisions, would normally be contained in the criminal code.

Provisions for bank secrecy and treatment of offshore banking are aspects of banking legislation that are particularly relevant to money laundering. Smith (1993) notes that the "existence of offshore banks in tax and secrecy havens and the reluctance of those countries to breach the confidentiality on which their financial sectors depend to attract deposits, have allowed drug traffickers to develop complex international money laundering networks...Today, nearly 40 countries in all parts of the world are considered secrecy and tax havens...." Recommendation 2 of the FATF 40 recommendations notes that financial institutions' secrecy laws should be conceived so as not to inhibit implementation of the other recommendations which encourage thorough and open disclosure of suspicious or potentially suspicious transactions. It is noted by the FATF that "any discrepancy between national measures to fight money laundering can be used potentially by traffickers...These national measures, particularly those concerning the diligence of financial institutions, have to be...harmonized in their most practical aspects...." Legislation must distinguish clearly between the confidentiality that is desirable for normal transactions and the need to report suspicious transactions to the relevant authorities.

V. Concluding Remarks

This paper has discussed the wide array of financial institutions and instruments, both formal and informal, and traditional and nontraditional, that are potentially involved in money laundering activities. The available empirical estimates that it has reviewed suggest that financial behavior and macroeconomic performance are broadly impacted. The channels identified in the paper through which macroeconomic consequences of money laundering are transmitted can be summarized as follows:

- Policy mistakes due to measurement errors in macroeconomic statistics arising from money laundering;

^{1/} For example, in the United Kingdom, the provisions are contained in the Drug Trafficking Offences Act 1986, Prevention of Terrorism (Temporary Provisions) Act 1989, and Part I of the Criminal Justice (International Co-operation) Act 1990 that ratified the EU and Vienna Conventions on money laundering. See Bank of England (1992).

- Changes in the demand for money that seem unrelated to measured changes in fundamentals;
- Volatility in exchange rates and interest rates due to unanticipated cross border transfers of funds;
- Other country-specific distributional effects or asset price bubbles due to disposition of "black money";
- Development of an unstable liability base and unsound asset structures of individual financial institutions or groups of such institutions, creating risks of systemic crises and hence monetary instability;
- Effects on tax collection and public expenditure allocation due to misreporting and under reporting of income;
- Misallocation of resources due to distortions in relative asset and commodity prices arising from money laundering activities; and
- Contamination effects on legal transactions due to the perceived possibility of being associated with crime.

These risks lead to consideration of ways in which the IMF could consider sharpening the focus of its technical assistance to countries in which money laundering is considered a substantial issue in organizing their data collection concerning laundered funds. ^{1/} In this way, the IMF could help to catalyze consideration in these countries of the effects of money laundering on their economic systems. The IMF's statistical and other capabilities have not been explicitly directed at detection of criminal activities, but to the extent that they are well used they may help with such detection. Nevertheless, they will undoubtedly have limitations when seen from that point of view.

- In the area of foreign exchange markets, IMF technical assistance has recommended uniform application of the licensing and financial reporting requirements to all forms of foreign exchange dealers, and standard FATF provisions for anti-laundering surveillance and reporting by foreign exchange dealers in technical assistance on foreign exchange market codes of conduct.
- The principles of the FATF, the 1988 statement of the Basle Committee on Banking Regulations and Supervisory Practices, and the EU Directive on Money Laundering in some instances have been a

^{1/} The FATF has compiled a register of the expertise and technical assistance that each member or relevant international organization can provide. When complete, this register is intended to function as a source for programmers of assistance to nonmember countries developed by international organizations or by the FATF itself.

balanced part of technical assistance provided by the IMF in the supervisory area, and these recommendations could be spread in discussions with members under the IMF's general surveillance procedures. This anti-laundering aspect related to prudential supervision of financial markets lends added significance to the IMF's efforts in this area.

- The IMF is closely involved with member countries in providing technical assistance to contain tax evasion and thus the related laundering of the proceeds of evasion.
- Statistical data compiled by the IMF are at such a level of aggregation that their direct use for anti-laundering purposes is limited. It has been suggested by the Working Party on Measurement of International Capital Flows that concealed capital flows are so intermixed with "normal" flows that balance of payments entries can provide little insight into the scale of such activity. 1/
- In the technical assistance provided to members in framing and drafting banking, foreign exchange, and related legislation and regulations, the IMF has in some of its discussions with members drawn attention to the need for, and the form of, uniform international treatment of money laundering.

To sum up the discussion, it is clear that there is no conflict between the aims of macroeconomic policies to develop financial markets and the aims of anti-money laundering policies. Rather, there is considerable synergy to be gained from coordinating the two sets of policies. In a number of ways outlined in this paper, official institutions involved in the implementation of macroeconomic policies can assist the pursuit of anti-money laundering policy aims, with due recognition, of the resource constraints that these institutions face. Likewise, successful efforts to counter money laundering can assist the stability and confidence of the financial markets, and thus contribute to macroeconomic efficiency and growth.

1/ International Monetary Fund (1992), chapters 6 and 9.

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