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Balance of Payments-Consistent Unreported Flows

Edsel L. Beja Jr.

Abstract

The paper develops a balance of payments-consistent procedure for estimating unreported flows. Using data between 1990 and 2007, total unreported flows of ten selected Asian countries is estimated at 80% of their 2007 combined GDP. The paper also examines the empirical relationship between the volume of reported and unreported flows. Unreported flows increase with increase in reported flows and economic growth as well as weaknesses in the governance of reported flows and accumulated unreported flows. In contrast, financial depth and governance of the real sector decrease unreported flows. Altogether, the results indicate that unbalanced financial and real sector development facilitates the exit of large amounts of cross-border flows and domestic resources. The paper argues that the situation can be reversed through a judicious application of capital flow and trade flow management techniques and development and improvement in capacity, including governance, to internalize resources and convert them into desired outcomes.

Edsel L. Beja Jr. is a professor at Ateneo de Manila University, Quezon City 1108, Philippines.

Email for correspondence:
edsel.beja@gmail.com

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Edsel L. Beja, Jr.

I. Introduction

The balance of payments (BOP) records the transactions of an open economy with the rest of the world during a specified period of time. It is supposed to present a comprehensive monetary expression of capital-, trade-, and labour-related flows of an open economy.

A number of studies, however, find that large amounts of cross-border flows remain unreported in the BOP.[1] The problem is that unreported flows impose large costs that undermine economic development.[2] Most studies examine how unreported flows undermine the ability of indebted countries to pay or service their mounting external debts. However, there are some studies that focus on the dynamics behind the leakages such as the 'revolving door' pattern between unreported flows and debts[3] as well as the linkages between unreported flows and foreign investment[4], foreign aid[5], openness[6], or even some measure of risk[7]. This paper seeks to contribute to the literature on unreported flows.

Notwithstanding the richness of the literature, there is no study that applies a BOP-consistent procedure in estimating unreported flows. The failure of these studies to employ BOP-consistent procedures can have the effect of distorting the stated size of total unreported flows. Furthermore, the extant literature takes into account only a fraction of reported flows when examining the dynamics of unreported flows. This paper proposes that the *volume* of reported flows should be used instead. The second section of this paper discusses the methodology, while the third section presents the results. The fourth section concludes the paper.

II. Methodology

2.1. Basic Concepts

A BOP-consistent measure of unreported flows should adhere to BOP accounting principles, the first of which is the use of a double-entry reporting procedure: any inflow entry should have a counterpart outflow entry. The BOP-consistent approach stands in stark contrast to what the extant literature uses in obtaining total unreported flow, which is basically a straight-forward summation of the estimated values.

The second principle requires the placing of appropriate directional notations in the BOP. To be precise, an inflow corresponds to a positive notation while an outflow corresponds to a negative notation. According to the extant literature, capital flight should have a positive notation. But, in the BOP-consistent approach, it should have a negative notation. To illustrate the point, consider the following items: capital flight of $10 and export overinvoicing of $10. The latter has a negative notation by convention. Following the extant literature results in a total unreported flow of zero (i.e., $10 – $10 = 0). With correct directional notations, however, total unreported flow is $20 (i.e., –$10 –$10 = –$20). Disregarding directional notations therefore results in an error in the stated size of total unrecorded flow.

The third principle refers to the use of an equilibrium condition: total inflows should equal total outflows, thus an overall BOP balance of zero. Inaccuracies in data compilation are reflected as errors and omissions (EO). Because the individual components of the BOP are presumably statistically independent of each other, data inaccuracies are random and the size of EO does not say anything about the accuracy of the BOP. As such, EO can play the role of a "balancing" or residual account.

Lastly, the structure of the BOP is defined by its main accounts: current accounts (CA), capital accounts (KA), financial accounts (FA), reserve assets and related items (CRES), and EO.[8] According to economic theory, CA is backed by the financial and capital accounts (FKA) net of CRES. Putting in EO for completeness, the BOP equation is:

$$CA = FKA - CRES - EO. \tag{1a}$$

Re-arranging the above terms, we obtain

$$FKA - CA - CRES - EO = 0, \quad (1b)$$

where,

$$FKA = KA + FA.$$

Consistent with BOP principles, any addition of +X and –Y in Equation 1b should have the counterpart subtractions to keep the BOP zero.

That is,

$$FKA - CA - CRES - EO + X - X - Y + Y = 0. \quad (1c)$$

In the context of unreported flows, the following procedure is introduced: the addition of an unreported flow Z has the counterpart entry –Z in CRES if it is in fact a *de facto* flow but in EO if it is only a *de jure* flow. The *de facto* label indicates real transactions. By construction, CRES includes foreign exchange, monetized gold, special drawing rights, and other related items. Monetary authorities exert effective control over these items. If the contention of the extant literature that an unreported flow is a 'manifestation of the avoidance of social controls' is valid, then placing the counterpart entry in CRES is tantamount to introducing the counterfactual scenario that monetary authorities gained effective control over the funds.[9] So the effect of the counterpart entry is to create a so-called 'supplemental reserves' in CRES. On the other hand, the *de jure* label refers to non-real transactions, covering valuation and data compilation adjustments effects and idiosyncratic measurement outcomes. Placing a counterpart entry in EO is consistent with its function as a residual account.

2.2. Capital and Financial Accounts

One set of calculations deal with the capital and financial accounts. First, calculate net capital flight (NKF) as

$$CDET + NFI + KA - CA - CRES - EO = 0, \quad (2)$$

where CDET is net debt inflows, NFI is net financial investment inflows, and the rest of the items are as defined earlier and comprise net outflows.[10]

Equation 2 reclassifies the financial accounts into two groups: debt-related (i.e., CDET) and investments items (i.e., NFI);

That is,

$$FA = CDET + NFI.$$

This regrouping of the financial accounts rules out double-counting. Except for debt-related items, the other items in Equation 2 are available in the International Monetary Fund's (IMF) *International Financial Statistics*. CDET is obtained from the World Bank's (WB) *Global Development Finance*.[11] A positive balance in Equation 2 means an unreported *de facto* outflow, whereas a negative balance means 'reverse' capital flight.

Putting the negative notation for BOP-consistent reporting, Equation 1b becomes

$$(FA - KF) + KA - CA - (CRES - KF) - EO = 0. \qquad (1d)$$

Notice that –KF is reported in FA because it is a type of 'other investments' and its counterpart entry, +KF, is reported in CRES.[12] To illustrate, suppose capital flight is $15. Other accounts remaining the same, the BOP-consistent entries are:

BOP of Country

WFA, other investments: capital flight	– $15
CRES: supplemental reserves	+ $15
Balance	$0

Recording $15 in CRES indicates that the reported CRES is understated by an amount equal to the supplemental reserves that covers for net capital flight.

There are other adjustments on CDET and NFI. One adjustment is for exchange rates fluctuation effects. Debt and financial investments are undertaken in different currencies but are often reported using a reference

hard currency like the US dollar. Exchange rate fluctuations affect the valuation of CDET and NFI and affect the respective reported flows.

Take CDET, for instance. Exchange rate fluctuations that result in a debt inflow is *de jure* increase in indebtedness because there is only an accounting adjustment. There is no actual flow reported in the BOP. Data on the changes in indebtedness due to exchange rate fluctuations (CDETFX adj.) are available from the WB *Global Development Finance*, but it is possible to calculate them as well, as follows.

First compute:

$$DEBT_{FX\,t-1} = \sum_i \alpha_{i\,t-1} DEBT_{LONG\,t-1} \frac{FX_{i,t}}{FX_{i,t-1}} + \sum_j \beta_{j,t-1} DEBT_{LONG\,t-1} \tag{3}$$

$$+ IMF_{t-1} \frac{SDR_t}{SDR_{t-1}} + DEBT_{SHORT\,t-1},$$

where, DEBTFX t-1 is outstanding debt adjusted for exchange rate fluctuation, DEBTLONG is long-term debt; αi is the proportion of DEBTLONG in major hard currencies like the European euro, British pound, French franc, German mark, Japanese yen and Swiss franc; βi is the share of DEBTLONG in US dollar and in multiple or in other currencies; FX is the exchange rate between a hard currency to the US dollar; IMF is the use of IMF credits; SDR is the exchange rate between special drawing rights and US dollar; and DEBTSHORT is short-term debts.[13]

All things remaining the same, an appreciation in a hard currency decreases $\frac{FX_{i,t}}{FX_{i,t-1}}$ and DEBTFX t-1. It follows that[14]

$$\text{CDETFX adj.} = \Delta\text{DEBTFX t-1} - \Delta\text{DEBT}, \tag{4}$$

where Δ means change and DEBT is outstanding debt unadjusted for exchange rate fluctuation.

Proceeding from Equation 1b,

$$FA + (KA + \text{CDETFX adj.}) - CA - CRES - (EO + \text{CDETFX adj.}) = 0. \tag{1e}$$

The other *de jure* flows are debt reductions or forgiveness, debt rescheduling, changes in debt arrears, and a so-called 'debt stock-flow reconciliation'. The first three items are easy to grasp, but the last one is basically a catch-all item for data inconsistencies and/or idiosyncratic borrowing patterns that cannot be explained or reconciled using identified debt accounts. These *de jure* flows are likewise available from the WB *Global Development Finance*. In these cases, however, the amounts are entered in KA because they are neither investments- nor portfolio-type flows. To illustrate the BOP-consistent entries, suppose there is an increase in debt due to exchange rate fluctuation of $10, debt forgiveness of $5, and debt stock-flow reconciliation for other unaccounted inflow of $15. Other accounts remaining the same, the BOP appears as follows:

BOP of Country

KA: inflow of debt	+ $10
KA: debt forgiveness	– $5
KA: debt stock-flow reconciliation	+ $15
EO:	– $20
Balance	$0

As a result of these unreported flows, the reported EO is overstated by net total amount of all *de jure* adjustments.

The procedures for adjusting NFI—comprising foreign direct investments (FDI) and portfolio equities (PORT)—are essentially the same as the ones described for CDET. Thus, the impact of foreign exchange fluctuations on the US dollar valuation of foreign direct investments (FDIFX adj.) and portfolio equities (PORTFX adj.) are obtained: FDI FX t-1 – FDI and PORT FX t-1 – PORT. Then these amounts are reported as *de jure* flows. As with trade misinvoicing (see below), the discrepancies in the reported FDI and PORT between the source and receiving countries are obtained. Underreported or overreported flows are both *de facto* flows. The BOP-consistent entries are straightforward to implement.

2.3. Current Accounts

The other set of calculations deal with the current accounts. Trade misreporting produces unreported flows. Export over-reporting (under-reporting) results in unreported *de facto* outflow (inflow) of funds,

whereas import over-reporting (under-reporting) brings about unreported *de facto* inflow (outflow) of funds. Their counterpart entries are reported in CRES as required.

The procedure outlined below calculates trade misreporting by trade flows analysis that utilizes aggregate data from the IMF *Direction of Trade Statistics*.[15] Commodity-level trade data from the United Nations *Commodity Trade Statistics* can be used as well. Since import data are reported in the IMF *International Financial Statistics* as 'free-on-board' while those from the IMF *Direction of Trade Statistics* include 'cost, insurance and freight' (CIF), it is necessary to first transform the data as 'free-on-board' before proceeding to calculate trade misreporting. The values thus calculated are 'pure' misreported trade flows.

To compute export misreporting (XMIS), the reported imports of trade-partners (MPARTNER) from own-country are compared with reported exports of own-country (XOWN) to trade-partners:

$$\text{XMIS} = \text{MPARTNER} - \text{XOWN}. \tag{5a}$$

Positive XMIS means export under-reporting and negative XMIS means export over-reporting. To compute import misreporting (MMIS), the reported import of own-country (MOWN) from trade-partners is compared with the reported export of trade partners (XPARTNER) to own-country:

$$\text{MMIS} = \text{MOWN} - \text{XPARTNER}. \tag{5b}$$

Positive MMIS means import over-reporting and negative MMIS means import under-reporting.

For aggregate exports (XMIS TOTAL) and imports misreporting (MMIS TOTAL), first, get the reciprocal of key trade-partners' shares to own-country's exports (XPARTNER SHARE) and imports (MPARTNER SHARE) then multiply them with Equations 5a and 5b, respectively:

$$\text{XMIS}_{\text{TOTAL}} = \frac{\text{XMIS}}{\text{XPARTNERSHARE}} \tag{6a}$$

$$\text{MMIS}_{\text{TOTAL}} = \frac{\text{MMIS}}{\text{MPARTNERSHARE}} \tag{6b}$$

The sum of Equations 6a and 6b is called net trade misreporting. Next, XMIS TOTAL and MMIS TOTAL are entered as corrections to the reported exports and imports, respectively, in the trade accounts of CA. Their counterpart entries are reported in CRES. Proceeding from Equation 1b, thus

$$FA + KA - (CA - XMIS\ TOTAL - MMIS\ TOTAL) - (CRES + XMIS\ TOTAL + MMIS\ TOTAL) - EO = 0. \quad (1f)$$

To illustrate the adjustments, suppose Country A over-reports its exports to Country B by $10. For simplicity, suppose Country B does not misreport trade. Suppose further that the true value of exports to Country B is $40. There is a presumption that actual trade flows are being reported by countries, and so the initial BOPs are:

BOP of Country A		BOP of Country B	
CA, exports	+$50	CA, imports	–$40
FA, other investments	–$50	FA, other investments	+$40
Balance	$0	Balance	$0

Trade flow analysis reveals the extent of export misreporting. Other accounts remaining the same, the BOP-consistent adjustments for Country A are:

BOP of Country-A	
CA, trade: exports over-reporting	–$10
CRES: supplemental reserves	+$10
Balance	$0

The recording of $10 in CRES indicates that the reported CRES is understated by an amount equal to the supplemental reserves of $10 that covers for exports over-reporting. Both countries have mirror balances in their trade accounts after adjustment, but their financial accounts show different balances precisely because of the unreported *de facto* outflow of $10.

The shipment of merchandise is another possible avenue for unreported *de facto* flow. For simplicity, the estimation of shipping cost misinvoicing (SHIPMIS) is done using an index of shipment cost misinvoicing (MIS Index).[16]

$$SHIPMIS = TRADENET * MIS\ Index, \quad (7)$$

where TRADENET = XOWN – MOWN. Positive SHIPMIS means *net* overcharging in exports shipment, whereas negative means *net* overcharging in imports shipment. SHIPMIS is reported in the services accounts of CA. Suppose export shipping misinvoicing is $1, the modified BOP of Country A is:

BOP of Country A

CA, Export: exports over-reporting	– $10
CA, Services: shipment overcharging	+ $1
CRES: supplemental reserves	+ $9
Balance	$0

The final adjustment in the current accounts involves unreported remittance (UNR), which is an important unreported *de facto* flow if informal remittance is a significant practice for remitting funds. Estimating UNR is done using an index of remittance misreporting (UNR Index).[17]

$$UNR = REMNET * UNR\ Index, \quad (8)$$

where REMNET is remittances inflow minus outflow.

Proceeding from Equation 1b,

$$FA + KA - (CA + UNR) - (CRES - UNR) - EO = 0. \quad (1g)$$

To illustrate, suppose there is an unreported remittance of +$4. Other accounts remaining the same, the BOP corrections are:

BOP of Country

CA, Income: unreported remittance	+ $4
CRES: supplemental reserves	– $4
Balance	$0

With the reporting of unreported *de facto* inflow, the reported CRES is overstated by the amount of supplemental reserves.

2.4. Other Calculations[18]

If unreported flows are reported correctly with their counterpart adjustments, the overall balance of the BOP is zero.[19] More specifically, the sum of *de facto* and *de jure* flows equals the sum of supplemental reserves and errors and omissions adjustments. Thus, by necessity, net unreported flow is zero. In the extant literature, net unreported flows may not be zero as explained in section 2.1 earlier. It also necessarily follows that the relevant measure for BOP-consistent analysis is the *volume* of unreported flows (UNREP), defined as:

$$\text{UNREP} = \sum_{i}^{\text{abs}} (\text{unreported flowi}), \tag{9}$$

where i represents all unreported flows derived using the procedures described earlier.

To make UNREP comparable across periods, the real value is obtained using the US consumer price index (CPI) as deflator:

$$\text{UNREPREAL} = \frac{\text{UNREP}}{\text{CPI}_{\text{BASE}}} \tag{10}$$

In addition, the share of unreported flows (UNREPSHARE) gives the relative burden of unreported flows for cross-country comparison:

$$\text{UNREPSHARE} = \frac{\text{UNREP}_{\text{REAL}}}{\text{GDP}_{\text{REAL}}} * 100, \tag{11}$$

where GDPREAL is real gross domestic product of own-country deflated using CPI.

2.5. Econometrics

Well-managed cross-border capital, trade and labour flows produce positive outcomes like economic expansion along with rising household incomes and welfare.[20] The converse is also true: ill-managed flows result in negative outcomes like interruptions or deteriorations in economic performance that bring about social disruptions and household misery. The contention in this paper is that cross-border flows management is linked to the capacity (ABSORB) of an economy to not only take in but also transform resources into desirable outcomes.

For any given level of ABSORB, increasing reported flows (REP) generates unreported flows (UNREP). The reasoning behind the argument is simple: if capacity is fixed, an economy is unable to properly use all additional resources from cross-border flows and the unused funds spill out as unreported flows. The corollary to this hypothesis is the following: given REP, ABSORB is negatively correlated with UNREP. It is also hypothesized that UNREP is positively correlated with the accumulation of unreported flows (UNREPSTOCK). Simply put, UNREP generates a self-replicating process that drives further leakages. These three propositions constitute the following model:

$$UNREP = \alpha\ REP + \beta\ UNREPSTOCK + \gamma j\ ABSORBj + \delta i\ Xi + u + \varepsilon \qquad (12)$$

where X is a vector of risk-related indicators, u represents fixed effects and ε is a residual term. REP, UNREPSTOCK and ABSORB comprise the core indicators of the model. Define

$$REPREAL = \frac{\sum_i abs(\text{reported flow}_i)}{CPI_{BASE}} \qquad (13)$$

where i covers all BOP-reported inflows and outflows.

Like Equation 10, Equation 13 disregards the directional notations to obtain *volume* of flows. Also define

$$UNREPSTOCK = UNREPSTOCK\text{-}1 + UNREPREAL + \Delta UNREPREAL \qquad (14)$$

where Δ means change. The last term is a correction process that takes the following values:

$$\Delta UNREPREAL = \begin{matrix} 0 & \text{if } \Delta UNREP_{REAL} > 0 \\ \Delta UNREP_{REAL} & \text{if } \Delta UNREP_{REAL} < 0 \end{matrix} \qquad (15)$$

Equation 15 takes a value of zero to avoid double-counting, and so only negative values perform the correction task. UNREP becomes smaller as reported flows are progressively managed, resulting in a smaller UNREPSTOCK in the end.

ABSORB is operationalized as financial sector depth and real sector depth. The former implies greater funds intermediation and the latter, greater production possibilities. The proxies for financial sector depth are money supply (MONEY) and quantity of domestic credit (CREDIT). MONEY is quasi-money, which

is considered as a broad measure for financial intermediation. CREDIT is total credit provided by the monetary authorities and banking institutions to different sectors in the economy including government; it is the best measure for funds intermediation.

The proxies for real sector depth are size of manufacturing sector (MANUF) and gross capital formation (KFORM). MANUF is output value added of (major) manufacturing industries, and so it is a limited measure of productive possibilities. KFORM is the level of private domestic investments corresponding to additions in fixed assets and inventories; it is the best measure for productive possibilities.

Financial sector depth benefits the real sector as funds intermediation gives rise to the effective use of resources, whether sourced internally or externally. That segment in the real sector that exhibits increasing returns gains more from such development. Of course, as the real sector expands with more investments, there is more demand for funds intermediation. In short, there are complementarities between the financial and real sectors. The pairings of the ABSORB indicators provide alternative specifications of Equation 12 and tests for robustness.

As mentioned earlier, UNREP is a manifestation of the avoidance of social controls. Such avoidance is presumably the response to perceived risks. The contention is that a negative risk increases UNREP.[21] Risk is operationalized as economic growth rate (GROW), government spending (GOVT) and quality of governance (GOVN).[22]

GROW is normally a positive risk because it means more opportunities and capacity to absorb flows. It is, however, possible that a deluge of external funds following rapid economic expansion can overwhelm an economy. GROW can therefore become a negative risk. To bypass simultaneity problems between GROW and ABSORB, GOVT, as well as GOVN, lagged GROW is used in the model.

GOVT represents government participation in the domestic economy in general, which, in the developmental tradition, represents a positive risk.[23] Indeed, there are plenty of cases where funds intermediation and domestic industrialization were facilitated by some form of government intervention. Large GOVN indicates more developed bureaucracies and public administration that enhance effectiveness of government interventions. On the other hand, wasteful and duplicating activities eventually strain government finances inviting structural adjustments. Inconsistencies and confusing policies, weaknesses in regulation, malfeasance

and corruption, and intrusion of political interests undermine the efficacy of government participation in the economy and become the reason for the removal of government from participating in the economy. Where capacity is limited, government involvement in the economy generates leakages. GOVT can thus also exist as a negative risk.

GOVN stands for the quality of institutionalized authority or the nature of government. It is measured using a composite index encompassing the civil and political liberties available in a society, and the effectiveness of government as it manages the affairs of the state and steers the country towards an objective. There is accountability and security where democracy is real. If property rights are well defined and protected and there is relatively open access to opportunities, people feel safe against undue processes and summary actions of government and are more willing to engage in productive economic activities. People are able to better participate in and contribute to social and economic processes under positive governance. Conversely, democracy without the support institutions that ensure democratic processes generates anxiety and disappointment. Predation and state capture by a minority introduce institutional decay. Unpredictability, insecurity and unevenness prompt the avoidance of social controls. Accordingly, GOVN can be a positive or negative risk.

The interaction terms are also relevant risk indicators. The positive governance of flows promotes efficiency and expansion that enhances absorption of resources and lessens leakages. Conversely, weak or weakening governance of flows results in leakages. Moreover, the positive governance of the financial sector disciplines casino-like activities, encourages long-term investments and promotes real sector deepening. But the result of the interaction term of governance and financial sector depth only reveals the extent to which governance affects the domestic financial sector. Positive governance of the real sector leads to coordination of activities that promotes balanced expansion and deepening. There is coherence of policies as demonstrated by context-based interventions and systematic approach to reforms. Yet again, weak governance guarantees the transformation of the real sector not only as a source of loot but also as conduit for leakages. Lastly, the spending of democratic governments is generally considered transparent and responsible but that of undemocratic governments is seen as dubious and indulgent. The former generates confidence and the latter, anxiety. Therefore, the coefficients of the interaction terms depend on whether they reflect positive or negative risks.

GOVN data are taken from the *Polity IV* database. The rest of the indicators are from the WB *World Development Indicators*. Except for GOVN and GROW, data are transformed as shares of GDP to minimize estimation biases caused by own-country size effects.[24] Estimation is done using pooled regression following a general-to-specific regression strategy wherein non-core indicators that come out as statistically insignificant are removed, and then the more parsimonious model is estimated until the best results are obtained.

III. Results

Table 1 summarizes the unreported flows (UNREP) of ten Asian countries for the period 1990 to 2007 and Table 2 presents descriptive statistics. There is increasing UNREP in both levels and shares, except in India, Pakistan, Sri Lanka and Thailand. Among the four, the reduction in Sri Lanka's share is not significant, but for those of the other three countries since the reduction do not vary much between decades, even small changes become significant relative to the overall trend.

At first glance of the numbers, there appears to be sub-groupings with regards to UNREP. For instance, while shares of East Asian countries are generally larger than 10% of GDP (except for Thailand), those for South Asian countries fall below 10% (except for Nepal). This difference is perhaps caused by the volume of reported flows, with East Asia receiving far more than South Asia because of rapid economic growth and larger market size.

Upon closer inspection, the seeming associations between shares and characteristics of countries disappear. Consider the following observations. For China, the largest economy in the group with regards to total output, UNREP is 14% of GDP; yet for Nepal, the smallest economy in the group, UNREP is 11% of GDP. China is also the fastest growing economy; but the Philippines, the economic laggard in the group, reports UNREP of about 23% of GDP. What is more, UNREP of the largest countries in terms of population differs. Compare China with India; the latter has the smallest UNREP of 5% of GDP. For less populated countries like Malaysia, Nepal and Sri Lanka, shares exceed 10% of GDP. Moreover, in Malaysia, which is the most progressive country in the group with respect to the Human Development Index (HDI), UNREP exceeds 20% of GDP. In contrast, the low HDI countries of Nepal and Bangladesh have an average 9% of GDP. Clearly, regression analysis must distil the determinants of UNREP given these differing qualities.

Total UNREP of the group for the whole period reached $4.7 trillion, or more than 80% of their 2007 GDP.

Table 1: Total Undocumented Flows and Stock as Share to GDP (Constant million dollars)

	1990-2007	Period	1990s	Period	2000s	Period	χ^2 (2,0.01)
	level	share	level	share	level	share	Δ ave. share
Bangladesh	58,075	6.8	23,927	5.6	34,148	8.5	
China	2,770,314	13.7	1,133,454	14.9	1,636,860	11.7	
India	456,213	4.8	198,058	5.0	258,155	4.9	Yes
Indonesia	489,184	12.7	178,115	10.6	311,069	15.9	
Malaysia	378,163	20.1	140,714	16.2	237,449	26.0	
Nepal	11,872	11.1	4,748	9.5	7,124	14.2	
Pakistan	86,139	6.7	40,970	6.7	45,169	6.5	Yes
Philippines	330,225	22.9	120,919	16.1	209,306	30.8	
Sri Lanka	29,548	10.4	15,876	11.7	13,673	8.6	No
Thailand	178,359	6.5	110,019	7.4	68,340	5.9	Yes
Total	4,788,093	82.3	1,966,801		2,821,292		
Stock at end period	4,558,070	78.4	1,817,843		2,740,227		

Note: Stock in the 1990s and 2000s refer to the decade stock only. χ^2 tests the hypothesis that the reduction in share is significant.

Source: Calculations of the author.

Table 2: Summary Statistics of Unreported Flows

	Mean	Maximum	Minimum	>Mean	Median	Skewness	Kurtosis
Bangladesh	3,165	5,089	1,650	10	3,182	0.2	-1.3
China	154,443	270,185	43,919	10	157,191	0.1	0.3
India	24,408	52,071	4,293	10	25,026	0.4	0.2
Indonesia	27,008	57,380	10,432	5	19,647	0.9	-0.9
Malaysia	20,510	45,022	6,914	8	19,623	0.4	0.3
Nepal	643	1,234	51	9	,620	0.0	-1.5
Pakistan	4,837	9,606	2,244	9	4,522	0.6	-0.8
Philippines	18,492	35,462	4,638	9	19,042	0.1	-0.9
Sri Lanka	1,653	2,403	838	8	1,551	-0.2	-0.9
Thailand	9,564	28,605	5,038	6	7,517	2.6	7.8

Source: Calculations of the author.

Correcting for unreported flows changes the balance of payments (BOP) in remarkable ways. Take the 1990 BOP of the Philippines as illustration (Table 3).

The reported current accounts of the Philippines in 1990 indicate a deficit of $2.6 billion. Trade flow analysis uncovered under-reporting in exports and imports of $691 million and $1.8 billion, respectively. Other current accounts items need adjustments for shipping misinvoicing of $122 million and unreported remittances of $48 million. With the corrections, the current accounts report a larger deficit of $3.8 billion. In the financial accounts, the reported figure is a surplus of about $2 billion. 'Reverse' capital flight in 1990 of $62 million raised the surplus to $2.1 billion. Notice that unreported *de facto* flows reported in the current and financial accounts equal the supplemental reserves of $1.1 billion under reserves and related assets.

Meanwhile, reported capital accounts of the Philippines indicate a zero amount. The debt stock-flow reconciliation and other *de jure* flows raised the capital accounts surplus to $805 million. That amount is subtracted from the reported error and omissions of $594 million, resulting in a revised figure of $212 million.

The last row of Table 3 gives total unreported flows for the year. Basically, the steps are the same for succeeding years. For comparison, the 2000 BOP of the Philippines is appended to the 1990 records. (Appendix 1 contains the revised BOP of each of the ten countries).

Table 3: Balance of Payments of the Philippines, 1990 and 2000 (Current million dollars)

	1990		2000	
	Reported	Revised	Reported	Revised
CURRENT ACCOUNT	-2,695	**-3,881**	-2,225	**-12,940**
Goods Exports: F.O.B.	8,186	**8,877**	37,347	**42,732**
Goods Imports: F.O.B.	-12,206	**-14,009**	-43,318	**-59,816**
Services	1,483	**1,361**	-1,870	**-1,980**
Income	-872	**-824**	-27	**481**
Current Transfers	714	**714**	5,643	**5,643**
CAPITAL ACCOUNT	0	**805**	138	**-2,430**
FINANCIAL ACCOUNT	2,057	**2,119**	3,234	**-246**
Direct Investment Abroad	0	0	-125	-125
Direct Investment in Economy	530	530	2,240	2,240
Portfolio Equity, Debt Securities & Derivatives: Assets	0	0	-646	-646
Portfolio Equity, Debt Securities & Derivatives: Liabilities	-50	-50	137	137
Other Investment: Assets	0	**62**	2,454	**-1,026**
Other Investment: Liabilities	1,577	1,577	-826	-826
ERRORS AND OMISSIONS	593	**-212**	-1,624	**944**
OVERALL BALANCE	-45	**-1,169**	-477	**-14,672**
RESERVE ASSETS & RELATED ITEMS	45	**1,169**	477	**14,672**
Reserve Assets	388	388	69	69
Use of Fund Credit and Loans	-343	-343	303	303
Exceptional Financing	0	0	105	105
Supplemental Reserves		**1,124**		**14,195**
UNREPORTED FLOWS				
Volume of Unreported Flows	3,530		28,549	
Export Misinvoicing	691		5,385	
Import Misinvoicing	-1,803		-16,498	
Shipment Misinvoicing	-122		-110	
Unreported Remittance	48		508	
Financial Flight	62		-3,480	
Debt Stock-Flow Reconciliation & *de jure* Flows	805		-2,568	

Notes: Current accounts items of services, income and current transfer as well as financial accounts of portfolio and derivatives accounts are compressed to save space. The bold texts indicate the corrected figures. Direct investments and portfolio accounts as well as reserve assets and related items are unadjusted because data for them are unavailable for adjustment.

Source: IMF *International Financial Statistics* and calculations of the author.

Table 4 summarizes the results of various model specifications. Government spending is a statistically insignificant negative risk and the interaction between governance and government spending is a statistically

insignificant positive risk. Perhaps, unreported flows from government spending occur in a roundabout manner as transactions are facilitated by soft budget constraints, which trouble the ten countries in this study. The findings lend credence to the contention that better application of government spending means less resources ending up as leakage. Clearly, there is a need for government to play a positive role because it needs to get rid of development obstacles and also provide an environment that enlarges absorptive capabilities.

The initial runs reveal that governance does not significantly contribute to unreported flows. At first glance, this finding suggests that the results are applicable regardless of the type of government operating in each country. Alternatively, the findings suggest that providing political freedom alone is not enough to bring about progress in general and reductions in unreported flows in particular. Upon closer inspection, this finding is not surprising at all. At one level, the civic and political liberties of the countries have remained stable or exhibited little improvement within the period under study. At another level, the GOVN is an average measure and as a catch-all index it is possible that the statistically insignificant results are the consequences of data that are rather amalgamated and thus cannot display the nuances of governance.

Table 4: Regression Results for Ten Asian Economies

Dependent variable: Unreported flows	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Volume of reported flows	0.113***	0.119***	0.106**	0.122**	0.080**	0.084*	0.092**	0.104**
Stock of unreported flows	0.130***	0.135***	0.125***	0.130***	0.129***	0.136***	0.124***	0.130***
Financial depth: Money supply	-0.077***	-0.095***			-0.059***	-0.081***		
Financial depth: Domestic credit			-0.057**	-0.072***			-0.044***	-0.066***
Real sector depth: Share of manufacture	0.062		0.084		0.092		0.083	
Real sector depth: Capital formation		0.227***		0.229***		0.238***		0.227***
Size of government	0.335*	0.257^{W}	0.166	0.111				
Growth rate lagged	0.337***	0.196*	0.349***	0.210**	0.361***	0.207*	0.357***	0.214**
Governance: Polity-2 index	0.278	0.351	0.107	0.182				
Polity-2 index • Total reported flows	0.015***	0.012*	0.020***	0.017**	0.022***	0.018***	0.023***	0.020***
Polity-2 index • Money supply	0.003^{W}	0.004**				0.002**		
Polity-2 index • Domestic credit		0.002	0.003				0.002*	
Polity-2 index • Share of manufacture	-0.016^{W}		-0.017^{W}		-0.015***		-0.014***	
Polity-2 index • Capital formation		-0.019***		-0.018***		-0.016***		-0.015***
Polity-2 index • Size of government	-0.039	-0.026	-0.016	-0.007				
Adjusted-R^2	0.690	0.702	0.679	0.690	0.692	0.703	0.685	0.694

Notes: Results have Newey-West HAC standard errors and covariance. Fixed effects are not reported in the table. Highly significant (0.01) = ***; very significant (0.05) = **; significant (0.10) = *; weakly significant (0.20) = w. Models 5 and 7 are further reduced specifications. The Durbin-Wu-Hausman test indicates that pooled regression results are consistent.

Removing statistically insignificant non-core indicators reveals significant relationships that explain unreported flows. Models 5 to 8 indicate that, on average, 0.09 units of unreported flows stem from each unit of reported flow. Additional unreported flows come from the swelling of unreported flows (i.e., UNREPSTOCK), averaging about 0.13 units. The interaction term between governance and reported flows indicates a weakness in managing flows that adds 0.02 units to unreported flows. Perhaps, this condition stems from the way some of the ten countries have embarked on financial liberalization with

limited compensatory measures to handle the surge in flows following the opening of the economy. Strong economic growth increases unreported flows because it not only brings in external funds but also expands domestic resources, and yet these are not well absorbed by the economy. The interaction of governance and financial sector depth is notable, albeit the size of the coefficient is quite small. Perhaps, this finding is consistent with the assertion that monetary authorities of the ten countries enjoy some autonomy in their governance of the financial sector.

The results on financial sector depth and real sector depth reveal severe limitations on the capacities to take in available resources. In general, the results imply an unbalanced development pattern in the domestic economy. Although funds intermediation reduces unreported flows, shallow industrialization results in leakages. The financial sector is thus not a likely conduit for unreported flows. The net effect of these opposing processes is 0.16 units of unreported flow for each unit of uneven development.

The quality of governance has to improve if the financial sector is to expand its role in the economy. The success of the financial sector rests, in part, on the success of the real sector. The success of the real sector, in turn, is contingent on the quality of governance in economic coordination and planning. This notion is reinforced by the statistically significant negative interaction term between governance and real sector indicators, of about 0.02 units. Altogether, around 0.39 units for each unit of funds coming from cross-border flows and domestic resources become unreported flows; or, more specifically, 0.22 units from cross-border flows and 0.17 units from domestic resources.

The implications of these results are valuable for the management of an economy because imbalances in governance and development can lead to a systemic exploitation of the weaker system. Reforms are therefore necessary to change the existing configuration.

The results reiterate the need for increased regulation.[25] In the context of cross-border flows, an important step is the application of capital flow management techniques, which are tools for directing flows to activities that bring forth the most desirable outcomes. These tools help establish a policy space for designing programmes that are appropriate to the domestic circumstances, and makes balanced development feasible. Issues like unsound fiscal deficits, high inflation rates and other macroeconomic concerns are important

issues that need to be addressed by the government. Dealing with such issues becomes easier when the government has effective control on the direction of policies.

Trade flow management techniques complement capital management techniques. Trade coordination is important to avert financial sector destabilization and real sector disintegration that often come with uneven economic openness. Unfortunately, trade policy is oriented at capturing the export markets of industrial economies at the expense of the domestic economies. There is therefore a need to upgrade domestic capacity to raise productivity and exploit the complementarities that would arise from economic openness and industrialization.

In the context of the domestic economy, the important role of capacity needs to be underscored. Resources are wasted if capacity remains weak. Resources are also wasted if the timing and sequencing of regulations are inappropriate. Likewise, resources are wasted if the government is captured by rent-seeking and other unproductive profit-seeking activities and there is institutional decay. Capacity creates synergy that supports critical economic processes. As the economy matures, resources are internalized more effectively and confidence in the economy is raised, setting off a cumulative process of accumulation, expansion and advancement that then translates into progress and development. It can be argued further that the lynchpin of this process is a government that systematically pulls off interventions and ultimately succeeds in achieving desirable outcomes.

IV. Conclusion

A BOP-consistent procedure for estimating unreported flows was applied to ten Asian countries. Estimation results reveal that large amounts remain unreported in the BOP, reaching US$4.7 trillion for the period 1990 to 2007. Regression analysis finds that unreported flows increase with reported and accumulated unreported flows. Financial depth and governance of the real sector decrease unreported flows, whereas economic growth and some weaknesses in the governance of reported flows increase unreported flows. There is also an unambiguous finding that unbalanced financial and real sector development mediates the leakage of funds. Results indicate that about 0.22 units of unreported flows come from cross-border flows

and another 0.17 units from domestic resources. Large amounts of funds are lost in the end. Still, regression results suggest that there are opportunities for improvement.

The *sine qua non* of an open economy is cross-border flows of resources. Well-managed flows produce desirable outcomes like economic expansion along with rising individual incomes and welfare. If flows are not well managed, perverse outcomes eventually occur—such as interruptions and/or deteriorations in economic performance that cause social disruptions and household misery. The findings in this paper support the proposition that government should apply capital flow and trade flow management techniques along with better governance in administering the domestic economy in order to reduce unreported flows. Developed or improved capacity enables a country to not only internalize funds more effectively but also convert them more fruitfully into outcomes that lead to progress and development.

Notes

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1 See Erbe (1985), World Bank (1985), Cuddington (1986), Dooley (1986) and Morgan Guaranty (1986) on financial flight. See Bhagwati (1974), (Gulati (1987), Pak et al. (2003) and de Boyrie et al. (2005) on trade misinvoicing. See World Bank (2006) on unreported remittances. Also, see Lessard and Williamson (1987), Boyce and Ndikumana (2001), Collier et al. (2001) and Epstein (2005) for integrative approaches.

2 See Pastor (1990), Lopez (1996), Vos and Yap (1996) and Beja (2009).

3 See Boyce (1992) and Ndikumana and Boyce (2003).

4 See Kant (1996).

5 See Collier et al. (2003).

6 See Lensink et al. (1998), Aizenman (2006) and Bhattacharya (1999).

7 See Dooley (1988), Alesina and Tabellini (1989), Hermes and Lensink (2001) and Lensink et al. (2000).

8 See *Balance of Payments Manual* (5th Edition) for details of the accounts.

9 Cumby and Levich (1987), Deppler and Williamson (1987), Gordon and Levine (1989), Boyce (1993), Collier et al. (2001), Kant (2002) and Beja (2006) on the meaning of 'capital flight' in general and on the 'avoidance of social controls' in particular.

10 To be more exact, the expression is called 'indirect measure' of capital flight (see Dooley, 1986 for the so-called 'derived method' version, and Erbe, 1985, World Bank, 1985, and Morgan Guaranty, 1986 for the so-called 'residual method' version). The alternative approach is called 'direct measure' of capital flight (see Cuddington, 1986).

11 Eggerstedt et al. (1993), Chang et al. (1997) and Beja (2006) for a discussion on data sources.

12 See Vos (1992) on capital flight as a type of 'other investment' flow.

[13] Boyce and Ndikumana (2001) are the first to apply the procedure. The WB *Global Development Finance* provides two types of CDET: net flows on debt (CDETFLOW) and total change in debt stock (CDEBTSTOCK). CDETFLOW is actual disbursement of debts. CDEBTSTOCK is the change in total outstanding indebtedness. The WB *Global Development Finance* specifies:

CDEBTSTOCK = CDETFLOW + debt reductions or forgiveness + debt rescheduled + changes in debt arrears + exchange rate valuation effects + debt stock-flow reconciliation.

[14] The BOP 5th Edition excludes changes in CRES caused by fluctuations in exchange rates, changes in the price of assets, monetization or demonetization of gold, changes due to the allocation or cancellation of SDR, and changes due to the reclassification of assets. These are all *de jure* flows. Data are not available for these adjustments.

[15] The alternative to trade-flows analysis is unit-price analysis (see Pak et al., 2003 and de Boyrie et al., 2005). The data requirement for such an approach is higher than bilateral trade flow analysis.

[16] Proxy for MIS Index is GDP growth rate. The result is a conservative estimate of shipping misinvoicing. An alternative is to use the CIF in the calculation. The extant literature uses 1.1 as a standard value of CIF, but the best approach is to use the actual CIF values of individual countries.

[17] Proxy for UNR Index is $\frac{\text{REMIT}}{\text{GDP}}$, (see Beja, 2006).

[18] The procedures discussed in the earlier sections do not capture other types of unreported flows like smuggling, mispricing of services, money laundering, and other illegal transactions that are difficult to measure because relevant information for estimation is either not available or sparse.

[19] The discussion in the earlier sections disregards what happens to a *de facto* flow. Following equilibrium principle, a *de facto* outflow from, say, Country-A should end up somewhere. It is possible that a *de facto* outflow is declared as other investments inflow in Country-A and the BOP still balances. Or perhaps the *de facto* outflow ends up in another location, say, Country-C. The BOP entries in the third country might be: other investments inflow of +$X with the corresponding imports of –$X or own-country other investments abroad of –$X or accumulation of reserves of –$X, or a combination of such transactions provided that the total is –$X. Other accounts the same, the flows are fully accounted and the BOP of Country-C is zero. The same logic applies for a *de facto* inflow to Country-A. Notice how an unreported *de facto* flow becomes a legitimate flow thereby making something illegal into something legal.

[20] There is a rich literature on this issue. See, for example, King and Levine (1993) and Prasad et al. (2007) for capital flows, and Frankel and Romer (1999) for trade flows. Kaminsky and Reinhart (1999), and Rodriguez and Rodrik (2001) present critiques.

[21] This conception is inspired by Berlin (1958) and Sen (1999). Positive risk implies positive freedom, thus capability and space to work towards something desirable. Positive freedom also implies an involvement in the governance towards some desired end. Negative risk implies negative freedom, which means restraints.

[22] Arguably, the role of price (as risk indicator) is irrelevant in using the volumes of flows. The implication is that flows are more regulation issues than market allocation issues.

[23] There is an extensive literature on the role of an activist government in development. The key references are Johnson (1982), Amsden (1989), Haggard (1990), Wade (1990), Weiss and Hobson (1995) and Chang (2002).

[24] GOVN is in a scale from -10 (dictatorship) to 10 (democratic).

[25] The distinction between 'regulation' and 'control' should be stressed so that there is no misreading of the policy implications. Regulation is basically bringing agents to operate within defined rules. Control means suppressing agency by imposing an authority's judgment over that of agents'.

APPENDIX

Table A.1 Revised Balance of Payments of Bangladesh (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-833.5	-823.9	215.5	308.1	675.8
Capital Accounts	780.4	0.0	-971.0	-1,320.4	1,547.9
Financial Accounts	642.0	178.8	-5.5	63.7	1,049.3
Errors and Omissions	-856.1	133.3	1,502.0	938.2	-1,712.1
Overall Balance	-267.2	-511.7	741.0	-10.4	1,561.0
Reserve Assets and Related Items	267.2	511.7	-741.0	10.4	-1,561.0
UNREPORTED FLOWS					
Volume of Unreported Flows	1,531.5	1,905.3	3,843.9	5,925.3	5,272.4
Net *de facto* Flows: Supplemental reserves	*491.4*	*154.3*	*-771.8*	*-405.7*	*-188.2*
Export misreporting	109.7	582.2	1,365.3	2,065.7	1,315.3
Import misreporting	-471.2	-848.9	-827.9	-1,699.6	-1,856.2
Shipping cost misinvoicing	-94.3	38.1	-98.3	-190.5	-269.6
Unreported remittance	20.1	188.8	82.2	308.7	629.4
Capital flight	-55.8	132.8	250.5	-78.6	369.3
Net *de jure* Flows: EO adjustment	*-780.4*	*114.5*	*1,219.7*	*1,582.1*	*-832.5*
Debt stock-flow reconciliation, etc.	780.4	-114.5	-1,219.7	-1,582.1	832.5

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.2 Revised Balance of Payments of China (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	31,325.1	41,114.2	131,839.8	275,100.1	461,251.7
Capital Accounts	2,102.3	-124.6	-1,143.4	-469.1	5,731.3
Financial Accounts	-4,674.5	26,821.8	15,544.3	58,156.2	140,149.9
Errors and Omissions	-5,307.5	-17,698.6	-10,639.9	-11,869.0	13,716.5
Overall Balance	23,445.4	50,112.9	135,600.9	320,918.2	620,849.4
Reserve Assets and Related Items	-23,445.4	-50,112.9	-135,600.9	-320,918.2	-620,849.4
UNREPORTED FLOWS					
Volume of Unreported Flows	31,774.2	115,574.3	164,576.7	236,167.1	361,263.1
Net *de facto* Flows: Supplemental reserves	*-11,398.6*	*-27,643.9*	*-124,907.8*	*-113,576.2*	*-159,158.4*
Export misreporting	20,186.8	69,577.8	127,673.5	158,445.2	147,836.4
Import misreporting	-1,207.2	-32,050.9	-19,280.4	-58,303.8	-99,736.1
Shipping cost misinvoicing	348.3	1,967.5	2,895.8	13,955.7	40,999.7
Unreported remittance	0.1	1.5	32.5	185.0	318.7
Capital flight	-7,929.5	-11,852.0	13,586.4	-705.9	69,739.7
Net *de jure* Flows: EO adjustment	*-2,102.3*	*124.6*	*1,108.0*	*4,571.6*	*-2,632.5*
Debt stock-flow reconciliation, etc.	2,102.3	-124.6	-1,108.0	-4,571.6	2,632.5

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.3 Revised Balance of Payments of India (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-6,917.0	-14,180.2	-9,936.8	-24,242.8	-31,147.1
Capital Accounts	2,210.4	-7,290.9	-2,584.7	-4,317.9	382.4
Financial Accounts	4,798.7	6,379.9	17,198.9	47,314.4	128,404.1
Errors and Omissions	-2,642.9	8,260.6	2,913.9	3,871.6	623.0
Overall Balance	-2,550.7	-6,830.5	7,591.2	22,625.3	98,262.4
Reserve Assets and Related Items	2,550.7	6,830.5	-7,591.2	-22,625.3	-98,262.4
UNREPORTED FLOWS					
Volume of Unreported Flows	8,545.8	26,140.4	25,366.2	50,493.9	68,695.9
Net *de facto* Flows: Supplemental reserves	*609.7*	*6,097.9*	*-1,524.1*	*-8,071.2*	*-10,774.2*
Export misreporting	2,844.9	3,747.7	4,932.0	4,533.4	7,850.0
Import misreporting	-2,458.4	-11,965.1	-10,025.0	-14,633.0	-21,370.7
Shipping cost misinvoicing	-284.8	-508.6	-603.7	-4,419.4	-7,399.0
Unreported remittance	17.9	109.0	361.1	559.6	1,056.5
Capital flight	-729.3	2,519.1	6,859.7	22,030.5	30,637.4
Net *de jure* Flows: EO adjustment	*-2,210.4*	*+7,290.9*	*2,584.7*	*4,317.9*	*-382.4*
Debt stock-flow reconciliation, etc.	2,210.4	-7,290.9	-2,584.7	-4,317.9	382.4

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.4 Revised Balance of Payments of Indonesia (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-1,895.5	-8,001.0	2,609.1	-19,329.2	-16,219.5
Capital Accounts	3,253.9	6,633.7	-6,137.0	-10,943.0	5,275.4
Financial Accounts	517.8	6,834.2	-8,943.8	-4,898.7	3,285.4
Errors and Omissions	-2,509.8	-8,888.3	9,966.3	11,140.9	-6,106.6
Overall Balance	-633.5	-3,421.4	-2,505.3	-24,030.1	-13,765.3
Reserve Assets and Related Items	633.5	3,421.4	2,505.3	24,030.1	13,765.3
UNREPORTED FLOWS					
Volume of Unreported Flows	10,227.1	12,729.7	15,049.2	58,937.9	65,002.2
Net *de facto* Flows: Supplemental reserves	*2,884.6*	*4,994.8*	*6,431.0*	*21,918.9*	*26,471.1*
Export misreporting	-951.7	-1,390.2	-2,059.0	11,770.2	14,515.6
Import misreporting	1,562.3	-730.4	-4,564.6	-32,477.8	-43,372.0
Shipping cost misinvoicing	481.8	548.5	1,232.1	998.1	2,056.4
Unreported remittance	0.2	2.1	8.6	102.7	88.3
Capital flight	-3,977.2	-3,424.8	-1,048.0	-2,312.1	240.7
Net *de jure* Flows: EO adjustment	*-3,253.9*	*-6,633.7*	*6,137.0*	*11,277.0*	*-4,729.2*
Debt stock-flow reconciliation, etc.	3,253.9	6,633.7	-6,137.0	-11,277.0	4,729.2

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.5 Revised Balance of Payments of Malaysia (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	2,147.8	-8,269.7	11,870.4	31,280.5	38,808.8
Capital Accounts	853.6	-1,131.6	-366.2	-776.3	-2,003.8
Financial Accounts	3,291.5	4,954.0	-8,757.7	-16,278.0	3,036.0
Errors and Omissions	183.3	369.9	-2,854.7	-5,778.3	-2,934.1
Overall Balance	6,476.3	-4,077.4	-108.1	8,448.0	36,906.9
Reserve Assets and Related Items	-6,476.3	4,077.4	108.1	-8,448.0	-36,906.9
UNREPORTED FLOWS					
Volume of Unreported Flows	5,426.4	16,262.4	24,743.4	33,672.8	55,788.2
Net *de facto* Flows: Supplemental reserves	*-4,525.1*	*2,314.7*	*-900.6*	*-4,828.3*	*-23,763.2*
Export misreporting	1,919.9	6,402.3	10,783.6	17,082.7	22,515.2
Import misreporting	867.8	-6,024.0	-9,256.3	-7,561.8	-15,024.5
Shipping cost misinvoicing	227.5	-10.2	1,845.0	1,767.9	2,369.3
Unreported remittance	2.4	5.8	10.3	11.9	17.4
Capital flight	1,507.4	-2,688.6	-2,481.9	-6,472.3	13,885.8
Net *de jure* Flows: EO adjustment	*-901.3*	*1,131.6*	*366.2*	*776.3*	*1,976.0*
Debt stock-flow reconciliation, etc.	901.3	-1,131.6	-366.2	-776.3	-1,976.0

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.6 Revised Balance of Payments of Nepal (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-188.5	-388.8	120.0	381.8	386.2
Capital Accounts	142.5	18.9	-215.4	-237.6	250.3
Financial Accounts	351.5	393.4	322.9	-163.4	-138.1
Errors and Omissions	-137.6	-16.0	361.1	416.9	-155.9
Overall Balance	167.9	7.5	588.6	397.7	342.6
Reserve Assets and Related Items	-167.9	-7.5	-588.6	-397.7	-342.6
UNREPORTED FLOWS					
Volume of Unreported Flows	331.7	78.5	1,074.1	1,227.1	956.9
Net *de facto* Flows: Supplemental reserves	*-147.7*	*7.5*	*-665.5*	*-493.7*	*-647.6*
Export misreporting	4.9	0.4	-46.1	-184.8	76.7
Import misreporting	116.6	-0.2	513.0	427.8	214.3
Shipping cost misinvoicing	-20.8	-33.3	-50.5	-42.9	-67.2
Unreported remittance	0.0	0.7	2.2	180.6	292.4
Capital flight	47.0	24.9	246.8	113.1	131.4
Net *de jure* Flows: EO adjustment	*-142.5*	*-18.9*	*215.4*	*277.9*	*-174.9*
Debt stock-flow reconciliation, etc.	142.5	18.9	-215.4	-277.9	174.9

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.7 Revised Balance of Payments of Pakistan (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-3,686.4	-4,463.6	-1,526.3	-10,171.4	-7,622.2
Capital Accounts	1,225.2	273.9	-766.7	-3,266.4	2,310.3
Financial Accounts	1,780.1	1,823.2	-3,096.0	4,467.0	12,057.7
Errors and Omissions	-1,330.5	-578.1	1,323.5	3,268.3	-1,908.5
Overall Balance	-2,011.6	-2,944.6	-4,065.5	-5,702.5	4,837.4
Reserve Assets and Related Items	2,011.7	2,944.6	4,065.5	5,702.5	-4,837.4
UNREPORTED FLOWS					
Volume of Unreported Flows	3,779.4	2,111.7	2,242.2	10,756.2	6,594.6
Net *de facto* Flows: Supplemental reserves	*1,697.3*	*1,741.0*	*1,438.3*	*6,177.2*	*-2,710.6*
Export misreporting	-437.3	-61.7	-320.7	-2,091.2	-234.9
Import misreporting	-1,566.6	-958.0	-1,086.9	-4,155.1	1,284.0
Shipping cost misinvoicing	-121.6	-143.5	-49.3	-486.2	-639.9
Unreported remittance	100.6	48.3	15.6	167.3	251.8
Capital flight	327.6	-626.2	3.0	388.0	2,049.7
Net *de jure* Flows: EO adjustment	*-1,225.8*	*-273.9*	*766.7*	*3,468.4*	*-2,134.3*
Debt stock-flow reconciliation, etc.	1,225.8	273.9	-766.7	-3,468.4	2,134.3

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.8 Revised Balance of Payments of the Philippines (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-3,880.8	-6,863.6	-13,186.2	8,374.6	9,418.8
Capital Accounts	804.5	-181.7	-2,429.8	-741.5	694.8
Financial Accounts	2,118.6	9,873.2	-246.2	4,543.6	8,083.3
Errors and Omissions	-211.7	-1,911.9	944.2	-1,021.8	-2,759.4
Overall Balance	-1,169.4	916.0	-14,918.0	11,155.0	15,437.5
Reserve Assets and Related Items	1,169.4	-916.0	14,918.0	-11,155.0	-15,437.5
UNREPORTED FLOWS					
Volume of Unreported Flows	3,530.2	11,800.9	28,795.2	31,864.2	42,666.5
Net *de facto* Flows: Supplemental reserves	*1,124.3*	*319.4*	*14,441.4*	*-9,493.3*	*-6,730.1*
Export misreporting	690.7	698.1	5,384.7	15,323.1	18,334.6
Import misreporting	-1,802.9	-5,550.8	-16,497.9	-10,409.8	-17,283.2
Shipping cost misinvoicing	-122.1	-418.5	-356.4	-384.9	-594.0
Unreported remittance	48.4	387.6	508.3	1,862.3	1,842.5
Capital flight	61.6	4,564.2	-3,480.2	3,102.6	4,430.3
Net *de jure* Flows: EO adjustment	*-804.5*	*181.7*	*2,567.8*	*781.5*	*-670.8*
Debt stock-flow reconciliation, etc.	804.5	-181.7	-2,567.8	-781.5	670.8

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.9 Revised Balance of Payments of Sri Lanka (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-420.3	-2,021.8	-1,850.3	-2,080.4	-2,899.2
Capital Accounts	351.0	170.8	-584.7	-580.2	814.1
Financial Accounts	817.0	943.4	903.3	-127.4	-462.3
Errors and Omissions	-466.0	107.8	820.2	757.3	-704.8
Overall Balance	281.6	-799.8	-711.4	-2,030.6	-3,252.2
Reserve Assets and Related Items	-281.6	799.8	711.4	2,030.6	3,252.2
UNREPORTED FLOWS					
Volume of Unreported Flows	1,646.0	1,615.8	2,063.4	2,686.9	2,817.9
Net *de facto* Flows: Supplemental reserves	*-165.9*	*1,038.5*	*350.6*	*1,532.3*	*1,878.0*
Export misreporting	422.6	-195.8	-362.1	-242.9	-286.7
Import misreporting	-534.4	-1,052.2	-465.2	-1,155.4	-1,140.3
Shipping cost misinvoicing	-30.2	-54.2	-62.6	-101.7	-171.8
Unreported remittance	20.0	50.2	83.3	162.4	197.3
Capital flight	287.9	213.4	456.2	-194.6	-476.5
Net *de jure* Flows: EO adjustment	*-351.0*	*-50.1*	*634.0*	*829.9*	*-545.3*
Debt stock-flow reconciliation, etc.	351.0	50.1	-634.0	-829.9	545.3

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

Table A.10 Revised Balance of Payments of Thailand (Current million dollars)

MAIN ACCOUNTS	1990	1995	2000	2005	2007
Current Accounts	-9,608.5	-18,377.5	6,199.1	-5,387.5	11,243.4
Capital Accounts	1,089.4	13,272.1	-3,400.6	-4,370.5	-266.7
Financial Accounts	12,266.6	24,082.6	-8,168.1	12,422.2	-14,793.4
Errors and Omissions	329.2	-14,468.3	2,715.3	6,351.4	5,737.5
Overall Balance	4,076.6	4,508.9	-2,654.3	9,015.6	1,920.8
Reserve Assets and Related Items	-4,076.6	-4,508.9	2,654.3	-9,015.6	-1,920.8
UNREPORTED FLOWS					
Volume of Unreported Flows	6,608.4	25,641.7	10,025.2	8,008.4	19,520.5
Net *de facto* Flows: Supplemental reserves	*-841.3*	*2,649.8*	*847.9*	*-3,599.1*	*15,155.9*
Export misreporting	-841.4	-6,773.6	42.9	2,114.2	779.2
Import misreporting	-743.3	2,696.8	-3,736.2	-19.4	-4,845.8
Shipping cost misinvoicing	-753.9	-736.0	555.8	156.0	1,258.5
Unreported remittance	11.1	17.1	23.5	8.4	11.3
Capital flight	3,168.7	2,146.0	2,266.1	1,340.0	-12,359.1
Net *de jure* Flows: EO adjustment	*-1,090.1*	*-13,272.1*	*3,400.6*	*4,370.5*	*266.7*
Debt stock-flow reconciliation, etc.	1,090.1	13,272.1	-3,400.6	-4,370.5	-266.7

Note: Only five year intervals and 2007 are shown, to conserve space. Full tables are available on request.

Source: Calculations of the author.

References

Aizenman, Joshua (2008), 'On the Hidden Links between Trade and Financial Opening', *Journal of International Money and Finance*, Vol. 27, No. 3. pp. 372-386.

Alesina, Alberto and Guido Tabellini (1989), 'External Debt, Capital Flight and Political Risk', *Journal of International Economics*, Vol. 27, Nos. 3-4, pp. 199-220.

Amsden, Alice H. (1989), *Asia's Next Giant: South Korea and Late Industrialization*, New York: Oxford University Press.

Beja, Edsel L. (2006), 'Was Capital Fleeing Southeast Asia: Estimates from Indonesia, Malaysia, the Philippines, and Thailand', *Asia Pacific Business Review*, Vol. 12, No. 3, pp. 261-283.

_____ (2009), 'Capital Flight and Economic Performance of the Philippines', in James B. Tobin and Lawrence R. Parker (eds), *Joint Ventures, Mergers and Acquisitions, and Capital Flow*, New York: Nova Publishers, pp. 239-254.

Berlin, Isaiah (1969), 'Two Concepts of Liberty', in Isaiah Berlin (ed.), *Four Essays on Liberty*, Oxford: Oxford University Press, pp. 118-172.

Bhagwati, Jagdish N. (1974), *Illegal Transactions in International Trade*, Amsterdam: North-Holland.

Bhattacharya, Rina (1999), 'Capital Flight under Uncertainty about Domestic Taxation and Trade Liberalization', *Journal of Development Economics*, Vol. 59, No. 2, pp. 365-387.

Boyce, James K. (1992), 'The Revolving Door? External Debt and Capital Flight: Philippine Case Study', *World Development*, Vol. 20, No. 3, pp. 335-349.

_____ (1993), *The Political Economy of Growth and Impoverishment in the Marcos Era*, Quezon City, Philippines: Ateneo de Manila Press.

Boyce, James K. and Leonce Ndikumana (2001), 'Is Africa a Net Debtor? New Estimates of Capital Flight from Severely Indebted Sub-Saharan African Countries, 1970-98', *Journal of Development Studies*, Vol. 38, No. 2, pp. 27-56.

Chang, Ha-Joon (2002), *Kicking Away the Ladder: Development Strategy in Historical Perspective*, London: Anthem Press.

Chang, Kevin P., Stijn Claessens and Robert E. Cumby (1997), 'Conceptual and Methodological Issues in the Measurement of Capital Flight', *International Journal of Financial Economics*, Vol. 2, No. 2, pp. 101-11.

Collier, Paul, Anke Hoeffler and Catherine Pattillo (2001), 'Flight Capital as a Portfolio Choice', *World Bank Economic Review*, Vol. 15, No. 1, pp. 55-80.

Collier, Paul, Anke Hoeffler and Catherine Pattillo (2003), 'Aid and Capital Flight', paper presented at the Conference on Sharing Global Prosperity, UNU/WIDER, 6-7 September.

Cuddington, John T. (1986), *Capital Flight: Estimates, Issues and Explanation*, Princeton Studies in International Finance, No. 58. Princeton, New Jersey: Princeton University.

Cumby, Robert and Richard Levich (1987), "On the Definition and Magnitude of Recent Capital Flight", in Donald R. Lessard and John Williamson (eds), *Capital Flight and the Third World Debt*, Washington, DC: Institute of International Economics, pp. 27-67.

de Boyrie, Maria, Simon J. Pak and John S. Zdanowicz (2005), 'Estimating the Magnitude of Capital Flight due to Abnormal Pricing in International Trade: The Russia-USA Case', *Accounting Forum*, Vol. 29, No. 3, pp. 249-270.

Deppler, Michael and Martin Williamson (1987), 'Capital Flight: Concepts, Measurement, and Issues', in International Monetary Fund (ed.), *Staff Studies for the World Economic Outlook*, Washington, DC: International Monetary Fund, pp. 39-58.

Dooley, Michael P. (1986), 'Country Specific Risk Premiums, Capital Flight, and Net Investment Income Payments in Selected Developing Countries', Discussion Mimeograph No. 17, International Monetary Fund.

Dooley, Michael P. (1988), 'Capital Flight: A Response to Differential Financial Risks', *IMF Staff Papers*, Vol. 35, No. 3, pp. 422-436.

Eggerstedt, Susan, Rebecca Hall and Sweder van Wijnbergen (1995), 'Measuring Capital Flight: A Case Study of Mexico', *World Development*, Vol. 23, No. 2, pp. 211-232.

Epstein, Gerald A. (2005), *Capital Flight and Capital Controls in Developing Countries*, Northampton, MA: Edward Elgar.

Erbe, Susanne (1985), 'The Flight of Capital from Developing Countries', *Intereconomics*, Vol. 20, No. 4, pp. 286-275.

Frankel, Jeffrey A. and David Romer (1999), 'Does Trade Cause Growth?' *American Economic Review*, Vol. 89 No. 3, pp. 379-399.

Gordon, David B. and Ross Levine (1989), 'The 'Problem' of Capital Flight – A Cautionary Note', *The World Economy*, Vol. 12, No. 2, pp. 237-252.

Gulati, Sanil (1987), 'A Note on Trade Misinvoicing', in Donald R. Lessard and John Williamson (eds), *Capital Flight and the Third World Debt*, Washington, DC: Institute of International Economics, pp. 68-79.

Haggard, Stephan (1990), *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries*, Ithaca, NY: Cornell University Press.

Hermes, Niels and Robert Lensink (2001), 'Capital Flight and the Uncertainty of Government Policies', *Economic Letters*, Vol. 71, No. 3, pp. 377-381.

Johnson, Chalmers A. (1982*), The MITI and the Japanese Miracle: The Growth of Industrial Policy, 1927-1975*, Stanford, CA: Stanford University Press.

Kaminsky, Graciela L. and Carmen M. Reinhart (1999), "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems", *American Economic Review*, Vol. 89, No. 3, pp. 473-500.

Kant, Chander (1996), *Foreign Direct Investments and Capital Flight*, Princeton Studies on International Finance No. 80, Princeton, New Jersey: Princeton University.

_____ (2002), 'What is Capital Flight', *The World Economy*, Vol. 25, No. 3, pp. 341-358.

King, Robert G. and Ross Levine (1993), 'Finance and Growth: Schumpeter Might be Right', *Quarterly Journal of Economics*, Vol. 108, No. 3, pp. 717-737.

Lensink, Robert, Niels Hermes and Victor Murinde (1998), 'The Effect of Financial Liberalization on Capital Flight in African Economies', *World Development*, Vol. 26, No. 7, pp. 1349-1368.

Lensink, Robert, Niels Hermes and Victor Murinde (2000), 'Capital Flight and Political Risk,' *Journal of International Money and Finance*, Vol. 19, No. 1, 73-92.

Lessard, Donald R. and John Williamson (1987), *Capital Flight and the Third World Debt*. Washington, DC: Institute of International Economics.

Lopez, Julio (1998), 'External Financial Fragility and Capital Flight in Mexico', *International Review of Applied Economics*, Vol. 12, No. 2, pp. 257-270.

Morgan Guaranty Trust Company (1986), 'LDC Capital Flight,' *World Financial Markets*, 2 (March), pp. 13-15.

Ndikumana, Leonce and James K. Boyce (2003), 'Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries', *World Development,* Vol. 31, No. 1, pp. 107-130.

Pak, Simon J., Stelios H. Zanakis and John S. Zdanowicz (2003), 'Detecting abnormal pricing in international trade: The Greece-USA case', *Interfaces*, Vol. 33, No. 2, pp. 54-64.

Pastor, Manuel (1990), *Capital Flight and the Latin American Debt Crisis*, Washington DC: Economic Policy Institute.

Prasad, Eswar S., Raghuram G. Rajan and Arvind Subramanian (2007), 'Foreign Capital and Economic Growth', *Brooking Papers on Economic Activity*, 2007(1), pp. 153-209.

Rodriguez, Francisco and Dani Rodrik (2001), 'Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence', in Ben S. Bernanke and Kenneth S. Rogoff (eds), NBER Macroeconomics Annual, Volume 15, Cambridge, MA: National Bureau of Economic Research, pp. 261-338.

Sen, Amartya K. (1999), *Development as Freedom*, New York: Anchor Books.

Vos, Rob (1992), 'Private Foreign Assets Accumulation, Not Just Capital Flight: Evidence from the Philippines', *Journal of Development Studies*, Vol. 28, No. 3, pp. 500-537.

_____ and Josef Yap (1996), *The Philippine Economy: East Asia's Stray Cat?* New York: St. Martins.

Wade, Robert (1990), *Governing the Market: Economic Theory and the Role of the Government in East Asian Industrialization*. Princeton, NJ: Princeton University Press.

Weiss, Linda and John M. Hobson (1995), *States and Economic Development: A Comparative Historical Analysis*, Cambridge: Cambridge University Press.

World Bank (1985), *World Development Report*, Washington, DC: World Bank.

_____ (2006), *Global Economic Prospects*, Washington, DC: World Bank.