Illicit financial flows in low- and middle-income countries: A hindrance to human development

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To analyse the impact of illicit financial flows (*IFFs*) on the UN Program for Development Human Development Index (*HDI*) as a first step in analysing the social costs of this kind of capital flight in low- and middle-income countries.

With this aim, the main hypothesis to be tested is:

*H1*: there is a negative impact of the relative level of *IFF* on the *HDI* in low- and middle-income countries.
Illicit money is money that is illegally earned, transferred, or utilized. If it breaks laws in its origin, movement, or use it merits the label.
Theoretical framework: the IFFs and HDI nexus
Key variables

1. The **HDI**, calculated as a composite metric, measuring the countries’ **average achievements** in three basic dimensions of human development:
   - *Long and healthy life*, as measured by life expectancy at birth;
   - *Access to knowledge*, as measured by a combination of mean *years of schooling* and expected years of schooling;
   - *A decent standard of living*, as measured by **GNI per capita**.

2. The **ratio of the IFFs to total trade**, given that the amount of IFFs in a country is closely related to the amount of capital flight originating from trade (close to 80% of the total estimated annual outflows are moved offshore using **trade misinvoicing**).
Database

Data from 56 countries for the period 2002-2013 (672 observations)

<table>
<thead>
<tr>
<th>Latin America and Caribbean (17)</th>
<th>Sub-Saharan Africa (17)</th>
<th>MENA (3)</th>
<th>East Asia and Pacific (5)</th>
<th>Europe and Central Asia (11)</th>
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</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Botswana</td>
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<td>Mexico</td>
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<td>Ukraine</td>
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Ratio of IFF to total trade (%).
Averages for the period 2002-2013.
Relationship between the share to total trade and the share to total IFFs. All countries in the sample. Averages for the period 2002-2013.
IFFs: Descriptive analysis

Relationship between the share to total trade and the share to total IFFs. All countries in the sample excluding those indicated before. Averages for the period 2002-2013.
IFFs: Descriptive analysis

Relationship between the share to total trade and the share to total IFFs. All countries in the sample excluding those indicated before. Averages for the period 2002-2013.
In order to analyse the impact of the relative size of IFFs on the HDI, as a baseline specification, we employed the following baseline dynamic panel data model:

$$
HDI_{it} = \mu_i + \eta_t + \lambda HDI_{it-1} + \alpha IFFT_{it-1} + \beta X_{it} + \epsilon_{it}
$$

where:

- $HDI$ = index level (with values from 0 to 1000);
- $IFFT$ = IFFs as a % of total trade;
- $X$ = control variables;
- $\mu$ = unobserved country-specific (fixed) effects;
- $\eta$ = time-specific effects.
Estimation strategy

• Firstly, we employed OLS to estimate equation (1). Problem: “dynamic panel bias”.

• Secondly, employing Arellano and Bond (1991) “difference-GMM” estimator. In addition to eliminating the non-observed time-invariant effects in the regressions, the estimated parameters are reliable even in the case of omitted variables. Problem: lagged levels of the explanatory variables are weak instruments for the first difference, especially in the case of short sample periods and persistent series.

• Finally, we employed the Blundell and Bond (1998) efficient “system GMM” estimator.
## Estimation results

<table>
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<th>Independent variables</th>
<th>Coefficient</th>
<th>z-statistic</th>
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<tbody>
<tr>
<td>HDI$_{it-1}$</td>
<td>0.914</td>
<td>23.34</td>
</tr>
<tr>
<td>IFFT$_{it}$ (%)</td>
<td>-0.174</td>
<td>-3.20</td>
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<tr>
<td>ln GDPpc$_{it}$ (constant US$)</td>
<td>8.012</td>
<td>2.51</td>
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**IFFT long-run effect on HDI**

\[-2.023 = -0.174 / (1-0.914)\]

m$_2$                                    

-0.28 (0.779)

Hansen J test (50 instruments)            

45.55 (0.408)

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**Two-step system GMM estimates**

**Dependent variable:** HDI$_{it}$

(56 countries, 11 years, 616 observations)
1. Estimations show that, over this period, the ratio of IFFs to Trade (IFFT) was negatively associated with HDI levels in low- and middle-income countries.

2. In the short run, a 10-p.p. increase in IFFT would imply an average decrease of 1.74 points in the HDI level.

3. Moreover, in the long run, the total effect of an annual 10-p.p. increase in IFFT on HDI levels would be -20.23 unit points.
Conclusions

1. At first sight, this effect may appear to be small. However, this estimated long-run effect is three times greater than the cross-country average annual increase observed in the HDI over the period 2004-2013.

2. The research findings suggest that an increase in IFFs is insufficient to damage human development. What seems to harm the HDI achievements are periods in which there is an increase in the volume of IFFs greater than the corresponding increase in total trade.
Limitations

1. Further research is needed to study the effect of IFFs on **specific dimensions** of human development such as education, health, income distribution and poverty.

2. Moreover, it is important to study **the specific mechanisms** how IFFs may damage the achievements in the different dimensions of human development.

3. The **sample of countries** included in the analysis should be widened in order to obtain more general results.
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