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## **REVISITING THE GRAVITY-BASED MODEL FOR ESTIMATING ILLICIT FINANCIAL FLOWS - A NEW APPROACH**

### **Abstract:**

**Objective:** The purpose of this article is to prepare a modification of Walker's gravity model to estimate illicit financial flows, as well as to identify the reasons for their occurrence.

**Design/methodology/approach:** This study uses a descriptive and quantitative approach, modifying an updated version of Walker's gravity model by Ferwerda et al. (2020) to measure global money laundering. The original Walker gravity model was initially developed by John Walker in 1994. We apply data for Suspicious Activity Reports and particular variables which effect on them.

**Findings:** The most significant impacts of illicit financial flows have variables regarding to distance and country size. We also tested a significance of additional variables which in our opinion have a crucial effect on illicit financial flows.

**Research limitations/ implications:** We based on Suspicious Activity Reports which were compared by subjects with above-threshold transactions (over 15.000 EUR) reported to General Inspector of Financial Information (GIFI).

**Originality/value:** We have confirmed that Suspicious Activity Reports can be used interchangeably with Suspicious Transaction Reports, however they should be attributed to individual transactions. Furthermore, we enriched the model with other relevant explanatory variables like social capital index, cyber security, financial freedom and financial secrecy.

### **Keywords:**

anti-money laundering, gravity-based model, illicit financial flows,

**JEL Classification:** F50, G28