Proposal 2: Illicit Financial Flows: Evidence from Country X

PRIMARY IGC THEME: STATE EFFECTIVENESS

GRANT TYPE: FULL RESEARCH GRANT

BUDGET: £29,950

PROJECT DURATION: 2 YEARS

SUMMARY

Illicit financial flows are a major drain on resources of developing countries. UNCTAD's recent Economic Development in Africa Report estimates that stopping illicit financial flows (IFFs) could cut in half the annual financing gap of $200 billion African countries face to achieve their Sustainable Development Goals. Thin capitalization, whereby MNCs use intra-firm debt to shift profits out of high-tax jurisdictions, is a major channel for IFFs. In this project, we have partnered with the local revenue authority to estimate the magnitude of IFFs from Country X through thin capitalization by MNCs.

The project would leverage a tax reform introduced in Country X in YYYY through which the country implemented OECD's Action 4, strengthening its enforcement regime against tax-motivated profit shifting. Using the universe of corporate tax returns provided by the local revenue authority, we will estimate how much revenue the country was losing annually at the baseline because of thin capitalization and if the new measures proposed by Action 4 provide effective protection against it.

One important but unintended consequence of stopping tax avoidance is reduced investment by MNCs. Lower profit shifting raises the effective tax rate and hence the user cost of capital faced by MNCs, which in turn may reduce investment by them. These real effects of limiting profit shifting have not been explored in a developing country setting so far where such investments are important for raising productivity and living standards. We will estimate these effects as well, which would allow us to do a comprehensive welfare analysis of measures introduced by Country X and many other countries to prevent tax avoidance by MNCs.

In terms of its tax structure and state capacity, Country X is comparable to other developing countries, specifically those in Sub-Saharan Africa. Our results would thus inform corporate tax policy in many developing countries inside and outside Africa.

RESEARCH DESIGN

In our empirical analysis, we will exploit a tax reform introduced in Country X in YYYY that implemented Action 4 of the OECD's Base Erosion and Profit Shifting (BEPS) framework. The reform targeted tax avoidance by multinational corporations (MNCs) that use intrafirm loans to shift profits out of Country X to low- or no-tax jurisdictions. Under the new rules, firms can no longer deduct interest expenses exceeding 30% of their earnings before interest, taxes, depreciation, and amortization (EBITDA). Previously, interest deduction was only disallowed when a firm's debt-to-equity ratio surpassed 1.5:1 — a measure that proved ineffective in curbing profit shifting (see for example OECD, 2015). The reform therefore should be seen as a strengthening of Country X's enforcement regime against profit shifting via thin capitalization.

For our empirical analysis, we will use a dataset of corporate income tax returns from the local revenue authority. This dataset encompasses a panel spanning eight fiscal years, from YYYY to YYYY. With the tax reform being introduced in YYYY, our dataset includes ample pre- and post-reform periods, enhancing the robustness of our analysis. The data from the years preceding the reform will allow us to perform validity tests for our research design, including checks to rule out any pre-existing differences between our treatment and control groups. Similarly, data from the subsequent years will enable us to investigate the medium-term dynamic effects of the policy. The dataset is comprehensive, containing over 300 variables detailing firm outcomes, such as sector and location. Importantly, it includes exhaustive information from their tax returns, encompassing balance sheet and profit-and-loss account details, along with all necessary variables required to compute the tax liability of a firm. The sample size varies annually, ranging from approximately 30,000 to 54,000 firms. We will merge this administrative data with Orbis data, which will allow us to link Country X firms with their parents and sister affiliates in other countries. The extended dataset would allow us seeing if the reform induces MNCs to shift debt out of their Country X affiliates to other affiliates in low- or no-tax jurisdictions.

Considering that the reform targets only those firms whose interest expenses exceed a specific threshold of their EBITDA, our empirical framework lends itself naturally to a difference-in-differences (DiD) approach. We will leverage the fact that firms with interest expenses below 30 percent of EBITDA at baseline—though similar to those above the threshold—are unaffected by the reform, providing a natural comparison group. The panel structure of our data enables us to incorporate a comprehensive set of firm and time fixed effects into our model. Since the treatment in our framework

does not change over time, we avoid the common issues associated with time-varying effects in two-way fixed effects (TWFE) models with staggered adoption.

Building on our basic DiD model, we plan to estimate two richer models as well. Initially, using baseline data, we will categorize firms into cells based on assets, industry, and geographical location, and introduce cell x year fixed effects into the model. This will help to ensure that any observed treatment effects are not conflated by varying trends related to firm size, industry, or location. Additionally, we will implement a matched DiD approach, pairing treated firms with similar but unaffected firms based on their assets, industry, and location. This method aims to refine our estimates of the treatment effect by controlling for macroeconomic shocks that could differentially impact firms based on their size, industry, or geographical location.

Our primary outcomes of interest include interest expenses, debt levels, EBITDA, and tax liability. Exploring these outcomes, we would be able to evaluate if the new enforcement regime caused a reduction in profit shifting out of Country X. These results will also enable us to provide a lower bound on how much profits were being shifted out of Country X using the thin capitalization channel and how much revenue Country X was losing because of it. Our results will have a lower bound interpretation as even the new supposedly stronger thin capitalization regime may not stop all income shifting or such adjustment may extend beyond the timeframe of our data.

Imposing higher taxes on a mobile factor such as capital can be counterproductive if it prompts the capital to move out of the country. With the enactment of new anti-avoidance measures that increase tax burdens on MNCs, there could be an uptick in the effective tax rate and hence the user cost of capital. This, in turn, may deter MNCs from investing in Country X. Moreover, a potential reduction in MNC activity could lead to diminished productivity spillovers, which are benefits typically associated with the presence of MNCs through technology diffusion and competition channels. Beyond revenue and the tax base implications, our research aims to examine these real economic impacts of stricter tax enforcement of MNCs. For this purpose, we will also evaluate outcomes capturing real activity by MNCs including investment, output, and capital. Additionally, to quantify the productivity spillovers attributable to MNCs, we will analyze the effects of entry of new MNCs on the revenue, profits, and other real outcomes of domestic firms in the same industry.

We aim to complement our analysis on administrative data by conducting a firm survey in Country X. This confidential survey will target affiliates of MNCs and prominent accounting firms to assess their responses to the tax changes. A critical question is whether these firms altered their investment strategies in Country X following the implementation of what are perceived to be more stringent measures against profit shifting. The survey process will involve our enumerators assisting firms in completing a questionnaire and conducting interviews with key personnel, such as managers, accountants, and lawyers affiliated with MNCs. Such qualitative analysis is increasingly becoming common in economic research—see, for example, Bustos, Pomeranz, Suarez-Serrato, Vila-Belda, and Zucman (2023)—and it is instrumental in uncovering aspects of behaviour that are not observable in the data.

We will put the empirical objects we estimate into a comprehensive welfare framework to evaluate the optimality of new anti-avoidance measures. Our welfare framework will build on Hines & Rice (1994), Mintz & Smart (2004), and Suárez Serrato (2018). The framework will model a social planner's decision to maximize welfare (the sum of profits and tax revenue) subject to an exogenous revenue requirement. The MNCs can avoid tax by reallocating profits to affiliates in low-tax or no-tax jurisdictions on paying a resource cost. Tightening enforcement on MNCs would reduce profit shifting but might reduce profits as an unintended consequence through the user cost of capital and productivity spillovers channels. The model will yield sufficient statistics that will help us evaluate the overall welfare consequences of the reform.

Many countries, especially those in sub-Saharan Africa, implemented the Action 4 of OECD's BEPS framework by reforming their thin capitalization regime. The results of the study will thus inform policy not only in Country X but in many other developing countries. Our results will also contribute to the broader discourse on the taxation of multinational corporations (MNCs). As the international community strives to reach a consensus on the Pillar 1 and Pillar 2 frameworks—designed to ensure that MNCs pay a fair share of taxes regardless of where they operate—this research could add to the empirical foundation needed to inform these critical negotiations, supporting the ongoing global efforts to forge a cohesive approach to taxing the earnings of MNCs, which is essential for building a more equitable and transparent international tax architecture.

IGC EVALUATION:

This proposal was ranked highly by the reviewers, especially because of its alignment with the IGC research strategy on tax, comprehensive research design, strong collaboration with the local revenue authority and good value for money. The research design of this proposal was strong, with a well-thought-out use of natural experiments, a comprehensive dataset, and robust empirical models.

PROPOSAL SUMMARY & RESEARCH QUESTION

The summary of this proposal provided a clear and comprehensive overview of the research's relevance, scope, and policy implications. Some of the strengths were as follows:

1. **Setting the context:** The proposal summary started strongly by setting the context and highlighting the importance of studying IFFs and what this project sought to achieve through a significant partnership with the local revenue authority.
2. **Clear research question:** The research question was very clear and directly addressed a significant issue of revenue loss due to thin capitalization and the effectiveness of Action 4 to protect against this loss. The summary also briefly mentioned the unintended consequences of Action 4 on investment and showed that the researchers would ensure a comprehensive analysis.
3. **Contribution to the existing literature:** The summary indicated that the research team had conducted a thorough literature review before writing this proposal. The existing literature would be advanced through this proposal as these real effects of limiting profit shifting for MNCs had not been explored in a developing country setting.
4. **Policy relevance:** The summary clearly outlined how the results of this study would inform corporate tax policy, not only in Country X but in many other developing countries.

RESEARCH DESIGN

The research design for this proposal was strong and detailed, with a well-thought-out use of a natural experiment, a comprehensive dataset, and a robust empirical model. Some of the strengths of the research design are outlined below:

5. **Comprehensive administrative dataset:** The researchers started by detailing one of the major strengths of the research design, a comprehensive corporate income tax returns dataset that spanned pre- and post-reform periods and incorporated over 300 detailed firm-level variables. The proposals also outlined key outcome variables such as interest expenses, debt levels, EBITDA, and tax liability to show how these metrics were directly relevant to understanding the impact of the tax reform on profit shifting and tax revenue.
6. **Clear identification strategy:** The proposal clearly identified the tax reform in Country X as a natural experiment providing a strong basis for causal inference. The research design employed a DiD approach comparing affected and unaffected firms, controlling for time-invariant unobserved heterogeneity to isolate the impact of the tax reform. The inclusion of firm and time fixed effects in the DiD model controlled for firm-specific and time-specific factors, ensuring that the estimated effects were attributable to the tax reform and not to other confounding variables. The proposal also planned to estimate two richer models beyond the basic DiD to first, ensure that observed treatment effects were not conflated by varying trends in firm size, industry, or location and secondly to control for macroeconomic shocks that could differentially impact firms.
7. **Relevance and application to other countries:** The setting in Country X, a developing country with tax structures like those in other low- and middle-income countries made the findings relevant and generalizable to other similar countries.

Overall, the research design of this proposal was strong, with a clear identification strategy, robust experimental design, and a well-defined hypothesis. The use of comprehensive data and a detailed discussion of mechanisms enhanced the credibility of this research proposal.