An Empirical Study on the Transfer of Black Money from India: 1948-2008

DEV KAR

This paper provides an in-depth analysis of the drivers and dynamics of black money transfers (illicit financial flows) from India since the first full year after independence until 2008. It is estimated that a total of $213.2 billion was shifted out of India between 1948 and 2008, or about 17.7% of India's GDP at end-2008. Applying rates of return on these assets based on the short-term US Treasury bill rate, the total gross transfers of illicit assets by Indian residents amount to $462 billion at the end of 2008. Over this period, illicit flows grew at a compound nominal rate of 11.5% per annum while in real terms they grew by 6.4% per annum.

An important finding is that illicit flows from India are more likely to have been driven by a complex interplay of structural factors and governance issues than they are by poor macroeconomic policies. There are reasons to believe that the cumulative loss of capital is significantly understated because economic models can neither capture all sources for the generation of illicit funds nor the various means for their transfer.

1 Introduction

A number of recent scams and intense attention in the media on the governance deficit that enabled these scams has hightened public awareness of the need to improve governance and curb the generation of black money. However, the spate of news reports and discussions in the public domain that followed indicate that many politicians and journalists have conflicting notions about the nature and extent of black money in the Indian economy and the factors that drive its generation. Even academics have bandied about outrageously high estimates of the amount of black money transferred from India since Independence or have equated illicit flows (or the cross-border transmission of black money) with the underground economy. This paper shows why such contentions and interpretations are fallacious.

In an effort to clear the air, this paper provides an in-depth analysis of the drivers and dynamics of black money transfers (or illicit financial flows) from India since the first full year after Independence until 2008, the latest year for which complete data are available. In analysing the long-term evolution of illicit flows from India, we ask whether the dynamics of illicit flows can be adequately represented by a simulation model and whether the model can shed light on the main drivers of such flows from India.

According to a recent study, India lost between $11.6 and $14.3 billion annually in illicit financial flows during 2000-08, making it one of the top exporters of such capital from Asia (Kar and Curcio 2011). Substantial as these outflows are, they are likely to be understated given that economic models cannot capture all channels through which illicit capital can leave the country. An earlier version of this report received significant media attention in India in the run-up to the 2009 general elections as political parties jostled to take the initiative on this long-festering issue. Reports in the Indian media claimed that Indians held close to $1.4 trillion in illicit funds in foreign accounts. We present a systematic study of whether such claims can be supported by empirical analysis.

The paper is organised as follows. Section 2 presents the methodology underlying the estimation of illicit flows (transfers of black money) bringing out the differences in treatment of estimates used in this paper versus those adopted in previous studies which we call the "traditional" method. We then present a synopsis of an econometric model of illicit financial flows in Section 3 in order to highlight the main drivers of these flows that were confirmed through model simluations. Section 4 presents the policy implications for curtailing illicit flows in light of the main findings of the paper which are summarised in Section 5.

INSTITUTE FOR SOCIAL AND ECONOMIC CHANGE
PROFESSOR V.K.R.V. RAO ROAD, NAGARABHAVI P.O. BANGALORE – 560072,
Phone: 91-80-23215468, 23217013 **Fax**: 91-80-23217008 **Website**: *www.isec.ac.in*

DOCTORAL RESEARCH PROGRAMME 2011-12

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Institute for Social and Economic Change (ISEC) was founded by Professor VKRV Rao in 1972. Its primary objective is to provide high quality academic training to PhD Students to prepare them as distinguished researchers and teachers in the field of social sciences. ISEC is presently affiliated to Bangalore, Mysore, Mangalore and Osmania Universities and the National Law School of India University for the award of PhD degree. We have collaborated with Maastricht University, Warsaw University, Centre for Asian Studies (Kyungpook National University, Republic of Korea), Bombay University, Central University of Rajasthan and University of Central Asia (Republic of Tajikistan).

2. Organisation
Institute has eight academic research centres with different disciplines in social sciences. These include, Agricultural Development and Rural Transformation (ADRTC), Centre for Decentralisation and Development (CDD), Centre for Ecological Economics and Natural Resources (CEENR), Centre for Economic Studies and Policy (CESP), Centre for Human Resource Development (CHRD), Centre for Political Institutions, Governance and Development (CPIGD), Centre for Study of Social Change and Development (CSSCD) and Population Research Centre (PRC). The faculty members of these centres provide guidance to the PhD Students for pursuing research in the individual disciplines. The strong point of training at ISEC is its emphasis on inter-disciplinary and socially relevant research.

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(a) Full Time (Residential)
Full time residential PhD course at ISEC normally takes about four years to complete. During the first 10 months Students are provided rigorous training through a pre-PhD coursework followed by the dissertation work which commences in the eleventh month. The doctoral students admitted under this Programme are given fellowships for three years and provided with hostel facilities up to 5 years. A separate hostel is available for lady students. Candidates are required to pay fees and comply with other requirements of University where they would be registered and pay an annual fee of Rupees one thousand to ISEC.

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This Programme is open for working persons to pursue PhD on a part-time basis. Preference is given to those working in the Universities and Institutions of higher learning and ISEC employees under Faculty Improvement Programme. Eligibility requirements and selection criteria are similar as in the case of the full-time PhD Programme mentioned above except that of age, which is relaxable. Part-time candidates should pass the pre-PhD course work. They are welcome to attend the classes, though attendance is not compulsory. The part-time PhD admission does not carry any form of financial assistance from ISEC. Candidates are required to pay fees according to University norms and an annual fee of Rupees three thousand to ISEC. The part-time PhD Students must adhere to all the conditions and regulations stipulated by the University/Institute.

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6. Disciplines of Specialisation
The test for admission will be administered only in the disciplines/specialisations mentioned here. Eligibility requirements are the same for all candidates. The disciplines or specialisations available for taking up entrance test for PhD in the Institute are:
i. Agricultural Economics or Rural Development, ii. Development Studies, iii. Economics, iv. Education, v. Environmental Economics/Ecological Economics/Natural Resource Economics, vi. Political Science/International Relations/Public Administration, vii. Population/Demographic Studies, viii. Sociology/Social Anthropology.

(For detailed specialisations in the above disciplines see the website: http://www.isec.ac.in)

7. Eligibility
The aspirants for ISEC PhD Programme and research fellowships must satisfy the following requirements:
i. Master's degree or equivalent in any of the above disciplines with at least 55% marks in the aggregate (50% in case of SC/ST applicants);
ii. A pass in UGC-NET or JRF or SLET or M Phil is desirable;
iii. Age limit for ICSSR fellowships - below 35 years, 40 years in case of teachers and members of professional staff in Research Institutes.
iv. There is no age limit for ISEC Fellowship, Part-time or External PhD Programme.

8. Fellowship/Scholarship
Candidates who have passed UGC-JRF are paid the fellowship as per the UGC norms, upon receipt of fellowship grant from UGC. These Fellowship holders should comply with all the requirements of the UGC, from time to time.

The candidates who have UGC-NET or SLET are paid a scholarship of Rs.6,000 p.m. while others (non-UGC-NET/SLET) are paid Rs.5,000 p.m. for a period of 10 months during pre-PhD Coursework and contingency of Rs.12,000 per annum. Upon successful completion of PhD Coursework the fellowship is extendable to a further period of three years when fellowship payable during the first two years would be Rs.12,000/- p.m. and a contingency of Rs.10,000/- per annum. During the third year the fellowship payable will be Rs.14,000/- p.m. and the annual contingency will be Rs.20,500/-. These Fellowship holders should comply with all the requirements of the ICSSR/ISEC, from time to time.

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After preliminary screening of applications, the shortlisted candidates will be called for a written test to be held on July 13, 2011. **The list of candidates to be called for written test shall be displayed on our website *www.isec.ac.in* on or before 25th June, 2011.** Candidates qualifying in the written test will be required to appear for an interview at Centre level on July 14-15, 2011.

10. How to Apply
The prescribed application form can be downloaded (only on A4 size paper) from the ISEC Website: *http://www.isec.ac.in/phd.htm*. The duly filled-in application form with all the relevant enclosures should be submitted along with the application fee of Rs.500/- (Rs.150/- in case of SC/STs) in the form of a Demand Draft drawn in favour of the **Registrar, ISEC, Bangalore**. Candidates who are awaiting their second year PG results may also apply. However, it is mandatory to produce the proof of final PG examination results at the time of the admission test. The Pre-PhD Coursework begins in the first week of August 2011.

Completed application with requisite attachments should reach the following address on or before May 16, 2011.

Registrar, Institute for Social and Economic Change,
Professor V K R V Rao Road, Nagarabhavi P.O., Bangalore-560 072, (Karnataka)

FOR MORE INFORMATION   Contact: *phd@isec.ac.in* **or Tel: 080-23217013 or 080-23215519; Ext. 113**
OR Visit the ISEC Website: *http://www.isec.ac.in/phd.htm*

REGISTRAR

2 Methodology to Estimate Illicit Financial Flows

Economists have used various models to estimate illicit financial flows, or illegal capital flight. A well-established version uses the World Bank Residual Model (based on change in external debt or CED) adjusted for trade misinvoicing estimates of which are based on the International Monetary Fund (IMF's) *Direction of Trade Statistics* or DOTS database. The World Bank model is intuitively appealing – sources of funds exceeding recorded uses of funds reflect unrecorded outflows. Sources of funds include increases in net external indebtedness of the public sector and the net inflow of foreign direct investment (FDI). Uses of funds include financing the current account deficit and additions to reserves. In this broad macroeconomic framework, illicit outflows (inflows) exist when the source of funds exceeds (falls short of) the uses of funds. Thus:

←Source of Funds→		←Use of Funds→
K = [ΔExternal Debt + FDI (net)]	minus	CA Deficit + Δ Reserves]

Trade mispricing has been long recognised as a major conduit for capital flight because residents can shift money abroad illicitly by over-invoicing imports and under-invoicing exports. In order to capture such illegal transactions, a developing country's exports to the world (valued free-on-board (FOB) in dollars) are compared to what the world reports as having imported from that country, after adjusting for the cost of insurance and freight. Similarly, a country's imports from the world net of freight and insurance are compared to what the world reports it has exported to that country. The CED estimates are adjusted by trade misinvoicing estimates derived according to the following formula:

$$K = [X_i] - M_j/\beta + [M_i/\beta] - X_j$$

Misinvoicing is assumed to take place through both exports (X) and imports (M). Specifically, the exports of goods fob from country i (X_i) is compared to the imports recorded by country j (M_j) after adjusting for insurance and freight; the factor β adjusts the Cost Insurance and Freight (CIF) value to fob value which we take to be 10%. On the import side, imports of country (M_i) are converted to fob value and then compared to what country (j) reports as having exported to country i (X_j). Illicit outflows from country (i) will be indicated if the exports of country (i) are understated relative to the reporting of partner country's ($j's$) imports and/or if country i's imports are overstated with respect to partner country j's exports to country i, after adjusting for the cost of freight and insurance.

The method used in this paper departs from traditional capital flight models in the treatment of illicit inflows. While the traditional method nets out illicit inflows from outflows, the CED and the trade mispricing adjustments are based on gross outflows only with illicit inflows set to zero. Thus, when the use of funds exceeds the source, or when trade mispricing indicates export over-invoicing and import under-invoicing, such inward transfers of illicit capital are set to zero for that year.

Limitations of Economic Models

A common feature of economic models is that they rely on official statistics which cannot capture illicit transfers of capital occurring through drug and other contraband trade, smuggling, same-invoice faking, hawala or currency swap transactions, and other illicit activities such as human trafficking and sex trade. For instance, the GER adjustment method attempts to capture trade mispricing by comparing customs invoices filed by trading partners in partner countries. The DOTS method of estimating export under-invoicing and import over-invoicing cannot capture mispricing within the same invoice which allow these discrepancies to remain hidden within an invoice through word-of-mouth collusion among buyers and sellers. Several studies, such as Baker (2005), have found that illicit flows through same-invoice faking are at least as large if not larger than those involving mispricing between invoices.

Apart from the difficulty of capturing illicit flows generated through a host of illegal activities discussed above, the adjustments for trade misinvoicing remains incomplete. This is because the DOTS maintained by the IMF which permit such adjustments to be made do not cover trade in services on a bilateral basis. Hence, misinvoicing adjustments pertain strictly to goods only. Yet, we are aware that trade in services offer much larger incentives to misinvoicing due mainly to the difficulty of pricing services across different countries on a comparable basis. In sum, economic models cannot capture all illicit flows due to a variety of reasons and therefore significantly understate their volume. The extent of understatement will vary depending upon the importance of the latent factors that drive illicit flows to and from a country. For instance, there may be sizeable illicit inflows into a country that has become a major corridor for drug trafficking, which requires large infusions of cash to finance transactions.
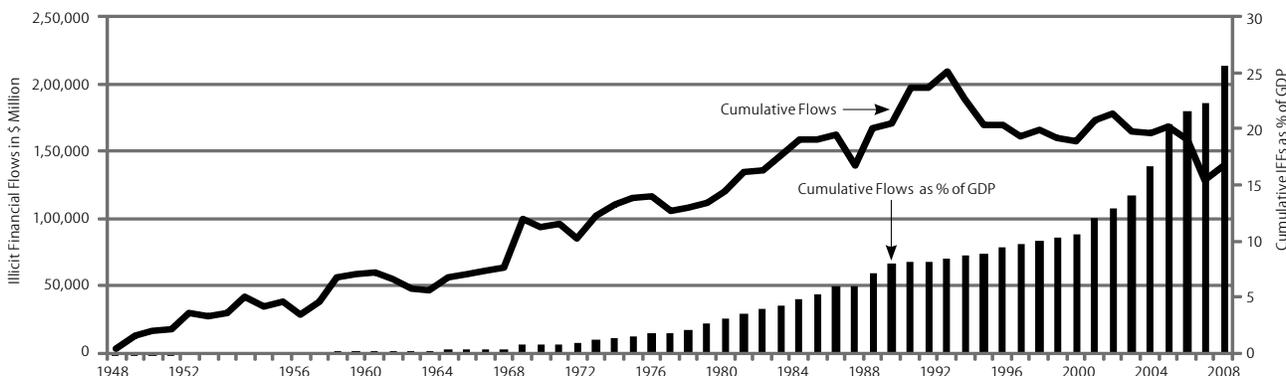
Reasons for Rejecting Traditional Models of Capital Flight

There are strong reasons why the traditional models of capital flight which automatically net out illicit inflows from outflows should be rejected. For instance, let us consider the recent Euro zone crisis. Estimates of capital flight according to the traditional method indicate that Greece and other Club Med countries have received huge illicit *inflows* running into billions of dollars. Yet, these governments could not tap one dollar of these so-called inflows to stave off their financial crisis. While there is nothing new about the flight of capital from countries that are politically unstable, poorly governed or badly managed, economists have been quixotic in their approach to estimating these flows. Scores of research papers on capital flight published in prestigious academic journals have this recurrent theme – outward transfers of illicit capital are offset by inward illicit flows without asking whether that is warranted.

In fact, the traditional models of capital flight cannot capture genuine reversals of capital flight. Netting out inflows from outflows is only warranted if inflows represent a return of flight capital such that a subsequent gain in capital offsets the original loss. A return of flight capital typically follows credible economic reform on a sustained basis and may be detected in a significant increase in *recorded* FDI or *recorded* inflows of private portfolio capital. In contrast, the inflows indicated by the World Bank Residual Model whether adjusted for trade misinvoicing or not, *are also unrecorded*. Why would an investor smuggle in capital from abroad if that capital in fact represents a genuine return of flight capital? As the Indian and Chinese experience shows,

outward transfers of illicit capital could come back to a country through a process known as "round tripping". But these inflows would *not* be captured by the capital flight models as estimates with a negative sign. Instead, round tripping would show up as an uptick in recorded FDI. While intuitively it may make sense to net out the return of flight capital from outflows, it would be practically impossible to implement because balance of payments compilers cannot apportion recorded aggregate inflows between new investments and the return of flight capital. Economists may be

How Illicit Flows Have Evolved

The evolution of illicit flows from India is examined in two parts – for the entire period 1948-2008 and the behaviour of flows before and after economic reform started in earnest in 1991. Chart 1 traces how these flows have behaved over the 61-year period to 2008, the last year for which complete macroeconomic data are available for India. A total of $213.2 billion was shifted out of India over 61 years between the first full year of India's independence and 2008. This gross transfer of illicit external

Chart 1: Cumulative Illicit Financial Flows and as a Percentage of GDP (1948-2008)

able to discern flight reversal if recorded inflows increase after economic reform or improved governance but they cannot estimate how much of those inflows are actual reversals.

Furthermore, as the inflows indicated by models of illicit flows are unrecorded, they cannot be taxed or utilised for economic development. Often, these so-called inflows are themselves driven by illicit activities such as smuggling to evade import duties or value added tax (VAT). Moreover, illicit inflows can also be generated by the over-invoicing of exports to collect on VAT refunds as in some Latin American countries. It is hard to see how the loss of applicable customs tax revenues can be beneficial to a country. Moreover, we found that according to the traditional method, illicit outflows in recent years are insignificant for certain Latin American countries like Guatemala and Colombia with a serious drug-trafficking problem. Does that mean economists can advise these governments that they need not worry about illicit flows because they are so small on a net basis? On the contrary, illicit flows are harmful in both directions – outflows represent a near-permanent loss of scarce capital while inflows stimulate growth of the underground economy.

Finally, economists need to study illicit inflows in more depth. For instance, we also found significant illicit inflows into countries with large black markets and an underground economy (such as Russia) or where "hawala" transactions (such as in the Indian subcontinent and some west Asian countries like the United Arab Emirates) are popular. The reason could be that the smooth operation of these markets requires the infusion of large amounts of illicit funds which are in turn channelled through the misinvoicing of trade transactions. In fact, there have been a number of studies, such as Nayak (1999) and the IMF (2005), exploring the link between "hawala" transactions and illicit flows. The implication is clear. Illicit inflows do not constitute a reversal of capital flight but reflect the need to finance illicit activities on a large scale.

assets (a term that is more accurate than the stock of capital flight since the stock is net of withdrawals on which no data are available) needs to be revalued taking account of rates of return. A common proxy for the rate of return on external assets has been the United States treasury bill rate (short-term). In calculating the compound interest on these assets, the current period's interest rate is applied to the sum of the preceding years' accumulated illicit flows and half of this year's flows.

The rationale is that all illicit flows do not arrive at the same time at the beginning of the year; rather we assume that illicit flows are evenly spread out so that only half of the current year's flows earns interest at the current rate. Using this method, results show that the adjusted gross transfer of illicit assets by residents of India amount to about $462 billion as of end-December 2008. This is a huge loss of capital which, if it were retained, could have liquidated all of India's external debt totalling $230.6 billion at the end of 2008 and provided another half for poverty alleviation and economic development.

There are reasons to believe that the present value of illicit assets transferred abroad is significantly understated. For one, the rates of return based on short-term US treasury bill rates fall far short of the rates of return on many types of assets such as hedge funds, real estate, precious metals, and art objects. For another, the principal itself is understated because as we pointed out earlier, economic models can neither capture all sources for the generation of illicit income nor the myriad ways the proceeds can be transferred abroad.

Extrapolating from the estimates provided in Gupta and Gupta (1982), the size of India's underground economy should be at least 50% of GDP or about $640 billion based on a GDP of $1.28 trillion in 2008. This means roughly 72.2% of the illicit assets comprising the underground economy is held abroad while illicit assets held domestically account for only 27.8% of the underground economy (Chart 2, p 49). We assume that although illicit

assets held abroad can be brought back to the country, a substantial portion is again transferred abroad once gains from "investments" are realised. In any case, drawdowns are offset by the transfer of new illicit capital so that, on balance, the share of accumulated transfers abroad is not too far off our estimate. The larger share of illicit assets held abroad confirms Baker's (2005) contention that illicit flows are basically driven by a desire for the hidden accumulation of wealth.

Chart 2: India: Composition of Underground Economy at 50% of GDP
(as of 2008, in $)

Illicit Assets Held Domestically
27.8%
($178 Billion)

Illicit Assets Held Overseas
72.2%
($462 Billion)
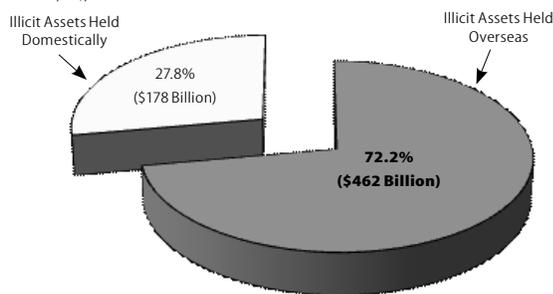
On an average per annum basis, illicit flows from the country over the period 1948-2008 amounted to about 1.5% of India's GDP or 22.8% of its exports. Over this period, illicit flows grew at a compound nominal rate of 11.5% per annum while in real terms they grew by 6.4% per annum. The growth rates per annum were calculated based on the coefficient of the log linear trend line fitted for the period in question. We will now consider developments in capital flight from India before and after the major economic reform policies which were implemented starting in June 1991.

Ascertaining where economic reform actually started is difficult because reform in this sense represents the totality of policies devoted to freeing up markets from government controls and are typically undertaken in phases. For instance, certain aspects of economic reform such as import liberalisation were a salient feature of India's economic policies shortly after Independence. Nevertheless, the slew of policies aimed at freeing up markets from government controls that started with the Narasimha Rao government in May 1991 still stands out as a landmark in India's economic history. We find that outflows of illicit capital grew faster after reform than before (nearly 19.0 per annum compared to 15.8%). However, the illicit flows to GDP ratios declined during the post-reform period because reform succeeded in boosting economic growth much more than it did illicit flows. In real terms, outflows of illicit capital accelerated from an average annual rate of 9.1% before reform to 16.4% in the period after.

3 A Block Recursive Dynamic Simulation Model

We developed a dynamic simulation model to examine the complex interactions between macroeconomic, structural, and governance factors that drive illicit flows from India. The model has two parts – an upper block of five equations that examines the interactions between fiscal and monetary policies and a single-equation lower block that seeks to explain the behaviour of illicit outflows from India. The upper block presents a test of the thesis that government expenditures tend to respond faster to inflation than do government revenues, because government outlays are

typically subject to inflation adjustment while taxpayers seek to defer tax liabilities in an inflationary environment (thereby allowing inflation to reduce tax burdens). If the resulting deficits are largely financed through central bank credits (or quantitative easing), this leads to an expansion of the money supply which not only generates further inflation but widens the fiscal deficit in a vicious cycle. The purpose of the upper block of equations is to examine whether interactions between fiscal and monetary policies resulted in government deficits and inflation which help to explain illicit flows from India.

The simulated inflation and the fiscal deficit resulting from dynamic simulation in the upper block of the model are then used in conjunction with certain structural and governance variables to explain the behaviour of illicit flows in the lower block. The model as a whole is block-recursive in that it seeks to explain only the macroeconomic portion in a fully endogenous upper block of equations while it treats structural and governance factors as exogenous. This is because structural factors like income inequality and faster growth rates and governance factors as represented by the underground economy, are almost impossible to model endogenously. The complete model represented below was developed and tested equation by equation.

$$\log P_t = -\alpha\beta_o - \alpha\beta_1 \log Y_t + \alpha\beta_2 \pi_t - (1-\alpha) \log (M/P)_{t-1} + \log M_t$$
$$\log G_t = a_o + a_1 \log Y_t + a_2 \log P_t$$
$$\log R_t = \lambda_o + \lambda_1 \log GDP_t$$
$$\log M_t = b_o + b_1 \log (G-R)_t$$
$$\pi_t = \mu \,\Delta\log P_t + (1-\mu) \,\pi_{t-1}$$

$$\psi_t = f\,([\hat{G}_t - \hat{R}_t], \Delta\hat{P}_t, \text{Reform}, \text{Underground}_{t-1}, \text{Trade Openness}, \dot{Y}_t, \text{Gini})$$

The variables in the above model are P, WPI, Y, the real GDP, G and R the central government expenditures and revenues respectively, M the money supply, π_t the expected rate of inflation, Reform, a dummy variable (with zero for the pre-reform period 1952-90, and one for the post-reform years, 1991-2005), ψ_t are illicit outflows based on the CED+GER method, $\hat{G}_t - \hat{R}_t$, and $\Delta\hat{P}_t$ are the simulated government expenditures, simulated government revenues, and simulated inflation respectively so that $[\hat{G}_t - \hat{R}_t]$ is the simulated fiscal deficit. The other variables in the model are $\dot{Y}_t$, the real rate of growth, Trade Openness (defined as the ratio of exports and imports of goods and services to GDP which captures the impact of trade liberalisation on growth of the traded sector), Gini, a measure of income distribution, and underground, a measure of the size of the underground economy which serves as a proxy for the overall state of governance in the country.

While a great deal of information is available with respect to structural factors, governance indicators for the period 1948-2008 are scarce. For example, traditional sources such as indicators compiled by the World Bank or Transparency International's Corruption Perceptions Index only cover a fraction of this period. A review of the literature suggests that the underground economy not only acts as a proxy for governance, it grows by absorbing illicit inflows and provides the funds for cross-border transfers of illicit capital.

A time series on the size of the underground economy was developed assuming that it was 0% at independence and grew to 50% of GDP by the end of 2008, as found by a number of researchers. The series was subject to spline interpolation using these boundary conditions and ensuring that estimates for intervening years, 1967/68-1978/79, correspond to those found by Gupta and Gupta (1982) using the monetary approach. According to this measure, the post-reform period is characterised by a much larger underground economy (averaging 42.8% of official GDP compared to just 27.4% in the pre-reform period). The one period lag, rather than the current size of the underground economy, was found to be more statistically significant in explaining larger illicit flows from the country since reform.

In an effort to identify the root cause of illicit flows from India, the above block-recursive dynamic simulation model captures three sets of complex drivers – macroeconomic factors like government deficits, inflation, and inflationary expectations, structural factors such as increasing trade openness and faster rates of economic growth and their impact on income distribution, and overall governance as captured by a measure of the underground economy. As complex as these factors are, illicit flows are also driven by the desire to hide ill-gotten wealth, a motivation that is extremely difficult to model and test.

Keeping these caveats in mind, model simulations provide some interesting insights into the drivers and dynamics of illicit flows from India. The following system of equations achieved convergence in dynamic simulation using the Newtonian method in E-Views:

$$\log P_t = -0.232 - 0.038 * \log Y_t + 0.916 * \pi_t$$
$$(-0.84) \quad (-0.73) \quad 50(11.15)**$$
$$- 0.858 * \log (M/P)_{t-1} + 0.930 * \log M_t$$
$$(-16.59)** \quad (49.92)**$$
Adj. $R^2=0.99$; standard error (SE)=0.03

$$\log G_t = 4.213 + 0.301 * \log Y_t + 1.638 * \log P_t$$
$$(2.79) \quad (1.90)* \quad (15.21)**$$
Adj. $R^2=0.99$; SE=0.20

$$\log R_t = 4.342 + 0.236 * \log GDP_t + 1.486 * \log P_t$$
$$(3.56) \quad (1.84)* \quad (6.96)**$$
Adj. $R^2=0.99$; SE=0.16

$$\log M_t = 0.599 + 1.132 * \log (G_t - R_t)$$
$$(1.85) \quad (39.74)**$$
Adj. $R^2=0.96$; SE=0.45

$$\pi_t = 0.9 * \Delta \log P_{t +} 0.1 * \pi_{t-1}$$

$$\psi_t = -6720.99 - 0.27 * [\hat{G}_t - \hat{R}_t] + 737.58 * \hat{\Delta P}_t - 9645.0 * \text{Ref}$$
$$(-2.18) \quad (-6.55)** \quad (0.91) \quad (-8.40)**$$
$$+ 0.12 * UG_{t-1} + 7615.46 * TO + 1796.20 * \dot{Y}_t + 155.45 * \text{Gini}$$
$$(8.60)** \quad (0.40) \quad (0.57) \quad (1.99)**$$
Adj. $R^2=0.89$; SE=1956.0

The statistics reported above are the values of the estimated coefficients and the ratios of the coefficients to the respective standard errors in parenthesis. Variables marked by two stars are significant at the 95 confidence interval while those marked with a single star are significant at the 90% level. All five equations tested have excellent goodness-of-fit and most variables are significant and have the correct sign except the fiscal deficit which unexpectedly has a negative coefficient. The finding that a contracting deficit stimulates capital flight corroborates those of Chipalkatti and Rishi (2001). On the one hand, if contracting deficits are interpreted as reductions in liquidity to the private sector such views may collectively induce flight capital. On the other, larger budget deficits may end up crowding in private investments thereby reducing the incentive for illicit transfers. So the link between fiscal deficits and illicit flows is not unambiguous as shown by previous studies.

Macroeconomic Policies and Outflows

We find scant evidence that imprudent macroeconomic policies drove illicit flows from the country. While government fiscal operations led to persistent deficits which were largely financed through central bank credits, the deficits and inflation did not drive illicit outflows. In fact, central government deficits have been rather limited and under certain conditions discussed above, they may have actually curbed illegal capital flight. The reason that changes in the deficit and inflation do not adequately explain illicit outflows is probably because macroeconomic drivers have a far stronger influence on *licit* capital movements (involving private portfolios) than on flows that are illicit.

There are two caveats with regard to the findings on government deficits and inflation as drivers of illicit capital from the country. First, lack of comprehensive data on consolidated government revenue and expenditure (i e, including state and local governments and not merely the central government) did not allow an assessment of larger deficit financing on inflation and the impact of larger deficits themselves on driving illicit flows. Second, the shifting list of items subject to price controls and the varying intensity of implementation detracts from the quality of the wholesale price index as a measure of inflation.

It should be noted that the monetary impact of financing the deficit would probably have been higher in the earlier periods when the private financial markets, including the market for government bonds, were shallow and the government had to rely more on credits from the monetary authorities to finance its budgetary deficits which fuelled inflation. In the latter period, particularly after reform policies launched in 1991 were well underway, financial liberalisation would have fostered financial deepening, thereby offering the monetary authorities a viable alternative to inflationary finance. To the extent that the government was able to take recourse to private markets to finance its deficits, the link between changes in deficits and high-powered money would be broken.

There are two reasons why we did not find evidence of a strong vicious cycle interaction between government deficits and inflation in India. First, the increasing recourse of the government to financing its budget deficit through bond finance rather than quantitative easing particularly in the post-reform period, effectively short-circuited the deficit-inflation cycle to some extent. Second, model simulations confirm that the speed of adjustment of expenditures to inflation was not that much higher than revenues and this limited their asymmetrical response to inflation.

The model strongly indicates that the causes of illicit outflows from India lie in a complex web of structural and governance issues rather than unstable macroeconomic policies. The results show that reform itself had a negative impact on illicit flows in that liberalisation of trade and general deregulation led to an increase in illicit flows rather than their curtailment. The result is counter-intuitive in that one would typically expect economic reform to dampen illicit transfers as economic agents gain more confidence in the domestic economy. In order to explain this result, it is necessary to analyse how the "by-products" of reform, namely, economic growth and income distribution, and increasing trade openness relate to illicit flows. Because these structural by-products of reform behaved quite differently during the pre- (1948-1990) and post-reform (1991-2008) periods, the report examines their relationship to illicit flows by splitting the sample period into those two phases. Collapsing the two periods and simulating the model over the entire period 1948-2008 obscured the effects of the variables so that they no longer seem significant in explaining capital flight. At the same time, the longer sample period was imperative for testing the robustness of the model.

There was no statistically significant link between trade openness and misinvoicing in the years prior to reform. However, in the years since 1991, when economic reform led to increasing trade openness (as the size of external trade to GDP more than doubled from 10.8% in the pre-reform period to 21.7% after reform), results show openness to be statistically significant and positively related to trade misinvoicing.

It seems that trade liberalisation merely provided more opportunities to related and unrelated companies to misinvoice trade, lending support to the contention that economic reform and liberalisation need to be dovetailed with strengthened institutions and governance if governments are to curtail capital flight. Otherwise, deregulation will merely provide an added incentive for those seeking to transfer illicit capital abroad. That deregulation needs to be accompanied by stricter oversight is nothing new – we now know that deregulation without adequate oversight of financial institutions on Wall Street has helped, not hindered, their abuse.

Data also confirm that economic reform since 1991 has fostered a faster pace of economic growth. However, analysis shows that more rapid economic growth in the post-reform period has actually led to deterioration in income distribution. The rising trend towards greater income inequality during a period of rapid economic growth is corroborated by Sarkar and Mehta (2010), Sengupta et al (2008) and others. In the post-reform period, there are clear indications that faster economic growth seemed to go hand-in-hand with larger, not smaller, illicit flows and a worsening of income distribution. In fact, we find a statistically significant correlation between larger volumes of illicit flows and deteriorating income distribution. Thus while reform has fostered a faster pace of economic expansion, the resulting growth has not been inclusive and the higher income inequality has driven larger illicit flows from India particularly since 2000.

A more skewed distribution of income implies that there are many more high net-worth individuals (HNWIs) in India now than ever before. Based on the capacity to transfer substantial capital, it is the HNWIs and private companies that are the primary drivers of illicit flows from the private sector in India (rather than the common man). This is a possible explanation behind our findings that reform has led to faster growth which has not been inclusive in that the income distribution is more skewed today, which in turn has driven illicit flows from the country. This result does not hold in the pre-reform period when growth rates were low and income distribution was more equitable.

Another limitation of data is the lack of a time series on a consistent deposit rate of interest for the period 1948-2008. The result of this limitation is that it is not possible to test how interest differentials impact the volume of illicit outflows. By the same token, a consistent time series on the real effective exchange rate (REER) which could have acted as a proxy for the expected rate of depreciation (indicated by a real effective exchange rate that is out of alignment with international competitiveness) could not be included. Want of a comprehensive measure of unit labour costs is the main reason why there is no REER series for 1948-2008 (a CPI or WPI is not the best measure to capture unit labor costs).
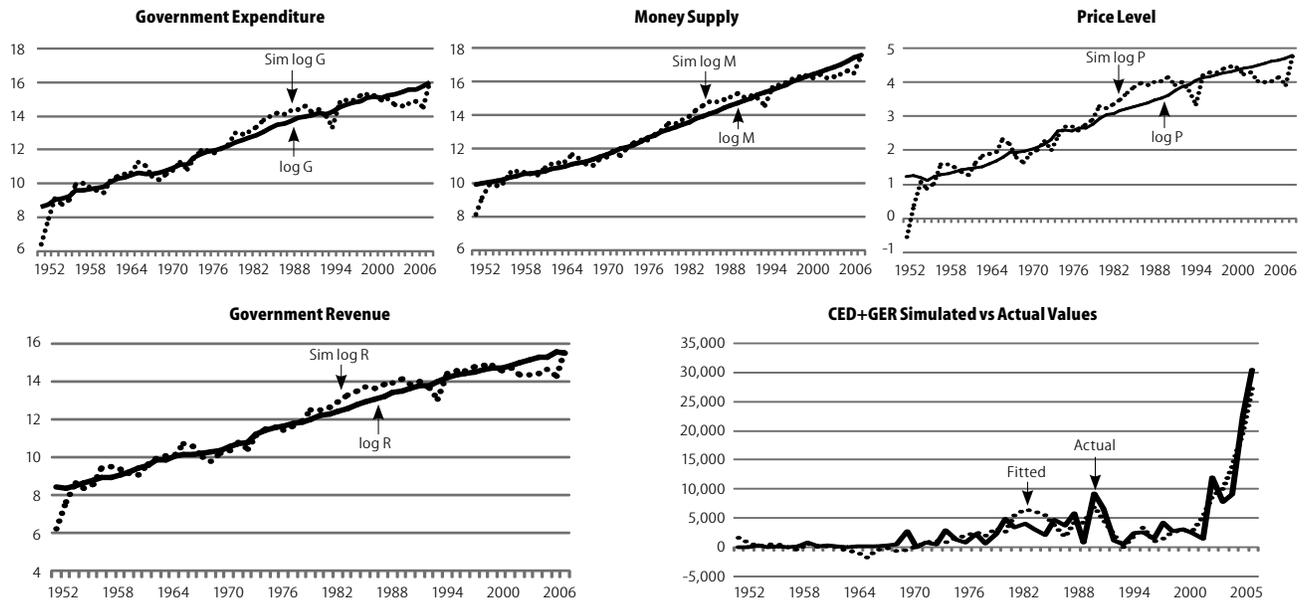
The dummy variable for reform (0 pre-reform 1948-1990; 1 post-reform 1991-2008) was found to be significant at the 5% level indicating that liberalisation of financial markets and general deregulation led to an increase of illicit flows rather than a curtailment. Reform led to increasing trade and financial sector openness as well as higher rates of economic growth. However, while the results confirm that both trade openness as well as growth contributed positively to illicit outflows, the variables were not statistically significant for the entire period 1948-2008. In order to understand why, it is necessary to examine the link between these variables and illicit flows in the pre- and post-reform periods. Collapsing the two periods and simulating the model over 1948-2008 obscures the effects of the variable so that they are no longer significant in explaining illicit flows.

The actual and simulated variables are plotted in the accompanying chart (Chart 3, p 52). Convergence of the model in dynamic simulation meant that the necessary and sufficient conditions for stability of the model were met for the period 1953 to 2008. The charts tracking the simulated government expenditures, government revenues, price level, and money supply against actual values show that the model performed very well.

Dispelling Some Myths Regarding Black Money

There are certain myths surrounding the transfer of black money that have been circulating in the Indian media. These should be dispelled not only to clear the air but to allow well-focused policy discussions on curtailing the generation and transmission of illicit capital. First, we find media reports floated by some academics that Indian nationals hold around $1.4 trillion (PTI 2010) in illicit external assets to be wildly exaggerated. This is because the back-of-the-envelope method used to derive the $1.4 trillion is deeply flawed – the figure was based on Global Financial Integrity's (GFI) estimated average illicit outflows of $22.7 billion per annum (over the period 2002-06) in the original GFI report multiplied by 61 years since independence (Kar and Cartwright-Smith 2008). Of course, it is totally erroneous to apply annual

Chart 3: Results of Dynamic Simulation (1952-2006)

Government Expenditure

Money Supply

Price Level

Government Revenue

CED+GER Simulated vs Actual Values

averages to a long time series when illicit flows are fluctuating sharply from one year to the next. To illustrate, India's GDP amounted to slightly less than $22 billion in the six years 1950-55, which would imply that more than 100% of GDP was transferred out as black money in each of those years – an absurd proposition.

Another interpretation by Bhalla (2011) of our finding that the amount of black money in the Indian economy represented some 7.5% of GDP was found to be totally erroneous. According to him this 7.5% figure is too high because he estimates that the amount of black money as a result of tax evasion in India amounts to around 1.5% of GDP. This argument is wrong because the 7.5% figure he cites is based on our estimate of the *change* in the size of the underground economy as a percentage of GDP. The confusion arises from trying to equate cross-border flows of black money with the flows of black money into the entire underground economy. The underground economy consists of illicit assets that are not only derived from tax evasion but all sorts of illegal activities such as drug trafficking, cross-border smuggling, same-invoice faking, "hawala" type currency swaps, sex trade, human trafficking, etc, on which the question of paying taxes does not arise. It would be a pure assertion to say tax evasion is the major component of the underground economy which, according to internationally accepted definitions, includes the proceeds of all illegal activities. We estimate that cross-border transfers of black money, which includes the proceeds of tax evasion, amount to some 1.5-2.2% of GDP, which is not inconsistent with Bhalla's estimate on tax evasion alone and our caveat that estimates of illicit flows *likely to be significantly understated* because economic models cannot capture the proceeds of all illegal activities most of which are settled in cash.

Getting the Money Back?

Finally, there continue to be sporadic reports in the Indian media of "getting the money back" from various tax havens around the world. This too is sensationalism with scant regard for the legal

and other challenges involved. Illicit assets are typically lodged in secrecy jurisdictions behind a tight wall of opacity. Moreover, complex financial instruments such as derivatives and trust companies are structured in such a way that tracing the ultimate beneficiary of such investments is next to impossible. Furthermore, proving that a certain individual received illicit funds from a specific source for a specific illegal activity (as a result of bribery, kickbacks, drug trafficking, etc) and then transferred those funds on a specific date to a specific account in a secrecy jurisdiction is almost impossible to do in a court of law. To make matters more difficult, offshore centres, tax havens, and even developed country banks would not permit any government agency to go on a "fishing expedition" by allowing them to trawl through their accounts in search of illicit funds. Hence, the legal challenges involved in linking illicit funds to specific account holders would be almost impossible to surmount.

There are other equally dubious proposals to get the money back. The first involves a government amnesty for offenders to bring back their money by a certain date failing which a huge penalty and jail term is promised. The second involves a unilateral declaration by the government that all illicit assets held abroad by Indians now belong to the government as of a certain date. It is unlikely that there would be many seeking an amnesty for the return of illicit assets. This is because tax amnesty programmes will do nothing to encourage criminals and others who have transferred illicit funds abroad since those funds are not subject to income taxes anyway. The government's attempts to confiscate illicit funds through a unilateral declaration of ownership will fall flat because as far as owners of illicit capital are concerned, the government declaration does not bring about a material change in their situation. The funds continue to be illicit as before and owners continue to have access to their illicit funds outside the country in full cooperation of secrecy jurisdictions without any knowledge of the Indian authorities. Indeed, if matters were so simple, then such unilateral declarations by

governments would have ensured that there were no illicit funds left in the world.

4 Policy Implications for Curtailing Illicit Financial Flows

It is not just the magnitude of illicit flows that present a challenge for economic development. As we have seen, economic growth can well finance more outflows of illicit capital if growth is not accompanied by the strengthening of institutions, the rule of law, and overall improvements in governance. For instance, we found that while trade liberalisation has led to more trade openness in the post-reform period, a larger trade sector has also provided increasing opportunities to traders to misinvoice trade. The government should therefore consider comprehensive customs reform aimed at improving the collection of applicable duties while speeding up the customs clearance process. Collection and dissemination of relevant data is vital for combating trade mispricing. India should be utilising available international data on banks and collecting additional data on pricing of both imports and exports, in an increasingly interactive and comparative format, and using that data more aggressively to detect patterns of abusive transfer pricing (ATP) by commodity and by exporter and importer. The enhanced information should be made available to customs authorities on-site at ports of entry so that current reference prices are available and real-time decisions can be made about identifying and examining suspect shipments for additional assessment.

Illicit flows not only present a challenge for economic development, but also pose grave national security issues. A June 2010 report by the Paris-based Financial Action Task Force (FATF), of which India is a full member, has recently noted that anti-money laundering (AML)/combating the financing of terrorism (CFT) regime in India is "relatively young" and the country faces many risks emanating from such activities (http://www.oecd.org/dataoecd/60/56/45746143.pdf).[1] According to the FATF, the main sources of money laundering in India result from illegal activities carried on both within and outside the country such as drug trafficking, fraud, counterfeiting of Indian currency, transnational organised crime, human trafficking, and corruption. Recent studies have found that hawala transactions in India are used to launder the proceeds of trade mispricing, or that the two work in conjunction in a self-sustaining cycle.

The FATF report notes that money-laundering techniques in India are diverse, ranging all the way from opening multiple bank accounts to mixing criminal proceeds with assets of a legal origin. For transnational organised crimes, the FATF recognises that such syndicates typically disguise their criminal proceeds through the use of offshore corporations and trade-based money laundering. There are some continuing issues which have hampered the implementation of a stronger AML/CFT regime including the need to resolve the threshold condition for domestic predicate offences. As India continues to be "a significant target for terrorist groups", the authorities would need to strengthen the AML/CFT provisions as a matter of priority.

The systemic collection of beneficial ownership information is equally important. The use of tax havens and secrecy jurisdictions for accumulating or transferring illicit funds prevents detection of tax evasion, abusive transfer pricing, money laundering and other illicit activities. India should require that all incoming and outgoing wire transfers identify the ultimate recipient of the funds, not simply the agent or representative carrying out the transaction. In addition, financial institutions should be required to identify in their records the natural (real) persons who are the beneficial owners of any financial account, or any legal entity that owns a financial account.

India is one of the few developing countries that has the skilled manpower necessary to combat ATP. Customs and other regulatory agencies need to be able to distinguish between trade transactions involving related and unrelated parties. The transactions between related parties cannot necessarily be considered as market transactions because book-keeping practices between related units of a multinational may not reflect market-related prices. When deviations between book values underlying transactions between related parties and transaction prices involving independent parties (i e, market prices) are large, the IMF *Balance of Payments Manual* recommends that book values be replaced by market value equivalents. In determining how far a transfer price deviates from or approximates a market price, the IMF recommends that the transfer between affiliates be evaluated with reference to the relative position of the goods in the chain of production up to the point of actual sale to an independent party – that is the costs embodied up to that stage of production. A transfer price that does not seem to be consistent with the cost of production would probably not be an adequate proxy for a market price. Without going into further details on transfer pricing as they are outside the scope of the present study, it will suffice to note that mechanisms to strengthen customs, tax and other government agencies are needed to identify and reduce fiscal termites like ATP that gnaw away at the country's tax base.

The results of the FATF mutual assessment indicate that in addition to identifying new methods of capturing illicit financial flows, India needs also to do more to enforce existing laws with regard to money laundering to make them more effective. For instance, as of the date of that report there were no convictions on money laundering even though laws against the crime were on the books since at least July 2005 and some provisions have been in existence since October 2001. The sharp increase in illicit flows indicates that tax evasion may be increasing.

Income tax is currently collected from only a fraction of the population, with the wealthiest corporations and individuals often avoiding or evading taxation. The tax base should be broadened, and the exhaustive system of appeals from notices of tax liability should be addressed. Legal presumptions can be adopted to help decrease the burden on government in tax cases. India may wish to consider the American approach of requiring payment of assessed tax liability, to be held by government pending the outcome of the appeals process.

Another area where the government can seek to curtail rent-seeking is in the provision of government services to which citizens are entitled. Improvments in public sector governance can be achieved by reducing the interaction between citizens and government officials to a minimum. The development of web-based

programmes to apply for drivers' licences, connections for utilities, ration cards for food subsidies, or access to school education for children, etc, can greatly reduce opportunities for graft and kickbacks and improve the delivery of basic government services.

5 Conclusions

This study examines the magnitude of illicit financial flows from India, analysing the drivers and dynamics of these flows in the context of far-ranging reform. In the process, it represents perhaps the most comprehensive study on the subject matter, both in terms of the range of issues involved and the time span covered. At its heart is a dynamic simulation model which seeks to capture the interaction of economic, structural, and governance issues that underlie the generation and cross-border transfer of illicit capital.

An important finding in this study is that illicit flows from India are more likely to have been driven by a complex interplay of structural factors and governance issues than they are by poor macroeconomic policies. Hence, in order to curtail such flows policymakers must address these entrenched issues through a combination of tax reform and other redistributive policies to ensure more inclusive growth. They must ensure that customs reform and other regulatory oversight lead to significant improvements in governance necessary to shrink the underground economy. For their part, developed countries must hold banks and offshore financial centres to greater accountability regarding transparency so as not to facilitate the absorption of illicit funds.

Using the World Bank Residual Model adjusted for gross trade mispricing (i e, illicit inflows through export over-invoicing and import under-invoicing are set to zero), we found that a total of $213.2 billion was shifted out of India over 61 years between the first full year of India's independence (1948) and 2008, or about 17.7% of India's GDP at end-2008. If we apply rates of return on these assets based on the short-term US treasury bill rate, we estimate that the total gross transfers of illicit assets by Indian residents amount to $462 billion at the end of 2008. Had India managed to avoid this staggering loss of capital, the country could have paid off its outstanding external debt of $230.6 billion (as of end 2008) and have another half left over for poverty alleviation and economic development. Over this period, illicit flows grew at a compound (nominal) rate of 11.5% per annum while in real terms they grew by 6.4% per annum. There are reasons to believe that the cumulative loss of capital is significantly understated because economic models can neither capture all sources for the generation of illicit funds nor the various means for their transfer.

There are a number of policy implications arising out of this study. We found that the underground economy is an important driver of illicit financial flows. The growth of the underground economy is indicative of the state of overall governance in the country. Generally, one would expect a high correlation between the state of overall governance and the size of the underground economy – countries with strong governance (such as Norway) typically have a small underground economy whereas those with poor governance (such as Nigeria) have a large underground economy. The policy implication is that measures that shrink the underground economy can be expected to curtail illicit flows, while those that expand it would drive such outflows. As tax evasion is a major driver of the underground economy, efforts to expand the tax base and improve tax collection can be expected to curtail illicit flows. But this is not as easy as it sounds. Improving tax compliance requires a sustained and credible effort by the government whereby economic agents are convinced that the tax burden is distributed fairly and that they are getting their money's worth in terms of the services that the government provides. Tax payers then become true stakeholders of the economy and tax evasion loses some of its appeal.

Illicit financial flows cannot be curtailed without the collaborative effort of both developing as well as developed countries. Developing countries need to adopt a whole range of policy measures including sound macroeconomic policies and improved governance through strengthened institutions and implementing the rule of law. At the same time developed country regulators must ensure that banks and offshore financial centres do not undermine the efforts of developing countries. Advanced industrial countries must hold their financial institutions to high standards of corporate governance and greater accountability and transparency regarding the services they provide. Absorbing illicit flows from developing countries without regard to the illegal manner in which the capital was generated and facilitating the transfer of this capital should not be acceptable as a business model to any government or regulatory agency.

NOTE

1 The 2010 FATF mutual evaluation report was based on the laws, regulations, and other materials provided by the Government of India to an FATF evaluation team which visited India from 30 November to 12 December 2009.

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