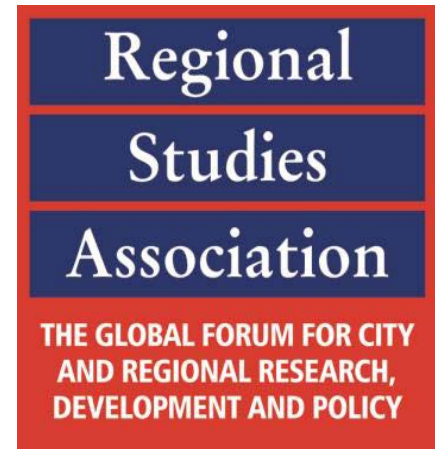

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Illicit financial flows in low- and middle-income countries: A hindrance to human development

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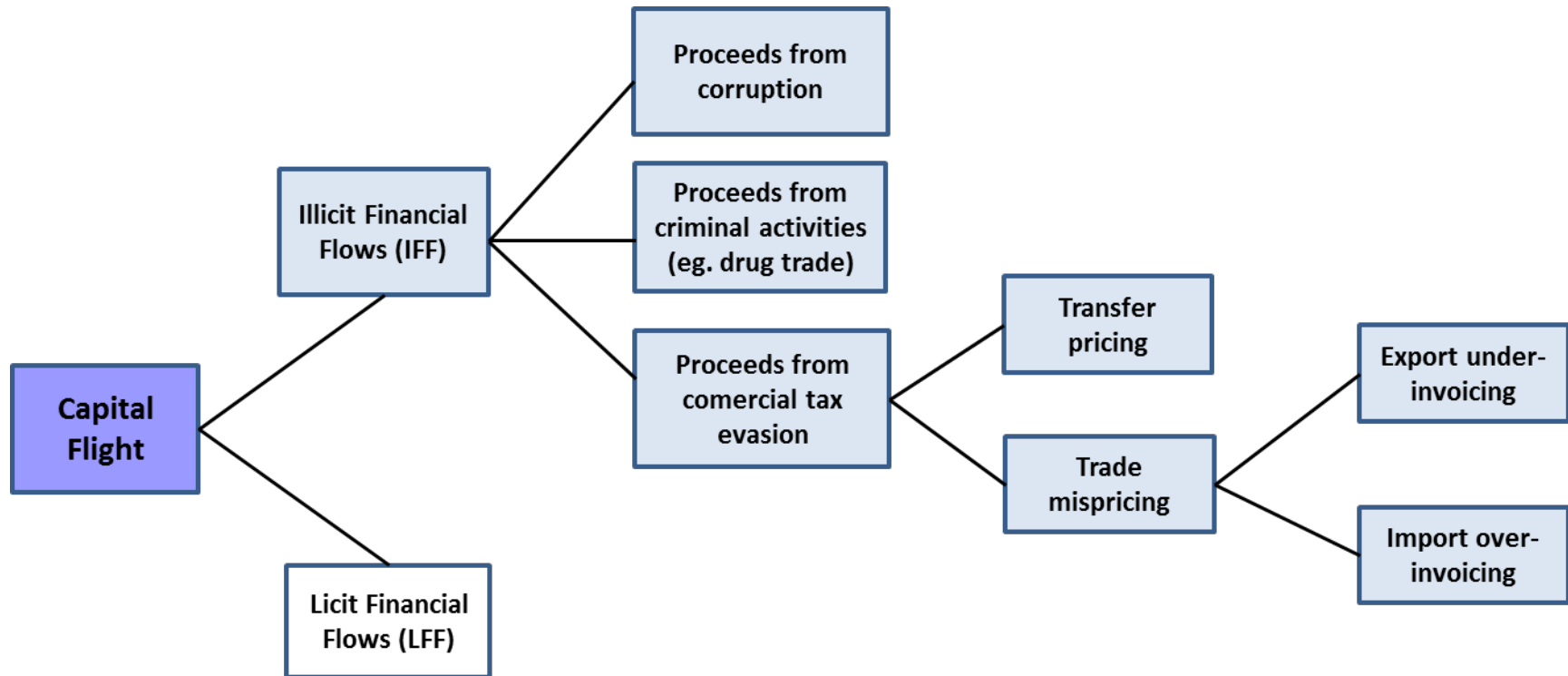
Objective

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:

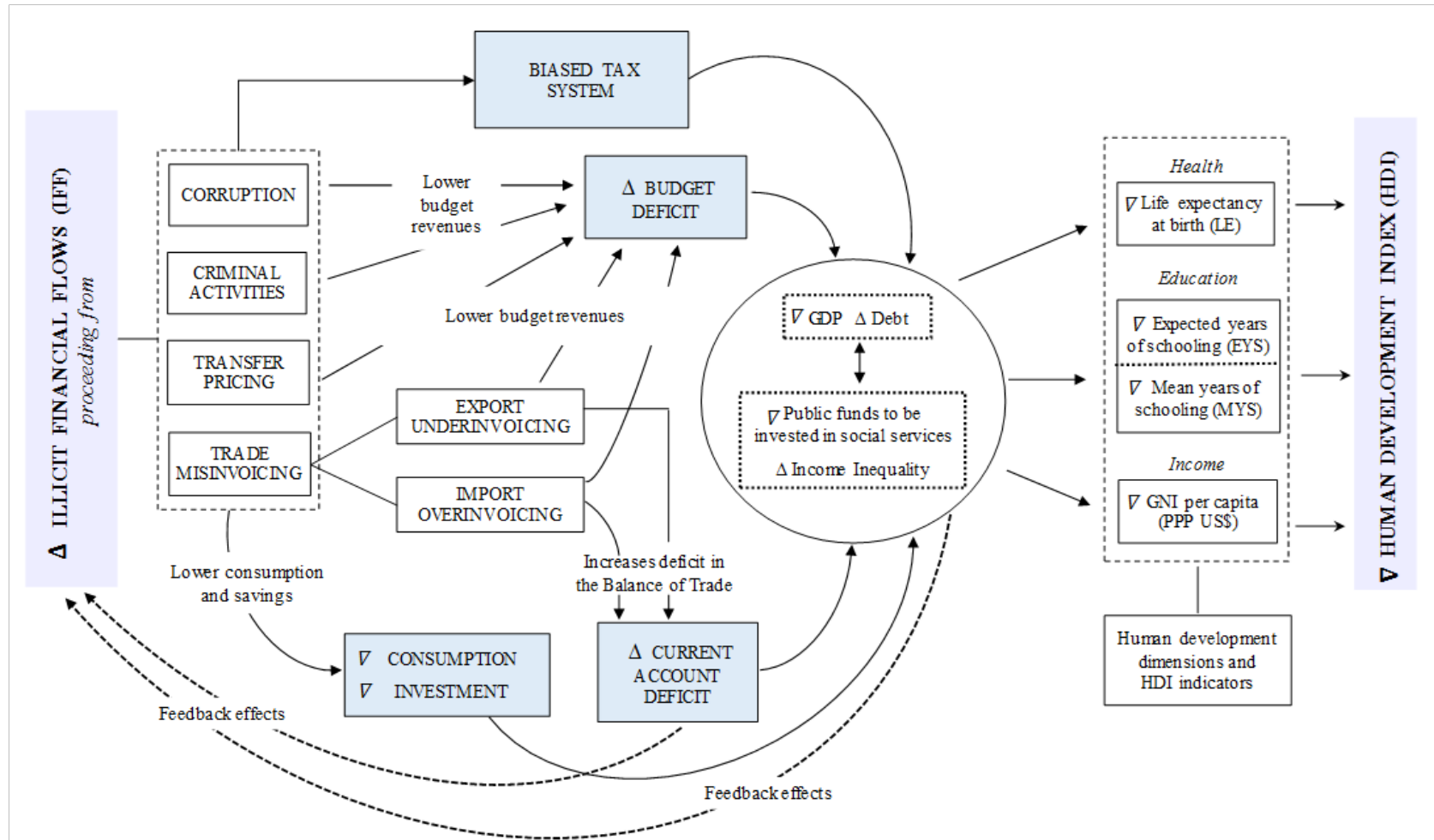
H1: there is a **negative** impact of the **relative level of IFF** on the **HDI** in low- and middle-income countries.

What are the IFFs?



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.

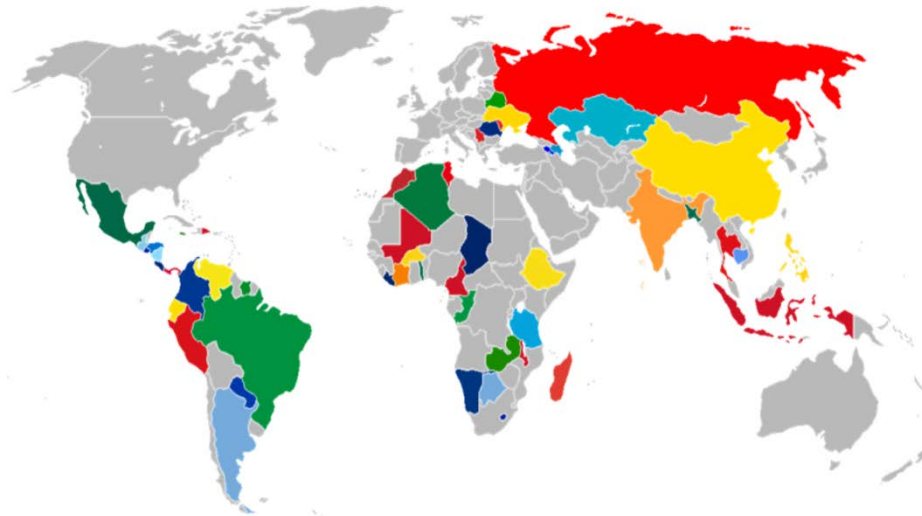
Theoretical framework: the IFFs and HDI nexus



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



Latin America and Caribbean (17)

Argentina
 Brazil
 Colombia
 Costa Rica
 Dominican, Rep.
 Ecuador
 El Salvador
 Guatemala
 Honduras
 Jamaica
 Mexico
 Nicaragua
 Panama
 Paraguay
 Peru
 Suriname
 Venezuela

Sub-Saharan Africa (17)

Botswana
 Burkina Faso
 Cameroon
 Chad
 Congo, Rep.
 Cote d'Ivoire
 Ethiopia
 Gambia
 Lesotho
 Liberia
 Madagascar
 Malawi
 Mali
 Namibia
 Tanzania
 Togo
 Zambia

MENA (3)

Algeria
 Morocco
 Tunisia
South Asia (3)
 Bangladesh
 India
 Maldives

East Asia and Pacific (5)

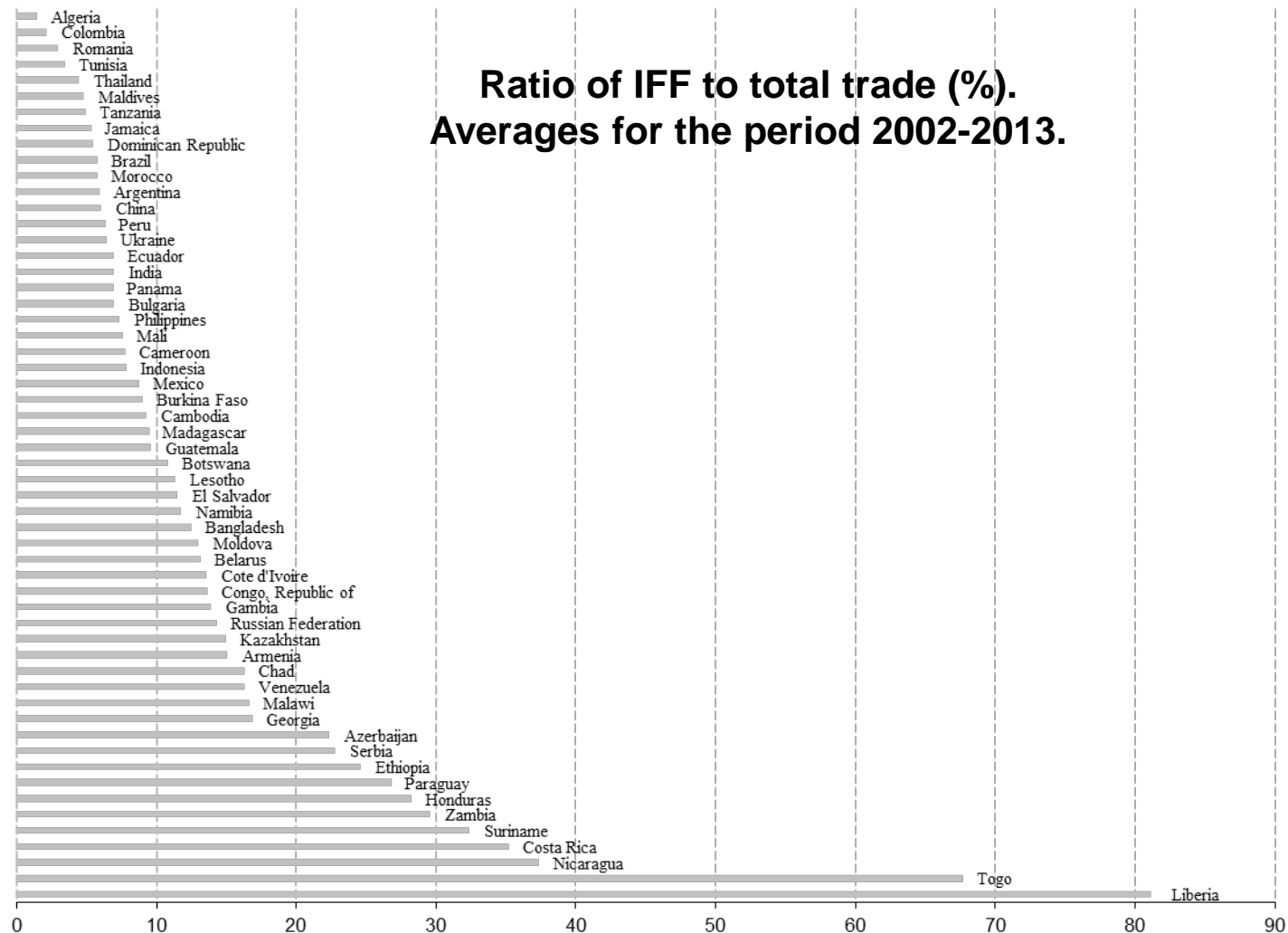
Cambodia
 China
 Indonesia
 Philippines
 Thailand

Europe and Central Asia (11)

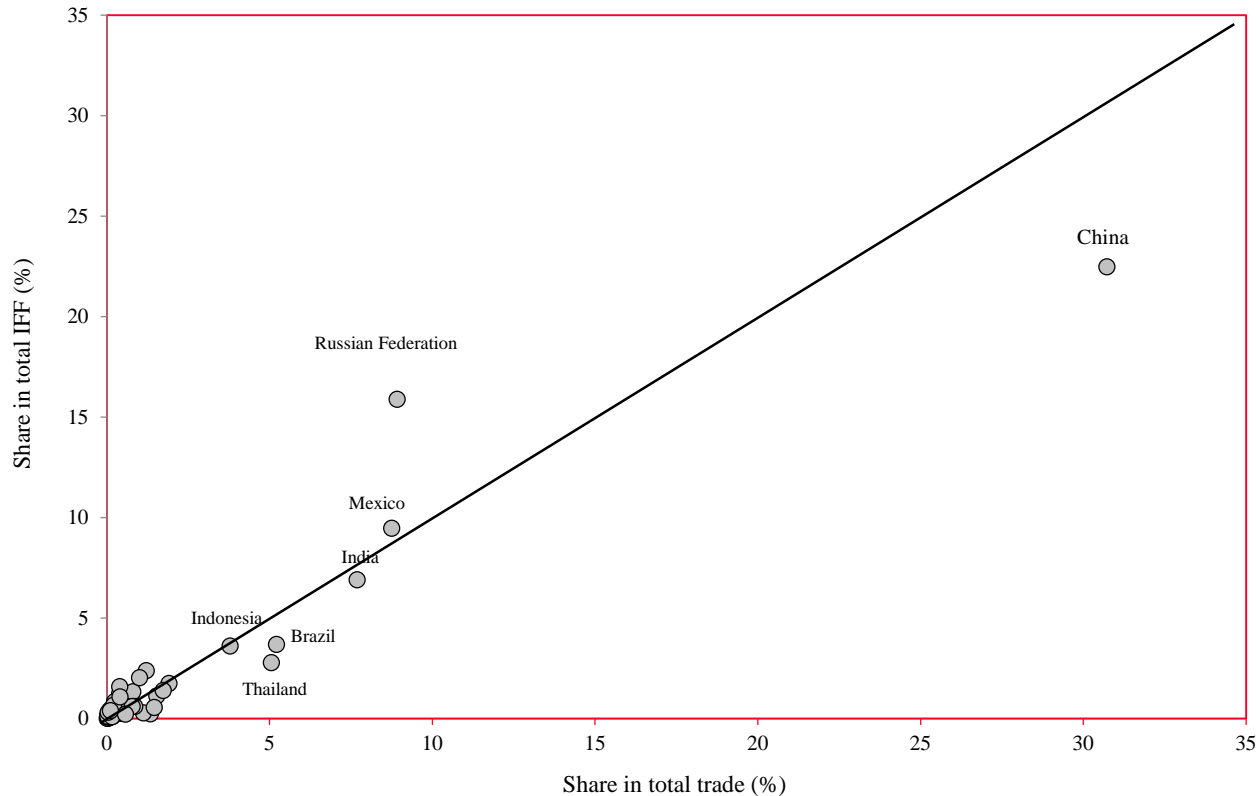
Armenia
 Azerbaijan
 Belarus
 Bulgaria
 Georgia
 Kazakhstan
 Moldova
 Romania
 Russian F.
 Serbia
 Ukraine

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

IFFs: Descriptive analysis

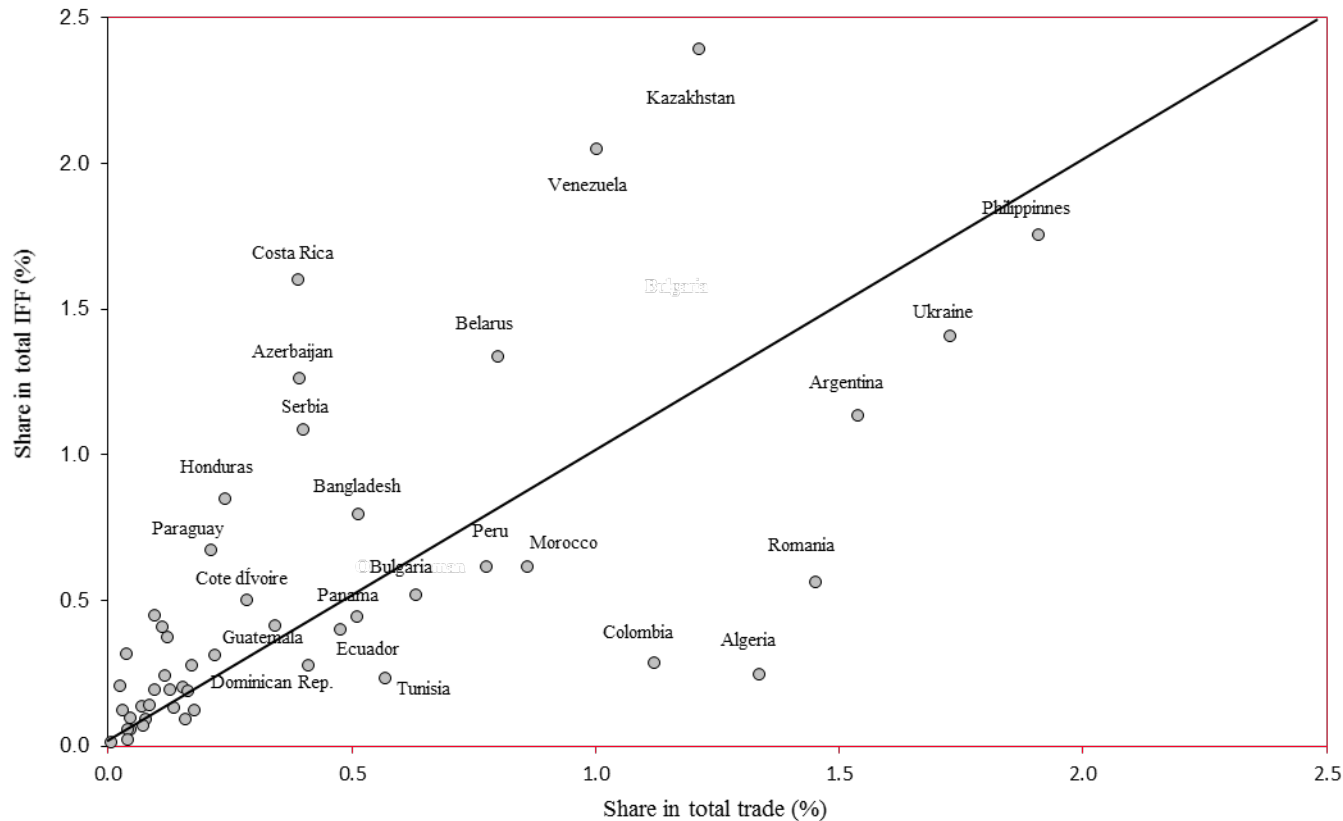


IFFs: Descriptive analysis



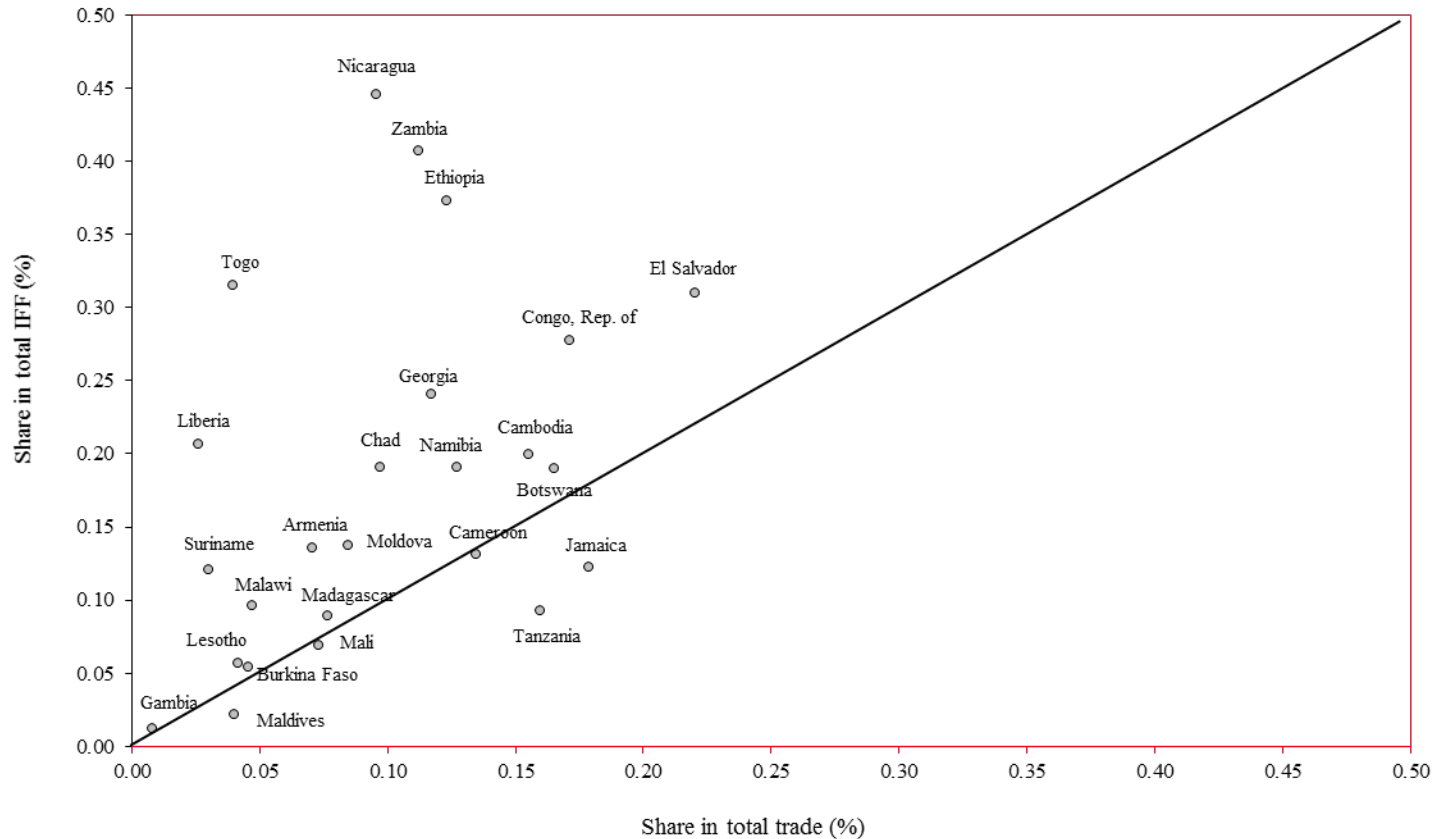
**Relationship between the share to total trade and the share to total IFFs.
All countries in the sample. Averages for the period 2002-2013.**

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.**

Empirical model

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**:

$$\mathbf{HDI}_{it} = \mu_i + \eta_t + \lambda \mathbf{HDI}_{it-1} + \alpha \mathbf{IFFT}_{it-1} + \beta \mathbf{X}_{it} + \varepsilon_{it} \quad (1)$$

where:

HDI = index level (with values from 0 to 1000);

IFFT = IFFs as a % of total trade;

X = control variables;

μ = unobserved country-specific (fixed) effects;

η = 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

<i>Independent variables</i>	<i>Coefficient</i>	<i>z-statistic</i>
HDI _{it-1}	0.914	23.34
IFFT _{it} (%)	- 0.174	-3.20
In GDPpc _{it} (constant US\$)	8.012	2.51
<i>IFFT long-run effect on HDI</i>	-2.023 = -0.174 / (1-0.914)	
m ₂	-0.28 (0.779)	
Hansen J test (50 instruments)	45.55 (0.408)	
Two-step system GMM estimates Dependent variable: HDI _{it} (56 countries, 11 years, 616 observations)		

Estimation results

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

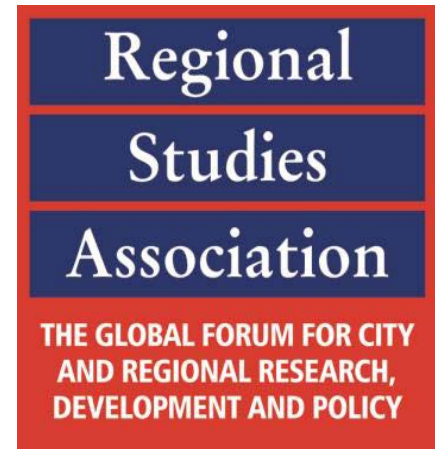
1. At first sight, this effect may appear to be small. However, this estimated long-run effect **is three times greater** than the cross-country **average annual increase** observed in the HDI over the period 2004-2013.
2. The research findings suggest that an increase in IFFs is insufficient to damage 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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