Illicit Financial Flows:

The Most Damaging Economic Condition Facing the Developing World







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To all those who suffer the indignities of poverty due to illicit financial flows

Acknowledgments

This book and, indeed, Global Financial Integrity, have been made possible by a small group of early adopters who recognized, well ahead of the policy makers, the adverse impact illicit financial flows have on economic development. Their financial support and encouragement enabled the organization to get the illicit flows issue on the global agenda.

In particular, the Ford Foundation supported this book and much of our initial research on illicit outflows from developing countries. This was largely thanks to Dr. Leonardo Burlamaqui, who was a program officer at Ford during our partnership. Leonardo championed this cause within Ford before illicit flows were a globally understood problem.

We also want to thank everyone who has been a part of the GFI organization since its launch in 2006. Each person has applied their unique knowledge, skills and passion to push this effort ever forward. Their hard work, singular focus and unwavering dedication have been the essential component to the success of GFI's research and advocacy efforts. Their combined efforts are the definition of 'team'.

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Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

> Winston Churchill November 10, 1942

1. A Brief Biography of Illicit Financial Flows

Raymond Baker

In 2006 Tom Cardamone joined me at Global Financial Integrity (GFI). I had published a book in the preceding year, *Capitalism's Achilles Heel: Dirty Money and How to Renew the Free-Market System.*¹ With funding from a generous benefactor, we were underway.

One of our early conversations surrounded the phrase "dirty money." We both felt that this was counterproductive. It made people cringe and shrink from the subject. There was no way we could advance this into a global effort. So we considered alternatives. "Flight capital" was not good, because such terminology appealed only to economists and implied that this phenomenon was entirely the fault of those countries out of which the money flows. "Illegal flight capital" had the same shortcomings. We certainly did not want to call it simply "the proceeds of corruption" because much of the money we were talking about arises through means other than corruption. "Money laundering" refers to a process, and "laundered money" narrowly refers to funds that violate a nation's anti-money laundering laws.

So what should we call these enormous sums of money shifting out of emerging market and developing countries? After considerable discussion we homed in on the wording "illicit financial flows." This had a number of advantages. "Illicit" is a slightly less demanding word than illegal and would be a bit more palatable to lawyers. "Financial" makes it clear that we are talking about money more than about drugs or arms or contraband. And "flows" is perhaps the most important word, making it clear that what is being addressed has an origin and a path and a destination. The

^{1.} Raymond W. Baker, Capitalism's Achilles Heel: Dirty Money and How to Renew the Free-Market System (Hoboken, NJ: Wiley, 2005).

combination of the three words is obviously more sophisticated than "dirty money," not nearly so offputting, much more robust, appealing to economists, lawyers, and policymakers. So "illicit financial flows" it was and still is.

Tom and I do not remember for certain whether we created this combination of words or drew it from something we previously read. We performed a Google search years later and found the three words together in some rather obscure place but cannot recall if we ever saw that earlier. So we will not take credit for inventing the terminology. But I think it is fair to say that GFI aggressively advanced the terminology. And these words are now used widely by almost every government and international institution in the world—so widely that today it most often appears in its abbreviation, IFFs.

Language matters; vocabulary matters. If we were still calling this "dirty money," this phenomenon would not be on the global political-economy table. It is there because the words carry with them a sense of professionalism, an emotive appeal, a universal concern.

The Ford Foundation, through the understanding and support of program officer Leonardo Burlamaqui, began providing us funding in 2007 and significant support in 2008. We employed Dev Kar as our Lead Economist (now Chief Economist), drawing upon his thirty-two years of experience with the IMF. We tasked Dev with undertaking a rigorous examination of the magnitude of illicit financial flows out of developing countries, grounded in accepted economic methodology. We told Dev that he could use any analytical techniques he chose except what I had used in writing Capitalism's Achilles Heel. I had employed three surveys in compiling an estimate of US\$500 billion a year escaping out of developing countries. The first survey had been performed in the 1990s appraising commercial misinvoicing, through interviews with 550 owners and managers of exportand import-trading companies in eleven countries. The second was a literature survey consolidating data on global criminal flows. And the third survey was undertaken in my first year as a guest scholar at the Brookings Institution when I traveled to twenty-three countries and conducted 335 interviews with government officials, bankers, economists, lawyers, tax collectors, security personnel, and more, compiling an estimate of how much corrupt money passes out of poor countries into foreign accounts. The cost of these three earlier efforts was in the seven figures, well beyond the resources of GFI at the time.

Dev studied the economic literature and realized that, going back to the 1974 book edited by Jagdish Bhagwati, *Illegal Transactions in International Trade: Theory and Measurement*, economists had been studying for decades the gaps in balance of payments data and bilateral trade data to estimate cross-border unrecorded financial flows. These estimates were mostly done for just one country at a time. Why not use the same technique to do all developing countries at the same time? Dev poured himself into compiling the statistics necessary to come to a global estimate. At one point he came rushing into my office and said, "Raymond, my data analysis indicates the same figure as your survey analysis—US\$500 billion a year!" After patting ourselves on the back, Dev buckled down to months of work, producing in 2008 our groundbreaking analysis, *Illicit Financial Flows from Developing Countries: 2002–2006*, estimating an average outflow of US\$612 billion per year.

Although GFI did not invent the methodology for examining IFFs, we were the first to apply this methodology to data from all developing countries reporting to the World Bank and the IMF. Since our 2008 publication, we have twice revised our methodology for estimating IFFs in order to assure that our numbers are more focused on illicit flows and to be as conservative as possible. These modifications to our methodology are further discussed in Chapter 3 elaborating on our analytical approaches.

In the meantime, growing out of the Monterey Financing for Development conference in 2002, the Government of Norway convened three conferences in 2007 and 2008 addressing the broad issue of domestic resource mobilization, specifically innovative sources of financing for developing countries, and quite pointedly the subject of illicit financial outflows. From these gatherings emerged the Task Force on Financial Integrity and Economic Development, led by GFI with the participation of a number of civil society organizations, which has now morphed into the Financial Transparency Coalition. Norway remains supportive of efforts to curb IFFs and particularly supportive of GFI's work at high levels with emerging market and developing country governments, wealthy country governments, and international institutions. Denmark, Finland, and a number of others—governments, development banks, international institutions, foundations, and individuals—have added their support.

^{2.} Jagdish N. Bhagwati, ed., Illegal Transactions in International Trade: Theory and Measurement (Amsterdam: North-Holland Publishing Company, 1974.

The Ford Foundation's funding enabled GFI to produce in 2010 *Illicit Financial Flows from Africa: Hidden Resource for Development.* This presented a startling fact: of the three sources of illicit financial outflows from the continent—corrupt, criminal, and commercial—the largest is commercial, arising from the misinvoicing of trade. Abdalla Hamdok at the United Nations Economic Commission for Africa in Addis Ababa summoned GFI to a meeting with his team of economists, soon resulting in the formation of the High Level Panel on Illicit Financial Flows from Africa led by Thabo Mbeki, former president of South Africa. The Panel held many meetings across the continent with heads of state, parliamentarians, central bank governors, ministers, customs officials, revenue officers, corporate executives, civil society organizations, and more, producing its outstanding report, "Track it! Stop it! Get it!," endorsed by the African Union at its summit meeting in January 2015. This report is the first comprehensive analysis emerging from within the developing world itself, stating in a firm voice that IFFs are an enormous drain on resources from developing countries and presenting in clear language the pragmatic steps that can and must be taken to curb this reality.

So across this ten-year journey, what sort of reactions have arisen to this issue of illicit financial flows? At first, the community of development economists was largely opposed to the agenda, feeling that it was an attack on the efficacy of foreign aid. We went to some lengths to assure that this was not the case, that instead we favored an increase in foreign aid. More broadly, the importance of domestic resource mobilization is now grasped as perhaps the key ingredient in economic development going forward. Next, we encountered some die-hard policymakers who wanted to keep the focus entirely on governance issues within developing countries, meaning that illicit financial outflows are their fault and the solution is corruption fighting and capacity building internally. Our good friends at Transparency International have helped greatly in spreading the view that fighting corruption and fighting IFFs are very closely related. Finally, there remain powerful segments of the business community that want to retain abusive transfer pricing as a mechanism for shifting revenues across borders and some actors in the banking community that want to continue accepting suspect deposits out of other countries via weak legislation and enforcement. Bringing all parts of the commercial community into the agenda of curtailing IFFs is one of the great challenges ahead.

Thomas Pogge in Chapter 2 brilliantly disects the most critical aspects of poverty and inequality. With an estimated 18 million people a year prematurely dieing from causes directly related to economic deprivation, the case for retaining financial resources in developing countries is solidly nailed onto the moral and political agenda of the coming decades.

In addition to outlining our methodology in Chapter 3, Dev Kar summarizes in Chapters 4 through 8 the five country studies we carried out with Ford Foundation funding—India, Russia, Mexico, the Philippines, and Brazil. Each of these addresses the magnitude of illicit financial flows and some of their linkages to other economic conditions in the countries, with the level of the underground economy found to be a common correlation.

Erik Solheim in Chapter 9 relentlessly drives home the corrupt, criminal, and commercial dimensions of illicit financial flows and the range of instruments and efforts now being marshaled to fight this global scourge. National leadership, development assistance, and global partnerships are the ingredients for success, all requiring a determined commitment of political will.

Progress in alleviating IFFs has been made, which Tom Cardamone addresses in the final chapter. Measures to achieve greater financial transparency are moving forward, primarily in the wealthier countries, but not yet with sufficient aggressiveness in the emerging market and developing countries themselves.

In my view, illicit financial outflows, now estimated at US\$1 trillion annually from countries where the great majority of the world's people live, constitute the most damaging economic condition hurting the global poor and restricting their economic progress. We, with the support of many others, have succeeded in getting the issue on the global political-economy agenda.

In the opening pages we quote Winston Churchill following the Allied victory at the battle of El Alamein in North Africa in 1942: "Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning."

This is where we are in our efforts, at the end of the beginning. Much more work lies ahead.

2. Illicit Financial Outflows as a Drag on Human Rights Realization in Developing Countries

Thomas Pogge

Humankind was born in Africa, some three to four million years ago. Looking back on its full history, the last 500 years must strike one as a period of fantastic progress. After millions of years of minor meanderings and a few millennia of impressive but finally collapsing civilizations, we have rapidly grown together into a single global culture that is advancing at breathtaking and still accelerating speed. In a single lifetime, human capabilities have been changing beyond imagination: in science, medicine, construction, transportation, weaponry, communications, data processing, exploration, discovery, invention, and endeavor.

When we contemplate these amazing triumphs of human ingenuity from a *moral* point of view, our glance shifts from the most gifted, educated, and privileged individuals in each generation to those consigned to the lower rungs of human society. Beholding their fate during this great progressive era, we are confronted with similarly astounding horrors: colonial conquests of most of the Earth with large-scale genocides and enslavement, wars and massacres on an unprecedented scale, oppression, plunder, impoverishment, and exploitation of a majority of the human population. The more advanced members of our species have continually abused humanity's new capabilities for the sake of inflicting unimaginable suffering upon the majority with the aim of further enhancing their own power and superiority.

This essay is based on a lecture I presented on May 18, 2015, in Johannesburg at the conference "Human Rights and Illicit Flows: Fostering Greater National and Regional Economic Opportunity in Africa through Human Rights and Financial Transparency," jointly organized by Global Financial Integrity, the Friedrich Ebert Foundation, and the International Bar Association's Human Rights Institute. I am immensely grateful to these three sponsors for creating this forum and for joining our effort to establish continent-wide networks of experts, officials, and activists who collaborate toward curbing illicit financial outflows from developing countries. After our successful launch in South Africa, we are planning similar conferences in Asia, Latin America, and the Middle East.

We are told that, happily, this dark side of the progressive era is now behind us. The former colonies have been transformed into free and independent sovereign states, and we are all now committed to the idea that human progress is to be measured as much by improvements for the disadvantaged as by gains for the elites. Such progress for the less fortunate countries and populations is called "development." And politicians everywhere proclaim their solidarity with the "less developed" countries—or (more optimistically) the "developing" countries—and are working together to overcome the remaining deprivations.

I must confess that I am skeptical about all this uplifting talk of being "united for development," about "leaving no one behind," about our shared dream of "a world without poverty." To be sure, the rhetoric is real and omnipresent. And governments, intergovernmental agencies, foundations, non-governmental organizations, and many others are spending much time reiterating their commitments to development at summits and conferences, as well as in preambles, declarations, and working papers. But much of their supposed effort is just smoke and mirrors; the real-world trend is one of still increasing inequalities.

You can study the clever use of smoke and mirrors by exploring in some depth what has been the grandest development project thus far—the Millennium Development Goals (MDGs), adopted in 2000 pursuant to a United Nations General Assembly resolution. These eight goals are much in the news these days because they are reaching their target date at the end of 2015. By this date, the world and its individual countries were to have achieved specific targets, such as the halving of extreme poverty and chronic undernourishment, and the reduction of the under-5 mortality rate by two-thirds. If the MDGs will be declared a qualified success, this is due to the fact that the international agencies—charged with both their implementation and their monitoring—have, again and again, revised the definitions and measuring methods to produce more favorable trend lines. Perhaps the most egregious case is that of chronic undernourishment. At the 1996 World Food Summit in Rome, the world's governments had unanimously agreed to halve the number of undernourished people by 2015:

"We pledge our political will and our common and national commitment to achieving food security for all and to an on-going effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015."¹

When this number actually *rose* in subsequent years,² our governments diluted the goal by promising, in their Millennium Declaration, to halve the *proportion* of undernourished people between 2000 and 2015,³ a much less ambitious pledge because this ratio is continuously lowered through vigorous population growth in the denominator. UN bureaucrats then moved the goal posts once again, by formulating the first Millennium Development Goal in terms of the proportion of undernourished people in the (even faster-growing) population of the developing countries and by backdating the baseline to 1990,⁴ thereby taking advantage of the impressive progress against hunger that China had reportedly achieved in the preceding decade.

Yet, despite all this clever manipulation, the hunger trend line continued to epitomize a powerful indictment of the grand globalization project: with the number of chronically undernourished people in the developing world up 10 percent from 827 million in 1990–1992 to 906 million in 2010,⁵ the incidence of chronic undernourishment, expressed as a proportion of the population of the developing countries, was down by only one-fifth in this period, from 20 to 16 percent,⁶ nowhere near the one-half reduction promised for 1990–2015. And so in 2012—the twenty-second year of a twenty-five-year development measurement period—the Food and Agriculture Organization of the United Nations (FAO) unveiled a new methodology for counting the chronically undernourished,

Rome Declaration on World Food Security, adopted at the World Food Summit in Rome, November 1996, accessed July 22, 2015, www.fao.org/docrep/003/w3613e/w3613e00.htm. The word "immediate" is remarkable in reference to a plan that delays the achievement of just half of this urgent task nineteen years into the future. The United States was quick to issue an "Interpretive Statement" to the effect that "the attainment of any 'right to food' or 'fundamental right to be free from hunger' is a goal or aspiration to be realized progressively that does not give rise to any international obligations" (Annex II to the Final Report of the World Food Summit).

^{2.} Food and Agriculture Organization of the United Nations and World Food Program, *The State of Food Insecurity in the World 2010* (Rome: FAO, 2010), 50, accessed July 31, 2015, http://www.fao.org/docrep/013/i1683e.pdf.

^{3.} United Nations Millennium Declaration, Article 19, adopted by the UN General Assembly, September 8, 2000, accessed July 31, 2015, www.un.org/millennium/declaration/ares552e.htm.

^{4.} United Nations, *The Millennium Development Goals Report 2015* (New York: United Nations, 2015), 20-21, accessed July 31, 2015, http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf.

^{5.} FAO and WFP, State of Food Insecurity 2010, 10.

^{6.} Ibid., 9.

which transformed a steadily *rising* number of hungry people into a steadily *falling* trend line that absurdly shows no trace of the dramatic near-doubling of world food prices toward twin peaks in 2008 and 2011. We know that poor people spend over 70 percent of their incomes on food, and we know that they suffered intensely from the huge increase in food prices—there were food riots, after all, in many countries. But, with the FAO's new method, this suffering is expunged from the official record. After having led a great lament in 2009 over the number of chronically undernourished people breaking above one billion for the first time in human history,⁷ the FAO is now telling us that this number had in fact been one billion already in 1990 and, since then, has been steadily falling to a mere 795 million today.⁸ Thanks to this timely methodological shift, the world is now within striking distance of the MDG hunger target.

Table 1:	Impact of the FAO's Switch in Methodology on the Trend
	in Chronic Undernourishment ⁹

	Chronically Undernourished (in millions)		
Year	Old Methodology	New Methodology	
1990	843	1,011	
1996	788		
2000	833	930	
2009	1,023		
2010	925	821	
2014		795	

I have no space here to go into the FAO's new methods of estimation. But I do have time to highlight its definition of chronic undernourishment: "*undernourishment* has been defined as an extreme form of food insecurity, arising when food energy availability [also referred to as "dietary energy intake"] is inadequate to cover even minimum needs for a sedentary lifestyle ... [for] over a year." This definition has three elements. First, to count as undernourished, one must be short of energy, or calories. Lack of any specific nutrients, such as proteins, vitamin A or other essential vitamins, or

^{7.} Food and Agriculture Organization of the United Nations, "1.02 Billion People Hungry," June 19, 2009, accessed July 31, 2015, http://www.fao.org/news/story/en/item/20568/icode/.

Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development, and World Food Program, *The State of Food Insecurity in the World 2015: Meeting the 2015 International Hunger Targets: Taking Stock of Uneven Progress* (Rome: FAO, 2015), 44, accessed July 31, 2015, http://www.fao.org/3/a-i4646e.pdf.

^{9.} Numbers derived through the old methodology are from FAO and WFP, *State of Food Insecurity 2010*, 50 and 9. Numbers derived through the new methodology are from FAO, IFAD, and WFP, *State of Food Insecurity 2015*, 44.

minerals like iron, which is essential to avoiding anemia—none of these deficits suffice to qualify a person as undernourished. According to the FAO, then, the global undernourishment problem can be completely solved by giving poor people appropriate quantities of sugary soft drinks. Even Coca-Cola would not make such an absurd claim.

The second element of the FAO definition is that, to count as undernourished, calorie intake must be insufficient to meet even the minimum needs for a sedentary lifestyle. It is well known, of course, that most poor people cannot afford a sedentary lifestyle. They do and must do heavy labor for a living, in agriculture and construction, for example, or carrying heavy loads of water to their homes for washing, drinking, and cooking. By focusing on calorie *intake*, the FAO definition additionally ignores problems of food absorption, where parasites consume much of the ingested energy or disease prevents it from being absorbed through the small intestine. Many poor people suffer from such conditions and may easily lose one-third of the calories they ingest. The FAO is nonetheless counting all such people as adequately nourished so long as their dietary intake *would* be sufficient if only they had no health problems and no need to do physical labor.

The third element of the FAO definition is that, to count as chronic, undernourishment must last for over a year. So you won't count as chronically undernourished if you suffer seasonal hunger, for instance, as so many poor people do in the countryside. Why does the FAO not count those who go hungry for "only" six months, or eleven? Here is its explanation: "the reference period should be long enough for the consequences of low food intake to be detrimental to health. Although there is no doubt that temporary food shortage may be stressful, the FAO indicator is based on a full year." So, in its official explanation of its revised number series depicting the (now falling) trend of chronic undernourishment, the official defender of the world's undernourished has put itself on record claiming that eleven months of undernourishment isn't detrimental to health! In fact, research clearly shows the opposite. It even shows that malnutrition during childhood has a profound impact on the health of the future children of these malnourished children.¹⁰

On reflection, it cannot be surprising that we are treated to cosmetically enhanced statistics on development. International agencies, the monopoly providers of such statistics, have their funding

^{10.} Sonia Bhalotra, Claudia Sanhueza, and Yicho Wu, "Long-Term Economic Consequences of the 1960 Chile Earthquake," mimeo, University of Essex, May 2011.

and top officers determined by national governments, and people in government are, of course, eager to appear successful and show that the institutions and policies of their grand globalization project are creating that proverbial tide that lifts all boats. In view of this experience, we must be skeptical and, taking a closer look, we will find that the poorer half of humanity is substantially worse off and has not progressed nearly as much as the official statistics suggest.

But there is something else. By contesting the official figures, by showing that progress for the poor has been much less than officially claimed, one is implicitly accepting that the trend line is what really matters. One is implicitly accepting that the most important issue is whether and to what extent the world's poor are *developing*, are becoming better off. I think we should be wary even about accepting this as the morally most significant issue.

My worry can be put as a question: in assessing the condition of the world's disadvantaged people, what is the morally most appropriate benchmark of comparison? The development discourse firmly guides us toward one answer to this question: the appropriate benchmark is the condition of the disadvantaged at some earlier time, in 1990 perhaps, as the MDGs suggest, or in 1960 or 1830. Such diachronic, historical comparisons tend to make the *status quo* look good. Even if the disadvantaged have not gained as much as the official statistics proclaim, their condition on the whole has surely improved over time.

Here is another benchmark, which, I believe, is morally far more appropriate. It compares the present condition of the disadvantaged with the condition of the disadvantaged as it *could* be in our *present* natural, technological, and economic circumstances. The question we should be asking is not: how has the extent of human deprivations changed since 1990? But rather: what part of the serious deprivations present in the world today is truly unavoidable?

Let me make this point vivid by invoking an analogy. Suppose we compared the practice of slavery in 1850 with the practice of slavery in 1825, say, and suppose we found that the condition of slaves had improved: they were better nourished, worked less hard, and also less often whipped and raped and ripped apart from their families. Would this be reassuring? Would it make us feel better about the

practice of slavery in 1850 to know that slavery had been even worse at some earlier time? Perhaps it would, as a psychological matter. But I don't see why it should. I think the morally crucial question to focus on is whether slavery as it was practiced in 1850 was justifiable in light of the then-feasible alternatives. Was slavery avoidable or improvable in 1850 and, if so, at what cost? This is the morally pertinent comparison to investigate, not the comparison with some earlier period.

I propose that we make the analogous judgment about the deprivations people are suffering today. The morally significant issue is not whether such deprivations were *even worse* twenty-five years ago. Rather, the morally significant issue is whether such deprivations are *today* partly or wholly avoidable and, if so, at what cost.

In 1850, the practice of slavery was avoidable at tolerable cost: the rest of the US population could have lived reasonably well even without the highly unjust gains it derived from the enslavement of millions. Slavery ought to have been abolished then, regardless of how much worse the practice may have been in 1825. I think we all agree on this. I am making the analogous point about the horrendous deprivations of poverty today: they are avoidable at tolerable cost and therefore ought to be avoided, regardless of how much worse they may have been in 1990.

Speaking about deprivations, we are referring, first and foremost, to unfulfilled human rights. A human right is unfulfilled when its bearer lacks secure access to its object. Looking at the world today, we find that by far the most widely unfulfilled human rights are the social and economic ones encapsulated in Article 25(1) of the 1948 *Universal Declaration of Human Rights*: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services." Even the official statistics count, of the 7.3 billion people alive today:

- 795 million as chronically undernourished;¹¹
- well over 1 billion as lacking adequate shelter;¹²

^{11.} FAO, IFAD, and WFP, State of Food Insecurity 2015, 4, 8, 10, 17.

^{12.} Raquel Rolnik, *The Right to Adequate Housing* (Geneva: Office of the United Nations High Commissioner for Human Rights, 2014), 1, accessed July 31, 2015, http://www.ohchr.org/Documents/Publications/FS21_rev_1_Housing_en.pdf.

- 748 million as lacking safe drinking water;¹³
- 1.8 billion as lacking adequate sanitation;¹⁴
- around 1.1 billion as lacking electricity;¹⁵
- more than one-third as lacking reliable access to essential medicines;¹⁶
- 781 million over age 14 as illiterate;¹⁷ and
- 168 million children (aged 5 to 17) as doing wage work outside their household, often under slavery-like and hazardous conditions, as soldiers, prostitutes, or domestic servants, or in agriculture, construction, textile, or carpet production.¹⁸

During the twenty-five-year Millennium Development Goals period, easily one-third of all human deaths were premature due to poverty-related causes, some 50,000 daily or 18 million per annum.¹⁹ For the entire period, severe poverty thus killed at least 450 million people, over seven times as many as perished in World War II.

It is worth noting that these same deprivations also entail massive deficits in civil and political human rights. Very poor people are substantially more vulnerable to violence, for instance, because they lack the protection of a secure home and because others—including police and other state officials—can ignore their needs with impunity and even mistreat them. Very poor people also are generally poorly equipped to fend for their legal rights and interests. Many of them are physically or mentally stunted due to malnutrition in infancy, many are poorly educated or even illiterate, and most are in addition heavily preoccupied with their family's survival and thus find it difficult to defend,

^{13.} Tessa Too-Kong, ed., *The Millennium Development Goals Report 2014* (New York: United Nations, 2014), 47, accessed July 31, 2015, http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf.

^{14.} Ibid., 25.

^{15.} World Bank, "Energy: Overview," accessed July 31, 2015, http://www.worldbank.org/en/topic/energy/overview#1.

^{16.} Edmund Mohammed Nyanwura and Reuben K. Esena, "Essential Medicines Availability and Affordability: A Case Study of the Top Ten Registered Diseases in Builsa District of Ghana," *International Journal of Scientific and Technological Research* 2, no. 8 (August 2013): 208.

^{17.} UNESCO, "International Literacy Data 2014," accessed July 31, 2015, http://www.uis.unesco.org/literacy/Pages/literacy-data-release-2014.aspx.

^{18.} International Labour Organization, "Child Labour," accessed July 31, 2015, http://www.ilo.org/global/topics/child-labour/lang-en/index.htm.

^{19.} World Health Organization, Global Burden of Disease: 2004 Update (Geneva: World Health Organization, 2008), 54-59, table 1A, accessed July 31, 2015, http://www.who.int/healthinfo/global_burden_disease/2004_report_update/en/. The figure in the text is derived by counting as poverty-related any deaths from causes that occur almost exclusively in the poor countries, such as deaths from diarrheal diseases, hepatitis, HIV/AIDS, lower respiratory infections, malaria, maternal conditions, measles, meningitis, nutritional deficiencies, perinatal conditions, pertussis, tropical-cluster diseases, and tuberculosis. This estimate is highly conservative. Many premature deaths from other causes are also poverty-related as when poverty makes people especially vulnerable to environmental hazards, accidents, or violence, or when poor people die early from causes like cancer, diabetes, or heart disease because they cannot afford the kind of appropriate treatment that affluent people receive as a matter of course. Hampered by a lack of suitable data, my estimate excludes many deaths that clearly should be counted as poverty-related.

individually or collectively, their legal rights to political participation and due process. Especially in rural areas, but also in relationships of domestic service, employers, landowners, and local officials find it easy to entrap poor people—often from an early age—in relations of abject servitude and personal dependence, which in turn perpetuates their poverty, often over generations.

We can sum this up in the conclusion that at least half of all human beings still suffer one or more serious deprivations, lacking secure access to one or more of their internationally recognized human rights. It is clear that this huge human rights deficit is today almost entirely avoidable. This is clear just by looking at the global distribution of household income: the poorest third of humanity has only about 2 percent, the poorer half just over 4 percent, while the most affluent quarter takes about 85 percent.²⁰ Shifting just 2 percent of global household income would suffice to end all serious deprivations on our planet. But the actual trend goes the other way, toward *greater* inequality. Less and less of global income is allocated as a reward for labor; ever more of it goes to reward capital, and capital is becoming ever more concentrated. While the world is celebrating the end of the Millennium Development Goals period, humanity is also reaching another, less emphasized milestone: the richest 1 percent of the human population will soon own over half of all global private wealth. The poorer half, by contrast, owns only 0.7 percent of global private wealth, as much as the world's sixty-seven richest individuals.²¹

It is often said that the first-line responsibility for poverty-related human rights deficits lies with the governments of the countries in which severe poverty persists. But most of these governments are also poor. While the advanced industrialized states have annual government revenues in the order of US\$20,000 to US\$50,000 per person, India has annual revenues of about US\$200 per person, and many other governments are poorer still. These large international discrepancies are due to two factors: the per capita gross domestic products of poor countries are much smaller, and these countries also raise a much smaller proportion of their gross domestic products as government revenues, typically below 20 percent as compared to an OECD average of well over 40 percent.

^{20.} Data about the 2008 global distribution of household income at current market exchange rates were kindly provided by Branko Milanovic in an email on December 25, 2014.

Oxfam, "Wealth: Having it All and Wanting More," Oxfam Issue Briefing, January 2015, 3-4, accessed July 31, 2015, https://www. oxfam.org/sites/www.oxfam.org/files/file_attachments/ib-wealth-having-all-wanting-more-190115-en.pdf. Kasia Moreno, "The 67 People As Wealthy As The World's Poorest 3.5 Billion," *Forbes*, March 25, 2014, accessed July 31, 2015, www.forbes.com/ sites/forbesinsights/2014/03/25/the-67-people-as-wealthy-as-the-worlds-poorest-3-5-billion/.

It is difficult for poor country governments to raise income or consumption taxes from the poor majority of their population. Such taxes are unpopular, costly to collect, and also aggravate the very human rights deficits they are supposed to alleviate. But such governments also encounter difficulties in imposing taxes on those who *could* pay. Through sophisticated efforts, wealthy citizens of these countries, and corporations operating there, escape taxation to an extent that would be unthinkable in an affluent country with political clout and a highly sophisticated and well-funded tax administration. The Boston Consulting Group estimates that 31 percent of all private financial wealth owned by people in Africa and the Middle East, and 28 percent of such wealth owned by Latin Americans—some US\$2.9 trillion in total—is kept abroad, while the analogous estimates for Europe and North America are 7.8 percent and 2 percent, respectively.²² To collect taxes on the income and capital gains produced by this wealth, poor countries must largely rely on the honesty of their taxpayers as they lack access to information about their citizens' overseas holdings.

Even more significant are the ways in which multinational corporations reduce their tax burdens, typically by creating additional subsidiaries in tax havens and then having their poor country subsidiaries contract arrangements with their tax haven subsidiaries that diminish the *taxed* profits of the former while increasing the *untaxed* profits of the latter—arrangements involving trade misinvoicing, abusive transfer prices, or inflated consulting or trademark fees, for example.²³ Global Financial Integrity estimates that trade misinvoicing accounts for 80 percent of all illicit financial outflows from less developed countries, which totaled US\$6.6 trillion during 2003–2012 and about US\$1 trillion in 2012 alone.²⁴ These illicit outflows constitute 3.9 percent of the gross domestic products of the developing countries, and 5.5 percent in Africa.²⁵ They are larger than incoming total foreign direct investment²⁶ and also vastly larger than the sum total of all official development assistance flowing into these countries, which officially amounted to some US\$127 billion in 2012.²⁷

^{22.} Boston Consulting Group, "Global Wealth 2015: Winning the Growth Game," June 15, 2015, 5, 12, accessed July 30, 2015, https://www.bcgperspectives.com/Images/BCG-Winning-The-Growth-Game-June-2015_tcm80-190567.pdf.

^{23.} Martin Hearson and Richard Brooks, *Calling Time: Why Sabmiller Should Stop Dodging Taxes in Africa* (London: Action Aid, 2012), accessed July 31, 2015, www.actionaid.org.uk/doc_lib/calling_time_on_tax_avoidance.pdf.

^{24.} Dev Kar and Joseph Spanjers, *Illicit Financial Flows from Developing Countries: 2003–2012* (Washington: Global Financial Integrity, 2014), vii, accessed July 31, 2015, www.gfintegrity.org/report/2014-global-report-illicit-financial-flows-from-developing-countries-2003-2012/.

^{25.} Ibid., 11. 26. Ibid., 12.

^{27. &}quot;Net ODA, million US\$," United Nations, United Nations Statistics Division, Millennium Development Goals Indicators (2015), http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=569&crid=.

Christian Aid calculates that, through these profit- and tax-diminishing capital outflows, governments of less developed countries have lost tax revenues in the order of US\$160 billion annually, or about US\$2.5 trillion for the 2000–2015 period. Christian Aid writes: "If that money was available to allocate according to current spending patterns, the amount going into health services could save the lives of 350,000 children under the age of five every year."²⁸

Clearly, massive reductions in existing human rights deficits could be achieved by allowing poor countries to collect reasonable taxes from multinational corporations and from their own most affluent nationals.²⁹ One might fault various groups of agents for poor countries' current inability to do so and for the resulting human rights deficit. There are the secrecy and tax haven jurisdictions (including Switzerland, Ireland, the United Kingdom, and the United States) that structure their tax and legal systems so as to encourage tax abuse, and also typically protect bank secrecy against the tax authorities of less developed countries. Besides these rogue jurisdictions, there are the individuals and corporations who erode the tax base of poor countries by using tax havens to dodge or reduce taxes on their wealth and profits. And there are vast numbers of smart bankers, lawyers, accountants, and lobbyists who devise, implement, and "legalize" these schemes. Moreover, the jurisprudence of the European Court of Justice has made it difficult for countries in the largest integrated economic area on Earth to enact legislation to address some of these concerns.

While all these agents surely share responsibility, it is quite unrealistic to hope that the problem can be meaningfully reduced through their morally motivated self-restraint. Even if many of them could be convinced to desist, their former dirty business would continue to thrive so long as it provides safe and attractive rewards. Realistically, tackling the problem of illicit financial outflows from the poor countries requires concerted action on the part of the more powerful rich country governments,

^{28.} Christian Aid, False Profits: Robbing the Poor to Keep the Rich Tax-Free (London: Christian Aid, 2009), 3, accessed July 31, 2015, www.christianaid.org.uk/Images/false-profits.pdf. Intense national and international efforts are underway toward improving current government spending patterns in poor countries, which are often distorted by corruption, bloated security apparatuses, and indifference to the poor. Insofar as such efforts succeed, additional revenues would have an even larger human rights impact than Christian Aid was calculating.

See also the International Bar Association's Human Rights Institute Task Force report Tax Abuses, Poverty and Human Rights (London: IBAHRI, 2013), accessed July 31, 2015, www.ibanet.org/Human_Rights_Institute/TaskForce_IllicitFinancialFlows_ Poverty_HumanRights.aspx.

which all too often encourage the tax dodging of their multinational companies abroad³⁰ and use strong-arm tactics to get tax havens to cooperate with their own tax enforcement efforts without ensuring that poor country governments receive similar cooperation.³¹

The current draft of the Sustainable Development Goals, which will take the place of the Millennium Development goals on January 1, 2016, joins the wish that we "by 2030 significantly reduce illicit financial and arms flows."³² But it falls miserably short of recognizing what the most powerful states within the global financial system would need to do in order to accomplish this task. All the draft demands of these most powerful governments is that they "strengthen domestic resource mobilization, including through international support to developing countries to improve domestic capacity for tax and other revenue collection."³³ What it should require of the more powerful governments is that they reform the international financial and fiscal system so that it no longer facilitates tax dodging and massive illicit financial outflows from the developing countries.³⁴

The key to reducing the tax gap and consequent human rights deficit in the poor countries is global financial transparency: the abolition of shell companies and anonymous accounts, automatic exchange of tax information worldwide, and the requirement that, in their audited annual reports and

^{30.} Shifting profits out of developing countries would not be so lucrative for multinational corporations (MNCs) if their home countries taxed such profits while granting a tax credit for profit taxes already paid abroad. But most such home countries do not do this, allowing MNCs to pocket the taxes they dodge in poor countries as pure profit. The United States is an exception by imposing a 35 percent tax on funds that MNCs repatriate from tax havens while granting a tax credit for taxes already paid abroad. But there are ways of getting around this tax. For example, the US Congress granted a "tax holiday," misleadingly named the American Jobs Creation Act of 2004, which temporarily enabled US-based MNCs to repatriate profits accumulated in tax havens at a discounted 5.25 percent tax rate (Raquel M. Alexander, Stephen W. Mazza, and Susan Scholz, "Measuring Rates of Return on Lobbying Expenditures: An Empirical Case Study of Tax Breaks for Multinational Corporations," *Journal of Law and Policy 25*, no. 4 (2009): 401-457). A coalition of ninety-three corporations spent US\$282.7 million on a concerted lobbying effort to get this Act passed by the US Congress, and these same corporations then repatriated over US\$200 billion while realizing a total of US\$62.5 billion in tax savings—US\$221 for every US\$1 they had invested in lobbying. The losses fell mostly on the populations of the less developed countries from which these MNCs had shifted their profits into tax havens. Without the prospect of circumventing profit taxes in their home country, MNCs would have little to gain from such profit shifting.

^{31.} Even the OECD's new landmark model agreement on automatic exchange of financial information is likely to exclude many less developed countries from its benefits on the grounds that they lack the resources to set up the data collection arrangements required to qualify as a reciprocating partner.

^{32.} UN Sustainable Development Knowledge Platform, "Open Working Group proposal for Sustainable Development Goals," Goal 16.4, accessed July 31, 2015, https://sustainabledevelopment.un.org/sdgsproposal.

^{33.} Ibid., Goal 17.1.

^{34.} For extensive discussion of the most promising reform proposals in this direction, see the forthcoming Thomas Pogge and Krishen Mehta, eds., *Global Tax Fairness* (Oxford: Oxford University Press, 2016).

tax returns, multinational corporations report their sales, profits, and taxes paid country by country for each jurisdiction in which they operate.³⁵ Adding such targets to the Sustainable Development Goals would open the door for policy reforms that are essential to curbing illicit financial flows which, by draining less developed countries of capital and tax revenues, are great impediments to sustainable development. Such policy reforms would advance tax justice and thereby slow the trend to ever-increasing economic inequality. In this way, such reforms would protect human rights by securing more resources for the poorer half of humankind. Such reforms would also help protect human rights by curtailing the activities of criminals such as terrorists, money launderers, and traffickers of persons, drugs, and weapons.

A major breakthrough for financial transparency is now within reach. To achieve it, the citizens of the countries that are home to the world's major financial centers must keep up the pressure on their governments to carry forward the needed institutional reforms and to shape these reforms so that the populations of the poor countries, whose basic human rights are at stake, participate fully in their benefits. And the citizens of the so-called developing countries must pressure and support their governments toward jointly and competently representing their interests in international negotiations, agencies, and courts, as well as toward improving their own institutions and policies. Individually, developing countries can and should beef up their enforcement capacities toward curtailing illicit financial outflows and implement smarter ways of tapping into the huge gains multinational corporations are reaping from extracting natural resources there. Collectively, developing countries can and should act and negotiate in concerted solidarity with one another rather than allow themselves to be manipulated into a race to the bottom in which they offer foreign investors ever more minimal taxes, ever more exploitable workers, and ever laxer environmental constraints. This huge drain of resources has weighed upon the world's poor long enough. It is now ripe for change. A persistent effort by experts and activists from South and North is bound to succeed.

^{35.} These are among the key ideas emerging from a recent Delphi study conducted by Academics Stand Against Poverty (ASAP), "Policy Options for Addressing Illicit Financial Flows: Results from a Delphi Study," 2014, accessed July 30, 2015, http:// academicsstand.org/wp-content/uploads/2014/09/Policy-Options-for-Addressing-Illicit-Financial-Flows-Results-from-a-Delphi-Study.pdf. See also Pogge and Mehta, *Global Tax Fairness.*

3. Methodological Overview of the Impact of Illicit Financial Flows in Developing Countries

Dev Kar

I. Introduction

Broad capital flight differs from illicit financial flows in that the former comprises a mix of both licit and illicit capital whereas the latter consists of capital that is illegal in nature. Both measures are subject to errors in measurement, as are most economic statistics. A number of researchers, such as Bhagwati,¹ Cuddington,² Dooley,³ Cumby and Levich,⁴ Dornbusch,⁵ Claessens and Naudé,⁶ Boyce and Ndikumana,⁷ among others, have studied the issue of capital flight from developing countries. However, few if any researchers have focused only on illicit financial flows. Rather, they tended to focus on a broader measure of capital flight that includes flows of licit and illicit capital in both directions. As a result, they have almost without exception netted out inward capital flight from outward transfers. In contrast, for reasons discussed below, research on illicit financial flows at Global Financial Integrity (GFI) has either focused on outflows or has analyzed the nature and drivers of inflows and outflows separately.

^{1.} Jagdish N. Bhagwati, ed. Illegal Transactions in International Trade: Theory and Measurement (Amsterdam: North-Holland Publishing Company, 1974.)

^{2.} John T. Cuddington, "Capital Flight: Estimates, Issues, and Explanations," in *Princeton Studies in International Finance* (Princeton, NJ: International Finance Section, Dept. of Economics, Princeton University, 1986).

Michael P. Dooley, "Country-Specific Risk Premiums, Capital Flight, and Net Investment Income Payments in Selected Developing Countries," IMF Working Paper DM/86/17 (Washington, DC: International Monetary Fund, 1986).

^{4.} Robert E. Cumby and Richard M. Levich, "On the Definition and Magnitude of Recent Capital Flight," in *Capital Flight and Third World Debts*, ed. D. Lessard and J. Williamson (Washington, DC: Institute for International Economics, 1987).

^{5.} Rudiger Dornbusch, *Capital Flight: Theory, Measurement and Policy Issues*, Occasional Paper No. 2 (Washington, DC: Inter-American Development Bank, 1990).

Stijn Claessens and David Naudé, "Recent Estimates of Capital Flight," Policy Research Working Paper Series No. 1186 (Washington, DC: Debt and International Finance Division, International Economics Department, World Bank, 1993).

^{7.} James K. Boyce and Léonce Ndikumana, *Capital Flight from Sub-Saharan African Countries: Updated Estimates,* 1970-2010, PERI Research Report (Amherst, MA: Political Economy Research Institute, University of Massachusetts-Amherst, 2012).

A 2012 study at GFI found that, on average, total illicit outflows from developing countries range between 64 to 69 percent of broad capital flight.⁸ In other words, the major component of capital flight involves illicit flows. These flows involve capital that is illegally earned, transferred, or utilized, and cover all unrecorded private financial outflows that drive the accumulation of foreign assets by residents in contravention of applicable laws and the regulatory framework.

The notion that capital flight from developing countries often takes on an illicit form dates back to the seminal piece by Bhagwati, Kreuger, and Wilbuswadi on the determinates of capital flight.⁹ They argued that the exchange and capital controls prevalent in most developing and emerging markets relative to advanced economies provide strong incentives to circumvent such policies. These policies have the effect of separating domestic and foreign capital markets.

Empirical research at GFI, however, finds a weak link between macroeconomic policies and illicit flows, although we find somewhat stronger links between macroeconomic drivers and broad capital flight. The primary motivation is not portfolio maximization in hopes of securing the highest rate of return. Rather, we find that illicit outflows are mainly driven by governance issues, and the primary motivation is to shelter ill-gotten wealth.

A recent GFI study published in December 2014 found that nearly a trillion dollars in illicit capital were transferred out of developing countries in 2012.¹⁰ This is nearly ten times the amount of official development assistance they received that year. Such outflows have grown at 9.4 percent per annum in real terms over the period 2003–2012. The adverse consequences of illicit outflows on economic development have increasingly attracted the attention of policy makers and international organizations.

^{8.} Dev Kar and Sarah Freitas, *Illicit Financial Flows from Developing Countries: 2001–2010* (Washington, DC: Global Financial Integrity, 2012), 6, table B.

Jagdish N. Bhagwati, Anne Krueger, and Chaiyawat Wibuls-Wasdi. "Capital Flight from LDCs: A Statistical Analysis." in Illegal Transactions in International Trade: Theory and Measurement, ed. by Jagdish N. Bhagwati. (Amsterdam: North-Holland Publishing Company, 1974), 148–54.

^{10.} Dev Kar and Joseph Spanjers, Illicit Financial Flows from Developing Countries: 2003–2012 (Washington, DC: Global Financial Integrity, 2014).
We present the main results of five case studies on the drivers and dynamics of illicit financial flows. The case studies on Brazil, India, Mexico, the Philippines, and Russia were financed by the Ford Foundation. In studying these chapters, readers should note that both the methodology of estimating illicit flows and the econometric models that seek to capture the drivers and dynamics have evolved in light of our experience and internal review as well as greater data availability.

We make no attempt to revise the results of these models based on the current methodology of estimating illicit flows. The model results are based on studies previously published by GFI. However, at the beginning of each study, we present an update of the estimates of illicit flows based on current methodology. The charts have been updated with the current data on capital flight; see below for a discussion of methodology. We now present a short section on methodology to illustrate how and why it has changed over the years.

II. Overview of Methodology of Illicit Financial Flows

GFI's early studies on India and Mexico used a definition of illicit flows that was consistent with how academic researchers defined broad capital flight as a mix of licit and illicit flows.¹¹ The advantage of this method was that outflows were conceptually consistent with outward transfers of flight capital contained in academic studies. Moreover, we adopted this methodology because, as noted earlier, illicit flows made up the bulk of capital flight anyway.

It should be noted, however, that there is one part of our methodology that has never changed over the years: since flows are illicit in both ways (and a major portion of capital flight consists of illicit flows), it makes little sense to net out illicit inflows from outflows. A net of the two would be akin to the concept of net crime, which is absurd. So while academic literature presented estimates of net capital flight, we used gross illicit outflows or gross outward capital flight. In the case of the Philippines, we analyzed the factors responsible for driving illicit inflows and outflows separately, but without netting them out. In the case of Brazil and Russia, given that outflows of legitimate capital were significant, we analyzed the factors that drove both capital flight and illicit flows and how the

Dev Kar, *The Drivers and Dynamics of Illicit Financial Flows from India: 1948–2008* (Washington, DC: Global Financial Integrity, 2010); Dev Kar, Mexico: Illicit Financial Flows, Macroeconomic Imbalances, and the Underground Economy (Washington, DC: Global Financial Integrity, 2012).

two interacted. We now present a brief description of the methodology of capital flight and illicit financial flows.

III. Broad Capital Flight

Except for Dooley,¹² most researchers estimate broad capital flight based on a method that captures "leakages" of capital from the balance of payments "adjusted" for trade misinvoicing. They use the World Bank Residual (WBR) method to estimate balance of payments leakages in both directions. The term "leakages" connotes mainly unrecorded movements of capital in both directions. The WBR method affords an estimate of the gap between source of funds and use of funds of a country. Studies at GFI over the period December 2008 through January 2012 used a variant of this method based on the Change in External Debt (CED) as a proxy for one of the sources of funds available to a country. This is in lieu of new debt flows (NDF), as noted in GFI's first study published in December 2008.¹³ The reason we opted for the CED approach is that many more countries report data on outstanding external debt to the World Bank than report information on new debt flows.

Illicit flows generated through deliberate misinvoicing of external trade constitute the second component of broad capital flight. This second component is predominant in the case of most developing countries, except a small group of oil exporters like Russia. Even in the case of Mexico, another oil exporter, trade misinvoicing comprises some 68.5 percent of total illicit outflows. Note that trade misinvoicing is also the common methodological component in estimating broad capital flight and illicit flows.

An overview of the CED version of the WBR method has been summarized in many GFI publications. Briefly, it estimates the gap between source of funds and use of funds of a country. There are two sources of funds and two uses of funds. The two sources of funds are Change in External Debt (which will be positive if the country contracts new debt or negative if it pays off debt more than it receives in new loans) and net foreign direct investments (FDI). Net FDI is estimated as direct investments flows into a country minus such investments made by residents abroad. If a country

^{12.} Dooley, "Country-Specific Risk Premiums."

^{13.} Dev Kar and Devon Cartwright-Smith, *Illicit Financial Flows from Developing Countries: 2002–2006* (Washington, DC: Global Financial Integrity, 2008), 7.

receives more in FDI than it invests abroad, the net position is positive. However, if residents invest more abroad than foreigners invest in the country, the FDI position is negative.

The two uses of funds are due to a country's current account balance and change in reserves. If a country has a current account deficit, then that is a use since the deficit has to be financed. If, on the other hand, the country has a current account surplus, it provides capital to the rest of the world. Similarly, additions to reserves increase use of funds while a drawdown from reserves adds to source of funds. The formula is:

Source of Funds – Use of Funds $K = [\Delta \text{ External Debt + FDI (net)}] - [CA Deficit + \Delta \text{ Reserves}]$

where K is capital flight and Δ represents the change in the relevant variables.

However, as noted in GFI's 2012 study, the WBR method includes a small portion of licit capital.¹⁴ This was shown by Claessens and Naude and was the main reason for moving away from the CED to the Hot Money Narrow (HMN) method to capture flows through the balance of payments that are strictly illicit in nature.¹⁵

As noted earlier, the trade misinvoicing component (based on Gross Excluding Reversals or GER) is common to both capital flight and illicit flows, although we have expanded and improved the estimation of misinvoicing over the years. What has not changed is that we focus only on gross outflows generated through misinvoicing instead of netting out inflows from outflows. That is why we use the term Gross Excluding Reversals to distinguish it from the netting out method carried out by other researchers. Again, because flows are illicit in both directions, it does not make sense to net them out. Illicit inflows do not provide a benefit to a country that offsets the loss of capital through illicit outflows.

^{14.} Dev Kar and Sarah Freitas, Illicit Financial Flows from Developing Countries: 2001-2010 (Washington, DC: Global Financial Integrity, 2012), 3.

^{15.} Claessens and Naudé, "Recent Estimates of Capital Flight."

Export under-invoicing and import over-invoicing represent illicit outflows, while export overinvoicing and import under-invoicing represent illicit inflows. The logic of our argument is easy to grasp when we see that deliberate under-invoicing of imports in order to evade applicable import duties cannot represent any benefit to a government. Rather, such illegal activities represent a loss of government revenues.

The formula for trade misinvoicing is:

 $K = [Xi] - Mj/\beta + [Mi/\beta] - Xj$

Under the GER method, this equation would capture misinvoicing-related outflows through export under-invoicing and import over-invoicing while setting to zero any "inflows" through export overinvoicing and import under-invoicing. Specifically, the exports of goods free on board (f.o.b.)(X) from country (i) to country (j) is compared to the imports (M) reported by the latter after adjusting for the cost of insurance and freight (β). The IMF typically uses a factor of 10 percent of the value of goods traded for the cost of insurance and freight. On the import side, imports (M) of country (i) from country (j) are converted to f.o.b. value and then compared to what country (j) reports as having exported to country (i). Illicit outflows from country (i) will be indicated if the exports of country (i) are understated relative to the reporting of partner country (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 insurance and freight (β).

IV. Illicit Financial Flows

Illicit financial flows are estimated by considering balance of payments leakages that are purely of an illicit character and supplementing them by outflows captured by the GER method. In the academic literature, the HMN method (based on net errors and omissions in the balance of payments) has been used as a proxy for illegal capital flows.¹⁶ In balance of payments nomenclature, outflows of illicit capital from the balance of payments are represented by negative HMN, which are multiplied by -1 to estimate the size of outflows in positive terms. These estimates of balance of payments leakages are then supplemented by trade misinvoicing GER estimates to come up with total estimates of

^{16.} See Cumby and Levich, "On the Definition and Magnitude of Recent Capital Flight;"and Claessens and Naudé, Recent Estimates of Capital Flight.

illicit outflows. Illicit inflows (for example, in the Philippines study) are similarly based on balance of payments inflows plus misinvoicing due to export over-invoicing and import under-invoicing.

V. Methodological Revisions to Trade Misinvoicing

As we noted earlier, we made two improvements to the methodology for estimating trade misinvoicing beyond those found in academic literature. First, while the early GFI studies closely followed academic practice of comparing a developing country's trade with advanced countries as a group, beginning in 2013 we estimated misinvoicing by comparing the trade of each reporting developing country with each advanced partner country. This method yields a more accurate estimate of misinvoicing, given that traders in developing countries always misinvoice trade transactions in relation to individual countries. The aggregate of "advanced economies" is a statistical construct that has no relevance as far as how traders misinvoice their transactions. The estimates thus obtained are then bumped up to account for a developing country's trade with the rest of the world, a procedure that is similar to the one carried out by other researchers.¹⁷ Hence, estimates of misinvoicing in GFI studies after 2012 and used in subsequent case studies are not directly comparable to estimates found in earlier studies that compared developing countries' trade with all advanced countries as a group.

Second, starting in 2013, we also began to correct for the amount of artificial trade misinvoicing that results from the re-export of goods to and from developing countries through Hong Kong.¹⁸ We use the data provided by the Hong Kong Census and Statistics department to correct for the "double-counting" due to re-exports through Hong Kong. However, given the lack of re-exports data by source and destination countries by other trade entrepôts like Dubai or Singapore, we cannot carry out similar adjustments to the trade data in the other cases. That being said, Hong Kong is by far the largest trade entrepôt, while the adjustments needed for trade through other entrepôts have a minor impact on overall estimates of misinvoicing.

See Léonce Ndikumana and James K. Boyce, New Estimates of Capital Flight from Sub-Saharan African Countries: Linkages with External Borrowing and Policy Options, PERI Working Paper Series No. 166 (Amherst, MA: Political Economy Research Institute, University of Massachusetts, Amherst, 2008).

^{18.} For a detailed analysis of the problem re-exports create in comparing bilateral trade statistics, please see Gordon H. Hanson, and Robert C. Feenstra. Intermediaries in Entrepôt Trade: Hong Kong Re-Exports of Chinese Goods.NBER Working Paper No. 8088. Cambridge, MA: National Bureau of Economic Research, January 2001. The procedure for which we corrected for re-exports to and from the Philippines was verified through correspondence with the IMF's Direction of Trade Statistics department.

Third, the IMF's definition of advanced economies is constantly reevaluated. This is reflected by the ascension to the group of Estonia in April 2011, San Marino in October 2012, and Latvia in April 2014. This revision in definitions, in combination with revisions in statistics, is responsible for all deviations from the trade misinvoicing estimates produced by GFI after 2012. Additionally, Mexico's trade misinvoicing numbers are calculated here bilaterally for the first time, resulting in GFI's most accurate estimates of trade misinvoicing from Mexico to date.

VI. Limitations of Methodology

Economic methods based on recorded balance of payments and trade data cannot capture the totality of illicit flows. Such methods using official statistics typically do not reflect illicit transfers of capital occurring through drug and other contraband trade, smuggling, same-invoice faking, hawala or other currency swaps, and other illicit transactions that are typically settled in cash.

Moreover, while bilateral trade data allow researchers to estimate large and unexplained acrossinvoice discrepancies in valuation, the method cannot reveal misinvoicing embedded in the same invoice through collusion between traders. When the discrepancy between export and import prices are hidden within the same invoice, the practice is known as "same-invoice faking."

Apart from the difficulty of capturing illicit flows generated through same-invoice faking, the adjustments for trade misinvoicing remains incomplete due to another important reason. This is because the Direction of Trade Statistics maintained by the IMF cover only trade in goods and not services. The lack of data on trade in services, compiled on a bilateral basis, belies the fact that such trade offers much larger incentives to misinvoice due to the difficulty of pricing services across countries on a comparable basis.

To summarize, estimates of illicit flows using economic methods tend to understate significantly the actual volume of illicit flows. The extent of understatement will vary depending on 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.

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 underground economies (such as Russia) or where "hawala" transactions are popular, such as the Indian subcontinent and some Middle Eastern countries like the United Arab Emirates. The reason could be that the smooth operation of these markets requires the infusion of large amounts of illicit funds, which are in turn channeled through the misinvoicing of trade transactions. In fact, there have been a number of studies exploring the link between "hawala" transactions and trade misinvoicing. The implication is clear: illicit inflows do not represent a reversal of capital flight but reflect the need to finance illicit activities on a large scale.

VII. Comparison of Illicit Flows To and From the Five Countries

The advantage of implementing the current methodology to estimate illicit flows to and from Brazil, India, Mexico, the Philippines, and Russia is that we can compare their relative severity and analyze their pattern on a cross-sectional basis. Tables 1 and 2 present estimates of illicit inflows (inward balance of payments leakages based on the HMN method) and trade misinvoicing (TM) inflows, as well as such outflows based on the HMN and GER methods discussed above. The periods covered in Table 1 refer to those in the original study, while Table 2 presents estimated averages over the last five years (2008–2012).

Table 1.Illicit Financial Flows To and From Brazil, India, Mexico,
the Philippines, and Russia

		Average inflows per annum		Total	Average outflows per annum			Total		
Countries	Period	HMN	ТМ	Total 2/	(% GDP)	HMN	GER	Total 2/	Outflow (% GDP)	0E (in % GDP) 1/
India	1948-2012	0.4	12.6	13.0	1.8	0.5	10.1	10.5	1.5	31.6
Russia	1994-2012	0.6	100.7	101.3	12.0	8.9	61.7	70.6	8.3	46.0
Mexico	1970-2012	1.1	23.4	24.4	4.1	3.9	23.0	26.9	4.5	38.5
Philippines	1960-2012	0.3	7.6	7.9	7.4	0.8	3.4	4.2	4.5	34.8
Brazil	1960-2012	0.4	9.4	9.8	1.1	0.9	9.7	10.6	1.6	38.9

(in billions of U.S. dollars or in percent of GDP)

1/ The estimate of the underground economy (UE) is expressed as percent of GDP over the period of the original study. Across these five countries, the correlation coefficient of total inflows as percent of GDP and the underground economy is 0.67 while the coefficient for outflows and the underground economy is 0.78. In other words, illicit outflows are correlated more strongly to the size of the underground economy than are illicit inflows.

2/ HMN and TM may not sum to the Total column due to rounding.

In the case of all five countries, whether we speak of inflows or outflows, balance of payments leakages are much smaller than flows related to deliberate trade misinvoicing. This supports our earlier observation that capital flight, as estimated in the academic literature, is dominated mainly by illicit financial flows. For instance, average HMN inflows per annum range from US\$0.3 billion in the case of the Philippines to US\$1.1 billion in the case of Mexico, with Russia averaging just US\$0.6 billion per annum. In comparison, inflows due to trade misinvoicing range from US\$7.6 billion in the case of the Philippines to US\$100.7 billion in the case of Russia. Average illicit inflows into these five countries is skewed due to Russia's massive inflows.

Misinvoicing also dominates illicit outflows. While HMN outflows are higher than HMN inflows, they are still small relative to misinvoicing-related outflows. HMN-related outflows range from US\$0.5 billion per annum (India) to US\$8.9 billion per annum (Russia), while misinvoicing-related outflows range several times higher, from an average of US\$3.4 billion per annum (Philippines) to US\$61.7 billion per annum (Russia). Countries that are significant conduits for drug trafficking, such as Mexico and Russia, tend to exhibit large illicit inflows and outflows. But in all cases, trade misinvoicing clearly dominates balance of payments leakages as the major conduit for illicit flows.

The other major finding that is very interesting is that illicit flows are strongly related to the size of the underground economy. The correlation coefficient between illicit inflows and the underground economy is 0.67 while the coefficient between illicit outflows and the underground economy is 0.78. That is a strong correlation across five diverse countries on three continents for long time periods that vary from one country to another. The time period chosen was determined mainly based on data availability and country-specific applicability. For example, Russia became a sovereign state on December 25, 1991, and the first complete year for which balance of payments and trade data are available is 1994.

While average illicit inflows and outflows through the balance of payments (HMN measure) have barely budged in the case of most of these five countries, average trade misinvoicing-related inflows and outflows have increased over the last five years compared to the study periods (see Table 2).

For instance, average illicit flows into India through trade misinvoicing surged to US\$65.2 billion per annum over the last five years (2008–2012) compared to just US\$12.6 billion per annum for the entire

period of the study (1948–2012). Such outflows accelerated to US\$61.8 billion per annum compared to US\$10.1 billion per annum for the entire sixty-five-year period.

Table 2.Illicit Financial Flows To and From Brazil, India, Mexico,
the Philippines, and Russia

		Average inflows per annum		Total	Average outflows per annum			Total		
Countries	Period	HMN	ТМ	Total 2/	(% GDP)	HMN	GER	Total 2/	(% GDP)	(in % GDP) 1/
India	2008-2012	0.6	65.2	65.7	4.2	0.8	61.8	62.6	3.9	31.6
Russia	2008-2012	0.0	159.2	159.2	9.7	7.3	125.6	132.9	8.3	46.0
Mexico	2008-2012	0.0	62.1	62.1	5.9	11.0	45.4	56.4	5.4	38.5
Philippines	2008-2012	0.3	23.7	24.0	12.3	2.2	6.5	8.7	4.4	34.8
Brazil	2008-2012	0.4	38.9	39.3	2.00	1.0	26.9	27.9	1.4	38.9

(in billions of U.S. dollars or in percent of GDP)

1/ The estimate of the underground economy (UE) is expressed as percent of GDP over the period of the original study. Across these five countries, the correlation coefficient of total inflows as percent of GDP and the underground economy is 0.31 while the coefficient for outflows and the underground economy is 0.49. In other words, illicit outflows are correlated more strongly to the size of the underground economy than are illicit inflows.

2/ HMN and TM may not sum to the Total column due to rounding.

Similarly, average inflows and outflows over the last five years increased sharply relative to the entire study period in the case of the other four countries as well. The pace of illicit flows into Russia increased to US\$159.2 billion per annum over the last five years compared to an average inflow of US\$100.7 billion per annum for the entire study period. In the case of Mexico, the Philippines, and Brazil, they increased to US\$62.1 billion, US\$23.7 billion, and US\$38.9 billion per annum, respectively, compared to much lower averages recorded for the entire study periods (see Table 1). The average pace of outflows per annum also increased over the last five years compared to the sample periods in Table 1, but the increase was not quite as much as the pace of inflows per annum in Mexico, the Philippines, and Brazil. In the case of India and Russia, illicit inflows per annum increased faster over the last five years than illicit outflows per annum when compared to the sample period.

The increase in illicit flows is mainly due to the fact that the bump-up factor, corresponding to the share of intra-developing country trade in world trade, has gone up steadily as a result of tradebased globalization. The increase in this factor, applied to significant misinvoicing involving the trade of each of the five developing countries vis-à-vis individual advanced countries, is mainly responsible for the sharp increase in illicit flows in the recent five years (2008–2012).

VII. Comparison of Model Results

The econometric models that were developed in the case of each country had to take account of data availability (e.g., the relatively short period of data for Russia meant that we could not develop a long-run simultaneous equations model or SEM) and the structural and other characteristics of the country in question. Moreover, we developed a SEM examining the drivers of both capital flight and illicit flows if the former was clearly a long-standing issue in that country (e.g., Brazil and Russia).

Furthermore, illicit inflows through trade misinvoicing, such as import under-invoicing, was a significant issue in the case of the Philippines. Hence, illicit flows into the Philippines as percent of GDP are much larger than illicit outflows compared to all countries except Russia (see Table 1 and 2). In the case of Russia, the inflows were large (as percent of GDP) but again we could not develop a SEM for want of a sufficiently long time series. In the case of the Philippines, we developed a SEM that modeled illicit inflows and outflows separately in order to examine their interactions.

Case Studies	Date Published	Author(s)	Number of Equations	Methodology of Illicit Flows	Underground Economy (UE)
Brazil	September 2014	Dev Kar	Ten	CED+GER and HMN+GER	Endogenous
India	November 2010	Dev Kar	Six	CED+GER	Exogenous
Mexico	January 2012	Dev Kar	Seven	CED+GER	Endogenous
Philippines	February 2014	Dev Kar and Brian LeBlanc	Ten	HMN+GER	Endogenous
Russia	February 2013	Dev Kar and Sarah Freitas	Three	CED+GER and HMN+GER	Endogenous

Table 3. Model Characteristics and Simulation Results for Five Country Case Studies

1/ Simultaneous indicates that illicit financial flows both drive and are driven by the underground economy (UE); *** denotes significant at 99 percent, ** significant at 95 percent confidence, and * significant at 90 percent confidence. Inflows and outflows indicate that they drive each other. N/A indicates that certain variables are not applied in regressions. Table 3 presents the main results obtained by simulating the SEMs. The following are the major findings regarding these models:

- Illicit flows, whether we define them based on CED+GER (capital flight) or HMN+GER, are significantly related to the underground economy. In the case of Brazil, Mexico, and Russia, this relationship was significant and simultaneous, meaning that illicit flows both drive and are driven by the underground economy. In the case of India, we found that illicit flows were significantly related to the underground economy lagged by one period. There was no evidence of a simultaneous interaction. In the case of the Philippines, we found evidence of a significant relationship between the underground economy and illicit inflows only. In all cases, significance was at the 99 percent confidence level.
- The underground economy was treated as an endogenous variable (determined within the model) in the case of Brazil, Mexico, the Philippines, and Russia, but it was treated as an exogenous variable in the case of India (estimates were based on those found by previous researchers and the gaps interpolated).
- The complexity of the econometric models increased from a total of six equations in the case of India to seven in the case of Mexico and ten in the case of Brazil and the Philippines.¹⁹

Interactions of Illicit Flows 1/								
UE	Nominal GDP	Fiscal Balance	Prices	Trade Openness	Real GDP Growth Rate or Real GDP Per Capita	Inflows/ Outflows		
***Significant & Simultaneous	Insignificant on broad capital flight	N/A	Insignificant on broad capital flight	Insignificant	Insignificant on broad capital flight	N/A		
***Significant lagged UE only	N/A	*** Significant in explaining Illicit flows	Insignificant	Insignificant	Insignificant	N/A		
***Significant &**Simultaneous	N/A	N/A	*** Significant	** Significant	Insignificant	N/A		
***Significant in explaining UE Illicit Inflows only	N/A	N/A	N/A	Insignificant	Insignificant	*** Significant & Simultaneous		
*** Significant & Simultaneous	N/A	N/A	N/A	N/A	*** Significant	N/A		

 Kar, IFFs from India; Kar, Mexico: Illicit Financial Flows; Dev Kar, Brazil: Capital Flight, Illicit Flows, and Macroeconomic Crises, 1960–2012 (Washington, DC: Global Financial Integrity, 2014); Dev Kar and Brian LeBlanc, Illicit Financial Flows to and from the Philippines: A Study in Dynamic Simulation, 1960–2011 (Washington, DC: Global Financial Integrity, 2014). The Russia study had just three equations in lieu of a full-scale SEM, capturing the monetary and fiscal sectors and their interactions to determine prices.

- There is very little evidence that illicit flows are driven by macroeconomic instability like inflation or the fiscal deficit. We found only in the case of India that broad capital flight based on CED+GER was driven significantly by the fiscal deficit. Price inflation was found to be a significant driver of broad capital flight in the case of Mexico but not significant in the case of Brazil, even though the latter also suffered episodes of hyperinflation. Moreover, when we considered flows that were strictly illicit in nature, we did not find inflation to be a driver of such flows from Brazil or the Philippines.
- Only in the case of the Philippines we modeled illicit inflows and outflows separately. In this case, we found evidence of a significant interaction between illicit flows in both directions.

4. The Drivers and Dynamics of Illicit Financial Flows from India: 1948–2012

Dev Kar

I. Introduction

This chapter provides an in-depth analysis of the drivers and dynamics of illicit flows from India over the longest time span covered in existing literature. In this chapter, illicit flows were based on what is known among researchers as "broad capital flight." So while the term "illicit financial flows" has remained unchanged throughout GFI's publications, there have been changes to the methodology underlying their estimation. The methodology of estimation was refined partly as a result of better data availability (e.g., data on re-exports published by Hong Kong) and partly to incorporate the comments of our academic readership (e.g., defining illicit flows more narrowly rather than as broad capital flight).

Hence, the estimates of illicit flows from India presented in this chapter cannot be compared with those shown in GFI's 2010 in-depth report on India.¹ So while our earlier case studies were based on a broader measure of illicit flows that included outflows of some licit capital (i.e., using the World Bank Residual method supplemented by estimates of trade misinvoicing), latter studies defined such flows more narrowly to exclude licit flows entirely (i.e., Hot Money Narrow estimates adjusted for trade misinvoicing).

These definitional and methodological changes were a natural part of the refinement of our methodology and of the models used to capture the drivers and dynamics of illicit flows. Table 1 presents estimates of illicit flows based on our current methodology. However, the revised data were

^{1.} See Dev Kar, *The Drivers and Dynamics of Illicit Financial Flows from India: 1948–2008* (Washington, DC: Global Financial Integrity, 2010) for more information.

not used to rerun the model given that our objective is to reflect the evolution of our models and methods, rather than to present one model based on a standard methodology for all five countries.

This chapter will analyze the long-term evolution of broadly defined illicit flows in the context of the country's transition from a centrally planned socialist economy to one embracing economic reform and enjoying faster rates of growth. Can the dynamics of illicit flows be represented adequately by a simulation model, and can the model capture complex factors such as overall governance, macroeconomic imbalances, and structural changes that can drive such outflows?

It should be recognized at the outset that capturing the drivers and dynamics of illicit flows is difficult for a number of reasons. For instance, while corruption is one of the main drivers of illicit flows, there are significant problems measuring it, particularly when we are covering a long time period. Neither the World Bank's Worldwide Governance Indicators nor Transparency International's Corruption Perceptions Index cover the period of our study (1948–2008). We therefore attempt to capture the state of governance in India using a measure of India's underground economy, given that one is almost a mirror image of the other. Second, estimates of illicit flows from the country are likely to be understated given that economic models cannot capture all channels through which such capital can leave the country.

The chapter is organized as follows. Section II provides a brief overview of the Indian economy since independence in order to see how illicit flows have evolved in the context of main economic developments. Section III presents a model of illicit financial flows that captures the main drivers of these flows, pointing out the reasons behind the strong empirical support or lack thereof in light of economic theory. The main findings of the chapter are summarized in Section IV.

II. Salient Developments in the Indian Economy Since Independence

This section provides a brief overview of the evolution of the Indian economy, providing a synopsis of salient developments over more than sixty years.

At independence on August 15, 1947, India was mainly an agrarian economy with more than 70 percent of its population deriving a livelihood from agriculture, which accounted for about 50 percent of GDP. The country faced serious balance of payments difficulties in the years immediately following independence as it ran sizable trade deficits with major trading partners. This forced the country to limit the current account deficit to the amount of foreign exchange reserves held. A low level of usable reserves meant that India had to control imports, which had to be paid in hard currency. Thus, import policy alternated between liberalization and increased restrictions depending upon the availability of foreign exchange. This led to exchange rationing and strict controls limiting imports to bare necessities. The Indian Planning Commission, which was established in March 1950 with the Prime Minister as Chairman, formulated and monitored exchange controls and strict controls on imports.

Significant financial liberalization was implemented in May 1989 as interest rate ceilings on money market instruments were removed and two new financial instruments were established—certificates of deposit and commercial paper—in order to allow companies to obtain financing at more favorable interest rates. Increasing import prices and trade liberalization led to a significant deterioration in India's current account balance, but increased the traded sector to 20.8 percent of GDP on average during the most recent period 1989–2008.

In 1992, India's Securities and Exchange Board implemented some capital market reforms aimed at improving firms' efficiency, making market transactions more transparent, curbing unfair trading practices, and establishing effective regulations to regulate capital markets. Significant trade liberalization was introduced in April 1992, but the trade regime continued to be highly restrictive as exports of certain commodities were subject to quantitative restrictions, while imports of most consumer goods were banned.² Industrial growth recovered in 1993, which reduced the public sector deficit and increased gross foreign reserves. The government removed barriers to entry for domestic and foreign firms, and took concrete steps to increase foreign direct investment. As a result of far-reaching economic reform policies that started in 1991, foreign capital inflows began to surge and the Reserve Bank of India had to intervene in order to prevent an appreciation of the

^{2.} K.R. Venugopal, Fiscal and Monetary Reforms in India (New Delhi: I.K. International Publishing House Pvt. Ltd., 2007), 415.

rupee. Further liberalization of exchange restrictions on current account transactions was introduced in stages in subsequent years. As a result, there was a surge in foreign direct and portfolio investment during 1993–95 and lower external debt.

In 1998, the government adopted further policy measures to open the capital account and to liberalize the trade and exchange regimes. It also introduced policy measures to boost exports that reduced red tape to make it easier to export and for companies in key export sectors to import capital goods. Under trade liberalization policies, the maximum tariff rate was lowered and a national mineral policy was revised to allow more private participation in the industry. These measures helped to further expand the traded sector, while economic reform in general provided a lasting boost to economic growth, which surged to 6.4 percent per annum on average, finally breaking free of the sluggish growth registered in the previous periods.

A defining feature of the period 1982–1988 is that the government progressively introduced a fiscal stabilization package that relied on tight financial policies, structural reforms, abolition of budgetary export subsidies, and a reduction of peak tariffs. As a result of strong adjustment policies, the average fiscal deficit was brought down from 7.7 percent of GDP in the period 1982–1988 to just 4.6 percent of GDP during 1989–2008. The lower fiscal deficit, greater recourse to non-inflationary financing, and a series of favorable monsoons helped to boost agricultural production and temper the rate of inflation to 6.8 percent per annum. However, in the absence of credible and lasting improvements in governance, illicit financial flows from the country surged as a result of faster rates of growth that worsened India's income inequality.

The piecemeal liberalization that had already begun in the early 1980s was placed on firmer footing when the P. V. Narasimha Rao government came to power in June 1991. The impetus for sustainable economic reform got a further boost following the macroeconomic crisis of 1991, which was driven by past policies of heavy public sector borrowing abroad and fiscal profligacy. However, the

economic reform that followed was implemented slowly and only after much discussion among the government, the private sector, and other major economic agents. Policy changes were therefore largely anticipated and came in the wake of economy-wide deliberations that fully involved India's complex democratic process.

The other key feature of Indian economic reforms was that India never experienced macroeconomic instability of the kind that gripped Latin American countries from time to time. Relative economic stability is marked by the fact that, since independence, only rarely did runaway inflation, complete economic decline, or severe balance of payments crisis threaten to derail the Indian economy. What are the underlying reasons for macroeconomic stability? For instance, the relatively low (mostly single digit) rates of inflation can be traced to three factors. First, the Reserve Bank of India did not monetize the central government budget deficits to the extent prevalent in high-inflation countries. On the contrary, India's high domestic savings rate helped to partially finance government deficits, particularly in 1989–2008. Second, trade openness indicators show that, barring the most recent period 1989–2008, the Indian economy was never very open to trade. This implies that the pass-through effect of exogenous shocks like oil price increases is much weaker in the case of India than in more open economies. Third, policymakers, in their overall development strategy, accorded a high priority to maintaining low inflation, even at the cost of over-burdening monetary policy instruments like reserve requirements, restrictive open-market operations, and selective credit control measures.

III. The Evolution of Illicit Flows: Updated Estimates

The evolution of illicit financial flows from India is carried out in three parts. Section A traces how these flows have grown in real terms over the entire sixty-five-year period 1948–2012, the last year for which complete macroeconomic data are available for India (see Table 1). Section B analyzes the impact on capital flight of the economic reform policies that were launched in earnest in June 1991 following the election of Rao as Prime Minister.

Table 1. India: Illicit Financial Flows, 1948–2012

	Inflo	ws	Outflo	ows				
Year	Trade Misinvoicing	Hot Money Narrow	Trade Misinvoicing	Hot Money Narrow	Total Illicit Inflows	Total Illicit Outflows	IFF Inflows / GDP	IFF Outflows / GDP
1948-1949	1,474	0	4,793	0	1,474	4,793	0.4%	1.4%
1950-1959	16,295	69	11,156	2,079	16,364	13,235	1.1%	0.9%
1960-1969	11,273	921	13,363	3,385	12,194	16,748	0.5%	0.7%
1970-1979	30,629	2,190	26,859	3,568	32,819	30,427	1.0%	1.0%
1980-1989	80,935	2,596	45,889	3,919	83,531	49,808	2.0%	1.3%
1990-1999	114,199	9,547	76,827	6,971	123,746	83,798	2.3%	1.5%
2000-2009	356,114	6,197	245,154	2,180	362,311	247,334	3.6%	2.4%
2000	20,484	458	12,666	0	20,942	12,666	3.2%	1.9%
2001	19,545	0	14,946	979	19,545	15,926	2.9%	2.3%
2002	19,240	0	11,139	267	19,240	11,406	2.6%	1.6%
2003	22,911	1,375	13,612	0	24,286	13,612	3.0%	1.7%
2004	32,669	806	24,456	0	33,475	24,456	3.7%	2.7%
2005	34,135	0	23,176	635	34,135	23,811	3.5%	2.4%
2006	37,444	1,009	31,437	0	38,453	31,437	3.6%	3.0%
2007	52,946	1,432	37,035	0	54,378	37,035	4.2%	2.9%
2008	59,899	1,116	45,989	0	61,015	45,989	4.8%	3.6%
2009	56,842	0	30,697	299	56,842	30,996	4.0%	2.2%
2010	77,705	0	68,290	1,970	77,705	70,260	4.6%	4.1%
2011	75,468	0	77,306	1,783	75,468	79,090	4.3%	4.5%
2012	55,982	1,673	86,721	0	57,654	86,721	3.3%	5.0%
Cumulative	820,072	22,849	656,359	25,856	842,920	682,214		
Average	12,616	414	10,098	462	12,973	10,496	1.8%	1.5%

(in millions of constant US dollars, base year 2010, or in percent)

Note: The estimates of illicit flows presented in Table 1 are based on current methodology and not on broad capital flight (CED+GER) used in GFI's 2010 report, *The Drivers and Dynamics of Illicit Financial Flows from India: 1948-2008.* Hence, the estimates are not directly comparable.

a. Growth of Illicit Financial Flows, 1948–2012

A total of US\$682.2 billion was shifted out of India over the sixty-five years between 1948, the first full year following India's independence, and 2012. These estimates are based on India's trade with

each advanced country, rather than the aggregate trade of advanced countries vis-à-vis India. Total balance of payments leakages of US\$25.9 billion amount to just 3.8 percent of total outflows, which are driven mainly by trade misinvoicing. The latter amounts to US\$656.4 billion, or more than 96 percent of total outflows. On average, illicit outflows average about 1.5 percent of GDP per annum.

Illicit inflows through the balance of payments and misinvoicing amount to US\$842.9 billion, of which inflows through misinvoicing account for about 97 percent. Inflows through the balance of payments amount to just US\$22.8 billion. On average, inflows account for about 1.8 percent of GDP per annum. Over the period 1948–2012, illicit outflows grew at nearly 6 percent per annum, while illicit inflows grew somewhat faster at 7.1 percent per annum. Except for some minor blips, both illicit inflows as well as outflows have tended to increase as a percent of GDP from the 1950s through the 2000s.

b. Illicit Flows During the Pre- and Post-Reform Periods

Ascertaining where economic reform actually started is difficult because reform 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 liberalization have been a salient feature of India's economic policies since shortly after independence. Nevertheless, the slew of policies aimed at freeing up markets from government controls that started with the Rao government in May 1991 still stands out as a landmark in India's economic history. We will examine whether it is possible to discern the impact of economic reform (as reflected in key macroeconomic indicators) on capital flight from India, given the difficulties of clearly demarcating pre- and post-reform periods.

Ironically, illicit flows in both direction have increased in the post reform period 1991–2012 relative to the period when India had a more controlled economy (see Section A). A possible explanation is that the faster rates of growth in the post-reform period were not inclusive in that they failed to lift all boats. This resulted in a more skewed distribution of income, leading to more high-net-worth

individuals, who are the main drivers of illicit flows. These are critical resources that the Government of India could have used to pay off external debts and that the Indian economy could have used for domestic investment and growth.

We now focus on illegal capital flight from India before and after the major economic reform policies that were implemented starting in June 1991. Outflows grew at 3.5 percent per annum before the reform period (1948–1990) compared to post-reform (1991–2012) when they grew at 14.1 percent per annum. There was also an acceleration of illicit inflows from the pre-reform period rate of 6 percent per annum to 10.9 percent per annum after economic reform in 1991.

IV. A Block-Recursive Dynamic Simulation Model of Illicit Flows

The model was simulated using the CED+GER measure of illicit flows consistent with academic estimates of broad capital flight. We did not rerun the model based on our current estimates of purely illicit flows.

Studying the problem of illicit flows or capital flight from developing countries is not a new phenomenon. Several researchers have focused on macroeconomic factors as well as governance issues in an attempt to explain capital flight. However, there are no studies that capture the interaction among the possible drivers of flight capital in the context of a dynamic simulation model. Apart from the difficulty of estimating illicit flows or illegal capital flight, models also need to draw upon the robustness with which macroeconomic and other factors drive capital flight. For instance, if the link between government deficits and capital flight is tenuous, or if the interaction between government deficits and capital flight even if the model that captures government operations and inflation cannot explain capital flight even if the model is theoretically sound. Such a model does not attain convergence in dynamic simulation.

The model presented here is block recursive in nature in that the model postulates an interaction between government expenditures and revenues in the formation of the central government balance.

The complete block-recursive model is:

$$\psi_{t} = f([\hat{G}_{t} - \hat{R}_{t}], \Delta P_{t}, Reform, Underground_{t-1}, Trade Openness, \dot{Y}_{t'} Gini)$$

If government fiscal operations lead to persistent deficits and if those deficits are financed largely through quantitative easing (leading to an expansion of the monetary base), then an interaction among deficit financing, monetary expansion, and inflation comes into play. The purpose of the model is to capture these interactions in a way that explains illicit flows from India. The model is block recursive in that capital flight does not enter as an endogenous variable to explain government operations or monetary developments. Rather, the central government fiscal balance and inflation, which are determined within the block, are then fed into the equation explaining capital flight. There are two main reasons why we have chosen a block-recursive model: (i) it is extremely difficult for capital flight models to capture all illicit flows for the reasons noted, and (ii) modeling the interaction between illicit flows and the official economy is subject to large errors, given that complex variables like governance and the underground economy cannot be captured in single variables.

The model analyzes the relationship between government deficits and the inflationary process based on an earlier version (the A-K model) developed by Bijan Aghevli and Moshin Khan of the IMF.³ We modified the model in important ways so that it is applicable to India where capital flight is a significant and continuing issue. The model contains five equations, one each for price level, government expenditures, government revenues, money supply, and inflationary expectations.⁴

B.B. Aghevli and Mohsin S. Khan, "Government Deficits and the Inflationary Process in Developing Countries," Staff Papers (International Monetary Fund), 25, no. 3 (1978).

^{4.} See Kar, Drivers and Dynamics of IFFS from India, for information on how the model was developed.

The variables are: ψ_t for illicit outflows based on the broad capital flight method (based on the World Bank Residual method adjusted for trade misinvoicing); $\hat{G}_t - \hat{R}_t$ and ΔP_t for the simulated fiscal deficit and the simulated rate of inflation, respectively; TradeOpen, \dot{Y}_t and Underground_{t-1} are exogenous variables representing the openness of the economy to trade (exports plus imports as a ratio of GDP), the growth rate of the economy, and a measure of the size of India's underground economy (lagged one period), respectively. Reform is a dummy variable having zero for the pre-reform period 1952–1990, and one for the post-reform years 1991–2005. Gini is the Gini coefficient, a measure of income distribution.

a. Estimation of the System

Economists have found it extremely difficult to explain illicit financial flows or capital flight using multiple linear regression models. We are not aware of any attempts to explain illicit flows using a dynamic simulation model, although Schineller⁵, Le and Rishi⁶, and a few others have used multiple regression models based on panel or time series data for a sample of countries to explain the determinants of such flows. Apart from the fact that estimating these flows is quite difficult given their illicit nature, neither the gross outflows we use nor the traditional estimates of capital flight (based on netting out inflows from outflows) were found to be Augmented Dickey-Fuller stationary and subject to convergence in dynamic simulation. The model here can be used to shed light on drivers and dynamics, but it cannot be used to provide long-run estimates of illicit flows from the country. The short-run, within-sample period interactions were found to be reasonable and consistent with what one would expect intuitively.

It is well known that the ordinary least squares (OLS) method of estimating the individual equations of the system results in inconsistent estimates of the coefficients of a dynamic simulation model. This is because in a general or even sectoral equilibrium model, the explanatory variables in one equation are themselves determined by another equation of the system. A system of equations where a number of variables are simultaneously determined requires an estimation method that yields consistent and, preferably, asymptotically efficient parameters. Hence, OLS was rejected in favor of either the two-stage least squares (2SLS) or the three-stage least squares method (3SLS) of estimation.

Lisa M. Schineller, "A Nonlinear Econometric Analysis of Capital Flight," International Finance Discussion Papers no. 594 (Washington, DC: Board of Governors of the Federal Reserve System, 1997), http://www.federalreserve.gov/pubs/ifdp/1997/594/ ifdp594.pdf.

Quan V. Le and Meenakshi Rishi, "Corruption and Capital Flight: An Empirical Assessment," International Economic Journal 20 (2006).

Basically, the 2SLS method estimates each equation separately using a list of instrument variables that take into account all exogenous variables in the system including lagged endogenous variables. While the 2SLS method uses available information about the other equations in the system, it does not include all interdependencies in the same way a 3SLS estimation method does. However, given that the sample size is not very large and that the error terms of the 2SLS estimates of the individual equations are found to be mutually independent (with zero or low correlation), the gain in asymptotic efficiency in using 3SLS would likely be marginal.

Before estimating this interdependent system of equations, individual equations were first tested for autocorrelation. The Durbin-Watson (DW) tests, which are strictly applicable only for the money supply, government expenditure, and government revenue equations in OLS estimation, showed no sign of autocorrelation. In the case of the equation for the price level that contains a lagged endogenous variable, the Durbin h-test was used, which reported no autocorrelation with 95 percent confidence. The DW statistic is not applicable in the context of 2SLS.

b. Interpretation of Results

The value of the coefficient of expectations ($\mu = 0.9$) was determined in the process of maximizing the likelihood function of the price level equation using OLS estimation technique. A value of 0.9 probably has to do with the volatility of the inflationary experience during the period 1952–2008. The volatility of the inflationary experience would suggest the assignment of a rather high weight to the current rate of inflation as economic units rely less on their previous period's inflationary experience.

The results of the 2SLS for each equation of the system are presented below:

All explanatory variables have the right sign and are significant at the 5 percent confidence level, except the level of real income, and the R² adjusted for degrees of freedom confirms a good fit. The results confirm that higher expectations of inflation would translate into significantly higher actual rates of inflation with better than 95 percent confidence. Moreover, the results show that the higher the previous period's real money balances, the lower the current price level.

Notably, the impact of changes in broad money on the price level is strongly positive. An explanation of inflation in the Indian context is complicated by the policy of administered prices, which varied in range of goods and services covered and the extent of control since independence. The main administered items have included crude oil and natural gas, oil products, coal, electricity, fertilizer, iron and steel, and nonferrous metals. Manufacturing items subject to administrative control account for about 20 percent of the weight in the Wholesale Price Index (WPI). While the relatively infrequent adjustment of administered prices in India has led to short-run deviations between administered and market prices, there are indications that overall inflation in the long run is not understated significantly by price controls. According to the IMF, it is unlikely that the absence of market prices for administered items seriously distorts the reliability of the WPI as a measure of inflation in India.⁷

Both the government expenditure and revenue results show that income has a significant and positive impact on them. The results confirm those found in the A-K model in that government expenditures adjust faster to inflation than revenues. Since expenditures adjust faster than revenues to changes in inflation, there appears to be evidence that government budgetary policies created fiscal deficits. When financed through central bank credits, greater inflation occurred, widening the deficit. However, in light of the fact that the speed of adjustment of expenditures is not significantly larger than revenue to inflation, and the fact that the Reserve Bank of India took increasing recourse to domestic bond financing as bond markets deepened and domestic savings rates rose, any vicious cycle interaction between inflation and fiscal deficits was largely contained in India. The money supply equation strongly confirms that the fiscal deficit largely drives changes in the money supply, which is then simultaneously determined with the rest of the model.

The following system of equations achieved convergence in dynamic simulation using the Newtonian method in E-Views:

Price Level: $log P_t = -0.232 - 0.038 log Y_t + 0.916\pi_t - 0.856 log (M/P)_{t-1} + 0.930 log M_t$ Government Expenditure: $log G_t = 4.213 + 0.301 log Y_t + 1.638 log P_t$ Government Revenue: $log R_t = 4.342 + 0.236 log GDP_t + 1.486 log P_t$ Money Supply: $log M_t = 0.599 + 1.132 log (G_t - R_t)$ Expected Inflation: $\pi_t = 0.9\Delta log P_t + 0.1^* \pi_{t-1}$

 [&]quot;India: Macroeconomic Trends and Policies," [Staff Memorandum] (Washington, DC: International Monetary Fund, May 31, 1990), 21.

The simulated values from the model were then fed into the illicit flows equation. Note that as the Gini coefficient is available only for the period 1951–2005 and the fiscal balance was continuously in deficit since 1952, the sample period of the regression had to be confined to 1952–2005. Chart 2 compares the projected and actual values of illicit flows from India over this medium term.

Convergence of the model in dynamic simulation means that the necessary and sufficient conditions for stability of the model are met. Chart 1 below, which tracks simulated government expenditures, government revenues, price level, and money supply against actual values, shows that the model performs very well.



Chart 1. India: Simulated and Actual Values for the System of Equations

It should be noted that the monetary impact of financing the deficit would probably have been higher in 1948–1988 when 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 fueled inflation. In 1989–2008, particularly after reform policies launched in 1991 were well underway, financial liberalization would have fostered financial deepening, thereby offering the monetary authorities a viable alternative to inflationary finance. To the extent the government was able to take recourse to private markets to finance its deficits, the link between changes in deficits and the monetary base could have been broken. It is likely that in the Indian context, the increasing recourse of the government to financing its budget deficit through bond finance rather than quantitative easing is reflected in the absence of a vicious cycle between inflation and fiscal deficits.

Nevertheless, the model works reasonably well due to the fact that illicit flows, as estimated here, include outflows of licit capital. The licit portion is likely to be more significantly linked to macroeconomic developments, such as fiscal deficits, interest rates, and economic growth, than flows that are purely illicit in nature. So the best strategy that we could develop was to estimate gross illicit outflows through the CED+GER method and attempt to explain it using a block-recursive dynamic simulation model. Such a model simulates the fiscal deficit and inflation as a result of the interaction between government expenditures, government revenues, and expansion of the money supply through central bank deficit financing. The simulated values of the deficit and inflation, along with a number of exogenous variables, are then used to explain capital flight.

Overall, with an adjusted R² of 0.78 and a number of significant variables, the block-recursive model performed very well in explaining illicit flows. The fiscal deficit was found to be significant but had the wrong sign. Whether we consider the period as a whole, or look at the pre- and post-reform periods, the central government deficit-to-GDP ratio is roughly 4.3 percent of GDP. This is certainly not a deficit ratio that is expected to drive capital flight through a loss of confidence.

The deficit picture changes dramatically if we consider the consolidated central and state government deficits. As data on consolidated general government revenue and expenditures were not available for the period 1948–2008, we could not use these series to simulate the model to analyze the impact of the overall fiscal position on illicit flows.

Chart 2. India: Simulated and Actual Illicit Flows



The simulated inflation has the correct sign and it is significant at the 10 percent level. The result implies that government fiscal and monetary policies that lead to inflation are partially responsible for driving illicit flows, particularly if deposit interest rates are "sticky" as is the case in India in the pre-liberalization period. This is another limitation of data: the lack of a time series on a consistent deposit rate of interest for the period 1948–2008 meant that we could not test how interest differentials affect the volume of illicit outflows.

We find evidence that reform by itself is not enough to curtail capital flight. If economic reform is not complemented by stronger institutions and policies that improve both public and private sector governance, then reform is more likely to drive capital flight than curtail it. For example, going by past studies, we find that the size of the underground economy (defined as the total value of goods and services on which no taxes have been paid) seems to have increased relative to official GDP. We construct a time series on the size of the underground economy assuming that it was never less than 5 percent of GDP at independence and grew to 50 percent of GDP at the end of 2008. 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 Gupta and Gupta estimated using the monetary approach.⁸ As a sufficiently long time series on corruption perceptions is unavailable, we

^{8.} Poonam Gupta and Sanjev Gupta, "Estimates of the Unreported Economy in India," Economic & Political Weekly 17 no. 3 (1982).

constructed a series on the underground economy using different assumptions regarding its growth, but ensuring that the intervening years' estimates correspond to the estimates found by previous researchers. The underground economy also acts as a proxy for corruption, which explains why it acts as a driver of illicit flows.

Apart from the growing underground economy, we found strong evidence that increasing trade openness through economic reform led to an expansion of the traded sector relative to GDP. Trade openness (defined as exports plus imports as percent of GDP) doubled from just 10.8 percent in the pre-reform period 1948–1990 to about 21.7 percent in the period 1991–2008.

Economic reform also had a salutary impact on the fiscal deficit, which fell from an annual average of 4.8 percent of GDP in the period before reform to 4.3 percent of GDP in the period after. However, there was no discernable difference in underlying inflation as measured by changes in the WPI; the annual average remained almost unchanged at 6.6 percent before and after reform. Interpreting the quality of the WPI is difficult given that the price index includes a number of items subject to price controls. It is possible that, as price controls were gradually relaxed following economic reform, the WPI is more reflective of underlying inflation in recent years than in the past when tighter controls extended to a relatively larger number of goods, services, and rent.

It is extremely difficult, if not impossible, to estimate the extent of understatement of the rate of inflation due to shifting coverage of items subject to price controls. The dummy variable (0 prereform 1948–1990; 1 post-reform 1991–2008) was found to be significant at the 5 percent level, indicating that liberalization of financial markets and general deregulation led to an increase of illicit flows rather than a curtailment. This result is consistent with those found for trade openness (exports plus imports as a share of GDP in current prices). As the size of India's traded sector increased relative to GDP, this seems to have encouraged more trade mispricing, not less. The results lend support to the contention that economic reform and liberalization need to dovetail 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. As we now know, deregulation of financial institutions on Wall Street has helped, not hindered, their abuse. Starting with the reasonable assumption that, immediately following independence, the size of India's underground economy was small due mainly to lower tax rates prevailing at the time, it grew progressively to account for 50 percent of official GDP in 2012 as estimated by some researchers. While the underground economy worldwide very often involves illegal activities, in India even legal businesses and the government contribute to it. We used the cubic spline interpolation technique to interpolate the underground series starting at 5 percent of GDP in 1948 and ending at 50 percent of GDP in 2008, with the caveat that the interpolated line corresponds to the size of the underground economy estimated using the demand for money approach by Gupta and Gupta for the period 1967–1978 (9.5 percent of GDP in 1967/68 and 48.8 percent in 1978/79).⁹ Going by these estimates, it is very conservative to assume that the size of the underground economy in India is 50 percent of GDP in 2008. One could use alternative estimates of the underground economy in a regression equation to explain illicit flows. The one-period lagged variable Underground was found to be statistically significant and suggests that illicit flows are positively related to the size of the underground economy.

V. Conclusions

This chapter reviewed the salient economic developments over the period 1948–2008/12, tracing how the country progressed from a mainly agrarian economy to one where the service sector gained an increasing share—a classical transformation of an economy experiencing rapid economic growth. India has followed a planning model for economic development that declined in importance as a policy tool as the country progressively embraced economic liberalization and reform. That transition—from a controlled economy characterized by a license Raj to one of progressive decontrol—was marked by political instability and a foreign exchange crisis in 1991 when reserves sank to only about US\$1 billion. Under pressure, policymakers took the risk of altering the socialist economy by free market reforms that saved the country from a financial crisis.

Using the Hot Money Narrow model adjusted for trade mispricing (current methodology for estimating illicit flows), we found that a total of US\$682.2 billion was shifted out of India over sixty-five years between 1948, the first full year of India's independence, and 2012 (see Table 1). This loss of capital through illicit transfers is almost twice India's outstanding external debt of US\$361.0

9. Ibid.

billion at the end of 2012, implying that India's entire external debt could have been paid off if the funds could have been retained domestically for productive purposes.¹⁰ On average over the period 1948–2012, illicit outflows grew in real terms at 6.0 percent per annum. There are reasons to believe that the cumulative loss of capital is significantly understated, due not only to interest compounding on financial assets, but also because economic models cannot capture all channels and means for the transfer and generation of illicit capital.

We developed a dynamic simulation model to capture how monetary and fiscal policies interact to generate inflation and how the simulated inflation and the fiscal deficit, along with a number of exogenous variables, help explain illicit financial flows from India. All explanatory variables within the block have the right sign, and are significant at the 5 percent confidence level, except the expected rate of inflation, which is significant at the 10 percent level. The R² adjusted for degrees of freedom confirms a good fit. Both the government expenditure and revenue results show that income has a significant and positive impact on them at the 1 percent level. However, unlike Aghevli and Khan, the results found in this study seem to suggest that government expenditures adjust much more slowly to inflation than revenues. Moreover, government revenues in the preceding year are not very significant in explaining those in the current year, perhaps reflecting the narrow tax base that makes past revenue performance a poor predictor of future tax collection. The important point is that because expenditures do not adjust faster than revenues to inflation, there is little evidence of a vicious cycle interaction between inflation and government fiscal operations in India, although both expenditures and revenues rise in tandem with inflation.

The results confirm that higher expectations of inflation translate into significantly higher actual rates of inflation with better than 90 percent confidence. Moreover, the results show that the higher the previous period's real money balances, the lower the current price level. Notably, the impact of changes in broad money on the price level is strongly positive.

Regarding the block-recursive portion of the model explaining capital flight, we found that most of the variables, except the simulated fiscal deficit, have the right sign. It is possible that the central government fiscal deficit at around 4.3 percent of GDP is not high enough to drive capital flight.

^{10.} Both the US\$682.2 billion and US\$361.0 billion figures are in real 2010 US dollars.

In order to fully capture the implications of expansionary fiscal policy, we would need data on the consolidated general government (i.e., state and local governments) expenditures and revenues for the entire period 1948–2008, which were not unavailable.

The simulated inflation generated within the block was found to be significant at the 10 percent level in driving capital flight. It is possible that the WPI does not fully reflect inflationary trends because it includes a number of items subject to price controls with the weights of these items varying over time (possibly higher in the pre- than post-reform period).

Our findings strongly suggest that illicit flows both drive and are driven by the underground economy. We start with the reasonable assumption that, immediately following independence, the size of India's underground economy was small due mainly to lower tax rates prevailing at the time. But it grew progressively to account for 50 percent of official GDP in 2008. We also 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. We found that the underground economy was statistically significant in explaining capital flight. The policy implication is that measures that shrink the underground economy can be expected to curtail illicit flows, while those that expand it 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 wherein economic agents are convinced that the tax burden is distributed fairly and that they are getting their money's worth in terms of governmentprovided services. Taxpayers then become true stakeholders in the economy and tax evasion loses its appeal.

Both growth in GDP at constant prices as well as income distribution as measured by the Gini coefficient were found to be positively related to illicit flows, although for the sample period 1952–2008 they were not statistically significant. In order to examine the impact of growth and distribution

on capital flight in more detail, we re-examined the issue in the context of the pre- and post-reform periods, given the profound structural changes from a closed to a more open economy. We found that the faster pace of economic growth in the post-reform period did not lead to a more equitable distribution of income; in fact, income disparity increased somewhat. The increase in income disparity means there are a larger number of high-net-worth individuals in the post- compared to the pre-reform period. Because high-net-worth individuals are the main drivers of capital flight, this may explain why faster economic growth in the post-reform period has spurred more flight capital rather than less.

5. Mexico: Illicit Financial Flows, Macroeconomic Imbalances, and the Underground Economy

Dev Kar

I. Introduction

The 1985 World Development Report noted that "in absolute terms, no country has suffered more capital flight than Mexico."¹ It is therefore not surprising that Mexico was the third largest exporter of illicit capital in Global Financial Integrity's first study published in December 2008 on illicit financial flows (IFFs) from developing countries.² In spite of significant changes in methodology, the 2014 IFF update shows no change in Mexico's ranking.³ A middle-income country of nearly 120 million people, some one-third of Mexicans lived in poverty in 2005 and 10 percent in extreme poverty. In spite of the salutary impact of remittances and the close trade and financial links to the United States (the country is the third largest recipient of remittances), income inequality has not improved and may have actually worsened in recent years.⁴

Mexico made media headlines for many years because of its political and macroeconomic instability. These could be among some of the most significant drivers of capital flight from developing countries. Case studies at Global Financial Integrity (GFI) show that, while macroeconomic conditions can drive broad capital flight (consisting of a mix of licit and illicit capital), the evidence is tenuous at best when it comes to explaining outflows of illicit capital. The purpose of this chapter is to study how illicit financial flows from Mexico have evolved over the

^{1.} The World Bank, *World Development Report 1985* (New York: Oxford University Press, 1985), 64, https://openknowledge. worldbank.org/handle/10986/5968.

^{2.} Dev Kar and Devon Cartwright-Smith, *Illicit Financial Flows from Developing Countries: 2002–2006* (Washington, DC: Global Financial Integrity, 2008), 29.

^{3.} Dev Kar and Joseph Spanjers, *Illicit Financial Flows from Developing Countries: 2003–2012* (Washington, DC: Global Financial Integrity, 2014), 13.

^{4.} Maria L. Castro and Irene P. Navarro, eds., *Mexico: Economic, Political, and Social Issues* (Hauppauge, NY: Nova Science Publishers, 2009).

forty-three-year period 1970–2012 and to explain the major drivers of such flows. This period was chosen to allow tracking of illicit flows since the discovery of large amounts of oil in Mexico in the early 1970s coupled with substantial additional finds in later decades. Moreover, this is also the longest period for which consistent data on balance of payments and external debt are available for Mexico. Note that while estimates of illicit flows pertain to this period, the simulation model presented in this chapter covers the slightly shorter period 1971–2008 corresponding to the availability of monetary data reported to the IMF.

As with other case studies included in this publication, we provide an update of the estimates of illicit flows and a summary of model results based on the data available at that time. There is no attempt to standardize the model across the five countries. Rather, the differences in model design are meant to reflect how our thinking on the drivers and dynamics of illicit flows evolved over time. Also, as pointed out in Chapter 3, the methodology of estimating illicit flows has also changed over the years from one based on the World Bank Residual method adjusted for trade misinvoicing (used throughout the original Mexico paper)⁵ to one based on the Hot Money Narrow (HMN) method adjusted similarly for trade misinvoicing. While we do not rerun the model, we update the estimates of illicit flows based on current methodology (HMN adjusted for misinvoicing). This is the common thread that runs through the five case studies we present in this publication.

This chapter is organized as follows: Section II presents an analysis of illicit flows from the country in decade intervals starting with 1970. Readers are referred to Chapter 3 for a description of the methodology used to derive these estimates. The analysis covers four decades ending in 2009. Where possible, we compare our estimates with those obtained by previous researchers, recognizing that the methodologies used vary significantly depending upon the definition of capital flight, the models used to estimate these outflows, and revisions to official data since those earlier studies were carried out. In Section III, we develop a dynamic simulation model of monetary and fiscal developments, their impact on the price level, and the interactions between

^{5.} Dev Kar, Mexico: Illicit Financial Flows, Macroeconomic Imbalances, and the Underground Economy (Washington, DC: Global Financial Integrity, 2012).

total taxes collected, the growth of the underground economy, and resulting cross-border transfers of illicit capital. Section IV presents the main conclusions of the chapter.

II. Evolution of Illicit Financial Flows from Mexico

a. Comparison with Past Studies: New Estimates

We present in Table 1 estimates of illicit financial flows from Mexico using the most recent iteration of the Gross Excluding Reversals (GER)+HMN methodology and the traditional method of netting out illicit inflows from outflows used by past researchers.

Table 1. Mexico: Estimates of Illicit Outflows and Capital Flight in Past Studies (billions of US dollars, nominal)

Period	Present Study (Gross) 1/	Other Estimates (Net Method) 2/	Source 3/
1973-1987	87.9	61	Manuel Pastor (1990)
1976-1982	42.6	36.1	Cumby and Levich (Table 3.4)
1976-1984	57	53.6	Cumby and Levich (Table 3.4)
1979-1982	30.8	26.5	World Development Report 1985, World Bank
1981/1982	24.8	> 20.0	Moreno-Brid; period roughly 1981-1982

1/ The estimates in this study are based on gross illicit outflows only.

2/ Other estimates net out inward from outward capital flight and do not include trade mispricing.

3/ The estimates shown in Cumby and Levich refer to comparable definition of the World Bank Residual Model used in the present study.

Note that as there are no recent studies on capital flight from Mexico, we could not include estimates for more recent years. Also note that the estimates of illicit flows presented here differ slightly from those in GFI's 2014 report *Illicit Financial Flows from Developing Countries:* 2003–2012 due to revisions in balance of payments and trade data reported by Mexico to the IMF and the calculation of Mexico's GER figures here using the bilateral advanced country bump-up methodology.

It is not surprising that in almost all cases the gross outflows method exceeds the net method traditionally estimated by economists. The difference is not large, except for the period 1973–1987 when large inflows substantially reduced the volume of net illicit flows. A second source of

understatement of the problem of illicit flows is that the estimates in past studies shown in Table 1 do not include illicit flows due to trade mispricing. Hence, the conclusion is that, for all intents and purposes, the estimates of illicit financial flows from Mexico presented here are not out of line with past studies once it is recognized that illicit inflows were of dubious benefit to Mexico and that illicit outflows due to trade mispricing ought to be included in order to capture their adverse impact on the country.⁶

b. The Pattern of Illicit Flows from Mexico: New Estimates

Illicit flows from the country grew sharply from about US\$7.8 billion per annum (3.2 percent of GDP) in the 1970s to US\$47 billion per annum (4.9 percent of GDP) in the 2000s. Even though the Augmented Dickey-Fuller tests show that the series as a whole is non-stationary, we observe that the behavior of illicit flows can be related to several economic crises that Mexico experienced during this period (see Table 2).

Cumulative illicit outflows from Mexico over the forty-three-year period 1970–2012 amount to US\$1.2 trillion (averaging US\$26.9 billion per annum or 4.5 percent of GDP), of which trade misinvoicing amounts to US\$988.5 billion. For the period as a whole, trade misinvoicing is the preferred method of transferring illicit capital out of the country. The cumulative share of trade misinvoicing measured by the GER method stands at 85.4 percent, while balance of payments leakages measured by the HMN method account for 14.6 percent (see Table 2).

^{6.} See Jagdish N. Bhagwati, "On the Underinvoicing of Imports," in *Illegal Transactions in International Trade*, ed. Jagdish N. Bhagwati (Amsterdam: North-Holland Publishing Company, 1974), 138–47; Léonce Ndikumana and James K. Boyce, "New Estimates of Capital Flight from Sub-Saharan African Countries: Linkages with External Borrowing and Policy Options," PERI Working Paper Series No. 166 (Amherst, MA: Political Economy Research Institute, University of Massachusetts, Amherst, 2008). They and others have typically included trade mispricing as a conduit for the cross-border transfer of illicit capital.
Table 2. Mexico: Illicit Financial Flows, 1970-2012

(millions of real US dollars)

Year	Inflows		Outflows					
	Trade Misinvoicing	Hot Money Narrow	Trade Misinvoicing	Hot Money Narrow	Total Illicit Inflows	Total Illicit Outflows	IFF Inflows / GDP	IFF Outflows / GDP
1970-1979	63,174	6,059	58,996	19,655	69,233	78,651	2.8%	3.2%
1980-1989	151,840	12,721	112,475	53,009	164,560	165,484	5.1%	5.1%
1990-1999	198,447	11,308	230,241	21,202	209,755	251,443	3.8%	4.5%
2000-2009	379,803	15,520	441,763	28,625	395,323	470,388	4.1%	4.9%
2000	39,848	8,389	50,965	0	48,237	50,965	6.0%	6.3%
2001	31,153	0	47,574	4,549	31,153	52,122	3.6%	6.1%
2002	29,928	0	46,854	2,681	29,928	49,535	3.3%	5.4%
2003	26,191	0	41,131	5,899	26,191	47,030	2.7%	4.9%
2004	29,661	0	36,956	6,066	29,661	43,022	3.1%	4.4%
2005	38,650	4,390	41,514	0	43,039	41,514	4.2%	4.1%
2006	45,497	0	44,869	451	45,497	45,321	4.2%	4.2%
2007	39,906	2,742	49,690	0	42,648	49,690	3.8%	4.5%
2008	43,757	0	45,099	5,283	43,757	50,382	4.1%	4.7%
2009	55,211	0	37,110	3,695	55,211	40,805	5.8%	4.3%
2010	61,224	0	44,814	19,780	61,224	64,594	5.8%	6.2%
2011	70,773	0	48,479	9,151	70,773	57,630	6.6%	5.4%
2012	79,839	0	51,690	17,051	79,839	68,741	7.4%	6.4%
Cumulative	1,005,100	45,608	988,458	168,473	1,050,708	1,156,931		
Average	23,374	1,061	22,987	3,918	24,435	26,905	4.1%	4.5%

During the 1970s and 1980s prior to NAFTA, illicit outflows had averaged 4.2 percent of GDP, while in the post-NAFTA years such outflows accelerated to 6.4 percent of GDP in 2012 (see Table 2). Moreover, outflows as a percent of external debt also ratcheted upwards after NAFTA came into force in the beginning of 1994.



Chart 1. Mexico: Illicit Financial Outflows: 1970–2012

(billions of real 2010 US dollars or in percent)

Looking at the four decades, we find that illicit outflows per annum have increased sharply throughout the years, although there are quite a few ups and downs along the way. Illicit outflows averaged just 3.2 percent of GDP in the 1970s, which increased sharply to 5.1 percent of GDP in the 1980s. Subsequently, the share fell to 4.5 percent of GDP in the 1990s and edged up to 4.9 percent of GDP in the 2000s. In the years since 2009, illicit flows from Mexico increased to 6.0 percent of GDP. The evolution of illicit flows form the country is tracked in Chart 1.

c. Capital Flight and Mexican Economic Crises

We now examine the behavior of capital flight (termed illicit flows in the 2012 Mexico paper)⁷ in the years immediately preceding, during, and after the various economic crises that have hit Mexico over the period of the study 1970–2012 (see Chart 2). The objective of this before-after analysis is to discern whether and how cross-border transfers of illicit capital lead and lag major macroeconomic crises.

^{7.} Kar, Mexico: IFFs.

The first oil shock that hit oil-importing countries such as Mexico was in October 1973 when members of the Organization of Petroleum Exporting Countries (plus Egypt, Syria, and Tunisia) proclaimed an oil embargo.





Note: Lead 2 and Lead 1 (LE2 and LE1) refer to two- and one-year leads to an economic crisis. Lag 1 and Lag 2 (LG1 and LG2) refer to one- and two-year lags to that crisis. Source: GFI staff estimates on illicit flows

As a result of the sharp increase in oil and other commodity prices and the rapid expansion in public spending, inflation climbed to double-digit levels in 1973, accelerating further to more than 20 percent in 1974. The current account deficit progressively widened during the first half of the 1970s in spite of the increase in import controls and higher tariffs. The resulting balance of payments disequilibrium became unmanageable, leading to widely expected exchange rate depreciation and intensification of illicit financial outflows. The government was forced to devalue the peso by nearly 60 percent in August 1976 as economic growth slowed due to a contraction in real wages and private investment. There was a concomitant spike in "non-normalized" or robustly measured capital

flight. Essentially, while normalization filters outflows that are less than 10 percent of exports for a given year, the robust measure includes outflows without regard to size.

Coming out of the economic crisis of 1976, the discovery of vast oil resources in 1977–1978 sharply improved Mexico's economic fortunes. Proven oil reserves increased from 6.3 billion barrels in November 1976 to 16 billion barrels by the end of 1977 to 40 billion barrels by the end of the next year. As a result, the trade deficit came under better control and the government was able to negotiate better terms on its foreign debt. Sharp increases in oil exports also fueled more capital outflows in line with past research that finds an association between oil prices and illicit outflows.

The discovery of large oil reserves in the late 1970s turned out to be a mixed blessing in other ways. While policymakers reduced the fiscal deficit substantially during the first year under the Extended Fund Facility, stabilization efforts were relaxed in 1977 when proven oil reserves encouraged the government to expand public expenditures. The public sector borrowing requirement jumped sharply during 1978–1982 as the large surpluses of the state-owned petroleum company Pemex failed to keep pace with increasing government outlays. The racking up of external debt to finance the deficits did not prevent inflation, which averaged 27 percent during 1980–1981. In fact, the rate of growth of external debt exceeded the interest rate during this period, a condition which, according to Rojas-Suárez⁸ and Blanchard,⁹ does not allow a government to remain solvent with respect to its foreign obligations.

The private sector saw that the inflows of foreign loans to finance the fiscal deficits were not sustainable in the long run, which led to expectations of exchange rate devaluation. Hence, the crawling peg exchange regime, whereby the peso was allowed to fluctuate around narrow bands and later through frequent and small depreciations, came under increasing pressure and had to be abandoned. As the exchange rate regime became inconsistent with an expansionary fiscal policy, the premium in the forward market edged up continuously during the period 1978–1981. Investors' perceptions of incurring large losses in holding domestic assets relative to foreign assets increased

Liliana Rojas-Suárez, "Limited Capital Markets and the Real Effects of Monetary Stabilization Policies Under Alternative Exchange Rate Regimes," *Journal of International Money and Finance 11* (1992): 594–613.

^{9.} Olivier J. Blanchard, "Suggestions for a New Set of Fiscal Indicators," OECD Working Paper No. 79 (Paris: OECD, 1990).

sharply, leading to both licit and illicit financial outflows. The resulting capital outflows exerted substantial pressure on the stock of international reserves, which policymakers sought to ameliorate through significant devaluations of the peso. But as outflows of licit and illicit capital intensified, they called into question Mexico's capacity to repay external creditors, and its access to capital markets was sharply restricted. Further devaluation of the Mexican peso led to the creation of a dual exchange rate regime and a haphazard attempt to curb capital flight through a freeze on dollar-denominated domestic deposits.

Even as the risks associated with holding domestic assets increased, the Mexican economy was hit by two major external shocks during the 1980s. The first shock was the international debt crisis that started in 1982 with the sharp rise in US interest rates and the contraction of the US economy. External debt shot up from 29.5 percent of GDP in 1980, two years before the debt crisis, to 84.6 percent in 1982 before easing to 62.2 percent two years after the crisis. The World Bank estimated that between 1979 and 1982 cumulative capital flight from Mexico amounted to a massive US\$26.5 billion, or nearly 48 percent of recorded gross capital inflows.¹⁰ It concluded that, effectively, much of the money Mexico borrowed from abroad left the country through capital flight, which did not allow the country to earn a return to pay back external creditors. Hence, the higher level of external borrowing was a steadily brewing disaster. The World Bank points out that "no country has suffered more from capital flight than Mexico."¹¹ The surge of official borrowing in 1980–1981 helped to support the exchange rate for a short while, but the country suffered "waves of capital flight."¹² In August 1982, Mexico was forced to suspend debt service payments, reschedule its debt, and devalue heavily. Capital flight reached a new high in 1982–1983.

The external debt crisis in 1982 was followed by a second oil price shock in 1986, which led to a dramatic deterioration in the Mexican terms of trade. In the wake of the 1982 crisis, the Portillo administration adopted import and exchange controls as well as nationalization of the banking sector. By late 1982, the new Miguel de la Madrid administration slashed government spending drastically and implemented policies to expand exports. However, the economy continued to

^{10.} The World Bank, *World Development Report 1985*, 64, table 4.4. According to our estimates, the corresponding loss of capital over this period was US\$29.4 billion.

^{11.} Ibid., 64.

^{12.} Ibid.

stagnate, entering recession under the brunt of the second oil shock in 1986, then recovering anemically at an average growth rate of just 1.5 percent per annum over the next two years as a result of negative terms of trade, high domestic interest rates, and the external debt overhang. Inflation accelerated from 57.7 percent in 1985 to well over 100 percent in 1987, and the fiscal position continued to deteriorate. The resulting macroeconomic instability drove larger illicit outflows, which increased from 6.3 percent of GDP one year before the shock to 11.3 percent in the year following. In 1987, one year after the second oil price shock, illicit outflows reached the second highest level during the entire forty-three-year period.

The so-called Tequila crisis in 1994 is also known as the peso or currency crisis, which was brought on by foreign investors and wealthy Mexicans abruptly dumping dollar-denominated Mexican bonds and moving their money to safer US assets. While the immediate cause of the Tequila crisis was the large devaluation of the Mexican peso in 1994 leading to a loss of confidence in Mexican domestic assets, the devaluation itself was triggered by large current account deficits in the years leading up to the crisis. It was the unsustainable current account deficits, driven by excessive bank credits of poor quality, that compelled the government to devalue the currency. The crisis toward the end of 1994 led to massive outflows of illicit capital, which increased from 3.8 percent of GDP in 1994 to 12.7 percent in 1995 before falling to 4.8 percent the next year. Outflows immediately following the Tequila crisis in 1994 were the highest ever recorded for the period 1970–2012.

The global economic crisis, which began in the United States in late 2007, resulted in one of the sharpest economic contractions in Mexico. GFI's 2012 study *Mexico: Illicit Financial Flows, Macroeconomic Imbalances, and the Underground Economy* showed that the real GDP growth rate slowed from 3.2 percent in 2007 to 1.2 percent in 2008 before contracting by 6.2 percent in 2009.¹³ The main reason why Mexico was affected so severely by the global economic crisis is due to the close capital, trade, and labor market links with the United States. As the United States entered the financial crisis and subsequent recession, Mexican exports declined significantly in spite of the fact that the peso depreciated by nearly 25 percent in the two years following the beginning of the crisis

^{13.} Kar, Mexico: IFFs, 10.

in 2007. In fact, Mexico's strong economic links to the United States after implementation of NAFTA have increased the contagion effects of the United States on the Mexican economy. For instance, the United States is Mexico's largest source of foreign direct investment. The global economic crisis led to a sharp slowdown in foreign direct investments, bringing about a further contraction in economic activity. Outflows continued to increase in 2012 even as the global economic crisis abated.

In spite of declining exports and remittances, imports into Mexico remained buoyant. As a result, the current account deficit widened in 2007 at the onset of the crisis and nearly doubled to US\$16.3 billion in 2008 before falling to US\$6.4 billion the next year. A saving grace of the economic crisis was that it reduced broad capital flight based on the Change in External Debt (CED)+GER measure. However, in 2010, as a result of higher oil prices, new loans, and inflows of foreign direct investments, the source of funds increased relative to use of funds, leading to an increase in capital flight (see Chart 2).

It is possible to make the following observations based on how illicit financial flows behave before and after the economic crises that Mexico has experienced. First, estimates of gross illicit outflows perform much better compared to the usual estimates of capital flight using the traditional method of netting out illicit inflows from outflows. For instance, large net illicit inflows over two years prior to the Tequila crisis of 1994 are difficult to interpret in relation to the crisis.

Second, both conservative (normalized) and robust (non-normalized) estimates of illicit outflows are predictably linked to Mexico's macroeconomic crises. With reference to the six crises studied, illicit outflows have all increased in the crisis year relative to the average of the two years preceding the crisis. Put another way, Mexico's outflows always increased from the year immediately preceding the crisis. In the case of the second oil price shock in 1986 and the Tequila or peso crisis in 1994, illicit outflows accelerated over two years going into the crisis. Except for the first oil shock in 1973 and the onset of the global economic crisis in late 2007, outflows of illicit capital from Mexico continued

to increase one year after the crises. In fact, the increase in illicit outflows one year following the peso crisis was the highest among all crises that hit Mexico during the period 1970–2009.

Third, illicit outflows tend to fall below crisis levels at varying speeds. Following the first oil crisis and the global economic crisis, illicit flows from Mexico fell below crisis levels in the year following the crisis. But it took two years for illicit flows to fall below crisis levels in the case of the 1976 balance of payments crisis, the 1982 debt crisis, or the second oil price shock in 1986. The peso crisis had a strong impact on illicit flows. While illicit flows have shown large fluctuations since the peso crisis, the 1982 debt crisis, and the second oil price shock in 1986 were all preceded by a real exchange rate overvaluation (leading to a depreciation of the peso) and increases in the budget deficit. Cardoso and Levy argue that these macroeconomic imbalances led to widely anticipated exchange rate depreciation, inducing capital flight and further instability.¹⁴

III. Dynamic Simulation Model of Macroeconomic Imbalances, Illicit Flows, and the Underground Economy

In this section, we develop a macroeconomic model that seeks to capture several complex interactions within and between the official and the underground economies. Within the official economy, the model captures how government expenditures and revenues interact to affect the money supply and thereby the overall price level, and how some of these variables determine the total taxes collected. Illicit financial flows provide several channels through which the official and underground economies are linked. Thus, illicit flows not only determine the behavior of government expenditures and revenues, they are used to explain the evolution of the underground economy in Mexico. In fact, the model posits that illicit flows are both driving, and driven by, the underground economy.

Eliana A. Cardoso and Santiago Levy, "Country Studies: Mexico," in *The Open Economy: Tools for Policymakers in Developing Countries*, ed. Rudiger Dornbusch and F. Leslie C.H. Helmers, 4th ed., EDI Series in Economic Development (New York: Oxford University Press for the World Bank, 1991), 348–69.

The complete model represented below will be developed and tested equation by equation using the two-stage least squares method.

Government Revenues:

 $logR_t = -a_0 + a_1 logGDP_t + a_2 logP_t + a_3 log\psi_t$

Government Expenditures:

 $logG_t = b_0 = b_1 logY_t = b_2 logP_t + b_3 log\psi_t$

Broad Money Supply:

 $logM_t = k_0 + k_1 logMult_t + k_2 logG_t - k_3 logR_t + k_4 logE_t$

Price Level:

 $logP_{t} = -c_{0} + c_{1} logY_{t} + c_{2} log\pi_{t} - c_{3} log(M/P)_{t-1} + c_{4} logM_{t}$

Total Taxes Collected:

 $logTTax_t = d_0 + d_1 log\dot{Y}_t + d_2 logTTaxtrate_t + d_3 log P_t \pm d_4 log\psi_t$

Expected Rate of Inflation:

 $\pi_t = \delta \Delta \log P_t + (1 - \delta) \pi_{t-1}$

Underground Economy:

 $logU_{t} = e_{0} + e_{1} logP_{t} + e_{2} log\psi_{t} - e_{3} logTTax_{t} + e_{4} logU_{t-1} + e_{5} logTO_{t}$

Illicit Outflows:

 $log\psi_t = w_0 + w_1 \log P_t + w_2 \log U_t + w_3 Gini_t + w_4 \log \dot{Y}_t + w_5 \log TO_t$

The endogenous variables are as follows: *R* and *G* are nominal government revenues and expenditures, respectively; *M* the broad money supply, with M = Mult * B where *Mult* is the money multiplier and *B* is the monetary base; *P* the consumer price index; *TTax* the total direct and indirect taxes collected; π the expected rate of inflation; *U* the underground economy; and ψ the total outflows of illicit capital. We do not model illicit inflows. The exogenous or independent variables are: *GDP* is the nominal GDP; *Y* the real GDP, *E* the residual term in the money supply equation; *M/P* the real money supply; *TTaxrate* the ratio of total taxes over GDP; *TO* the trade openness defined as exports plus imports over GDP; *Gini* the coefficient of income inequality; and \dot{Y} the rate of growth of real GDP.

a. Estimating the System of Equations

The two-stage least squares method of estimating the system of equations was chosen because (i) the ordinary least squares (OLS) method results in inconsistent estimates of the coefficients of a dynamic simulation model where the explanatory variables in one equation are themselves determined by another equation of the system, and (ii) the advantage of using three-stage least squares over the two-stage method is not unambiguous when the sample size is small. Individual equations were first tested for autocorrelation using OLS estimation. The Durbin-Watson (DW) test, strictly applicable for the equations for money supply, government expenditures, government revenues, total taxes collected, and illicit flows, is not applicable for equations containing a lagged dependent variable (prices and the underground economy).





15. Readers are referred to Kar, *Mexico: IFFs*, 17–37 for a discussion on how the individual behavioral equations on government revenues, government expenditures, money supply, prices, total taxes, the underground economy, and expected inflation were developed. We simply reproduce the chart tracking the size of the underground economy relative to official GDP.

Estimates of illicit financial flows, prices, the underground economy, and other time series used in the model are non-stationary. Engle and Granger pointed out that a linear combination of two or more non-stationary series may be stationary.¹⁶ If such a linear combination exists, the non-stationary time series are said to be cointegrated and the stationary linear equation is called a cointegrating equation, which represents a long-run equilibrium relationship between the variables. We used the Johansen Cointegration Test, which provides a non-stationary regression method to estimate a long-run cointegrating equation.¹⁷

The estimated underground economy was then modeled as a function of prices, illicit financial flows, total tax collected, one-period lagged underground economy, and trade openness. Illicit financial flows were found to be a significant (at 95 percent confidence) and positive driver of the underground economy. In fact, our results show that if illicit outflows are substituted for remittances, that substitution raises the demand for currency in the underground economy even further so that we obtain a somewhat larger estimate for the underground economy in Mexico, particularly in recent years compared to those found by Brambila-Macias and Cazzavillan.¹⁸ Inflation is introduced as an explanatory variable because inflation acts as a tax which "taxpayers" seek to offset by raising income from illicit activities (thereby increasing the size of the underground economy). However, the results presented show that while the rising price level is positively related to the underground economy, it is not a significant driver. Now as more of the informal economy and raise total taxes collected. But again, the negative relationship between total taxes collected and the size of the underground economy was not found to be significant. The previous year's size of the underground economy can be expected to have an influence on its current size (the "momentum" effect), and we found this relationship to be true and significant.

b. Illicit Financial Flows

We tested the entire model using alternate formulations of the money supply process using the Aghevli-Khan and the Brunner-Meltzer models. Model simulations seek to explain how illicit financial

Robert F. Engle and C.W.J. Granger, "Co-Integration and Error Correction: Representation, Estimation, and Testing," Econometrica 55, no. 2 (1987): 251–76.

^{17.} See Kar, *Mexico: IFFs*, 27–9, box 1, for a fuller discussion of the Johansen method.

Jose Brambila-Macias and Guido Cazzavillan, "The Dynamics of Parallel Economies: Measuring the Informal Sector in Mexico," Research in Economics 63, no. 3 (2009): 189–99.

flows are driven by macroeconomic, structural, and governance factors. The macroeconomic drivers of illicit flows consist of government expenditures, government revenues, the money supply, total taxes collected, and the price level, and are determined within the model. Structural factors, represented by trade openness, higher rates of economic growth as a result of economic reform and liberalization, and income inequality, are exogenous in that they are not determined within the model. The state of overall governance is represented by the size of the underground economy, which is determined within the model.

In both versions of the model, we found that illicit flows are significantly and positively related to rising prices, one of our macroeconomic factors. This is perhaps because inflation reduces the real value of illicit (and licit) assets, depreciates the exchange rate, and provides a significant incentive for holders of these assets to transfer the funds out of the country. A second macroeconomic factor, the size of the fiscal deficit, was captured by the government expenditure-to-revenue ratio in order to avoid the problem of taking the logarithm of negative deficits (or fiscal surpluses). Ratios exceeding one reflect deficits, while those less than one reflect fiscal surpluses. The two-stage results show that while fiscal deficits are statistically significant and have the correct sign (meaning larger deficits drive more illicit outflows), their contribution as a driver is insignificant (the coefficient is very low indeed). So the fiscal deficit indicator was dropped from the final simulation.

Regarding structural drivers of illicit flows, we found that there is a significant and positive link between trade openness and the trade mispricing component of illicit flows.¹⁹ This implies that greater trade openness as a result of trade liberalization and globalization merely provides more opportunities for traders to misprice trade (thereby driving larger illicit outflows) in the absence of adequate regulatory oversight and improvements in governance. Real economic growth was found to be negatively related to illicit flows, which is the traditional finding in that growth tends to foster more investor confidence about economic prospects. Thereby, investors retain more capital domestically rather than transfer it abroad.

19. See Kar, Mexico: IFFs, 32–3, box 2 for a longer discussion of this link.

Table 3. Mexico Structural Equation Estimates: Two-Stage Least Squares

Government Revenues:

$$logR_t = -1.918 + 0.889 log GDP_t - 0.011 log P_t + 0.144 log\psi_t$$
(-0.537) (3.207)*** (-0.047) (1.733)*
$$R^2 = 0.999 \qquad \text{S.E.} = 0.133$$

Government Expenditures:

$$logG_t = 2.080 + 0.274 log Y_t + 0.397 log P_t + 0.596 log\psi_t$$
(0.3719) (0.617) (2.328)** (3.443)***
$$R^2 = 0.993 \qquad \text{S.E.} = 0.326$$

Broad Money Supply:

Price Level:

$$\begin{split} \log P_t &= -7.891 + 1.229 \log Y_t + 0.560 \pi_t - 1.755 \, \log(M/P)_{t-1} + 0.948 \, \log M_t \\ & (-1.162) \quad (1.350) \quad (2.156)^{**} \ (-3.133)^{***} & (17.718)^{***} \\ & R^2 &= 0.991 \end{split} \quad \text{S.E.} = 0.313 \end{split}$$

Total Taxes Collected:

$$logTTax_{t} = 4.580 + 2.696 log\dot{Y}_{t} + 1.738 log TTaxrate_{t} + 0.677 log P_{t} + 0.379 log \psi_{t}$$
(2.203)*** (1.300) (2.166)** (5.640)*** (3.660)
R² = 0.995 S.E. = 0.262
Underground Economy:

$\begin{array}{c} logU_t = 5.631 + 0.283 \; logP_t + 0.218 \; log\psi_t - 0.430 \; logTtax_t + 0.815 \; logU_{t-1} - 0.210 \; logTO_t \\ (2.033)^{**} \quad (0.991) \quad (2.259)^{**} \quad (-1.330) \quad (2.291)^{**} \quad (-0.529) \\ R^2 = 0.851 \qquad S.E. = 0.180 \end{array}$

Illicit Outflows:

Notes: T-statistics are reported in parentheses. The symbols *, **, *** indicate significance at the 10 percent, 5 percent, and 1 percent level, respectively.

However, our results indicate that the salutary impact of higher growth rates on capital flight from Mexico was statistically insignificant. The other structural driver of illicit flows, namely income inequality as measured by the Gini coefficient, was found to be statistically insignificant in explaining such outflows and had the wrong sign.²⁰ Finally, illicit flows were found to be positively and significantly related to the size of the underground economy. This result is intuitively meaningful in that one would expect increasing outflows of illicit capital to require a larger underground economy to sustain them.

IV. Conclusions

The study finds that illicit financial flows from Mexico are massive and the problem has progressively worsened since the seminal World Development Report was published in 1985.²¹ Based on the current revised methodology of estimating illicit flows, we find that over the forty-three-year period 1970–2012 outflows of illicit capital average about 4.5 percent of GDP per annum. During 1970–1993, before NAFTA was implemented, illicit outflows averaged 4.0 percent of GDP, while in the nineteen years to 2012 that followed, such outflows increased to 5.2 percent of GDP. We find that trade liberalization without strong regulatory oversight, as in the case of India, is probably responsible for larger illicit outflows through trade mispricing.

In fact, average illicit outflows per annum have increased sharply throughout the four decades. They were US\$7.9 billion in the 1970s, US\$16.5 billion in the 1980s, US\$25.1 billion in the 1990s, and US\$47.0 billion in the 2000s. In 2010–2012, the final three years of this study, they averaged US\$63.7 billion per annum. In terms of GDP, illicit flows have increased from 3.2 percent of GDP in the 1970s to 5.1 percent of GDP in the 1980s, a rising trend that reversed as a result of brisk economic growth in the 1990s to average 4.5 percent of GDP. However, in the last decade 2000–2009, as cross-border transfers of illicit capital outpaced economic growth, the ratio again climbed to an average of 4.9 percent per annum. In 2010–2012, average outflows reached 6.0 percent of GDP, which is fairly high among developing countries.

^{20.} See Ibid., 34–5, box 3 for a discussion on why that was the case.

^{21.} The World Bank, World Development Report 1985, 64, table 4.4.

Economists have long studied trade mispricing as a conduit for the cross-border transfer of illicit capital beginning with the seminal studies carried out by Bhagwati, Krueger, and others.²² Numerous researchers such as Gunter,²³ Ndikumana and Boyce,²⁴ Schneider,²⁵ Nandi,²⁶ Chipalkatti and Rishi,²⁷ and others have argued that foreign assets can be acquired by over-invoicing imports and under-invoicing exports. The manipulation of trade invoices also occurs in the United States and other industrial countries.

An econometric model was developed to explain the drivers and dynamics of illicit financial flows from Mexico. The model shows that expansionary fiscal policies led to significant growth in the money supply, which generated inflation. Although the higher inflation was found to be significantly positive in explaining total taxes collected, the increased collection in nominal terms did not shrink the underground economy, which was mainly driven by illicit outflows, inflation, and the size of the underground economy in the previous period. The model confirms a dynamic interaction between illicit flows and the underground economy in that each drove the other. Two structural factors were included in the model as exogenous variables-trade openness and income inequality as measured by the Gini coefficient. The model simulations show that, while trade openness was significant in explaining illicit flows, the expanding trade sector did not drive the underground economy. Regarding income distribution, the surprising finding was that income inequality was negatively related (at the 90 percent confidence interval) to illicit flows. In other words, larger illicit outflows have actually led to an apparent improvement of income distribution. There are two explanations for this finding. One resides in the data on Gini that show that Mexico's income distribution has actually improved over the period 1970-2009. If official statistics on income distribution are to be believed, it seems that closer labor, trade, and financial market ties to the United States have had some salutary impact on income distribution, such as through increasing remittances. Counteracting the beneficial impact

^{22.} See, for example, Jagdish N. Bhagwati, ed., *Illegal Transactions in International Trade: Theory and Measurement* (Amsterdam: North-Holland Publishing Company, 1974).

^{23.} Frank R. Gunter, "Capital Flight from China," China Economic Review 15 (2004): 63-85.

^{24.} Ndikumana and Boyce, "New Estimates of Capital Flight."

^{25.} Friedrich Schneider, "The Shadow Economy," in *Encyclopedia of Public Choice*, ed. Charles K. Rowley and Friedrich Schneider (Dordrecht, Netherlands: Kluwer Academic Publishers, 2003), 286–96.

^{26.} Sukumar Nandi, "Capital Flight from India: Theory, Evidence and Determination," *Journal of Foreign Exchange and International Finance* 8, no. 4 (1995): 447–69.

^{27.} Niranjan Chipalkatti and Meenakshi Rishi, "External Debt and Capital Flight in the Indian Economy," Oxford Development Studies 29 no. 1 (2001): 31–44.

of closer ties on income distribution are illicit flows, which typically worsen income inequality as the rich get richer through the accumulation of illicit assets. The other explanation is that official surveys on income and wealth on which the Gini coefficients are based always fail to capture illicit assets, particularly external assets held by high-net-worth individuals, thereby understating the income of the top group relative to households in the middle- and low-income groups.

The results of model simulations provided an insight into policy measures required to curtail the generation and transmission of illicit capital. We found that macroeconomic instability, such as high fiscal deficits, inflation, and external debt, can lead to loss of confidence in the economy, triggering widely expected depreciation of the exchange rate, which in turn can drive illegal capital flight. Hence, prudent macroeconomic policies geared towards maintaining economic stability can curtail illicit flows. However, structural and governance-related issues also need to be addressed to stem the outflows. For instance, because trade openness tends to lead to greater trade mispricing in the absence of stronger regulatory oversight, specific measures to reform Mexican customs administration would probably be required. Moreover, since the underground economy is a significant and positive driver of illicit flows, policy measures that shrink the underground economy would help curtail the cross-border transfer of illicit capital.

6. Russia: Illicit Financial Flows and the Role of the Underground Economy

Dev Kar

I. Introduction

This chapter presents an empirical study on illicit financial flows from Russia since 1994 (the earliest year for which data are available), seeks to bring out possible drivers and dynamics underlying such cross-border transfers, and compares them with the drivers of licit capital outflows. For the reasons noted in the Chapter 3, we study the behavior of two types of illicit flows—gross outflows and total flows (i.e., inflows plus outflows). In fact, a major aspect of this study focuses on the drivers of gross illicit outflows and the dynamic link between the size of the Russian underground economy and total illicit flows in both directions.

Notwithstanding the difficulty of estimating illicit flows, this is an extremely important issue for Russia, given that weak governance in general, and corruption in particular, drive much of such capital from the country. In fact, as Grigoryev and Kosarev,¹ Khvostunova,² Mishina,³ and others have pointed out, corruption has been such an endemic problem in Russia that much of Russian society has come to tolerate it. Loungani and Mauro observed that capital flight from Russia was driven mainly by the "confiscatory" nature of the tax system, endemic weaknesses in its banking system, vested interests in the energy sector, and widespread corruption.⁴ They argued that as long as these root causes remain, the flight of capital, both licit and illicit, can be expected to continue.

^{1.} Lev Grigoryev and Andrei Kosarev, "Capital Flight: Scale and Nature," in *Economic Policy in Russia in 2000* (Washington, DC: Bureau of Economic Analysis, 2000).

Olga Khvostunova, "Sergei Guriev: Before 2018 We'll Have Another Presidential Election," Institute of Modern Russia, (October 9, 2012), http://imrussia.org/en/analysis/economy/302-if-corruption-is-not-overcome-the-regime-has-no-future.

^{3.} Ekaterina Mishina, "The Fight Against Corruption as a New Year's Present," Institute of Modern Russia, December 26, 2012, http://imrussia.org/en/rule-of-law/357-the-fight-against-corruption-as-a-new-years-present.

Prakash Lougani and Paolo Mauro, "Capital Flight from Russia," IMF Policy Discussion Paper PDP/00/06 (Washington, DC: International Monetary Fund, 2000), https://www.imf.org/external/pubs/ft/pdp/2000/pdp06.pdf.

In contrast to the scant literature on flows that are purely illicit, there have been a number of studies on capital flight from Russia that consist of a mix of licit and illicit funds.⁵ In fact, the Central Bank of Russia's own studies show that capital flight has been a persistent problem since the formation of the Russian Federation on December 25, 1991.⁶

The organization of this chapter is as follows: Section II presents a brief discussion of the pattern of illicit financial flows from Russia over the period 1994–2012. Section III examines the drivers and dynamics of total illicit flows (inflows plus outflows) from Russia from 1994–2011 using multiple linear regression models, recognizing that given the short sample period and the unavailability of quarterly macroeconomic data, particularly on the fiscal sector, it is not possible to develop a larger dynamic simulation model. However, a two-equation model is presented in this section, which shows the interaction between total illicit flows and the underground economy. The final section presents the main findings of this chapter.

II. Evolution and Pattern of Illicit Flows

The Russian Federation came into existence after the disintegration of the former Soviet Union, a fragmentation that resulted partly from its failed economic policies. As a result, wide-ranging economic reforms were initiated during the period just before and after the breakup of the Soviet Union. In dismantling the structures of central planning, radical economic reform sought to transform Russia into a market-based economy and to place the country on a sustainable path to economic growth and stability.

As prices were liberalized and loss-making public sector agencies were privatized, monetary policy was implemented by an increasingly professional Central Bank, rather than through a central command. As privatization began to take hold, control of business shifted from the government to the private sector. However, the period of transition to a market-based economy was fraught with uncertainties, risks of failure, and wariness among investors. Illicit inflows as percent of GDP grew steadily in the first three years 1994–1996 while outflows grew in the first two years (see Table 1).

See, for example, Konstantin Loukine, "Estimation of Capital Flight from Russia: Balance of Payments Approach," World Economy 21, no. 5 (1998): 603-11, for licit and illicit capital flight, and Terry Sicular, "Capital Flight and Foreign Investment: Two Tales from China and Russia," World Economy 21, no. 5 (1998): 589-602, for the residual measure.

^{6.} Grigoryev and Kosarev, "Capital Flight." Recent interviews of Russian experts by the media also highlight the problem of corruption and capital flight; see, for example, Khvostunova, "Sergei Guriev," and Mishina, "Fight Against Corruption."

Table 1. Illicit Financial Flows to and from Russia, 1994–2012

Year	Inflows		Outflows					
	Trade Misinvoicing	Hot Money Narrow	Trade Misinvoicing	Hot Money Narrow	Total Illicit Inflows	Total Illicit Outflows	IFF Inflows / GDP	IFF Outflows / GDP
1994	46,182	658	25,539	0	46,840	25,539	11.0%	6.0%
1995	55,839	0	29,659	12,810	55,839	42,469	12.0%	9.2%
1996	77,602	0	28,710	10,499	77,602	39,210	13.8%	7.0%
1997	67,462	0	25,129	12,713	67,462	37,841	11.5%	6.5%
1998	49,481	0	18,178	13,882	49,481	32,060	12.6%	8.1%
1999	37,534	0	20,262	12,483	37,534	32,745	13.0%	11.4%
2000	53,386	0	25,846	12,941	53,386	38,786	14.8%	10.7%
2001	38,541	0	31,385	13,158	38,541	44,543	9.1%	10.5%
2002	65,152	0	29,571	8,563	65,152	38,135	13.4%	7.9%
2003	83,271	0	43,782	12,276	83,271	56,058	14.4%	9.7%
2004	100,796	0	52,763	7,393	100,796	60,156	13.5%	8.0%
2005	125,736	0	59,064	5,873	125,736	64,937	13.9%	7.2%
2006	146,251	10,672	76,024	0	156,924	76,024	14.1%	6.8%
2007	170,711	0	77,997	10,413	170,711	88,410	12.4%	6.4%
2008	141,769	0	98,691	2,973	141,769	101,664	8.6%	6.2%
2009	112,253	0	132,300	6,831	112,253	139,131	8.4%	10.5%
2010	146,514	0	126,825	9,136	146,514	135,960	9.5%	8.8%
2011	210,136	0	166,285	7,953	210,136	174,238	11.9%	9.9%
2012	185,488	0	103,906	9,477	185,488	113,383	10.0%	6.1%
Cumulative	1,914,105	11,330	1,171,915	169,375	1,925,435	1,341,289		
Average	100,742	596	61,680	8,914	101,339	70,594	12.0%	8.3%

(in millions of real 2010 US dollars)

It is clear that, as Russia struggled to replace the old order with an untried new order, illicit outflows measured by Hot Money Narrow and Gross Excluding Revenues (HMN+GER) averaged about US\$35 billion per annum from 1994 to 1999. But macroeconomic instability along with continued weaknesses in governance and increasing lawlessness were responsible for boosting illicit outflows to an average of nearly US\$71 billion per annum over the next decade ending 2009. Over the period 2010–2012, the pace of such outflows accelerated further to US\$141 billion per annum (see Table 1). However, given the difficulties of capturing all illicit flows, even this massive volume of outflows is likely to be significantly understated.

Illicit outflows, which stand at 8.3 percent of Russian GDP on average, have grown steadily since Russia's independence at a log-linearized trend rate of growth of 10.0 per annum in real terms, which is on par with a GDP growth rate of 10.1 percent in the same time period 1994–2012. This steady growth is possibly due to deteriorating governance-related factors as captured by the World Bank's Worldwide Governance Indicators and Transparency International.

We observe that 87.4 percent of total illicit outflows over the period 1994–2012 were due to the misinvoicing of trade (obtained using the bilateral Hong Kong-adjusted GER method), rather than leakages from the balance of payments (based on HMN estimates). Though the HMN figure is still quite large in its own right—which indicates that the proceeds of bribery, kickbacks, and other illegal transactions were transferred out of the country through unrecorded banking transactions—the major conduit for illicit flows from Russia was deliberate trade misinvoicing.

III. The Drivers and Dynamics of Total Illicit Flows To and From Russia

Unlike other case studies at GFI that focused on either illicit outflows (Brazil, India, Mexico) or outflows and inflows separately (Philippines),⁷ we will focus on the totality of illicit flows (i.e., inflows plus outflows) for Russia. This is because illicit inflows into Russia were even greater than total outflows, totaling 12 percent of GDP compared to 8.3 percent of GDP over the study period (see Table 1).

Past research at GFI shows that drivers of broad capital flight can be classified into three main categories: macroeconomic, structural, and governance-related. Macroeconomic drivers consist of inflation, interest rate differentials, and the real effective exchange rate, among other measures. Structural indicators are captured mainly by income inequality, unemployment, and trade openness without oversight. The governance-related category is arguably the most important of the three, as it can be used to explain illicit flows transferred both into and out of Russia. Thus we give the focus to governance in this section, exploring the link between illicit flows and governance, Russia's

^{7.} Dev Kar, Brazil: Capital Flight, Illicit Flows, and Macroeconomic Crises, 1960-2012 (Washington, DC: Global Financial Integrity, 2014); Dev Kar, The Drivers and Dynamics of Illicit Financial Flows from India: 1948-2008 (Washington, DC: Global Financial Integrity, 2010); Dev Kar, Mexico: Illicit Financial Flows, Macroeconomic Imbalances, and the Underground Economy (Washington, DC: Global Financial Integrity, 2012); Dev Kar and Brian LeBlanc, Illicit Financial Flows to and from the Philippines: A Study in Dynamic Simulation, 1960-2011 (Washington, DC: Global Financial Integrity, 2014).

governance deficit, and the use of the underground economy as a proxy for governance. Later we test our governance proxy to see how it performs with total illicit flows in a simultaneous equation model.

a. The Underground Economy as a Proxy for Governance

In light of the difficulty of using governance indicators in quantitative analysis, we were compelled to look at an alternative measure that is more amenable to hypothesis testing. The underground economy is large and growing in countries with weak overall governance, and is small, if not declining, in countries with relatively strong governance. Due to these facts, we use the size of Russia's underground economy as a proxy for the overall state of governance in the country. Previous country case studies at GFI also highlighted this approach.⁸

We estimate the size of Russia's underground economy using Tanzi's currency demand approach. Because illicit inflows also finance illegal activities, we posit a link between total illicit flows (inflows plus outflows) and the underground economy. In light of the limited number of observations, an overall objective of regression analysis is to obtain the best goodness-of-fit (shown by the highest adjusted R square) using a minimum number of variables. Furthermore, we impose the condition that there be little or no evidence of serial correlation as indicated by a Durbin-Watson statistic that falls within an acceptable range of critical values. Given that the series on licit, illicit, and total capital flows are sometimes negative, we transform them into positive series by adding a constant before taking the logs.

Due to the small number of sample observations, it is important to note that the results presented are preliminary. The Russian Federation was formed on December 25, 1991, and began reporting annual data to the IMF and the World Bank consistently in 1994.⁹ Hence, the results presented in the following tables are not as robust as we would like, given the small sample size of annual observations available and the low degree of freedom of the regressions (number of observations net of the number of explanatory variables). The small sample size also makes interpretation of stationarity tests difficult, since the probabilities and critical values used to analyze such tests are

^{8.} See, for example, Kar, Drivers and Dynamics of IFFs; Kar, Mexico: Illicit Financial Flows.

^{9.} We use annual data because many macroeconomic indicators are unavailable in a quarterly presentation.

calculated for a minimum of twenty observations and may not be accurate for a smaller time period. In view of these data limitations, we do not construct a vector error correction model to test long-run relationships among key endogenous variables.¹⁰

Essentially, the currency demand approach developed by Tanzi estimates the difference in the demand for currency with and without tax rates.¹¹ The assumption is that high taxes lead to more underground economic activities and that illegal transactions are mainly carried out in cash. Hence, the resulting difference in the demand for currency, or extra currency, can be used to derive the size of the underground economy. Clearly, however, many underground activities are not the result of taxes, and therefore our estimates of the underground economy are understated to the extent that they do not capture non-tax-related incentives behind illegal activities.

Using the method in Brambila-Macias and Cazzavillan,¹² we set up the following model,

 $CD_t = \beta_0 + \beta_1 Y_t + \beta_2 Tax_t + \beta_3 R_t + B_4 Rem_t$

where *CD* is currency demand, *Y* is real GDP, *Tax* is total tax revenues, *R* is the interest rate on deposits, and *Rem* is remittances sent to Russia. A major argument for including remittances rests on the fact that such unrequited transfers inject liquidity into the Russian economy, which can boost the demand for currency. The results are presented in Table 2. The equation is then re-estimated to obtain *CD*' by setting the *Tax* variable equal to zero with all other coefficients unchanged. The difference between *CD* and *CD*' gives us the amount of extra currency in the economy. Assuming the velocity of money is consistent between the official and underground economies, we multiply extra currency by this velocity to obtain estimates of the underground economy.

^{10.} We discuss this subject in detail in Kar, Mexico: Illicit Financial Flows, 27, box 1.

^{11.} Vito Tanzi, "The Underground Economy in the United States: Annual Estimates, 1930–80," *Staff Papers (International Monetary Fund)* 30, no. 2 (1983): 283-305.

Jose Brambila-Macias and Guido Cazzavillan, "The Dynamics of Parallel Economies: Measuring the Informal Sector in Mexico," Research in Economics 63, no. 3 (2009): 189-99.

Independent Variables	Currency Demand (CD)			
Constant	-7.40			
Y	0.76**			
Total Taxes	0.56			
Interest Rate	-0.12			
Remittances	0.50*			
Adjusted R-squared	0.99			
Durbin-Watson	1.62			

Table 2. Russia's Underground Economy: The Determinants of Currency Demand

Notes: Currency Demand (CD) as measured by Currency Outside Banks reported by the Central Bank of Russia to the IMF. Regression results estimated in log form. The symbols *, **, *** indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

The underground economy grew sharply in Russia over the period 1994–2008, declined in 2009 and 2010, and expanded sharply again in 2011 (see Chart 1). Note that while the underground economy has grown over the period, its size relative to official GDP has tended to decline, barring a few upticks as economic growth in post-Soviet Russia took off, led by exports of oil, gas, and other natural resources. How do these estimates compare with results found in other studies? A 2010 study at the World Bank, based on the Multiple Indicators Multiple Causes (MIMIC) model, estimated that Russia's underground economy averaged 43.8 percent of official GDP.¹³ The average size of the underground economy, calculated at 46.0 per cent of GDP using the currency demand approach, was found to be quite close to the World Bank's estimate using an entirely different method.



Chart 1. Russia's Underground Economy

(in trillions of rubles or in percent)

13. Friedrich Schneider, Andreas Buehn, and Claudio E. Montenegro, "Shadow Economies All over the World: New Estimates for 162 Countries from 1999 to 2007," Policy Research Working Paper No. 5356 (Washington, DC: World Bank, 2010). Our estimates show that the underground economy has declined relative to official GDP since the implementation of a flat tax in 2001. A 2002 IMF report notes that revenue collections in 2001 were at the highest level since the breakup of the Soviet Union,¹⁴ the result of improvements in tax compliance rather than operation of the Laffer curve.¹⁵ Tax reform was aimed at broadening the tax net, simplifying the tax structure, and strengthening the tax and customs administrations. The improvement in tax compliance since 2001 is perhaps an important reason behind the shrinking of the underground economy relative to GDP.

Table 3 presents the results of regressions explaining total illicit inflows and outflows using the estimates of the underground economy based on the currency demand method. The first regression seeks to explain the level of total illicit flows as a function of the size of the underground economy.

Table 3. Russia: Illicit Financial Flows and the Underground Economy

Governance-Belated	Illicit Financial Flows			
Independent Variables	1	2		
Constant	-0.41	-0.46		
Underground Economy	0.88***	0.88***		
Adjusted R-squared	0.78	0.63		
Durbin-Watson	1.27	1.11		
Sample Adjusted	1994-2011	1995-2011		
Total Observations	18	17		

Notes: The symbols *, **, *** indicate significance at the 10 percent, 5 percent, and 1 percent level, respectively. All regression results estimated in log form. Specification 2 estimated with lags on the independent and dependent variables to correct for non-stationarity.

The results confirm that the underground economy is significant at the 1 percent level in explaining the volume of total illicit flows (with an adjusted R^2 of 0.78). Because both the series on illicit flows and the underground economy are non-stationary, we also present specification 2, in which both dependent and independent variables are subject to one-period lags in order to provide relatively more robust results. Although changes in the size of the underground economy explain changes in illicit flows to a lesser extent (adjusted R^2 of 0.63), the underground economy still remains highly significant in explaining changes in the latter.

^{14.} International Monetary Fund, "Russian Federation: Selected Issues and Statistical Appendix," IMF Country Report no. 02/75 (Washington, DC: International Monetary Fund, 2002), 59.

^{15.} Laffer curves show the optimal level of taxation for which the government can maximize revenue collection.

b. Dynamic Simulation Model of Illicit Financial Flows and the Underground Economy: Estimating the System of Equations

We estimate two equations for use in dynamic simulation of the total illicit flows and the underground economy in Russia, one for each component respectively (see Table 4). Each category of illicit drivers—governance, macroeconomic, and structural—is represented in the equation for illicit flows. The size of the underground economy represents governance, real GDP growth indicates macroeconomic performance, and unemployment seeks to capture a structural factor. We limit ourselves to including one indicator per category in our regression for total illicit flows in order to maximize the degrees of freedom in the results, and to isolating the significance of that variable in explaining illicit flows. The most robust test result was that oil prices (base 2005) and total illicit flows are positive and highly significant at the 1 percent level in explaining the size of the underground economy.

Using ordinary least squares regression, we find evidence that the governance and macroeconomic factors are both positive and significant in explaining total illicit flows at the 1 percent level. Interestingly, the coefficient on real GDP growth is of a higher magnitude relative to the underground economy or unemployment, which may speak to the non-inclusive nature of the growth Russia has experienced. Furthermore, the results show that a 1 percent increase in the size of the underground economy will increase the cross-border transmission of illicit capital by 7 percent.

One of the more interesting aspects of our simulation results is the finding that oil prices affect total illicit flows through the Russian underground economy. Oil prices have a small, significant, direct influence on financial outflows from Russia, whether licit or illicit. They do so because increasing oil prices affect oil exports, which drive the Russian current account surplus, leading to capital flight from Russia.

In spite of the theoretical basis for including structural variables, we found scant empirical evidence that they were important in explaining illicit flows to and from Russia or how the underground economy has evolved (see Table 4). The main reason is related to weaknesses in the data. For instance, data on unemployment are generally very weak in many emerging markets and developing countries, including Russia, and do not capture the vast majority of those unemployed. Also, we

found no evidence of a link between income inequality and illicit flows in the case of Russia. This is perhaps because the Gini coefficient typically understates income inequality given its reliance on official income surveys, which cannot capture holdings of illicit assets and related income.

Independent Variables	Total Illicit Flows	Underground Economy
Constant	3.11	6.43 ***
Total Illicit Flows		0.62 ***
Oil Prices		0.01 ***
Underground Economy	0.07 ***	
Real GDP Growth	0.64 ***	
Unemployment	0.01	
Adjusted R-squared	0.86	0.86
Durbin-Watson	1.77	1.40

Table 4. The Determinants of Total Illicit Flows and the Russian Underground Economy

Notes: The symbols *, **, *** indicate significance at the 10 percent, 5 percent, and 1 percent level, respectively. All regression results estimated in log form.

c. Behavior of Equations in Dynamic Simulation

Simultaneous equation modeling shows that total illicit flows both drive and are driven by the size of the underground economy. We select the specification presented in Table 4 as our model inputs for total illicit financial flows and the underground economy. These regressions yield a high adjusted R-squared, as well as a Durbin-Watson statistic that rejects the presence of serial correlation, both of which are subject to maximum degrees of freedom. This indicates that the model is properly specified.

Illicit flows both in and out of Russia are harmful to the economy, and the damaging effect of illicit flows on an economy can best be measured by the sum of (the absolute values of) inflows plus outflows. The illicit nature of the inflows takes away their assumed benefit to the economy, so we do not net them out with the illicit outflows.



Chart 2. Russia: Current Account Balance and Capital Flight

(millions of nominal US dollars or index)

Chart 2 shows the movements of Russia's current account balance, oil prices, oil exports, and the corresponding leakages of illicit capital into and out of Russia through the balance of payments. It is clear that these variables have tended to move in tandem over time. The peaks in oil exports and oil prices in 2008, 2011, and 2012 have tended to coincide with larger current account surpluses and greater outflows from the balance of payments, according to the World Bank Residual (WBR) measure. Regression results confirmed that oil prices are positively and significantly related to both the WBR measure of illicit outflows and licit capital flight.¹⁶

IV. Conclusion

We find that there was massive flight of illegal capital in the years immediately following the formation of the Russian Federation on December 25, 1991. Over the period 1994–2012, Russia lost US\$1.3 trillion in illicit capital outflows. The seismic shifts involved in the dilution and shedding of central controls and in weak institutions trying to find their feet in the new order amid economic and political uncertainties continued to drive illicit flows from the country. Outflows of such capital increased from an average of US\$35 billion per annum in the mid-1990s to US\$71 billion per annum

^{16.} See Dev Kar and Sarah Freitas, *Russia: Illicit Financial Flows and the Role of the Underground Economy* (Washington, DC: Global Financial Integrity, 2013), 30–31, table 10, box 2.

in the 2000s, and reached a startling average of US\$141 billion in the final three years of this study (2010–2012). As a share of GDP, illicit outflows remained fairly steady, averaging 8.0 percent of GDP in the period 1994–1999 and 8.4 percent in the period 2000–2012 when the economy grew much faster, partly as a result of higher oil exports.

A fuller picture of the role of illicit flows in driving the underground economy emerges if we consider both outflows and inflows. Over the period 1994–2012, cumulative illicit outflows totaled US\$1.34 trillion, while total illicit flows (outflows and inflows combined) totaled US\$3.27 trillion. Fully 87 percent of illicit outflows—and 99 percent of illicit inflows—from 1994 to 2012 were due to the misinvoicing of trade, confirming its importance as the most important mechanism for illicit financial flows.

This chapter found a significant link between illicit flows and the growth of the underground economy. While the underground economy has grown in size over the period 1994–2011, it has actually shrunk relative to official GDP.

We estimated equations using one period lags, which convert the dependent and independent variables to a stationary series. While the goodness-of-fit adjusted for degrees of freedom declined in the lagged variables version, the significance of the underground economy in driving illicit flows and being driven by them remain unchanged. These results are subject to the caveat that they are not very robust given the small number of observations imposed by the fact that comprehensive data are available beginning only in 1994. The results presented in this chapter should be seen as preliminary or indicative in nature rather than conclusive.

So long as the Russian authorities fail to shrink the underground economy, Russia will continue to hemorrhage scarce capital, both illicit and licit, to the detriment of economic and political stability.

7. Illicit Financial Flows To and From the Philippines: A Study in Dynamic Simulation, 1960–2012

Dev Kar

I. Introduction

This chapter, which presents a model of the drivers and dynamics of illicit financial flows to and from the Philippines, provides an updated abstract of an earlier version that was published by Global Financial Integrity (GFI) in February 2014.¹ Here, we will update estimates of illicit flows while summarizing the main results of that study, which have not changed since then.

To recapitulate, illicit flows comprise unrecorded balance of payments leakages and misinvoicing of external trade. We treat illicit inflows and outflows as separate but interacting transactions that affect both the official and underground economies. Thereby the study affords a fuller understanding of how illicit flows affect a developing country.

A recent study at GFI found that the Philippines lost about US\$9.3 billion in illicit outflows each year over the decade ending 2012.² At this rate, the Philippines was the fifteenth largest exporter of illicit capital. The ranking of the Philippines would be higher if we exclude certain oil exporters with large sovereign wealth funds (SWFs). This is because statistical issues related to incomplete SWF-related transactions tend to overestimate outflows from oil exporters, which understate in relative terms the outflows from non-SWF-endowed developing countries.

^{1.} Dev Kar and Brian LeBlanc, *Illicit Financial Flows to and from the Philippines: A Study in Dynamic Simulation, 1960-2011* (Washington, DC: Global Financial Integrity, 2014).

^{2.} Dev Kar and Joseph Spanjers, Illicit Financial Flows from Developing Countries: 2003-2012 (Washington, DC: Global Financial Integrity, 2014).

Intuitively, one would think that while licit capital flows would tend to be driven by macroeconomic conditions, such as high and highly variable inflation, large fiscal deficits, and interest differentials, illicit flows should be driven mainly by governance-related drivers. However, we did not find such a clear demarcation between the drivers of capital flight and illicit flows in our case studies.

While macroeconomic conditions are reflected in a variety of related indicators, capturing the state of overall governance through a single indicator is problematic. For instance, the World Bank's Worldwide Governance Indicators or the indicators developed by Transparency International have inherent limitations that are recognized by the compilers themselves, such as their judgmental nature based on opinions gathered through surveys and the limited time span for which these indicators are available. Given the difficulties of empirically measuring the state of overall governance, we create a proxy for it by independently estimating the underground economy. The state of overall governance is intimately linked to the size of a country's underground economy, while those that are strongly governed have a small, even declining, underground economy relative to official GDP.³

As noted in Chapter 3, while there is intuitive appeal to netting out licit capital inflows from licit capital outflows, the same logic does not hold when the flows are illicit in nature. The net of licit flows, such as a net of foreign direct investments or portfolio investments, indicates whether on balance a country has received or lost financial resources. Such a balance has implications for economic growth. But when flows are illicit in both directions, their balance is meaningless from a development and legal perspective. Treating illicit inflows separately from outflows allows a

^{3.} See Friedrich Schneider, Andreas Buehn, and Claudio E. Montenegro, "Shadow Economies All over the World: New Estimates for 162 Countries from 1999 to 2007," Policy Research Working Paper No. 5356 (Washington, DC: World Bank, 2010); Benno Torgler and Friedrich Schneider, "Shadow Economy, Tax Morale, Governance and Institutional Quality: A Panel Analysis," CREMA Working Paper Series (Zurich: Center for Research in Economics, Management, and the Arts, 2007); Daniel Kaufmann, "Myths and Realities of Governance and Corruption," in *Global Competitiveness Report 2005-2006* (Davos: The World Economic Forum, 2005), 81–97; Axel Dreher and Friedrich Schneider, "Corruption and the Shadow Economy: An Empirical Analysis," *Public Choice* 144, no. 1-2 (2010): 215–38, for additional studies on the link between governance and the underground economy.

more accurate analysis of the problem such flows pose to the Philippines and other developing economies, rather than assuming that the massive amount of smuggling in the Philippines is a "benefit" that can simply be netted out from illicit outflows.

The chapter is organized as follows. Section II traces the evolution of illicit financial flows to and from the Philippines over the period 1960–2012, relating both inflows and outflows to GDP. We then explore how illicit flows have been linked to overall governance issues, as captured by the World Bank's Control of Corruption Index. In Section III, we present a brief discussion of the strategy used to estimate the model and present a synopsis of the simultaneous equations model (SEM) that shows both the interaction between illicit inflows and outflows and their impact on the underground and official economies. The main findings of this work are summarized in Section IV.

II. Illicit Flows To and From the Philippines

a. Evolution of Illicit Flows

Table 1 presents the volume of inflation-adjusted illicit financial flows into and out of the Philippines over the period 1960–2012 through two main channels, namely unrecorded balance of payments leakages (captured by the Hot Money Narrow or HMN method) and deliberate trade misinvoicing. Cumulative figures on illicit flows through both these conduits show that trade misinvoicing dominates HMN-related flows for both inflows and outflows.

Table 1. Philippines: Illicit Financial Flows, 1960–2012

Year	Inflows		Outflows					
	Trade Misinvoicing	Hot Money Narrow	Trade Misinvoicing	Hot Money Narrow	Total Illicit Inflows	Total Illicit Outflows	IFF Inflows / GDP	IFF Outflows / GDP
1960-1969	10,550	111	7,382	4,609	10,661	11,990	3.0%	3.3%
1970-1979	20,233	1,479	12,338	3,243	21,712	15,581	4.4%	3.4%
1980-1989	31,173	3,044	19,814	2,203	34,217	22,017	5.5%	3.5%
1990-1999	92,660	4,657	33,271	17,161	97,317	50,431	9.3%	4.8%
2000-2009	172,349	4,946	86,458	8,831	177,295	95,289	13.6%	7.5%
2000	22,127	0	6,489	2,257	22,127	8,745	19.6%	7.8%
2001	16,586	874	7,545	0	17,459	7,545	16.6%	7.2%
2002	13,007	51	6,899	0	13,058	6,899	11.4%	6.0%
2003	14,684	0	9,841	1,201	14,684	11,041	13.1%	9.8%
2004	14,497	0	11,260	345	14,497	11,605	12.6%	10.1%
2005	13,008	2,551	13,733	0	15,560	13,733	12.9%	11.4%
2006	16,532	0	9,406	1,809	16,532	11,215	12.1%	8.2%
2007	17,498	297	8,541	0	17,794	8,541	11.1%	5.3%
2008	21,636	1,173	6,722	0	22,809	6,722	13.5%	4.0%
2009	22,774	0	6,022	3,219	22,774	9,242	12.7%	5.1%
2010	23,720	0	5,356	3,515	23,720	8,872	11.9%	4.4%
2011	23,233	256	10,076	0	23,489	10,076	11.4%	4.9%
2012	27,370	0	4,205	4,164	27,370	8,368	12.0%	3.7%
Cumulative	401,287	14,494	178,899	43,725	415,781	222,624		
Average	7,571	273	3,375	825	7,845	4,200	7.4%	4.5%

(in millions of constant US dollars, base year 2010, or in percent)

It should be noted that the estimates of illicit outflows in Table 1 are based on revised data on HMN submitted to the IMF and on the new methodology of trade misinvoicing on which the last annual update was based. The revised method of trade misinvoicing is based on each developing country's trade with each advanced country; the total resulting misinvoicing is then bumped up for the country's trade with the world. The methodology is discussed in detail in Chapter 3. So while the model results are based on the old data, the estimates themselves have been revised to reflect current methodology. The models themselves were not rerun; the objective here is to present a synopsis of the models and methodology as they have evolved over time rather than to fit standardized versions across all five countries.

The major driver of illicit flows into or out of the Philippines is not balance of payments leakages, but trade misinvoicing. The data in Table 1 show that, over the period 1960–2012, a total of US\$401.3 billion (in constant 2010 US dollars) was smuggled into the Philippines, mainly through the deliberate under-invoicing of imports, compared to a total of US\$178.9 billion that left the country in an illicit manner. Total illicit outflows, including balance of payments leakages, averaged around 3.4 percent of GDP per year during 1960–1989, increasing to 4.8 percent of GDP in the 1990s and further to 7.5 percent of GDP in the decade ending 2009. However, the volume of outflows in relation to GDP has since fallen to 3.7 percent of GDP in 2012. In contrast, illicit inflows have increased much faster throughout the decades from 3 percent of GDP per annum in the 1960s to an average of about 5 percent of GDP in the 1970s and 1980s, to nearly 10 percent of GDP in the 1990s, accelerating further to 13.6 percent of GDP per annum in the 2000s. Unlike illicit outflows, inflows have increased to an average of nearly 12 percent of GDP per annum in 2010–2012.

b. Illicit Financial Flows and Governance

The World Bank compiles a set of indicators covering six aspects of governance—voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. We found that the control of corruption is the most important governance-related determinant of the volume of illicit outflows. Chart 1 plots the percentile rank of the Philippines among all countries in the world related to the control of corruption and total illicit flows (inflows plus outflows) through trade misinvoicing as a share of the country's total trade.

Chart 1 shows the steady deterioration in the control of corruption in the Philippines since 1995 (to 2012), the earliest year for which data are available. Over a period when governance slipped by most measures, inflows and outflows of illicit capital through trade misinvoicing as a share of total trade increased, a development captured by the two intersecting trend lines.

There are some inherent limitations of the World Bank's Worldwide Governance Indicators. The most important limitation is the relatively short time span for which country data are available. The limited availability of data does not permit their use in most time series analysis. Second, the indicators, based on questionnaire-based surveys of public and private enterprises, are necessarily subjective.

The World Bank warns that these indicators cannot be relied upon to gauge year-to-year changes in governance in any country. Rather, the indicators capture the overall and specific aspects of governance in a country in the long run (in our case, over seventeen years, 1996–2012). Finally, governance is a complex state involving six different aspects wherein some indicators can show an improvement while others register a significant deterioration. There is no single index that captures the overall state of governance in a country.





Given these limitations, we use independent estimates of the size of a country's underground economy in order to capture the overall state of governance. The underground economy serves as a good proxy for overall governance. In countries where overall governance is weak, the underground economy is large and growing, whereas in strongly governed countries, the underground economy is small and possibly shrinking. In the next section, we will examine the drivers and dynamics of illicit financial flows from the Philippines and the various channels through which an intrinsic underground economy comes to play a prominent role.

III. A Model of Illicit Financial Flows To and From the Philippines

a. Estimation Strategy

We develop a structural equations model (SEM) to capture some of the main interactions between the official and underground economy. For a number of reasons, we chose the two-stage least squares (2SLS) technique to estimate the SEM. First, it has long been proven that ordinary least squares estimates produce inconsistent estimates in SEMs due to the "simultaneity bias" that is prevalent with the existence of endogenous variables within the system. Thus, we use instrumental variables and the 2SLS technique to correct for this inconsistency. Second, given our limited sample size, the three-stage least squares method offers no gain in asymptotic efficiency over the 2SLS.⁴

All of the time series variables used in the SEM are shown to be non-stationary in levels and integrated of order I(1), which invalidates many standard inference procedures. The common recommendation for correcting for the problem of non-stationarity when using 2SLS is to model the equation in first difference, but this causes us to lose information regarding long-run relationships in our equations. As Hsiao has shown, however, 2SLS in levels still produces consistent estimates in the face of non-stationarity and cointegration in SEMs. While the speed of convergence of the SEM can vary, Hsiao's main point was that empirical researchers need not worry about non-stationarity and cointegration, but rather the traditional problems of identification and simultaneity bias. In short, 2SLS is still a robust method of estimating a SEM.⁵

b. Specification and Testing of a Simultaneous Equations Model

The basic objective of the SEM is to examine the drivers and dynamics of illicit financial flows to and from the Philippines. In doing that, the model allows us to revisit a fundamental assumption

^{4.} Jan Kmenta, "Comparison of Alternative Methods of Estimation and Special Problems," in *Elements of Econometrics* (New York: Macmillan, 1971), 581.

^{5.} Hsiao Cheng, "Cointegration and Dynamic Simultaneous Equations Model," Econometrica 65, no. 3 (1997): 647-70.

underlying much of the academic literature on capital flight. The existing literature is replete with studies that net out inward capital flight from outward transfers, as if the former is a genuine return of capital that offsets the loss of capital, either in the current or an earlier period, through one channel or another. In contrast, our SEM specifies that illicit inflows and outflows can be driven by developments in the official and underground economies, and that they could also interact. The factors that drive illicit flows and how they affect both the underground and official economies have not been studied before.

The model consists of nine stochastic equations: six that relate to the official economy (prices, central government revenues, central government expenditures, money supply, total taxes, and domestic savings); three to the underground economy (illicit inflows, illicit outflows, and the underground economy); and one behavioral equation on the formation of inflationary expectations. While the underground economy is driven by factors other than illicit flows through trade misinvoicing, such flows represent the only systemic measures of illicit transactions that can be estimated in a time series context. We now consider the various components of the SEM.

The equation for the price level is derived from a standard formulation of the demand for real money balances.⁶ Regarding fiscal policy, the hypothesis is that government expenditures tend to respond faster than revenues to inflation due to inflation clauses built into government contracts. Moreover, in order to reduce the real burden of taxes, taxpayers tend to delay paying taxes in an inflationary environment. The asymmetrical response of government expenditures and revenues to inflation tends to expand the fiscal deficit, which can further drive inflation if the government is forced to rely on inflationary finance because the pool of domestic savings is low or if the market for government bonds is underdeveloped.

Furthermore, in the official economy, monetary and fiscal policies have an impact on the money supply. According to the Brunner-Meltzer model,⁷ nominal money supply is a function of the monetary base, the ratio of currency-to-demand deposits, the fiscal balance ratio (defined as the

^{6.} Bijan B. Aghevli and Mohsin S. Khan, "Government Deficits and the Inflationary Process in Developing Countries," *Staff Papers* (*International Monetary Fund*) 25, no. 3 (1978): 383-416.

Karl Brunner and Allan H. Meltzer, "Some Further Investigations of Demand and Supply Functions for Money," Journal of Finance 19 no. 2 (1963): 240-83.
ratio of government expenditures to government revenues), and the rate of interest.⁸ Next, total direct and indirect tax collections depend not only on nominal income and taxes collected in the previous period, but also negatively on the extent of tax evasion through trade misinvoicing (e.g., import under-invoicing and smuggling). The savings equation is based on a standard income and interest rate equation. In an economy subject to significant capital flight through trade misinvoicing, both private and public savings may be negatively affected by capital outflows.

The SEM also postulates that illicit inflows and outflows drive each other. There is some evidence from the literature on trade-based money laundering that, in countries with weak governance, significant capital outflows through trade misinvoicing may be linked to massive illicit inflows to finance transactions in the black market for foreign exchange or "hawala" transactions. The Philippines is one of the top recipients of workers' remittances, which could drive the demand for informal "hawala" markets and black market for foreign exchange. Trade-based money laundering may appear particularly attractive to those engaged in "hawala" transactions, which require a large pool of both domestic and foreign currencies. Moreover, to the extent that illicit inflows and outflows involve tax evasion, such flows may increase in response to higher tax collections in real terms. On the other hand, high inflation-adjusted tax collections may imply a widening of the tax net and a shrinking of the underground economy, in which case tax collection will be negatively related to the volume of illicit inflows and outflows. While the sign of the total tax variable is not clear a priori, we make a distinction between factors that drive illicit inflows and outflows. For instance, illicit inflows are much more likely to end up in the underground economy than in the official economy. So we expect that illicit inflows would drive the domestic underground economy. Furthermore, if preshipment inspections (PSI) since 1987 have led to lower import under-invoicing, illicit inflows should be negatively related to the dummy variable PSI (set equal to 1 in the post-1987 period and zero for the period before). Illicit outflows, on the other hand, can be expected to be negatively related to growth in real income; higher economic growth can boost confidence in the domestic economy, which may well reduce capital flight through trade misinvoicing. Also, larger trading volumes relative to GDP (or greater trade openness) may well encourage more outflows if no measures are taken to strengthen governance, particularly regarding administration of customs.

We reject the Aghevli-Khan (1978) version because it is an identity except for the errors due to linearization; see Dev Kar, "Government Deficits and Inflation in Brazil: The Experience During 1948-64," IMF Working Paper DM/81/76 (Washington, DC: International Monetary Fund, 1981).

The underground economy is formulated as a function of inflows of illicit capital, the tax-to-nominal income ratio (which is a proxy for the effective tax rate), the rate of interest, exchange rate, and real GDP. Most of these factors have been modeled by past researchers. For instance, Bajada pointed out that economic agents participate in the underground economy to either avoid paying taxes or to take advantage of some government policies.⁹ Hence, higher effective tax rates can be expected to drive the underground economy through greater tax evasion. Furthermore, economic agents could make fraudulent claims on government programs, such as taking advantage of favorable exchange rates for certain imports or subsidies for exports, or seek to circumvent foreign exchange regulations, such as export proceeds surrender requirements. Inflows of illicit capital (for example, through import under-invoicing) are likely to be positively related to the underground economy rather than drive the official economy.

Dell'Anno showed that the Italian underground economy was negatively related to the growth of real GDP.¹⁰ Gutmann,¹¹ Feige,¹² Tanzi,¹³ and Cosimo et al.¹⁴ showed that a variety of social and institutional variables can induce people to use currency transactions to avoid paying taxes. One of these variables is the degree of urbanization as measured by the urban population. In addition, given the lack of a consistent time series on black market exchange rates, the official exchange rate may be positively related to the underground economy to the extent that increases in the rate (depreciation) provide a further incentive to exchange foreign for domestic currency.

^{9.} Christopher Bajada, "Estimates of the Underground Economy in Australia," *Economic Record* 75, no. 4 (1999): 369-84.

^{10.} Roberto Dell'Anno, "Estimating the Shadow Economy in Italy: A Structural Equation Approach," Working Paper no. 2003-07 (Aarhus, Denmark: Department of Economics, University of Aarhus, 2003).

^{11.} Peter M. Gutmann, "The Subterranean Economy," Financial Analysts Journal 33, no. 6 (1977): 26-27, 34.

^{12.} Edward L. Feige, ed., *The Underground Economies: Tax Evasion and Information Distortion* (New York: Cambridge University Press, 1989).

^{13.} Vito Tanzi, "The Underground Economy in the United States: Annual Estimates, 1930–80," *Staff Papers (International Monetary Fund)* 30, no. 2 (1983): 283-305.

^{14.} Magazzino Cosimo, Buscemi Antonino, and Yallwe Alem Hagos, "The Underground Economy in the Caribbean Countries," *International Journal of Economics and Business Modeling* 2, no. 2 (2011): 124-32.

The 10-equation system is represented as follows:

Price Level:	(1)
$logP_{t} = ya_{0} - ya_{1} logY_{t} + ya_{2}\pi_{t} - ya_{3} log(M/P)_{t-1} + ya_{4} logM_{t}$	
Concernment Development	(0)
Government Revenues:	(2)
$logR_1 = -\alpha b_0 + \alpha b_1 (log Y_t + log P_t) + \alpha b_2 log R_{t-1}$	
Government Expenditures:	(3)
$l_{r} = C$ $l_{r} = l_{r} = l_{r} = C (C / D)$ $(l_{r} = l_{r} = D)$	
$\log G_t = \beta c_0 - \beta c_1 \log Y_t + \beta c_2 \log (G/P)_{t-1} + \beta c_3 \log P_t$	
Broad Money Supply:	(4)
$logM_t = -pd_0 + pd_1 logMB_t + pd_2 log IR_t - pd_3 log CR_t + pd_4 (log G_t - Log R_t)$	
Total Taxes Collected:	(5)
	(•)
$\log Tax_t = -\delta e_0 + \delta e_1 \log GDP_t + \delta e_2 Tax_{t-1} - \delta e \beta IInf_t$	
Total Domestic Savings:	(6)
$logS_{\star} = \lambda f_{0} - \lambda f_{1} log P_{\star} + \lambda f_{2} log IR_{\star} + \lambda f_{2} log GDP cap_{\star} - \lambda f_{\star} log IOutf_{\star}$	

(7)

 $logIInf_t = \xi g_o + \xi g_1 log_1 IOutf_t + \xi g_2 log(ImpTax / Imports)_t - \xi g_3 Y cap + \xi g_4 PSI_t$

Illicit Outflows:	(8)
$logIOutf_t = \mu h_0 + \mu h_1 logIInf_t + \mu h_2 log(TTax/GDP)_t + \mu h_3 logTrdOpn_t + \mu h_4 log ExtDebt_t - \mu h_5 logYcap + \mu h_3 logTrdOpn_t + \mu h_4 log ExtDebt_t - \mu h_5 logYcap + \mu h_5 logYcap + \mu h_4 log ExtDebt_t - \mu h_5 logYcap + \mu h_5 logYcap + \mu h_5 logYcap + \mu h_5 logYcap + \mu h_5 logYcap +$	o_t

Underground Economy:	(9)
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 $logU_t = \psi j_0 + \psi j_1 log IInf_t + \psi j_2 log(TTax/GDP)_t - \psi j_3 logIR_t + \psi j_4 logUPop_t + \psi j_5 logER_t - \psi j6 logY_t + \psi j_2 log(TTax/GDP)_t - \psi j_3 logIR_t + \psi j_4 logUPop_t + \psi j_5 logER_t - \psi j6 logY_t + \psi j_4 logUPop_t + \psi j_5 logER_t - \psi j6 logY_t + \psi j6 l$

Expected Rate of Inflation:

 $\pi_t = \sigma \Delta \log P_t + (1 - \sigma) \pi_{t-1}$

(10)

Given the complexity of modeling the underground economy, this equation has two endogenous and three exogenous variables. The variables are: *P*, the price level (consumer price index); *Y*, real GDP; π , the expected rate of inflation; *M*, broad money supply defined as money plus quasi-money; *M*/*P*, the real money supply; *R*, central government revenues; *G*, central government expenditures; *G*/*P*, real government expenditures; *MB*, the monetary base; *IR*, the rate of interest on saving and time deposits; *CR*, the currency-to-demand deposit ratio; *TTax*, total direct and indirect taxes collected; *GDP*, nominal GDP; *IInf*, illicit inflows through the deliberate misinvoicing of trade defined as export over-invoicing and import under-invoicing plus Hot Money Narrow inflows; *S*, total domestic savings; *GDPcap*, the nominal GDP per capita; *IOutf*, illicit outflows through misinvoicing defined as export under-invoicing and import over-invoicing plus Hot Money Narrow outflows; *ImpTax/Imports*, the ratio of import taxes collected over imports; *Ycap*, the real GDP per capita; *PSI*, a dummy variable set equal to one when pre-shipment inspections were introduced in 1987 and zero for the earlier period without such inspections; *TTax/GDP*, the ratio of total taxes collected over GDP; *TrdOpn*, the trade openness defined as exports plus imports as a ratio of GDP; *ExtDebt*, external debt; *U*, the domestic underground economy; and *ER*, the nominal exchange rate to the US dollar.

Note that the final equation based on the Cagan model is definitional.¹⁵ It specifies how inflationary expectations are generated through an error-learning mechanism based on economic agents' current and past experience with inflation.

c. Dynamic Simulation of the SEM

We apply the rank and order condition on each structural equation of the SEM to confirm that all equations are identified. Each equation is uniquely derived and cannot be formulated as a linear combination of other equations of the SEM. We check to confirm that the order condition for each equation is satisfied in that the number of excluded variables is equal or higher than the number of included endogenous variables minus one.

^{15.} Philip Cagan, "The Monetary Dynamics of Hyperinflation," in *Studies in the Quantity Theory of Money*, ed. Milton Friedman (Chicago: University of Chicago Press, 1956).

In general, the Durbin-Watson (DW) test for serial correlation is not applicable in SEMs. Specifically, the DW test is invalid for equations where the dependent variable appears as a lagged regressor, as in the price level, government revenue, government expenditure, and total tax equations. We therefore use the Breusch-Godfrey (B-G) test for serial correlation in individual equations of the SEM. Results of the B-G test (based on the Lagrange Multiplier, or LM, method) shown in the 2014 paper confirm the absence of serial correlation in each equation of the SEM.¹⁶

Given that the errors in the equations are not serially correlated, the next concern is whether the presence of heteroskedasticity invalidates the diagnostics such as the standard errors, t statistics, and F statistics. We test for autoregressive conditional heteroskedasticity (ARCH), which is a leading form of dynamic heteroskedasticity (i.e., the error terms have time-varying variances). If ARCH is present, volatility in the dependent variable is a function of the errors in explaining it and the (conditional) variance of the errors varies over time.¹⁷

IV. Findings

a. Structural Equations Estimates

Dynamic simulation of the SEM underscores four salient findings based on the results shown in Table 2. We discuss these first rather than present the results of the estimated equations in the order they are listed. First, illicit inflows significantly reduce the collection of total taxes. As a major share of illicit inflows arise due to import under-invoicing and tax evasion, it stands to reason that illicit inflows reduce the collection of taxes. The significantly positive coefficient of illicit inflows in the equation for the underground economy means that tax evasion is a major driver of the underground economy. Hence, far from being a benefit, illicit inflows adversely affect the economy by reducing tax collections and boosting the underground economy.

^{16.} Kar and LeBlanc, IFFs to and from the Philippines.

^{17.} Ibid., 24. The critical values presented in the 2014 paper are not reproduced here but they rule out ARCH effects. We also refer readers to the 2014 paper if they are interested in the results of the vector error correction model.

Second, a 1 percent increase in the effective import tax (defined as total import duties as a share of total imports) leads to an almost proportional increase in import tax evasion. This perhaps points to the need for strengthening the administration of customs through a comprehensive reform program, should the government wish to implement an effective tariff policy.

Third, while money supply had a significant impact on the price level, the SEM finds no evidence that, over the time period 1960–2011, the fiscal balance played any significant role in driving the money supply. This is because during the latter part of the period, deficits were financed not only by monetary expansion but also through sales of government bonds and foreign borrowing. Under the circumstances, there can be no clear link between money supply and fiscal deficits.

All the estimated coefficients had the correct signs and significance with minor exceptions. The expected rate of inflation, lagged real money balances, and money supply were all significant at the 99 percent confidence interval in explaining the price level. While the negative sign of real income was correct, it was not found to be a significant factor in explaining the price level.

Illicit outflows also adversely affect the economy in two ways: they reduce domestic savings (as residents prefer foreign over domestic assets), and they significantly drive illicit inflows. This finding is supported by the significantly negative coefficient of illicit outflows in the equation for domestic savings and the large, positive coefficient of outflows in explaining illicit inflows. Boyce and Zarsky speculated that "funds which appear to have fled the country are in fact used to finance unrecorded imports."¹⁸ The simulation results support the contentions of Boyce and Zarsky and other researchers.

^{18.} James K. Boyce and Lyuba Zarksy, "Capital Flight from the Philippines, 1962-1986," *Journal of Philippine Development* 15, no. 2 (1988): 191-222.

Table 2. Philippines Structural Equation Estimates: Two-Stage Least Squares

Price Level:

$$\begin{split} log P_t &= 0.554 - 0.149 \ log \ Y_t + 0.952 \pi_t - 0.780 \ log (M/P)_{t-1} + 0.958 \ log \ M_t \\ (0.56) & (-1.84)^* & (6.76)^{***} & (-14.01)^{***} & (31.92)^{***} \\ R^2 &= 0.9984 \quad \text{SE} = 0.0629 \quad \text{B-G} = 0.1821 \quad \text{ARCH} = 0.8827 \end{split}$$

Government Revenues:

$$logR_{t} = -1.197 + 0.196(log Y_{t} + log P_{t}) + 0.810 log R_{t-1}$$

$$(-2.04)^{**} (2.51)^{***} (11.42)^{***}$$

$$R^{2} = 0.9989 \quad S.E. = 0.0779 \quad B-G = 0.4681 \quad ARCH = 0.7566$$

Government Expenditures:

$$\begin{split} logG_t &= 2.430 - 0.076 \ logY_t + 0.803 \ log(G/P)_{t-1} + 1.124 \ log P_t \\ (1.16) & (-0.43) & (8.67)^{***} & (19.22)^{***} \\ R^2 &= 0.9973 \quad \text{S.E.} = 0.1239 \quad \text{B-G} = 0.3787 \quad \text{ARCH} = 0.0121 \end{split}$$

Broad Money Supply:

$$\begin{split} log M_t &= -0.327 + 1.028 \ log \ MB_t + 0.514 \ log \ IR_t - 0.713 \ log \ CR_t + 6.503 (log \ G_t - log \ R_t) \\ & (-0.55) & (19.64)^{***} & (1.74)^* & (-1.90)^* & (1.36) \\ & R^2 &= 0.9602 \quad \text{S.E.} = 0.5093 \quad \text{B-G} = 0.1238 \quad \text{ARCH} = 0.6270 \end{split}$$

Total Taxes Collected:

Total Domestic Savings:

$$\begin{split} logS_t &= 7.907 - 0.194 \ log \ IOutf_t - 1.08 \ log \ P_t + 2.417 \ log GDP cap_t + 0.141 \ log IR_t \\ & (3.02)^{***} \quad (-1.79)^* \quad (-2.19)^{**} \quad (6.14)^{***} \quad (1.73)^* \\ & R_2 = 0.9959 \quad \text{S.E.} = 0.1302 \quad \text{B-G} = 0.6984 \quad \text{ARCH} = 0.5398 \end{split}$$

Illicit Inflows:

 $\begin{array}{ccc} logIInf_t = 10.069 + 1.327 \ logIoutf_t + 1.049 \ log(ImpTax/Imports)_t - 0.990 \ log Y \ cap_t - 0.132 \ PSI_t \\ (0.52) & (4.72)^{***} & (2.02)^{**} & (-0.50) & (-0.22) \\ R^2 = 0.9068 & \text{S.E.} = 0.8626 & \text{B-G} = 0.1594 & \text{ARCH} = 0.9263 \\ \end{array}$

Illicit Outflows:

 $\begin{array}{c} logIOutf_t = 1.943 + 0.803 \ log \ IInf_t + 1.195 \ log \ TrdOpn_t - 1.56 \ log \ \left(\frac{TTax}{GDP}\right)_t + 0.204 \ log \ ExtDebt_t - 0.648 \ log \ Ycap_t \\ (0.16) \qquad (3.58)^{***} \qquad (1.18) \qquad (-1.73)^* \qquad (0.97) \qquad (-0.54) \\ R^2 = 0.9296 \quad S.E. = 0.6922 \quad B-G = 0.1101 \quad ARCH = 0.8916 \end{array}$

Underground Economy:

 $log U_t = 30.34 + 0.578 log IInf_t - 0.720 log IR_t + 4.94 log UPop_t + 1.484 log \left(\frac{TTax}{GDP}\right)_t + 0.027 log ER_t - 1.037 log Y_t + (4.99)^{***} (2.94)^{***} + (-4.87)^{***} (2.79)^{***} + (2.36)^{**} + (2.36)^{**} + (0.08) + (-2.08)^{**} +$

Expected Rate of Inflation:

 $\pi_t = \sigma \Delta \log P_t + (1 - \sigma) \pi_{t-1}$

Notes: T-statistics are reported in parentheses. The symbols *, **, *** indicate significance at the 10 percent, 5 percent, and 1 percent level, respectively. B-G indicates the p-value of the Breusch-Godfrey Serial Correlation LM Test where a value greater than 0.10 represents the absence of serial correlation. ARCH indicates the p-value of the ARCH test for heteroskedasticity where a value greater than 0.10 represents the absence of serial heteroskedasticity.

Revenues are significantly determined by those collected in the previous period. In comparison, nominal income in the current period was found to be less significant in explaining revenues in the current period. Government expenditures, on the other hand, are driven by real expenditures in the previous period and prices in the current period. In other words, the government tries to maintain the real value of expenditures. The monetary base and the currency ratio (defined as currency in circulation as a share of demand deposits) were found to be significant determinants of the money supply, as was the interest rate on bank deposits. These findings are entirely consistent with established economic literature. As noted earlier, we found no evidence that the fiscal balance was a significant factor in driving the money supply.

Like revenues, nominal income (*GDP*) was the most significant determinant of total taxes collected in the current period. We can also say with 95 percent confidence that illicit financial inflows (due to import tax evasion) reduce tax collections in the current period. However, we did not find a significant link between illicit outflows through trade misinvoicing and a proxy for the tax rate (*TTax* as a share of nominal income, *GDP*). Perhaps the *TTax*-to-*GDP* ratio is a poor proxy for the effective overall tax rate. This finding is reasonable given that illicit outflows are mainly a result of the underinvoicing of exports, which attract hardly any taxes. As noted before, we found that illicit inflows and outflows drive each other strongly. That being said, there is no evidence that illicit outflows through trade misinvoicing are linked to external debt through a revolving-door mechanism.

Inflation reduces domestic savings significantly, while an increase in real per capita income increases it. Higher domestic interest rates increase savings as in a classic savings function, while illicit outflows tend to reduce domestic savings to the extent that foreign assets are acquired in lieu of domestic instruments.

TTax, total taxes collected, has the expected negative sign in explaining illicit outflows (i.e., the higher the taxes collected, the less the evasion) but they are significant only at the 90 percent level. Taxes to GDP can increase mainly due to a widening of the tax base or an increase in effective rates. In the short run, it is extremely difficult to widen the tax base due to deficiencies in the tax collection mechanism (such as lack of taxpayer IDs) and in structural rigidities (such as a large informal economy). If taxes increase mainly as a result of an increase in effective rates, then higher rates would be positively related to the underground economy—the higher the rate, the larger the underground economy due to evasion as confirmed by the SEM.

Interest rates have a negative impact on the underground economy because higher deposit rates channel more funds to the official economy rather than to illicit assets. The urban population has a positive impact on the underground economy as more people who are unable to find jobs in the official economy turn to the informal sector to sustain themselves. The nominal exchange rate seems to have no impact on the underground economy, while the level of real income is negatively related to it.

b. Results of Vector Error Correction Model (VECM)

We tested four key equations of the SEM (illicit outflows, illicit inflows, domestic savings, and the underground economy) to ascertain whether there exists at least one co-integrating relationship among the endogenous variables at the 1 percent level of significance that is theoretically sound and carries some policy significance. The estimated long-run relation between illicit inflows, outflows, domestic savings, and the underground economy are shown in Table 3.

The first VECM equation shows that illicit inflows seem to have a strong impact on illicit outflows in the long run. Furthermore, better tax performance (as measured by the share of total taxes collected to GDP) seems to imply a reduction in illicit outflows. Thus, the long-run results augur well for an aggressive tax policy that relies on broadening the tax base rather than simply increasing effective rates, which could trigger more evasion. Another interesting finding is that, all things equal (e.g., no improvements in governance), higher real per capita income would simply drive more illicit outflows in the long run; in contrast, the SEM result is insignificant. Trade openness was not found to be a significant driver of illicit outflows either in the SEM or VECM formulations. Also, we did not find a long-run "revolving door" effect between illicit outflows and external debt. This is not surprising given that external debt has actually been decreasing in recent years, particularly in relation to GDP.

The second VECM suggests that, in the long run, a 1 percent increase in illicit outflows will increase illicit inflows by 0.89 percent—a smaller impact than found by the SEM wherein inflows would increase by 1.3 percent. Moreover, a 1 percent increase in the effective import tax rate would increase illicit inflows through duty evasion by 0.76 percent. Similarly, a 1 percent increase in real per capita incomes would increase illicit inflows by 1.5 percent, if all other variables were to be held constant.

The negative relation between illicit outflows and domestic savings is more significant at the 1 percent level in the VECM compared to the SEM. A 1 percent increase in outflows can be expected to reduce domestic savings by 0.13 percent in the long run. The VECM did not find any strong relationship between bank deposit rates and domestic savings in the long run.

The final VECM finds that all variables such as illicit inflows, bank deposit rates, urban population, tax performance, exchange rate, and real income are significant at the 1 percent level in driving the underground economy in the long run. While all signs are consistent with the SEM formulation, their significance and impact vary. For example, while a 1 percent increase in inflows will increase the underground economy by 0.39 percent, a similar increase in the urban population would expand the latter by 3.75 percent. An increase in the effective tax rate would also increase the underground economy significantly, presumably by increasing the incentive to evade them. A 1 percent increase in the rate would increase the underground economy by 1.4 percent in the long run.

Table 3. Philippines Normalized Co-integrating Coefficients from Selected VECM Specifications

Illicit Outflows:

 $logIOutf_{t} = 49.60 + 1.03 \ log \ IInf_{t} + 0.55 \ log \ TrdOpn_{t} - 4.49 \ log \left(\begin{array}{c} TTax \\ GDP \end{array} \right)_{t} + 0.015 \ log \ ExtDebt_{t} - 3.364 \ log \ Y \ cap_{t} \\ (0.244)^{***} \ (0.991) \ (0.605)^{***} \ (0.255) \ (1.448)^{***} \\ Log \ likelihood = 224.08 \ \xi = -0.505^{***} \end{array}$

Illicit Inflows:

 $logIInf_t = 13.14 + 0.89 \ logIoutf_t + 0.76 \ log \ ImpTax_t - 1.50 \ log \ Y \ cap_t$

(0.102)*** (0.227)*** (0.801)***

Log likelihood = 68.36 $\xi = -0.788^{***}$

Total Domestic Savings:

 $logS_t = 9.72 - 0.133 log IOutf_t - 0.83 log P_t + 2.09 logGDPcap_t + 0.06 logIR_t$

 $(0.022)^{***}$ $(0.125)^{***}$ $(0.121)^{***}$ (0.049)Log likelihood = 214.00 $\xi = -0.655^{***}$

Underground Economy:

 $log U_t = 22.56 + 0.39 \ log \ IInf_t - 0.70 \ log \ IR_t + 3.75 \ log \ UPop_t + 1.40 \ log \ \begin{pmatrix} TTax \\ GDP \end{pmatrix}_t + 0.43 \ log \ ER_t - 0.54 \ log \ Y_t \\ (0.061)^{***} \quad (0.086)^{***} \quad (0.560)^{***} \quad (0.277)^{***} \quad (0.121)^{***} \quad (0.186)^{***} \\ Log \ likelihood = 519.00 \qquad \xi = -0.757^{***} \end{cases}$

Note: Standard errors are reported in parentheses. The symbols *, **, *** indicate significance at the 10 percent, 5 percent, and 1 percent level, respectively. The symbol ξ is an error correction term indicating percent correction in the model per period.

V. Conclusion

This chapter presents a model of illicit financial flows to and from the Philippines. Such unrecorded capital flows are generated through the deliberate misinvoicing of external trade. The estimates of illicit flows presented in this study support the findings of past researchers, such as Boyce and Zarsky,¹⁹ Beja,²⁰ and others, that undervaluation and smuggling of imports are widespread practices

^{19.} Boyce and Zarksy, "Capital Flight from the Philippines."

^{20.} Edsel L. Beja, Jr., "Capital Flight from the Philippines, 1970–2002," The Philippine Review of Economics SLII, no. 2 (2005).

in the Philippines. In comparison, illicit outflows through export under-invoicing, rather than import over-invoicing, is the predominant method of transferring illicit capital from the country.

Simulations using a SEM show how illicit flows and the underground economy interact with the official economy. Specifically, we find statistically significant interaction between illicit inflows and outflows, with the former reducing the collection of total taxes through import undervaluation and smuggling. The VECM, the results of which are shown in the 2014 paper, shows that, in the long run, illicit outflows reduce domestic savings as residents prefer foreign over domestic financial instruments.²¹ Robust VECM results are consistent with those obtained through dynamic simulations of a SEM, which were estimated by the two-stage least squares method. The VECM results, and to some extent the SEM results, show that higher import or overall tax rates would lead to greater import duty evasion or growth in the underground economy. Hence, the government should broaden the tax base in the long run rather than raise effective rates in the short run in order to implement an effective tax reform. The SEM and VECM results show that illicit flows adversely affect both the official economy, not only by lowering the savings rate and the collection of taxes, thereby widening the fiscal deficit at a given level of expenditures, but also by driving the underground economy directly and indirectly.

21. Kar and LeBlanc, Philippines: A Study, 24-25.

8. Brazil: Capital Flight, Illicit Flows, and Macroeconomic Crisis, 1960–2012

Dev Kar

I. Introduction

There are a number of reasons why a study of capital flight and illicit flows from Brazil is important. Global Financial Integrity's December 2014 report *Illicit Financial Flows from Developing Countries: 2003–2012* found that Brazil was the world's seventh largest exporter of illicit capital, with outflows averaging US\$21.7 billion per annum¹ over the decade ending 2012.² The country also has a checkered economic history, ranging from fast economic growth to stagnation and even contraction. Recessionary episodes were typically accompanied by severe macroeconomic crises such as hyperinflation, external debt default, currency and exchange crisis, or stagflation wherein tepid growth co-existed with high inflation. Finally, the study is notable given the paucity of academic literature on the interaction between capital flight and illicit outflows, as well as on how such outflows affect the official economy.

We develop a full-scale structural equations model (SEM) in order to study the behavior of broad capital flight and illicit flows in the context of Brazil's macroeconomic history. The SEM seeks to capture the interactions of the official economy and broad capital flight as well as illicit flows. There are two reasons why we need to use both measures of capital outflows in the case of Brazil. For one, there has been a massive structural transformation of the Brazilian economy over more than five decades as extensive controls were dismantled in fits and starts toward greater economic liberalization. As a result, outflows that were once considered illegal due to exchange controls

^{1.} Nominal US dollars.

^{2.} Dev Kar and Joseph Spanjers, *Illicit Financial Flows from Developing Countries: 2003–2012* (Washington, DC: Global Financial Integrity, 2014), 30.

became legitimate due to capital account liberalization over time. For another, as an International Monetary Fund (IMF) study noted, capital flight itself is "a somewhat elusive concept" requiring us to distinguish between illegal and "normal" outflows in that they take place due to considerations related to portfolio diversification and return maximization.³ A singular focus on capital flows that are strictly illicit would ignore not only structural changes in the economy, but also significant outflows due to legal and rational investor behavior.

One of the hypotheses we will test is whether outflows of legitimate capital tend to be more strongly linked to macroeconomic drivers compared to outflows of purely illicit capital. We say "tend to be" because the macroeconomic conditions that drive capital flight typically vary from one country to another. For example, it is hard to find a clear link between fiscal deficits and capital flight because the threshold deficits that could trigger outflows of capital (due to a fear of future tax increases arising from increased deficits) may vary depending on the sources of deficit financing and what economic agents consider to be excessive. Moreover, capital outflows due to covered interest differentials may be larger in countries with more integrated capital markets than in countries whose capital markets are less integrated due to tighter controls on capital flows.⁴ We intend to shed light on the particular drivers of capital flight and illicit flows in the Brazilian context.

The chapter is organized as follows. Section II explores the behavior of broad capital flight and illicit flows in the context of Brazil's economic history and macroeconomic crises. We then develop a SEM in Section III laying out the theoretical basis for each structural equation and discuss the main findings arising from model simulations. Section IV presents the main conclusions of this chapter.

II. Capital Flight and Illicit Flows in the Context of Macroeconomic Crises

a. Broad Capital Flight and Macroeconomic Crises

We found that, for Brazil, estimates of broad capital flight based on gross outflows were better able to track macroeconomic crises than net capital flight, gross illicit outflows, or net illicit flows. In

Michael Deppler and Martin Williamson, "Capital Flight: Concepts, Measurement, and Issues," in Staff Studies for the World Economic Outlook SM/87/24 (Washington, DC: International Monetary Fund, 1987), 39.

^{4.} A covered interest differential is defined as the difference in interest rates between two countries after taking account of the cost of using a forward contract to cover or eliminate the investor's exposure to exchange rate risks over the time period during which the foreign investment matures.

general, outflows through capital flight seem to occur in the aftermath of a crisis (see Chart 1). Thus, the first oil shock in late 1973 was followed by a year of significant capital flight, which peaked at the end of 1974. Similarly, the second oil shock in 1979 was also followed by more capital flight, which reached a peak in 1980. In late 1981, there was a spike in foreign interest rates, which resulted in large capital outflows over the following year, as Brazilian investors began to acquire foreign assets due to large interest rate differentials in their favor. This was followed by hyperinflation and debt rescheduling in 1986, which triggered capital flight that spiked in 1987. Hyperinflation continued in the early 1990s, resulting in another spike in capital flight in 1993. When the Plano Real was introduced in 1994, it sparked hope that the stabilization program would stimulate confidence in the economy.





But the beneficial effect was short-lived and the crawling peg⁵ had to be abandoned. The collapse of the exchange rate system led to massive capital flight in 1998. However, as the stabilization program took hold, capital flight was arrested for a few years (1999–2001) when it reached a nadir. The September 11, 2001, terrorist attacks in the United States led to investor fears and a loss of confidence in Brazil's ability to limit the fallout. Capital flight surged in the aftermath of the attacks and continued through 2003. Over the next three years (2004–2007) outflows of capital remained below the peak set in 2003. After that, capital flight spiked sharply prior to the recession that began in late 2008.

The sharp jump in capital flight from Brazil in 2012 supports the view that Brazilian investors decided to pull money out as a result of the European sovereign debt crisis. Brazil's Executive Director to the IMF warned in late 2011 that a worsening of debt problems in the European countries could shake investor confidence in Brazil's financial markets, prompting capital flight.⁶ Furthermore, Morgan Stanley rated Brazil as one of the five countries most vulnerable to sudden capital outflows.⁷ This view appears to be confirmed by the spike in our estimates of broad capital flight in 2012.

b. The Nature and Scale of Illicit Flows

Total illicit financial flows from Brazil consist of balance of payments leakages (captured by the Hot Money Narrow, or HMN, measure) and trade misinvoicing (captured by the Gross Excluding Reversals, or GER, measure). The estimates shown in Table 1 have been updated to reflect current methodology.

The GER method estimates outflows of illicit capital through export under-invoicing and import over-invoicing without netting inflows of illicit capital through export over-invoicing and import under-invoicing. The main reason why we consider only gross outflows of illicit capital through trade misinvoicing is because the so-called illicit inflows represent no benefit to a country. For instance,

^{5.} According to the IMF, the crawling peg refers to situations when "the currency is adjusted periodically in small amounts at a fixed rate or in response to changes in selective quantitative indicators, such as past inflation differentials vis-à-vis major trading partners, differentials between the inflation target and expected inflation in major trading partners."

^{6.} Arnaldo Galvao, "Brazil May Face Capital Flight on European Debt, IMF Director Says," *Bloomberg*, October 17, 2011, http:// www.bloomberg.com/news/2011-10-17/brazil-may-face-capital-flight-on-european-debt-crisis-imf-director-says.html.

Katy Barnato, "This Nation Could Be the Most at Risk From Capital Flight," CNBC, June 14, 2013, http://www.cnbc.com/ id/100815904.

import under-invoicing directly results in lower customs duties leading to a loss of government revenues. Because a loss in government revenues is not a benefit, illicit inflows should not be netted out from illicit outflows.

	Inflo	ws	Outflows						
Year	Trade Hot Money Misinvoicing Narrow		Trade Hot Money Narrow		Total Illicit Inflows	Total Illicit Outflows	IFF Inflows / GDP	IFF Outflows / GDP	
1960-1969	7,343	345	14,683	3,245	7,688	17,929	0.6%	1.3%	
1970-1979	21,371	8,839	55,418	3,442	30,210	58,860	0.8%	1.5%	
1980-1989	50,815	833	78,301	8,424	51,648	86,725	1.1%	1.7%	
1990-1999	101,094	3,846	112,393	16,388	104,941	128,781	1.1%	1.5%	
2000-2009	185,385	6,405	165,883	8,831	191,789	174,714	1.7%	1.7%	
2000	12,513	3,559	13,569	0	16,072	13,569	1.8%	1.5%	
2001	12,836	0	14,106	686	12,836	14,792	1.7%	1.9%	
2002	11,480	0	12,883	217	11,480	13,100	1.6%	1.8%	
2003	8,379	0	15,478	1,247	8,379	16,725	1.1%	2.3%	
2004	15,329	0	17,936	2,702	15,329	20,638	1.8%	2.5%	
2005	15,712	0	20,122	236	15,712	20,358	1.5%	2.0%	
2006	20,497	1,083	11,984	0	21,580	11,984	1.8%	1.0%	
2007	27,891	0	15,104	3,373	27,891	18,477	1.9%	1.3%	
2008	29,783	1,763	21,215	0	31,546	21,215	2.0%	1.3%	
2009	30,965	0	23,486	370	30,965	23,856	1.8%	1.4%	
2010	37,734	0	28,761	3,538	37,734	32,299	1.8%	1.5%	
2011	43,756	0	30,184	1,169	43,756	31,352	1.9%	1.4%	
2012	52,191	351	31,014	0	52,542	31,014	2.6%	1.5%	
Cumulative	499,689	20,619	516,637	45,037	520,308	561,674			
Average	9,428	389	9,748	850	9,817	10,598	1.1%	1.6%	

Table 1. Brazil: Illicit Financial Flows, 1960-2012

(in millions of real 2010 US dollars)

Outflows due to trade misinvoicing over the fifty-three-year period 1960–2012 totaled US\$516.6 billion, while those through balance of payments leakages (HMN measure) totaled US\$45.0 billion. Based on the cumulative figures for each decade shown in Table 1, illicit outflows continued to increase significantly from an annual average of US\$1.8 billion in the 1960s, to US\$5.9 billion in the

1970s, US\$8.7 billion in the 1980s, US\$12.9 billion in the 1990s, and to US\$17.5 billion in the 2000s. In the last three years 2010–2012, illicit outflows average about US\$31.6 billion per annum (see Table 1). Most of the increase was driven by trade misinvoicing. In real terms, illicit financial outflows from Brazil increased at a log-linear trend rate of growth of 5.7 per annum from 1960–2012, slightly faster than the 5.4 percent per annum trend rate of growth of real GDP.

In Brazil, a year-to-year average of ratios calculated using real values indicates that balance of payments leakages account for just 8.3 percent of total illicit outflows, while the bulk of illicit outflows—91.7 percent—are related to trade misinvoicing (see Table 1). Broadly speaking, there seems to be no stability in the way these channels are used to transfer illicit capital. While the preferred channel has always been through the misinvoicing of trade, its share was 86.6 percent in the 1960s, growing to 96.1 percent in the 1970s, after which they dropped to 90.8 percent in the 1980s and further to 88.5 percent in the 1990s. In the last decade ending 2009, the share of trade misinvoicing in total illicit outflows increased to 95.2 percent, a trend that continued in the following three years, 2010–2012 (see Table 1).

	Nature of	Bate of		Central	Current	Income	External	Broad Capital Flight		Illicit Capital Flows	
Period	Crisis or Economic Condition	Growth of GDP (in percent)	Average Inflation (in percent)	Govt. Fiscal Balance (in percent)	Balance (in percent)	Inequality (Gini Coefficient)	Debt (percent) of GDP)	Gross Outflows	As a percent of GDP	Gross Outflows	As a percent of GDP
1960- 1969		5.90%	44.16%	-3.60%	-0.92%	48.76	7.28%	22,262	2.71%	17,929	1.31%
1970- 1979	Oil shocks/ high inflation & growth	7.90%	30.45%	1.96%	-4.10%	59.08	23.31%	94,122	2.46%	58,860	1.54%
1980- 1989	Hyperinflation/ debt default	3.00%	327.36%	3.21%	-1.81%	51.71	37.27%	122,063	2.47%	86,725	1.76%
1990- 1999	Hyperinflation	1.70%	843.25%	1.10%	-2.11%	52.10	27.28%	237,807	2.57%	128,781	1.39%
2000- 2009		3.32%	6.89%	-3.28%	-0.66%	49.49	24.41%	219,631	2.00%	174,714	1.59%
2010- 2012	Stagnation	1.88%	5.69%	-2.53%	-2.24%	46.51	17.41%	137,479	2.12%	94,665	1.46%
1960- 2012		4.52%	252.58%	-0.03%	-1.68%	52.21	24.39%	833,363	2.41%	561,674	1.55%

 Table 2.
 Decennial Developments in Capital Flight and Illicit Financial Flows from Brazil (in millions of real 2010 US dollars, in percent, or Gini index)

The sharp increase in the current account deficit in the 1970s relative to the 1960s (see Table 2) reduced the leakages of both licit and illicit capital from the balance of payments (through greater use of funds compared to source of funds), triggering an offsetting increase in outflows through trade misinvoicing. The current account deficit narrowed again over the 1980s, leading to an increase in the relative importance of balance of payments leakages and a corresponding fall in the share of trade misinvoicing. However, the current account deficit is not the only factor driving changes in the relative importance of these two channels for transferring illicit capital. This is because, even as the current account deficit increased somewhat in the 1990s, HMN-related outflows increased in the 1990s to 11.5 percent of total illicit outflows, its highest ratio since the 1960s.⁸

Inflation ran at an average annual rate of 843 percent during the 1990s, which boosted underground economic activities as economic agents tried to offset sharp declines in official income through income from informal markets and the underground economy. Model results show that the underground economy significantly drives illicit outflows. In the last decade, the current account deficit narrowed sharply to just 0.66 percent of GDP, which reduced outflows through the balance of payments and increased the use of trade misinvoicing to 95.2 percent of total outflows.⁹

Export under-invoicing is the primary mechanism by which Brazilian traders misinvoice trade to shift capital abroad illicitly. Over the period 1960–2012, some 70.8 percent of trade-related illicit outflows occurred through export under-invoicing.¹⁰ Import over-invoicing accounted for just 29.2 percent of total trade misinvoicing outflows.¹¹ While export under-invoicing was the predominant form of trade misinvoicing in the 1960s, 1980s, 1990s, and the 2000s, import over-invoicing surpassed it only in the 1970s. The imposition of state and other taxes on imports, such as social taxes, on top of the tax that goes to the central government, may raise the total import taxes to such a level that it is no longer advantageous for Brazilian companies and traders to over-invoice imports, particularly in relation to the effective corporate tax rate, which has hovered around 24 percent in recent years according to the accounting firm PricewaterhouseCoopers.¹² Companies typically do not gain

^{8.} Dev Kar, Brazil: Capital Flight, Illicit Flows, and Macroeconomic Crises, 1960-2012 (Washington, DC: Global Financial Integrity, 2014), Appendix Table 2.

^{9.} Ibid.

^{10.} Ibid., Appendix Table 1.

^{11.} Ibid.

PwC, "Brazil," in Worldwide Tax Summaries: Corporate Taxes 2013/14 (New York: PwC, 2013), 265-6, accessed July 14, 2014, http://www.pwc.com/gx/en/tax/corporate-tax/worldwide-tax-summaries/assets/pwc-worldwide-tax-summariescorporate-2013-14.pdf.

by paying a higher import cost through over-invoicing when they cannot offset it by paying lower corporate taxes. In short, as long as the marginal import duty is higher than marginal corporate tax rate, there is no gain in shifting the higher import costs on to corporate taxes. Hence the preferred method has been to under-invoice exports.



Chart 2. Brazil: Illicit Financial Outflows and the Underground Economy, 1960–2009¹³ (percent of GDP)

Chart 2 shows that illicit outflows have tended to follow rather closely the share of the underground economy-to-GDP ratio. The increase in outflows to GDP in the most recent decade ending in 2009 is an exception to this general pattern. Because the underground economy (as a share of official GDP) is a proxy for the overall state of governance, it is not surprising to find a close association between the cross-border transfer of illicit capital and the underground economy, as depicted in Chart 2.

^{13.} Estimates of the underground economy were obtained through the monetary approach. See Dev Kar, *Brazil: Capital Flight, Illicit Flows, and Macroeconomic Crises, 1960-2012* (Washington, DC: Global Financial Integrity, 2014), Appendix IV.

III. A Model of Illicit Financial Flows and Capital Flight from Brazil

We develop a structural equations model (SEM) to examine the drivers and dynamics of both illicit financial flows and capital flight from Brazil. In other words, we model gross outflows of licit and illicit capital as well as outflows that are purely illicit. Inward capital transfers are not netted out from such outflows.

This is a larger model than the one we developed in the earlier chapters on India, Mexico, the Philippines, and Russia. It is larger because (i) unlike in other case studies, the present SEM seeks to explain nominal income (GDP) endogenously; (ii) capital formation, which is a key factor driving official GDP, is also endogenous; and, (iii) illicit flows and capital flight are shown to be driving each other either directly or indirectly via their impact on the underground economy.

There are nine structural equations and one behavioral equation specifying how inflationary expectations are formed. Six of the nine structural equations relate to the official economy: government expenditures, government revenues, broad money supply, formation of prices as a result of the interaction between monetary and fiscal policies, gross fixed capital formation (relating to both the official and private sector), and nominal income. Three other equations capture how broad capital flight, illicit flows, and the underground economy interact with the official economy.

Before estimating the model, we address the issue of identification of the structural equations. If any equation is under-identified, then the parameters of the equation cannot be estimated, so that the entire model cannot be simulated. It must be possible for numerical estimates of the structural equation to be obtained from the estimated reduced-form coefficients, so we need to impose the order condition for identification for each equation. The order condition, which is a necessary condition for identification, states that the number of predetermined variables *excluded from the equation* must not be less than the number of endogenous variables included in that equation less one. We can see that, in fact, each structural equation is over-identified.

Researchers have widely used two methods for estimating an interdependent system of structural equations—the three-stage and two-stage least squares methods (3SLS and 2SLS, respectively). While both 3SLS and 2SLS provide consistent estimates, we use the 2SLS technique mainly

because there is no gain in asymptotic efficiency in small samples. The benefits of applying the 3SLS cannot be realized in a sample size of some sixty observations.

The endogenous variables determined within the SEM comprise the following: G and R are the nominal expenditures and revenues of the central government, respectively; M the supply of broad money; P the price level as captured by the consumer price index; GDP the nominal income; K the gross fixed capital formation consisting of both public and private investment; IT the expected rate of inflation; and UE the underground economy. CapFlight is broad capital flight as estimated by the World Bank Residual (WBR) model adjusted for trade misinvoicing (based on CED+GER) and IFF represents illicit financial flows as estimated by the HMN method based on net errors and omission of the balance of payments adjusted for trade misinvoicing (HMN+GER). Both CapFlight and IFF estimates are based on outflows only; inflows are not netted out from outflows. The rationale for focusing only on outflows is that, because flows are illicit in both directions (as a significant portion of broad capital flight is also illicit), it makes little sense to net out such flows, which would be akin to the concept of net crime.

The exogenous variables in the above SEM are real income Y, monetary base created by the government MB, discount rate of interest IR, the currency-to-demand deposit ratio CR, labor supply L, level of outstanding external debt ExtDebt, real economic growth \dot{Y}_t plus all lagged variables. The model was simulated with data for the period 1965–2011.

Results of Dynamic Simulation of the SEM

Structural and Behavioral Equation Estimates

$$\begin{split} &\ln G_t = -11.894 + 0.292 \ln Y_t + 1.265 \ln (G/P)_{t-1} + 0.955 \ln P_t \\ & [-1.28] & [0.71] & [3.26]^{***} & [29.43]^{***} \\ & \mathbf{R}^2 = 0.999 \ \mathbf{SE} = 0.401 \\ &\ln R_t = 13.417 + 0.939 \ln GDP_t + 0.103 \ln R_{t-1} \\ & [13.97]^{***} & [13.15]^{***} & [1.52] \\ & \mathbf{R}^2 = 0.999 \ \mathbf{SE} = 0.483 \\ &\ln M_t = 1.271 + 0.996 \ln MB_t + 0.075 \ln R_t + 1.197 \ln CR_t \\ & [4.08]^{***} & [85.14]^{***} & [1.792]^{*} & [6.70]^{***} \\ \end{split}$$

$ln P_t = -4.057 - 0.385 ln Y_t + 0.07$	15 ∏ _t - 0.670 <i>In (M/P)_{t-1}</i>	+ 0.982 In M _t	
[-1.33] [-1.82]* [1.5	7] [-4.89]***	[93.91]***	R ² = 0.999 SE = 0.301
$ln \ GDP_t = -13.220 + 0.248 \ ln \ K + [-8.05]^{***} [2.94]^{***}$	0.740 <i>ln L</i> [8.97]***		R² = 0.999 SE = 0.072
$ln K_{t} = -1.214 + 0.147 ln K_{t-1} - 0.147$.321 In UE, + 1.060 In (GDP, + 0.102 In ExtDe	e <i>bt,</i> + 0.015 ∏,
[-5.25]*** [1.66] [·	-2.06]** [11.32]*`	ʻ* [1.30]	[1.63] R ² = 0.999 SE = 0.133
$\Pi_{t} = 0.9 ln P + 0.1 \Pi_{t-1}$			
In UE, = 0.873 – 0.118 In P, + 1.078	3 <i>In IFF,</i> – 0.025Ÿ,		
[0.11] [-0.38] [3.67	7]*** [-0.01]		R ² = 0.999 SE = 0.628
$ln CapFlight_t = 7.913 + 0.828 ln IFr$	$F_t + 0.274 \ln P_t - 0.098$	$B \ln GDP_t - 1.932\dot{Y}_t$	B ² 0.000 CE 0.400
[1.17] [2.95]^^^	[1.295] [-0.24	izj [-1.047]	R ⁻ = 0.998 SE = 0.468
$ln IFF = -3.854 + 1.029 ln UE_t$			
[-12.55]*** [66.54]***			R ² = 0.998 SE = 0.588

The model results show that the underground economy is the main link through which illicit flows affect the Brazilian economy at large and are in turn affected by developments in the broader economy. The two-way interactions of illicit flows and the broader economy are not direct but indirect. For example, illicit flows were found to be a significant driver of Brazil's underground economy, which in turn negatively affected capital formation. As the underground economy grew, it diverted resources away from the official economy, leading to lower capital formation.

Capital formation, in turn, is positively and significantly related to economic growth. Hence, to the extent that the underground economy acts as a drag on investment in the official economy, illicit outflows lower the potential rate of growth (defined as the rate of growth without illicit outflows). Hence, illicit outflows represent a significant loss to the Brazilian economy.

Model results also show that the underground economy itself drives illicit outflows—the larger the underground economy, the greater the capacity to generate illicit outflows. However, apart from illicit outflows, we did not find inflation or real economic growth to be significant drivers of the underground economy.

Illicit flows are significantly related to capital flight. A 1.0 percent increase in illicit outflows leads to a 0.83 percent increase in capital flight.

Government revenues are mainly driven by nominal income (GDP). Lagged revenues were not significant in explaining the current period's revenue collections. In contrast, the previous period's real expenditures were significant in determining current expenditures. In spite of high and highly variable inflation as well as hyperinflation, we find that, in general, the government did not allow expenditures to decline in inflation-adjusted terms. That is not to say that real expenditures were not cut as part of fiscal adjustment over a specific period, but for the period as a whole that has certainly not been the case.

Prices are driven mainly by increases in broad money. Real GDP had the expected negative sign; in other words, real economic growth is negatively related to prices, although the significance is only at the 90 percent confidence level. It was surprising to find that inflationary expectations did not feed back into prices in a significant manner, although there is a positive association. Perhaps the adaptive error learning process does not adequately capture the formation of expectations when inflation is highly variable and there are episodes of hyperinflation. As expected, the real money stock in the previous period was statistically significant and negatively related to prices in the current period. Except as noted, the signs of the variables and their statistical significance are consistent with those predicted by monetary theory.

Broad money supply was formulated according to the Brunner-Meltzer theory. The monetary base and the currency-to-demand deposit ratio were strongly significant and were found to drive the money supply. The discount rate was significant only at the 90 percent confidence interval, and the coefficient was much smaller than either base money or the currency ratio. We found no evidence that over the period 1965–2011 Brazil's fiscal policy played any role in driving inflation. There are two main reasons behind this finding. First, the central government fiscal balance remained in surplus (i.e., revenues exceeded expenditures) for two continuous extended periods, 1970–1985

and 1987–1995. Hence, during these extended periods, monetary policy variables are not affected by fiscal issues but by money market equilibrium. The periods 1970–1985 and 1987–1995 can be called "monetary dominant." In contrast, monetary dominance was interspersed by two continuous periods of significant fiscal deficits, 1960–1969 and 1996–2012. These periods are said to be fiscally dominant in that monetary policy is typically subordinated either through direct financing in the form of central bank credits and money creation or through domestic bond financing. The latter tends to crowd out private investment as interest rates rise. Regardless of the fact that financing can also take place through some combination of monetary expansion, domestic bond sales, and foreign financing, the fact remains that large deficits tend to impose a fiscally dominant regime. The shift of the policy stance from one of fiscal to monetary dominance, only to relapse into the former regime, is the main reason why we find no evidence that Brazil's fiscal policy over the period as a whole played any significant role in driving inflation. That does not mean we can rule out the monetary impact of large fiscal imbalances in sub-periods, such as 1996–2012. Rather, that impact would also depend on whether deficits were primarily financed through monetary expansion.

Available evidence based on IMF Country Reports and Staff Reports for Article IV Consultations show that, while deficits were mainly financed through central bank credits and monetary expansion during much of the earlier period 1960–1969, bond financing together with foreign financing became much more important in the more recent period.¹⁴ This is another reason why researchers are unlikely to find any significant link between fiscal deficits, the money supply, and inflation. This is quite a different scenario from the earlier period 1948–1964 in Brazil when there was a strong link between deficits, money supply, and inflation. This led to an asymmetric response of revenue and expenditures to inflation (due to the faster speed of adjustment of expenditures than revenues to inflation), which further widened the deficits, leading to a vicious circle of more money creation and inflation.¹⁵

Nominal income (GDP), which was formulated as a standard Cobb-Douglas function, is driven by capital formation (gross public and private investment) and labor supply. Productivity and technology

^{14.} International Monetary Fund, "Fiscal Sustainability and Monetary Versus Fiscal Dominance: Evidence from Brazil, 1991-00," in Brazil: Selected Issues and Statistical Appendix, IMF Country Report No. 01/10 (Washington, DC: IMF, January 2001).

International Monetary Fund, "Brazil: Staff Report for the 2012 Article IV Consultation," in *Brazil: 2012 Article IV Consultation – Staff Report; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Brazil,* IMF Country Report No. 12/191 (Washington, DC: IMF, 2012), 22, 57, 73; Dev Kar, "Government Deficits and Inflation in Brazil: The Experience During 1948-64," IMF Working Paper DM/81/76 (Washington, DC: International Monetary Fund, 1981).

are assumed to remain fixed. Both capital and labor were found to be significant at the 99 percent confidence interval (with their coefficients adding to one).

Nominal income was found to be a significant driver of gross fixed investment. While contracting new external debt seemed to have a positive impact on capital formation, the relationship was not significant at the 90 percent level. The interest rate (based on the expected rate of inflation as an opportunity cost of holding money) was also not significant in explaining investment, perhaps due to the fact that interest rates were administratively set for many years in Brazil under successive governments.

IV. Conclusion

The period 1960–2012 covered in this study saw massive structural changes in the Brazilian economy: it evolved from one subject to various controls to a more market-based open economy. Furthermore, over this fifty-three-year period, Brazil experienced significant macroeconomic shocks, such as high and highly variable inflation, hyperinflation, large fiscal deficits, and crushing external debt, leading to debt default and deep recessions. This chapter analyzed the volume and pattern of both broad capital flight and illicit financial flows from Brazil. While estimates of broad capital flight were based on the WBR method adjusted for deliberate trade misinvoicing, illicit flows were based on the HMN method, which was similarly adjusted. We considered only gross outflows and not a net of flows in both directions. As the WBR method and the HMN method of estimating illicit flows involve, either partly or wholly, capital that is illegally earned, transferred, or utilized, netting out such flows would be methodologically unsound.

Over the fifty-three-year period, Brazil lost a total of US\$833.4 billion¹⁶ through broad capital flight, of which US\$561.7 billion was through illicit outflows (see Tables 1 and 2). On average, these outflows represent 2.4 percent and 1.6 percent of GDP, respectively. The volume of capital flight increased exponentially from the 1960s through the 1990s, although the pace declined over the last decade ending 2009. The continued increase in capital flight in the 1990s has to do with outflows of licit

^{16.} Real 2010 US dollars.

capital in response to increasing macroeconomic shocks such as hyperinflation and an onerous debt burden.

Outflows of illicit capital remained relatively steady as a percent of GDP in the five decades covered by this study, though they have shown a worrying increase in recent years. Illicit outflows grew from 1.3 percent of GDP in the 1960s, to 1.5 percent in the 1970s, reached a peak of 1.7 percent in the 1980s, dropped to 1.5 percent of GDP in the 1990s, and rose back ¹⁶ 1.7 percent in the decade ending 2009. They settled around 1.5 percent of GDP in the final three years of this study (see Table 2).

We found that both capital flight and illicit outflows react predictably to macroeconomic shocks: outflows seem to lead crises by a year or two, increase steadily throughout the period of economic stress, and decline steadily in the aftermath. However, we found that the response of capital flight to the recession that started in early 2008 was more convincing than the behavior of illicit outflows, which stagnated in 2010–2012.

An econometric model consisting of nine structural equations and one behavioral equation was tested for the period 1965–2011. Six of the structural equations relate to the official economy and three capture how broad capital flight, illicit financial flows, and the underground economy—which we found to be 38.9 percent of the official economy on average per year of the study period—interact with one another. Tests using the model showed that Brazil's fiscal policy did not play a significant role in driving inflation. Prices were driven mainly by increases in broad money supply. While fiscal deficits in the early 1960s and 1970s were financed through central bank credits and money creation, bond financing together with foreign financing became much more important in the 2000s.

The model captured several aspects of the interaction between the official economy and the underground economy, illicit flows, and capital flight. On the one hand, nominal income (GDP) was found to be a significant driver of investment (gross fixed capital formation). On the other hand, growth of an underground economy, mainly driven by illicit flows, tended to divert resources away from the official economy and had a significant negative impact on investment. In other words, investment was being pushed by favorable developments in the official economy but pulled back

by growth of the underground economy, which was driven solely by illicit flows. Perhaps the most significant finding of the model developed in this study is that, while the underground economy is driven mainly by illicit flows, broad capital flight was driven by governance-related factors as well as macroeconomic drivers.

9. Illicit Financial Flows and Development

Erik Solheim

Developing countries are losing billions of dollars every year in illicit financial flows from money laundering, corruption, and tax evasion. Billions of dollars of illicit funds are financing crime and terrorism, the political machineries of powerful rulers, and the lavish lifestyles of corrupt officials, rather than funding schools and hospitals. The sums are enormous. As much as US\$1 trillion flows out of developing countries every year. But the true size of illicit financial flows is almost impossible to determine, since so many elements of these flows cannot be measured.

Fighting illicit financial flows is important for development because developing countries are a major source of illicit outflows. Developing countries need to use their own money to fund their own development. The main source of finances for schools, hospitals, and public services is almost always domestic resources. Development becomes very difficult when billions of dollars are drained out of the country through a network of banks, money exchangers, and shell companies. The United Nations estimates that as much as US\$60 billion flows illegally out of Africa annually, which is more than Africa receives in development assistance every year.¹ India loses by some estimates tens of billions of dollars illegally every year, more than India spends on education for its entire population. The flows of illicit money pouring out of developing countries are increasing at a rate of 9.4 percent per year—roughly twice as fast as the global average gross national income.² The precise amount will never be known, but we know for certain that it is huge!

^{1. &}quot;High Level Panel on Illicit Financial Flows from Africa to Launch Its Final Report," United Nations Economic Commission for Africa. January 26, 2015, http://www.uneca.org/stories/high-level-panel-illicit-financial-flows-africa-launch-its-final-report.

^{2.} Dev Kar and Joseph Spanjers, *Illicit Financial Flows from Developing Countries: 2003-2012* (Washington, DC: Global Financial Integrity, 2014), http://www.gfintegrity.org/report/2014-global-report-illicit-financial-flows-from-developing-countries-2003-2012/.

Illicit financial flows from developing countries often end up in richer developed countries. This global problem, however, always has a local source. Individual developing countries have specific illicit flow problems that require tailored solutions. The best way to combat illicit financial flows is through a country-specific approach. It is necessary to analyze each individual country's context to understand which sectors are more vulnerable to the various types of financial crime. For example, cigarette smuggling is a billion-dollar industry in North Africa that causes many problems.³ It deprives governments of funds, empowers criminal networks, and finances terrorism and destabilizing insurgencies across the region. In Libya, human smuggling is a growing enterprise after the conflict in Libya turned its ports into the main gateways for illegal immigration to Europe. Human smuggling is not only a source of revenue for armed groups fighting in Libya, but has also led to the tragic deaths of thousands of desperate immigrants at sea.⁴ Corruption is the biggest problem in Equatorial Guinea. The oil-rich West African country has a greater average national income per person than Poland, but the average Polish person lives about twenty years longer. Most people in Equatorial Guinea are very poor, while a small elite around the president has become very rich from the country's oil wealth. The money is funding a huge political machinery to pay off political opponents, hand out rewards to supporters, and control security forces to keep people in check. Much of the oil revenues belonging to the people of Equatorial Guinea are spent on luxury overseas benefitting very few people.

Global illicit financial flows originate from bribery and corruption, tax evasion, and money laundering, and each country experiences the effects of illicit financial flows differently. Stopping the illicit flows of capital will require political leadership, development cooperation, and global partnerships.

I. Bribery and Corruption

Companies pay bribes to secure contracts or obtain some other advantage. An estimated US\$1 trillion is paid each year in bribes. Bribery and corruption have social, political, and economic costs that go way beyond the bribe amount. Corruption creates incentives that reward shortcuts and discourage hard work. Corruption can create societies where all the creativity and entrepreneurial

^{3.} Jamie Doward, "How Cigarette Smuggling Fuels Africa's Islamist Violence," *The Guardian*, January 26, 2013, http://www. theguardian.com/world/2013/jan/27/cigarette-smuggling-mokhtar-belmokhtar-terrorism.

^{4.} Peter Tinti, "On Africa's Human Trafficking Trail," *The Wall Street Journal*, May 7, 2014, http://www.wsj.com/news/articles/SB1000 1424052702304831304579545654024785442.

energies are directed toward finding shortcuts to a contract or a piece of a country's oil wealth. Development can happen only by working hard and building something brick by brick.

Corruption results in second-best solutions when contracts are not awarded to the most competitive bidder. Inferior services and inferior companies are then rewarded that otherwise would not have succeeded without paying bribes. Serious consequences result from public officials taking bribes and awarding contracts to companies providing public services or resource extraction. A million-dollar bribe can quickly amount to a several-million-dollar loss through derailed projects and inappropriate investments.

Corruption can lead to bad government as presidents get easy access to funds to pay off opponents, reward loyalists, and fund a huge political machinery and security apparatus. Corruption empowers bad leaders and makes it more difficult to get rid of them. When the first democratically elected government in Guinea came to power in 2010, they discovered contracts signed during the time of the former dictator that seemed too good to be true for the companies involved.⁵ The mining company of one of the richest men in the world had secured two iron ore mines for US\$165 million. Shortly after, the company offered to sell half of the mining concessions for US\$2.5 billion. The US\$165 million in investments had magically turned out to be worth more than US\$5 billion, or thirty times the initial investment. Investigations in Guinea and the United States revealed that the deal required paying the wife of the former dictator around US\$8 million in bribes. One of the richest people in the world almost managed to steal close to US\$5 billion from one of the poorest countries in the world by paying a few million dollars in bribes.

II. Political Leadership to Stop Bribery and Corruption

Political leadership is the most effective weapon in the fight against bribery and corruption. Corruption was commonplace in Hong Kong and Singapore in the not-so-distant past.⁶ Both places have more or less eradicated corruption and are now among the top fifteen countries on Transparency International's ranking of least corrupt countries. Rwanda has made great progress

^{5.} Tom Burgis, "Guinea Inquiry Finds Steinmetz Unit Won Mining Rights Corruptly," *Financial Times*, April 29, 2014, http://www.ft.com/intl/cms/s/0/be0d00bc-bfc3-11e3-9513-00144feabdc0.html?siteedition=uk#axzz3YX5vlhht.

^{6. &}quot;Success Stories," Foreign Policy Association, February 10, 2010, http://foreignpolicyblogs.com/2010/02/10/success-stories/.

against corruption under the leadership of Paul Kagame. Rwanda is now deemed less corrupt than many European countries.⁷ Uruguay became the least corrupt country in Latin American under the Presidency of José Mujica, the personification of austerity, public service, and integrity with his old car and refusal to live in the presidential palace. Ghana achieved what many thought impossible when it decreased levels of overall corruption while building up its profitable oil industry.⁸ Oil and other extractive industries are most likely to suffer from corruption.⁹ Ghana avoided this thanks to good leadership under former president John Kufour and his successors. Assistance through Norway's Oil for Development program also contributed to their success.

Fighting corruption requires leadership from the top down and from the bottom up. Signaling that the fight against bribery is a high-level political priority is particularly effective. That can be done by taking a publicly visible stand and actually investigating, prosecuting, and jailing people for bribery and corruption. Combating corruption has been one of the main priorities of Chinese President Xi Jinping. Corruption investigations have involved powerful generals and the elite in the ruling Communist Party. The website ipaidabribe.com in India, on the other hand, has created pressure from the bottom up.¹⁰ Since 2012, the website has collected anonymous reports of bribes paid, bribes requested but not paid, and requests for bribes that were expected but did not happen. Similar bribe-tracking websites are now appearing in Pakistan, Kenya, and other places. They have proven effective in identifying corruption, giving people a platform from which to demand change, and empowering politicians willing to take on corruption. Angry people on the streets and in cyberspace send a clear message to those in power that the public demands to see laws enforced and corruption combated. Nothing is more powerful than leadership from the top combined with energetic grassroots movements.

III. Development Cooperation to Stop Bribery and Corruption

Development cooperation can help national governments and ambitious leaders tackle corruption. Best practices should be shared and national governments, donors, and other partners should

^{7. &}quot;Corruptions Perception Index 2013," Transparency International, http://www.transparency.org/cpi2013/results/.

^{8.} Arne Disch et al., *Facing the Resource Curse: Norway's Oil for Development Program* (Oslo: Scanteam for NORAD, 2013), 25-27, http://www.oecd.org/derec/norway/oilnorway.pdf.

^{9.} Organisation for Economic Co-operation and Development, OECD Foreign Bribery Report: An Analysis of the Crime of Bribery of Foreign Public Officials (Paris: OECD, 2014), 24, http:/dx.doi.org/10.1787/9789264226616-en.

^{10.} Stephanie Strom, "Web Sites Shine Light on Petty Bribery Worldwide," *The New York Times*, March 6, 2012, http://www.nytimes. com/2012/03/07/business/web-sites-shine-light-on-petty-bribery-worldwide.html?pagewanted=all&_r=0.

support policies that make a difference in the real world. Foreign aid donors should align their development assistance with the priorities of developing country governments. The Organisation for Economic Co-operation and Development (OECD) estimates that for every dollar spent on investigating corruption originating in the developing world and transferred to OECD countries, as much as twenty dollars has been tracked, frozen, and eventually repatriated. Development assistance can have a very positive return and mobilize many times the initial investment. Yet only 0.09 percent, or less than ten cents of every one hundred dollars in aid, is spent on building tax systems. That needs to increase!

A number of development agencies finance projects in developing countries to help police, prosecutors, and judges improve how they deal with corruption and cross-border crime. The US Department of Justice's Kleptocracy Asset Recovery Initiative places American prosecutors together with prosecuting authorities in developing countries. The initiative recently contributed to seizing almost US\$500 million from accounts around the world amassed by former Nigerian dictator Sani Abacha and his co-conspirators.¹¹ The program sends a strong message that the US financial system is not a haven for kleptocrats and thieves. In a similar way, the United Kingdom has used funding from its Department for International Development to finance police and prosecutors fighting corruption in several developing countries. In Nigeria, for example, the United Kingdom allocated more than US\$8 million over seven years to the Justice for All project to increase investigation and prosecution capabilities in the Nigerian justice sector and anti-corruption agencies. A German project provides assistance to fight organized crime and corruption in the Balkans by strengthening prosecutor offices. By sending experienced prosecutors from various European Union member countries, the project has developed capacity for fighting organized crime and corruption in the Balkans, and has also improved cross-border cooperation within the region.

Another approach brings corruption champions together to share ideas and experiences. The Corruption Hunter Network was founded in 2005 when Eva Joly— a former French magistrate who investigated bribery and convicted executives of the state-owned oil company Elf—convinced

 [&]quot;U.S. Forfeits Over \$480 Million Stolen by Former Nigerian Dictator in Largest Forfeiture Ever Obtained Through a Kleptocracy Action," US Department of Justice, August 7, 2014, http://www.justice.gov/opa/pr/us-forfeits-over-480-million-stolen-formernigerian-dictator-largest-forfeiture-ever-obtained.

the Norwegian Agency for Development Cooperation (Norad) to contribute.¹² Eva and I worked closely together to use Norwegian development assistance to fight corruption. If you want to fight corruption, you cannot rely only upon campaigns for good behavior, Eva said. You need to arrest someone!

The first meeting in 2010 of the World Bank's International Corruption Hunters Alliance brought together more than 200 anti-corruption officials from over 130 countries. They support each other before, during, and after investigations into bribery and corruption. In Nigeria, Alliance member Nuhu Ribadu was dismissed as chairman of the Economic and Financial Crimes Commission in 2008 after prosecuting Nigeria's police inspector general for corruption and pursuing corruption allegations against the governor of the oil-rich Delta state. Ribadu fled Nigeria after an assassination attempt. But instead of being left broke and isolated overseas, he was able to continue his career as a visiting fellow at the Center for Global Development in Washington. Ribadu later returned to Nigeria and is now involved in local government and politics.

Another successful method has been using development assistance to strengthen donor country institutions to fight corruption and money laundering in their own countries. The United Kingdom uses development assistance to finance the International Corruption Group, made up of the City of London Police, the Metropolitan Police, and the Crown Prosecution Service. The aim is to strengthen the capacity of these three institutions to bring corruption cases to prosecution. The targets are British citizens and companies active abroad, as well as foreigners doing business in the United Kingdom. It is important that such projects provide direct benefits to developing countries, such as reduced corruption or repatriation of funds.

Some bribery cases are detected because of whistle-blowers who provide information to public authorities about corrupt or criminal transactions. The whistle-blower usually requires anonymity or protection from retaliation in order to come forward. One way to increase the number of cases is to establish whistle-blower protection. The Kenyan Anti-Corruption Commission has adapted an online tool to provide anonymous communication with informants and improve the quality and

^{12.} Bob Davis, "Corruption Fighters Form Close-Knit Club," *The Wall Street Journal*, July 7, 2010, http://online.wsj.com/articles/SB10 001424052748704067504575305200456314876.

quantity of corruption reports.¹³ The Corruption Eradication Commission in Indonesia also set up an anonymized whistle-blower system where cases of corruption can be reported via the Internet.¹⁴ Some 2,700 reports were received in just one year.

Development assistance also supports national organizations fighting corruption in their local community. Local organizations have in-depth local knowledge and can raise issues of corruption and put economic crime on the domestic policy agenda. Pressure for reform often comes from national and local activists. Donors can do better at funding and supporting local grassroots organizations, in addition to the big organizations that are more visible in the international media and at UN meetings. Maka Angola is such a local organization, collecting and investigating claims by Angolan citizens of corruption and abuse of power. Maka Angola reported, for example, that the Angolan branch of Banco Espirito Santo, a large private Portuguese bank, made some US\$6 billion in bad loans to corrupt senior officials, which the bank struggled to recoup. Maka Angola's report came out several months before Portugal's central bank announced in August 2014 the bankruptcy and US\$6 billion bailout of Banco Espirito Santo.¹⁵ The bankruptcy heralded the end of the second largest bank in Portugal and a century-old family dynasty. The financial mismanagement of the bank potentially could have been discovered earlier if the international press and regulators had acted upon Maka Angola's reports. To help such local cases gain international attention, the news agency Thomson Reuters, funded by development assistance from the Government of Norway, has started working with African media partners to improve reporting of illicit finance, corruption, and tax abuse, to facilitate local in-depth investigations, and to collaborate across borders.¹⁶

It is not popular to give foreign aid to corrupt countries. But developing countries must not be penalized for taking an active stance against corruption and uncovering many cases. The

Jessica Schultz, Opimbi Osore, and Thomas Vennen, Reducing Risks of Reporting Corruption: Lessons from an Online Complaints System in Kenya, U4 Practice Insight (Oslo: Chr. Michelsen Institute; U4 Anti-Corruption Resource Centre, 2010), http://www.u4.no/publications/reducing-risks-of-reporting-corruption-lessons-from-an-online-complaints-system-in-kenya/ downloadasset/196.

^{14. &}quot;Assistance in Prevention and Campaign against Corruption," *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) GmbH, accessed May 6, 2015, https://www.giz.de/en/worldwide/16714.html.

Landon Thomas Jr. and Raphael Minder, "Banco Espirito Santo Patriarch Humbled Amid Bailout," *The New York Times*, August 4, 2014, http://www.nytimes.com/2014/08/05/business/international/banco-espirito-santo-patriarch-humbled-amid-bailout. html?_r=0.

^{16. &}quot;Reporting on Illicit Finance in Africa," Thomson Reuters Foundation, July 3, 2014, http://www.trust.org/spotlight/illicit-finance/.

Government of Ireland reacted in an exemplary manner when its funds meant for the development of northern Uganda were found to have gone missing. Ireland did not turn its back on the people of Uganda, but rather put in place improved risk management systems. The Auditor General in Uganda had uncovered the alleged theft of aid by someone in the Ugandan prime minister's office. It sends the wrong signal when donors reduce aid to developing countries with a good track record of actually uncovering and fighting corruption.

IV. Global Partnerships to Stop Bribery and Corruption

Much bribery originates in rich countries and much of the proceeds from corruption in developing countries end up in OECD countries. However, huge progress has been made. It was not that long ago that one could see people on television defending corruption. Businesspeople often argued that bribery was a requirement for doing business in developing countries. This has changed. The trend is toward zero tolerance for corruption. Ten times as many people are jailed and fined for corruption today compared to ten years ago.¹⁷ Fines are at a record high. If bribes and corruption are not prosecuted and severely punished, dishonest companies will continue to flout the law, while responsible companies, having lost business after refusing to pay bribes, may start to rethink whether their ethical approach makes commercial sense. OECD countries must fulfill their own obligations and make sure to investigate bribery and to prosecute and jail criminals. But half of the OECD member countries have not prosecuted a single person for foreign bribery. That could mean an absence of bribery in half of the OECD countries, but it is more likely due to a lack of political will to go after such crimes.

The 1999 OECD Anti-Bribery Convention has been signed by all thirty-four OECD countries, plus Argentina, Brazil, Bulgaria, Colombia, the Russian Federation, and South Africa. The purpose is to make sure that all countries in the OECD have similar laws and comparable enforcement. Common standards are important so that there is no competitive advantage to companies based in countries with a more relaxed view on corruption. The convention commits signatory countries to make bribery a criminal offense, to prosecute individuals and companies that give bribes to foreign public officials, and to penalize offenders through fines or imprisonment. The convention's forty signatory countries include those responsible for the largest global flows of foreign direct investment and are home to

^{17.} Organisation for Economic Co-operation and Development, OECD Foreign Bribery Report, 17.
many of the world's largest companies. Monitoring is done through peer review, which is considered the gold standard by Transparency International. There is no doubt that broad political support in many countries has done much to improve laws and reduce bribery. But there is still a long way to go. Bribery and corruption can be defeated only when it is a political priority to go after these criminals. Concerted global and national efforts to investigate, prosecute, and jail financial criminals are very effective deterrents.

The United States, Germany, Hungary, Italy, and Korea have shown leadership in enforcing antibribery. The United States has some of the strictest anti-corruption laws in the world. The French industrial giant Alstom accepted a then-record high fine in the United States of US\$772 million for foreign bribery in 2014.¹⁸ But a number of gaps in OECD countries' legal frameworks prevent the effective application of their anti-bribery regimes. These include overly narrow interpretations of foreign bribery or the imposition of an impractical burden of proof like the requirement to prove that a public official has directly intervened in the awarding of a contract subsequent to a bribe. Short-term statutes of limitations can also be an obstacle given the length of time required to bring such cases to court. One American corruption case took fifteen years to complete.¹⁹ Finally, weak penalties often fail to provide an effective deterrent to those tempted to pay bribes overseas. It is important that as many people and companies as possible are jailed or fined for paying or receiving bribes. Record high fines and more aggressive attitudes against bribery have led to more firms calculating sanctions into their risk calculations. The OECD has found that bribes now on average account for 10.9 percent of a deal, but fines now represent 100 to 200 percent of the deal in almost half of all corruption cases.²⁰ This ratio presents a clear business case against bribery and corruption.

The OECD is also working with China on standards for businesses operating overseas. China is now a bigger source of foreign direct investment than a destination for investments. Workable international standards will be important to stop bribery in business.

 [&]quot;Alstom Pleads Guilty and Agrees to Pay \$772 Million Criminal Penalty to Resolve Foreign Bribery Charges," US Department of Justice, December 22, 2014, http://www.justice.gov/opa/pr/alstom-pleads-guilty-and-agrees-pay-772-million-criminal-penaltyresolve-foreign-bribery.

^{19.} Organisation for Economic Co-operation and Development, OECD Foreign Bribery Report, 17.

^{20.} Ibid., 3.

V. Tax Evasion and Illicit Financial Flows

Domestic resources, such as taxes, allow countries to finance their own development, thus building schools and hospitals and reducing poverty. The majority of finances for development come from domestic resources, even in the poorest countries. Developing countries spend roughly US\$1.2 trillion on education every year, while only US\$12 billion of this comes from development assistance. The total tax revenue in Africa is ten times the volume of all official development assistance flows.²¹ Yet, while OECD countries collect on average 34 percent of their gross domestic product as tax, developing countries achieve only half this rate. Just increasing average tax collection by 1 percent would add more than twice the total amount of global aid for public spending health and education in developing countries.

Reducing tax evasion is key for development. National leadership, development cooperation, and global standards are needed to make sure that companies are taxed where they operate and that the proceeds from tax evasion cannot be hidden abroad.

VI. Political Leadership to Stop Tax Evasion

Strong national and regional leadership is needed to address tax evasion. Over the last five years, the G20 and the OECD's Global Forum on Transparency and Exchange of Information for Tax Purposes have driven improvements in transparency information sharing around the world. As a result, information about assets held abroad by residents of developing countries is more easily available to their national tax authorities and at a lower cost. However, a challenge remains in unlocking the true potential of these improvements. Many developing countries rarely use the global infrastructure that now exists to request information on companies and wealthy individuals.

Capacity is an issue, but it should not be overstated. The perception that exchange of information is beyond the capacity of some developing countries no longer holds true. For example, multilateral instruments for exchange of information are now available, which developing countries can adhere to without the need to negotiate individually with relevant partners.

^{21.} AfDB/OECD/UNDP, African Economic Outlook 2014: Global Value Chains and Africa's Industrialisation (Paris: OECD, 2014), 51, http://dx.doi.org/10.1787/aeo-2014-en.

Political leaders in developing countries should adopt and fully implement international standards on anti-corruption and financial transparency. The African Union established the United Nations High Level Panel on Illicit Financial Flows led by former South African President Thabo Mbeki to address the debilitating problem of illicit financial outflows. The idea is to find out what African countries can do together and individually to limit tax evasion and other illicit flows, and to make joint demands to rich developed countries that are major destinations for the money stolen from Africa.

The Africa Initiative, launched at the Global Forum on Transparency and Exchange of Information for Tax Purposes in 2014, responds to this challenge. The three-year project is designed to raise awareness of the international standards of tax transparency in Africa, to ensure political buy-in, to build capacity in tax administrations and regional tax organizations, and to create a legacy of sustainable change. The initiative relies on the leadership of member states to achieve concrete targets over the course of the project. A similar push is necessary among other developing countries across the planet.

VII. Development Assistance to Stop Tax Evasion

Development cooperation can improve countries' tax systems and abilities to fight tax evasion. Developing countries face many constraints to building more effective domestic tax systems and ensuring compliance. Efforts to increase tax collection in developing countries are rightly focused on strengthening their tax administrations' basic capacity to collect taxes. In addition, as capital becomes more mobile, developing countries are dealing with new international challenges, such as taxing multinational enterprises effectively, building effective transfer pricing regimes, establishing and using information sharing arrangements to obtain tax information about their taxpayers from other countries, and managing tax incentives to attract international investors.

Development agencies have a role to play in this area by financing projects in developing countries that facilitate better tax collection. Experience shows that the return on tax-related investment, in terms of benefits for developing countries, is significant. Donor support worth US\$5.3 million between 2004 and 2010 to improve tax collection in El Salvador led to increased revenues of US\$350 million per year—an impressive rate of return.

To date, several development agencies have provided technical assistance and other support to developing countries' tax authorities. As a Norwegian government minister, I initiated the Tax for Development Programme, which capitalizes on Norway's own experiences with natural resource governance to help resource-rich developing countries improve their tax collection. Apart from technical assistance, the program also focuses on providing research, spurring public debate, and improving cooperation at the international level in the areas of taxation and capital flight. In Zambia, Norway has supported the renegotiation of contracts between the Zambian government and large multinationals in the mining sector. Norwegian development assistance has, among other things, financed the audits of three mining companies to determine whether their transfer pricing practices are in line with international standards. Mining income to the Zambian government more than tripled from US\$313 million to over US\$1 billion in one year as a result.²² The large increase was partly due to tax arrears that the mining companies had previously refused to pay, and partly due to the increase in the negotiated royalty rate from 3 to 6 percent.

The OECD-led Global Forum on Transparency and Exchange of Information for Tax Purposes, in conjunction with other international organizations such as the World Bank, also provides technical assistance for its members. This is supported by funding from development agencies in its member countries, such as the UK Department for International Development. Successful projects in several developing countries have ensured that tax administrations are fully able to benefit from the global efforts to address cross-border tax evasion.

VIII. Global Partnerships to Stop Tax Evasion

How countries interact on tax matters is of increasing significance, including how the efforts of OECD countries affect the developing world. Tax policies and regulations must be coordinated internationally to cut off tax evasion and other illicit financial flows and to encourage more good flows and investments. More openness and cooperation are undoubtedly needed.

Tax is now at the top of the international political agenda. Improving transparency and exchange of information for tax purposes is a central ambition of the G20. The work has focused initially on

^{22.} Norad, *Tax for Development*, (Oslo: Norad, October 2012), 18, http://www.norad.no/globalassets/import-2162015-80434-am/ www.norad.no-ny/filarkiv/vedlegg-til-publikasjoner/tax-for-development.pdf.

developing standards, the right to request tax information, and the obligation to respond to such requests. The Global Forum, of which half of its 126 members are developing countries, led this work.

The standards yield results wherever they are implemented. For example, the Philippines, which restructured its exchange of information systems in 2013 with assistance from the Global Forum and the World Bank, recovered more than US\$1 million in 2014 in just two cases. In 2013, South Africa recovered US\$62 million through a settlement with one taxpayer in which exchange of information played a determining role. India has greatly expanded its international tax cooperation infrastructure over the last three years, increasing the number of outgoing requests ten-fold from eighty to over 800 in 2013.

More recently, the OECD and G20 have developed a new global standard for automatic exchange of information, which promises to raise international cooperation to a new level and lead to the discovery of more offshore accounts and assets. A roadmap prepared by the Global Forum and adopted by the G20 contains practical steps that countries can take toward implementation of the new standard. It outlines pilot projects between developing country and G20/developed country partners facilitated by the Global Forum, the World Bank, and other international and regional organizations. A number of such projects are already underway.

However, some developing countries have been slow to exploit the opportunities that now exist for international cooperation, and many are not yet members of the Global Forum. They need to join the club to benefit fully from implementing the standards and to access the full range of assistance available to members. This is a concrete step that developing countries can take to show their own commitment to tackling international tax evasion and improving their capacity to enforce their own laws.

IX. Money Laundering

Criminals need to hide their money from scrutiny and taxation. Money laundering is the process of cleaning dirty money from criminal activity, corruption, or tax evasion through banks, shell companies, and lawyers. As much as a quarter of the entire world domestic product—an astonishing

US\$21 trillion—is thought to be stashed away in secret offshore bank accounts.²³ Money launderers also conceal the origin and destination of money to fund terrorism or to buy weapons for conflicts.

It is extraordinary that violent organizations can finance terrorism or civil war by selling large quantities of oil to the global market. This is not a matter of making a small hole in oil pipes, selling a few barrels of oil, and smuggling some cash across the border in someone's underpants. These are large, sophisticated operations involving oil trucks, tankers, and million-dollar transactions through banks and financial networks. Money laundering often takes place in countries with stable and predictable financial systems where the risk of detection is low. The global financial system should be open and regulated to make it easier to detect and shut down such criminal operations.

X. Political Leadership to Combat Money Laundering

National governments must make it clear that money laundering will be investigated and punished. Less than twenty-four hours after becoming prime minister of India, Narendra Modi set up a team of former judges and current regulators to bring concealed assets overseas back to India. The amount of this "black money" is by some estimates as much as US\$2 trillion.²⁴ That is much more than the entire annual gross domestic product of India!

National and regional coalitions for action are needed to tackle specific illicit flow problems. The Kimberley Process is a coalition of the main diamond-producing and -importing countries. The purpose is to stop the trade in conflict diamonds to ensure that its profits are not financing rebel movements violently seeking to undermine legitimate governments. In the Democratic Republic of Congo, diamonds and precious metals, such as gold, funded to a large extent the long and terrible civil war that devastated the country and killed over five million people. One-third of all diamonds²⁵ and an astonishing 98 percent of all the gold produced²⁶ in the Democratic Republic of Congo are smuggled out of the country. The Kimberley Process was the initiative of Southern African diamond-

Frederick E. Allen, "Super Rich Hide \$21 Trillion Offshore, Study Says," Forbes, July 23, 2012, http://www.forbes.com/sites/ frederickallen/2012/07/23/super-rich-hide-21-trillion-offshore-study-says/.

^{24.} Anto Antony and Bhuma Shrivastava, "Hidden Assets Seen Worth \$2 Trillion Targeted by India," *Bloomberg Business*, June 9, 2014, http://www.bloomberg.com/news/articles/2014-06-08/hidden-assets-seen-worth-2-trillion-targeted-by-india.

 [&]quot;Ranking of the World's Diamond Mines by Estimated 2013 Production," Kitco, August 20, 2013, http://www.kitco.com/ind/ Zimnisky/2013-08-20-Ranking-Of-The-World-s-Diamond-Mines-By-Estimated-2013-Production.html.

^{26.} Alexis Arieff, *Democratic Republic of Congo: Background and U.S. Policy* (Washington, DC: Congressional Research Service, 2014), http://fas.org/sgp/crs/row/R43166.pdf.

producing states and has grown into a global certification scheme for rough diamonds supported by the United Nations General Assembly. While the Kimberley Process is not perfect and has been accused of fraud, there is no doubt that this coalition of governments, civil society, and mining companies has done a lot to reduce the use of diamonds to finance violence and conflict.

XI. Development Cooperation to Combat Money Laundering

Development assistance can help build the capacity of developing countries to fight financial crime. Working with the Financial Action Task Force on Money Laundering, Ghana reduced its high risk of money laundering and terrorism.²⁷ Ghana undertook significant legislative and institutional initiatives to put the country on par with other successful regimes combating money laundering and terrorist financing. Ghana criminalized and pursued sources of illicit funds more forcefully, such as sales of human body parts, kidnapping, sexual slavery, and smuggling. The country also established and implemented better measures for the confiscation of funds related to money laundering.

China has developed a set of guidelines to promote responsible business conduct for Chinese mining companies operating overseas and cooperation within China's mining industry. The goal is to reduce corruption and environmental destruction in the mining industry. These guidelines were developed in cooperation with the German development agency Gesellschaft für Internationale Zusammenarbeit (GIZ), the OECD, and Global Witness.

Global and regional coalitions for action have successfully targeted specific cases of money laundering, such as the Inter-Governmental Action Group Against Money Laundering in West Africa, which brings nations together against terrorist financing and arms smuggling. Another is the Egmont Group, which brings together Financial Intelligence Units from 139 countries to exchange information, provide training, and share expertise to improve investigative and prosecutorial capacity.

^{27.} Lawrence Quartey, "Ghana Delisted from High Risk Money Laundering/Terrorist Financing Nations," The Africa Report, October 29, 2012, http://www.theafricareport.com/West-Africa/ghana-delisted-from-high-risk-money-launderingterrorist-financing-nations.html.

XII. Global Partnerships to Combat Money Laundering

There are limits to what individual countries can do unless anti-money laundering efforts are taken on a global level. The United Nations Office on Drugs and Crime estimates that around US\$1.6 trillion is laundered every year. An examination of high-profile cases over recent years shows that huge amounts of these illicit financial flows from developing countries end up in OECD countries. Well-known High Street banks are involved in money laundering. In 2012, HSBC paid a then record fine of US\$1.9 billion to avoid criminal proceedings after allegedly laundering money for drug cartels in Mexico and Colombia.²⁸ In 2014, French bank BNP Paribas broke that record with a fine of almost US\$9 billion for concealing more than US\$190 billion in transactions between 2002 and 2012 for clients subject to US sanctions.²⁹ The amounts are just astonishing.

Fighting money laundering has been high on the international agenda for over two decades. Several conventions to criminalize such acts have been incorporated into the recommendations of the Financial Action Task Force (FATF), the most comprehensive global instrument for tackling money laundering. The framework consists of forty recommendations, including putting into place the necessary legal framework; implementing measures for police and prosecutors to prevent, detect, prosecute, and sanction money laundering; and improving information sharing and international cooperation to deal with global financial crimes. The recommendations are a great start. But none of the OECD countries are yet fully compliant with the FATF recommendations on preventing money laundering.³⁰

FATF reviews also show that OECD countries' performance varies and that, in general, their systems are at a high risk of being abused for laundering illicit flows. Countries score lowest in identifying politically exposed persons involved in financial transactions in their jurisdictions. Some people are naturally at greater risk of corruption. People in national oil companies or central banks with little oversight have much greater access to cash. Therefore, the financial transactions in which they are

^{28.} Aruna Viswanatha and Brett Wolf, "HSBC to Pay \$1.9 Billion U.S. Fine in Money-Laundering Case," *Reuters*, December 11, 2012, http://www.reuters.com/article/2012/12/11/us-hsbc-probe-idUSBRE8BA05M20121211.

Joseph Ax, Aruna Viswanatha, and Maya Nikolaeva, "U.S. Imposes Record Fine on BNP in Sanctions Warning to Banks," *Reuters*, July 1, 2014, http://www.reuters.com/article/2014/07/01/us-bnp-paribas-settlement-idUSKBN0F52HA20140701.

 [&]quot;FATF Recommendations," Financial Action Task Force (FATF), accessed April 27, 2015, http://www.fatf-gafi.org/topics/ fatfrecommendations/.

engaged should be scrutinized more closely. Over one-third of OECD countries fail to sufficiently apply additional precautions when dealing with politically exposed persons.

OECD countries also score poorly against the recommendations for clearly ascertaining the actual owners of companies and trusts being set up in their jurisdictions. It is not always straightforward to identify the ultimate beneficiary or owner of a trust or company. Criminals may set up companies or trusts as a façade to hide their funds. Consider the case of the ferry Scandinavian Star, which caught fire en route to Denmark from Norway in 1990, killing 159 people. Despite a twenty-five-year police investigation in Norway, the ship's owners still have not been clearly identified behind the layers of ownership structures.

Another problematic area is OECD countries' performance in ensuring that "designated nonfinancial businesses and professions" are not used as channels to launder funds. This term refers to businesses and professionals, such as real estate agents and lawyers, which may be conduits for illicit activity on behalf of others. These strawmen may buy property or conduct business on behalf of criminals laundering money. This is why it is important to enforce FATF recommendations that require these professionals to collect documentation to identify with whom they are engaging in business, and to report to the authorities any suspicion that their client is attempting to launder funds. In the case of former Ukrainian president Viktor Yanukovych, suspected of having embezzled billions of dollars, it was difficult even to figure out the rightful owner of the president's private residence. The house was sold immediately after construction to a Ukrainian company called Tantalit owned by an Austrian company, which in turn was owned by a British shell company ultimately owned by an impenetrable trust in Liechtenstein.³¹ The bottom line is that everything should be owned by someone and the identity of the owner should be known.

Viktor Bout, also known as the Merchant of Death, is now serving twenty-five years in prison for his decades-long career as a weapons trafficker.³² Bout used a network of shell companies—twelve

^{31.} Rosie Sharpe, "Anonymous UK Company Owned Viktor Yanukovych's Presidential Palace Compound," Global Witness, March 1, 2014, https://www.globalwitness.org/blog/anonymous-uk-company-owned-truncated/.

^{32. &}quot;Global Witness Welcomes Sentencing of International Arms Trafficker Who Used a Global Network of Shell Companies in His Work," April 6, 2012, http://www.globalwitness.org/library/global-witness-welcomes-sentencing-international-arms-trafficker-who-used-global-network.

in the United States alone—to hide his own identity and the origin of his money from illegal arms trafficking. The same method is likely used by terrorists, corrupt dictators, drug traffickers, and tax evaders to legally hide their identities and launder dirty money using the global financial system. A law requiring companies to disclose their ultimate owners would make such investigations much easier. US Senators Carl Levin (now retired) and Chuck Grassley proposed a bipartisan Incorporation Transparency and Law Enforcement Assistance Act to do just that. Other countries should follow their example.

Preventing the financial system from laundering money and funding terrorism, conflict, and crime will not be easy. But it for sure would be possible if such peaceful coalitions for action were able to mobilize as much political leadership and resources as military coalitions.

XIII. Stolen Asset Recovery

Returning stolen goods to the rightful owner is the right thing to do for any person or country. Repatriation of stolen assets to their country of origin gives developing countries additional resources. It also gives a powerful deterrent for financial criminals and a sense of justice for the societies whose funds are repatriated.

The total assets frozen are increasing. The governments of the United Kingdom, the United States, and Switzerland are cracking down on financial criminals to send a signal that the global banking centers are not safe havens for criminals.

However, success with returning stolen assets across borders has been modest. Ferdinand Marcos, the former president of the Philippines, and his wife Imelda stole huge amounts from their people. The money was transferred to Switzerland and used for luxuries and a very famous shoe collection. The government that took over after the disastrous Marcos rule recovered only six dollars for every hundred dollars stolen after an eighteen-year legal battle.³³ Most of the money remains untraced or held up in legal limbo.

^{33. &}quot;Fact Sheet on Stolen Asset Recovery," World Bank and UN Office on Drugs and Crime, accessed April 27, 2015, https://www. unodc.org/pdf/Star_FactSheet.pdf.

It should have been possible to identify, freeze, and return the foreign assets of former Libyan dictator Muammar Gaddafi.³⁴ But that has turned out to be very difficult. More than US\$100 billion of Libyan overseas assets were frozen following UN Security Council sanctions against Gaddafi's regime. Only a house in London worth US\$17 million owned by one of Gaddafi's sons has been recovered successfully.

The case of Gaddafi is typical for recovery of stolen assets, which tend to follow a pattern resembling a pyramid. The initial media reports of stolen assets are usually huge, in some cases probably inflated. Assets are frozen and eventually confiscated through long and complicated investigations and court cases. The amount of money actually returned is usually a fraction of what is reported stolen.

XIV. Political Leadership for Asset Recovery

Developing nations should demand to have their money returned despite the legal complexities. Many Arab Spring countries suffered decades of endemic corruption and exploitation of their resources. Former rulers stole billions of dollars of assets. Large sums of money were flown out in suitcases, but the bulk of the looted assets was spirited into the large financial centers and property markets across the world. The new governments created a coalition for action called Arab Forum on Asset Recovery. They met for the first time in Doha in 2012 to put pressure on the countries that had received the money, to learn from each other, and to combine their legal and investigative resources to recover as much as possible.³⁵ In another case, Nigeria took matters into its own hands in a bribery case related to a liquefied natural gas project on Bonny Island in the Niger Delta. The Nigerian government prosecuted several foreign companies for paying bribes. More than US\$30 million was eventually returned to Nigeria.

President Kagame in Rwanda has sent a strong signal that corrupt officials also should repay the funds they have stolen, in addition to being prosecuted and jailed, even if that means selling off

^{34.} David Samuels, "How Libya Blew Billions and Its Best Chance at Democracy," *Bloomberg Business*, August 7, 2014, http://www. bloomberg.com/bw/articles/2014-08-07/libya-waste-fraud-erase-billions-in-national-wealth.

^{35.} Dominic Grieve, "A Committed Approach to Asset Recovery and Fighting Political Corruption after the Arab Spring," *The National*, October 26, 2013, http://www.thenational.ae/business/economy/a-committed-approach-to-asset-recovery-and-fighting-political-corruption-after-the-arab-spring.

their houses and cars.³⁶ The Rwandan government sued 300 public officials in September 2014 in an attempt to return US\$5 million in embezzled funds, enough to fund 5,000 teachers for a whole year. Rwanda is a member of the Asset Recovery Inter Agency Network for Eastern Africa together with Burundi, Ethiopia, Kenya, South Sudan, Djibouti, and Uganda. The coalition promotes the exchange of information among countries in the region and facilitates the freezing, confiscation, and return of assets. The coalition also acts as an advisory group to national authorities to ensure that domestic institutions function properly and are able to work together effectively on international asset recovery cases.

Other countries have successfully tried negotiation as a tool for asset recovery. Costa Rica's public ethics prosecutor initially brought a civil suit against French telecom giant Alcatel-Lucent because of bribes that caused excessive profits and social damage to the nation.³⁷ Costa Rica eventually negotiated a solution with the French company, which agreed to pay around US\$10 million.

XV. Development Cooperation for Asset Recovery

A strong state is better equipped to recover stolen assets from overseas. Development assistance can help strengthen states by using aid to support leadership and strengthen country systems. Development assistance donors have committed to align behind the priorities of recipient governments and support country systems, such as police, prosecutors, and court systems that could improve countries' abilities to trace, freeze, and recover illegal assets.

Successful asset recovery requires patience, time, and money to pursue long and complicated cases. Consultants and experts from multilateral bodies and other governments provide technical assistance to support effective domestic investigations, including gathering evidence, tracing assets, and working with foreign jurisdictions. Development agencies can fund exchanges and training programs for local police, prosecutors, and judges; provide training and funding to investigate complex international cases; and support meetings and operations of national and regional coalitions working on returning stolen assets. The UK Department for International Development

^{36. &}quot;300 Public Servants to Be Sued over Embezzlement," *The Independent* (Rwanda), September 29, 2014, http://www. independent.co.ug/news/news-analysis/9365-300-public-servants-to-be-sued-over-embezzlement.

Jacinta Anyango Oduor et al., Left Out of the Bargain: Settlements in Foreign Bribery Cases and Implications for Asset Recovery (Washington, DC: World Bank and UN Office on Drugs and Crime, 2014), http://star.worldbank.org/star/sites/star/ files/9781464800863.pdf.

(DFID) has funded eleven police officers specializing in investigating financial crimes committed by UK citizens or companies overseas.³⁸ The unit has collaborated with local police in Egypt, Malawi, Nigeria, Uganda, and Zambia at a cost of US\$8 million. These investigations have led to the freezing of assets twenty times that amount, as around US\$160 million is in the process of being confiscated and returned.

DFID also played a central role in the design of the 2010 settlement between the arms company BAE Systems and the UK Serious Fraud Office.³⁹ The arms dealer was accused of bribery allegations involving a US\$40 million contract to supply radar control systems to Tanzania. Rather than being fined by the UK government, DFID negotiated a deal whereby the company made voluntary reparations of almost US\$50 million to support health and education to benefit the people of Tanzania.

XVI. Global Partnerships for Asset Recovery

The main obstacle to returning stolen assets is the ability to provide sufficiently solid proof that the assets were gained through corruption or criminal activity. OECD countries should do what they can to assist, and there are promising signs that countries with large financial centers are making asset recovery a political priority. Their stated commitments to do so at recent G8 and G20 meetings and the amounts frozen and returned in the last few years bear witness to that. Switzerland froze the most assets, followed by the United Kingdom and the United States. These three important financial centers are the most aggressive and have repatriated corruption proceeds over a long period. All three countries have high-level political leadership, a wide range of asset recovery tools available, and dedicated teams working on asset recovery cases. Where barriers are encountered, new laws or creative solutions are sought to overcome them.

The countries that are the most successful in tracing, freezing, and repatriating assets have legal frameworks that allow for seizing and returning stolen assets without a conviction. Proving that

Larissa Gray et al., Few and Far: The Hard Facts on Stolen Asset Recovery (Washington, DC: The World Bank; UN Office on Drugs and Crime, 2014), http://www.oecd.org/dac/governance-peace/governance/docs/Hard%20Facts%20Stolen%20 Asset%20Recovery.pdf.

 [&]quot;BAE Systems PIc (United Kingdom)," Stolen Asset Recovery Initiative (StAR) Database, accessed April 27, 2015, http://star. worldbank.org/corruption-cases/node/20225.

assets are linked to criminal conduct can be a complex process. One successful way to counter this problem is to make suspects prove that excessive wealth has a legitimate origin. Such rebuttable presumptions force the suspected criminal to meet the burden of proof, rather than the other way around. A person with no income or a government official suspected of receiving bribes will have to explain how such a big house, fancy car, or luxurious lifestyle is affordable. Another method called extended confiscation involves the seizure of assets that go beyond the direct proceeds of a crime so that there is no need to establish a connection between suspected criminal assets and specific criminal conduct. Extended confiscation has been adopted in France, Germany, Norway, and Sweden. The son of a dictator may steal billions from the national oil wealth while using some hundred million to invest in legitimate and profitable businesses in Europe or North America. Extended confiscation allows a government to confiscate assets without having to prove whether there is a direct connection between the billions acquired through corruption and the assets. Countries can help by accepting foreign confiscation orders and providing assistance to foreign jurisdictions. Adequately resourced and trained specialist units to investigate stolen assets and prosecute offenders are central, as is enhanced information sharing on asset recovery cases between countries.

It is crucial to mobilize the political will to close legal loopholes, investigate financial crime, prosecute criminals, and recover assets. For the majority of OECD members, there is a big disconnect between high-level international commitments and practice at the country level. Fourteen of the thirty-four OECD members did not even respond to a survey by the World Bank's Stolen Asset Recovery (StAR) program. Experience shows that a lack of real political leadership results in ineffective laws and institutions. Criminals will exploit those vulnerabilities to launder proceeds from corruption and criminal activity. Ultimately, a huge gap remains between assets recovered and assets stolen from developing countries. Only US\$147.2 million was returned by OECD members between 2010 and June 2012, down from US\$276.3 million between 2006 and 2009. That is only a fraction of the estimated US\$20 billion to US\$40 billion stolen each year. Recovery of stolen assets would give a huge financial boost to poverty reduction in developing countries and send a strong signal to financial criminals. It is just a matter of doing it.

XVII. Conclusion

Illicit financial flows drain developing countries of billions of dollars of potential development funds. Illicit financial flows must be fought on global, regional, and national levels. Different countries require tailored solutions for various illicit financial flows problems related to bribery and corruption, money laundering, tax evasion, and asset recovery.

National leadership, development assistance, and global partnerships will be the three main ingredients in combating these problems. Firstly, political leaders must take charge and initiate coalitions for action to tackle specific illicit financial flow problems. Secondly, development assistance should align behind the priorities of national governments to fund initiatives targeting illicit flows and assist in building stronger and more capable states. Development cooperation is the link between initiatives by governments in developing countries and donor countries.

And finally, a good way to limit the large amounts of money illicitly flowing out of developing countries is to clamp down on financial criminal activity in wealthy countries. Most of the money ends up in OECD countries enabled by networks of banks, straw companies, and tax havens. Much can be done in OECD countries to stop and reverse these outflows. Rich developed countries must do more to devise and enforce adequate laws to track and prevent illegal money transfers. Lost flows of potential development finance can be stopped by sharing information, streamlining regulations, and improving the capacity to investigate and prosecute financial criminals in developed and developing countries alike.

10. The Road to Addis and Beyond

Tom Cardamone

It is sometimes difficult to grasp the enormity of the initial challenge, or the level of accomplishment, of any new endeavor until a major milestone is reached. And so it is with the inclusion of the term "illicit financial flows" in the Financing for Development Conference outcome document—finalized in Addis Ababa in July 2015—and in the post-2015 Sustainable Development Goals (SDGs), which were completed in New York six weeks later. In its earliest stages, this endeavor seemed to be a quixotic attempt to substantially alter seventy years of entrenched conventional wisdom regarding the primary components of poverty alleviation. After nine years of effort, the idea has finally been embraced by the international community and incorporated into the two most important international agreements focused on global development.

Indeed, in the Financing for Development document, known as the Addis Ababa Action Agenda, the UN Member States pledge to "redouble efforts to substantially reduce illicit financial flows (IFFs) by 2030, with a view to eventually eliminate them, including by combatting tax evasion and corruption through strengthened national regulation and increased international cooperation." Moreover, SDG target 16.4 notes that "by 2030 [Member States will] significantly reduce illicit financial and arms flows, strengthen recovery and return of stolen assets, and combat all forms of organized crime." With the inclusion of these two seemingly obscure sentences—one in the political document that is the Addis Agenda, and one in the more technical SDG declaration—addressing the issue of illicit financial flows has become the new orthodoxy in development policy.

In July 2006 when GFI was launched, the term "illicit financial flows" had yet to be understood, let alone embraced, by development experts. The term illicit financial flows, or IFFs as they are now known in development parlance, was a sophisticated way to refer to the phenomenon of so-called "dirty money," which was gushing out of poor economies to the detriment of billions of people around the world, as detailed in Raymond Baker's 2005 book *Capitalism's Achilles Heel*. Using the word "illicit" gave the issue an air of mystery, a bit of sizzle that, it was hoped, would capture the attention of policymakers as well as the media without undermining the seriousness of the problem. The term "financial flows" provided the much-needed visual: a torrent of money streaming out of developing economies. By the end of 2006, the terminology was in place and the goal was coming into view.

"We need to get this issue on the table" was the mantra soon after GFI's launch and for several years afterward. It was one thing to come up with a memorable term and its definition (i.e., the illegal money or the illegal means of moving money out of developing countries), but it was quite another to educate policymakers and opinion shapers as to the nature and severity of the challenge. Getting the experts to comprehend the message, agree with our view of its significance, and then embrace it by including it in the documents that would create the development roadmap to 2030 would be years in the making. In the end it would take the work of hundreds of organizations advocating for change combined with a series of key events to get the job done.

There is no single moment to highlight as the linchpin of the entire process. However, there are noteworthy events that propelled the issue forward without which progress, and eventual victory, would have been significantly delayed. It was a constant, albeit quiet drumbeat of activity by disparate organizations around the world that, taken together, finally pushed illicit financial flows to center stage. Below is a brief chronology of key moments in the effort to get illicit financial flows "on the table."

Timeline of Illicit Financial Flows

- **December 12–13, 2007** One year after GFI defines "illicit financial flows," the government of Norway holds the first of three conferences on IFFs. This International Task Force on the Development Impact of Illicit Financial Flows meeting, and two others in 2008, brought together for the first time experts from government, academia, and civil society to discuss IFFs and how to curtail their corrosive impact on developing economies. The Norwegian government has an outsized impact on the issue and becomes a leading voice in advancing efforts to address this critical concern.
- **December 20, 2007** The Ford Foundation approves a two-year US\$250,000 grant to GFI to produce the first ever global estimation of the volume of illicit flows out of developing countries, based on a recommendation from Brazilian economist Leonardo Burlamaqui, a Ford program officer. This is the first of four grants totaling US\$1.2 million that GFI would receive from Ford for this work over the next eight years. This level of financial support is indicative of the Ford Foundation's strong commitment to backing rigorous economic analysis as the underpinning for fact-based public advocacy.
- December 2008 GFI publishes the first global estimate of illicit financial flows volume, which is based on data from the International Monetary Fund and the World Bank. The analysis shows that some US\$500 billion in illicit money is siphoned out of developing countries each year. A massive public outcry occurs in India, which averaged over US\$27 billion in outflows during the period studied. Future GFI studies will show, on average, a 9 percent annual growth rate in IFFs; the 2014 report will show global volumes of illicit flows approaching US\$1 trillion annually.

- January 15, 2009 The Task Force on Financial Integrity and Global Development, a group of six research and advocacy organizations, is launched with GFI as the coordinating body and supported by US\$3 million in funding from the government of Norway. Advancing global financial transparency measures as a way to curtail illicit financial flows out of developing nations is the primary Task Force goal. These measures include automatic exchange of financial information, public registries of beneficial ownership of companies, and country-by-country reporting of income and tax information by multinational corporations. Coordinated advocacy by the Task Force (now known as the Financial Transparency Coalition) is instrumental to the adoption of these measures by the OECD and other institutions.
- September 25, 2009 In the midst of the global financial crisis, the G20 countries commit to "clamping down on illicit outflows" In the Leaders' Statement at the conclusion of the Pittsburgh Summit. This is believed to be the first use of some form of "illicit financial flows" in a multilateral document. While the G20 members may be thinking more about the loss of their own sorely needed revenue during the global financial meltdown, future use of the term will soon be understood to mean the flow of funds out of developing country economies.
- March 17, 2010 The US Congress passes the Foreign Account Tax Compliance Act (FATCA), which requires, among other things, that "all non-US Financial Institutions search their records for suspected US persons for reporting their assets and identities to the US Treasury." The US Congress hopes to ensure that US citizens with foreign bank accounts are properly taxed by requiring foreign banks to report to the IRS the holdings in those accounts. Three years later, during a private meeting with GFI, an OECD official hailed FATCA as "not an evolutionary event" but rather "a revolutionary one." One consequence of the Act is that a global discussion is launched about the possibility of a reciprocal arrangement in which all banks could automatically report the holdings of non-citizens to their home country's tax authority.

- February 12, 2013The OECD, as directed by the G20 Finance Ministers, launches its Base
Erosion and Profit Shifting (BEPS) initiative, which aims to curtail seepages
of revenues out of developing country economies, and to develop a
multilateral instrument to facilitate the automatic exchange of financial
information. In essence, the BEPS effort is to implement new global
financial reporting norms to ensure that the proper amount of tax is paid
in the jurisdiction where the economic activity occurs and to improve
transparency of global financial transactions. The process addresses
such issues as double non-taxation, abusive transfer pricing, and the
use of controlled foreign corporations, which are employed to evade tax.
(The automatic exchange of financial information and country-by-country
reporting by multinational corporations were two ideas advocated by the
Task Force on Financial Integrity and Global Development beginning in
2009.)
- April 2013/March 2014 In April 2013 the EU Parliament requires financial institutions of Member States to report taxes paid on a country-by-country basis. The following year the Parliament approves legislation requiring public registries of beneficial ownership of companies in member countries. Both issues are part of the Task Force/Financial Transparency Coalition agenda and show the growing acceptance of the proposals.
- 2013–2014 Seven years after GFI begins promoting the concept that illicit flows have a detrimental impact on development, the idea begins to gain widespread acceptance in the form of statements by major international institutions. The World Bank, UN, African Union, and OECD all issue reports within nine months of each other that underscore the gravity of the problem. The World Bank offers the clearest indication that illicit flows are "on the table" for discussion when it notes that "there is little doubt [IFFs] have a pernicious impact on development."

February 1, 2015Based on joint research by GFI and the African Development Bank on net
resource transfers out of Africa, the African Union and the UN Economic
Commission for Africa launch the High Level Panel on Illicit Financial Flows
from Africa in 2011. Tasked with determining steps needed to curtail illicit
outflows from the continent, the High Level Panel, chaired by former South
African President Thabo Mbeki, plays an instrumental role in promoting the
need to address the issue regionally as well as globally. The panel's top
recommendation, issued in early 2015, is for African countries to address
the misinvoicing of trade, given its considerable contribution to moving illicit
funds offshore. The report comes just months before the Financing for
Development Conference in Addis Ababa and has a significant impact on
the negotiating position of the G77 states.

The payoff for these endeavors came in July and August 2015 when the Financing for Development Conference and the Sustainable Development Goals process at the UN pledged to address illicit financial flows. Including the phrase "illicit financial flows" in the two most important global development agreements underscores the essential importance of the issue and commits international development institutions to implement policies and procedures that will help developing countries address the problem. This success now means that this work has entered a new phase.

A focus on financial transparency will be key to this next period. The strongest possible transparency guidelines need to be developed, implemented, and followed both globally and by individual governments. That will require continued funding for advocacy at the OECD, the EU, and at the country level to further the progress already made on automatic information exchange, public beneficial ownership registries, and country-by-country reporting. However, even if these efforts are widely adopted, they will affect mainly the demand side of the illicit flows equation, that is, where the money is shifted. New policies are needed to help developing countries limit the amount of illicit money that leaves in the first place—the supply side of the equation.

To address the supply of illicit funds, one needs to look no further than trade misinvoicing, which moved over US\$5 trillion out of developing countries from 2003 to 2012. Simply put, misinvoicing

is trade fraud that occurs when the price, quantity, or quality of goods shipped is purposefully misrepresented in order to evade taxes and duties. Slowing trade misinvoicing, as mentioned in the Mbeki High Level Panel report, will have a tremendous impact on a government's ability to capture revenue from commerce, which can then be used for development purposes—a primary focus of discussion among governments at the Addis conference. Since trade misinvoicing is well defined (the academic literature has examined this phenomenon for decades) and can be measured (an IMF economist developed a model to estimate levels of misinvoicing in the 1960s), this issue is the low-hanging fruit of the illicit flows problem.

The IMF and World Bank are the best institutions to measure trade misinvoicing at the country level, which is the first step in addressing the issue. Once a baseline has been determined, the analysis can be repeated in subsequent years to determine if progress is being made in reducing IFFs. Developing country governments then need assistance to implement policies to reduce their IFFs. These steps could range from regulatory and legislative changes to create more transparency in a country's financial system to a whole-of-government approach of data sharing to help identify when illicit money may be moving out of the country. At the very least, governments should institute laws making trade misinvoicing illegal and requiring companies to attest that any goods they import or export are not purposefully misinvoiced.

Regardless of the specific path nations take to address the problem, Global Financial Integrity will continue to be a global leader on this issue and will work with individual governments and multilateral institutions to help countries significantly reduce their illicit flows. Improved lives and fortunes for billions of people are the reward.

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Global Financial Integrity

Founded in 2006, Global Financial Integrity (GFI) is a non-profit, Washington, DC-based research and advisory organization, which produces high-caliber analyses of illicit financial flows, advises developing country governments on effective policy solutions, and promotes pragmatic transparency measures in the international financial system as a means to global development and security.

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