

Measuring the economic impact of beneficial ownership transparency: a landscape study

Full report



May 2022

Research conducted by **Oxford Insights** and **Lateral Economics** on behalf of **Open Ownership**, January-March 2022.

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We would like to thank all of the partners who supported this work by agreeing to be interviewed and/or answering queries on points of fact, including:

Michael Barron
Elspeth Berry
Sacha Caldera, Publish What You Pay Canada
Elina di Simone
Jackie Harvey
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Contents

Glossary	4
Executive summary	5
Introduction	7
Methodological note	9
Limitations, bias risks, and mitigation	10
Mapping the problem space	10
Defining beneficial ownership, beneficial ownership policy types, and effective implementation	10
Defining the expected benefits of a BOT intervention: a logic model approach	15
Defining the costs of beneficial ownership transparency: preparing for a cost-benefit analysis	16
Main report: measuring the economic impact of BOT	19
Summary of findings	19
1. Measuring impacts related to organised crime and national security	24
2. Measuring impacts related to financial markets and investment environments	34
3. Measuring impacts related to public procurement	42
4. Measuring impacts related to tax evasion	47
5. Measuring impacts related to trust and economic growth	51
Concluding recommendations	58
Annex I: Literature review	62
Measuring the tangible economic impact of beneficial ownership transparency: a nascent field	62
Existing work to track economic impact of beneficial ownership transparency	67
Looking to other policy areas for insight: measuring the economic impact of corruption, fiscal transparency and open contracting	74
Measuring the economic impact of corruption	74
Measuring the economic impact of fiscal transparency	76
Measuring the economic impact of open contracting	77
Annex II: Bibliography	79

Glossary

Term or acronym	Meaning
AML	Anti money laundering
BEIS	UK Government Department for Business Energy and Industrial Strategy
BOT	Beneficial ownership transparency
Cash releasing, or cashable benefit	A monetisable benefit which is 'cashable' for a particular stakeholder group, releasing additional funding for a government, business, or individual ¹
CFT	Countering the financing of terrorism
CPI	Transparency International's Corruption Perceptions Index
DFID	UK Government Department for International Development
EITI	Extractive Industries Transparency Initiative
FATF	Financial Action Task Force
KYC	Know your customer
Monetisable (non cash releasing) benefit	A benefit which can be quantified in monetary terms, but will not release cash into a budget if realised
PSC	Person of significant control
Qualifiable benefit	A benefit which can be qualitatively identified, but not readily quantified
Quantifiable benefit	A benefit which can be quantified, but not in monetary terms
RIA	Regulatory Impact Assessment
ROI	Return on investment
STR	Suspicious transaction report
Welfare loss	A measure of reduced economic efficiency resulting from an imbalance in supply and demand
WTP	Willingness to pay

¹ See HM Treasury's guidance on writing a business case for a useful summary of benefit types; HM Treasury. (2018). *Guide to Developing the Programme Business Case*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/749085/Programme_Business_Case_2018.pdf

Executive summary

Existing literature makes a strong case for beneficial ownership transparency (BOT), particularly when it comes to tackling issues such as money laundering and other illicit financial flows. To date, however, little research has sought to *quantify* the economic benefits of BOT reform. This is a potential obstacle for informed policy making.

Between January and March 2022, Oxford Insights and Lateral Economics conducted research for Open Ownership to help understand:

- What economic benefits can we expect from beneficial ownership transparency policies?
- How can we measure their extent?
- What has been done so far to measure the economic impact of BOT?
- How might quantitative evidence be used to advance BOT policymaking in the future?

The findings and recommendations in this report are not exhaustive. Instead, the report is an exploratory study which tackles some of the conceptual questions around measuring impact in this policy area. It also presents a landscape of potential options for quantifying impact in the future. We hope that this work will be a useful starting resource for governments, international organisations and civil society stakeholders with an interest in strengthening the economic case for BOT.

Key findings

- 1. Existing literature already builds a strong economic case for beneficial ownership transparency. There is a strong body of work which outlines the types of benefits we can expect from reform, which when combined with the economic evidence available, strongly implies that the economic benefits of BOT well outweigh its associated costs.**
- 2. Research to date, however, has largely refrained from attempting to isolate the specific impacts of BOT, partly due to a lack of data, but also because of challenges surrounding benefit attribution.**
- 3. In some jurisdictions, qualitatively identifying the benefits of BOT, combined with international pressure for reform, has successfully pushed forward policy change.**
- 4. Nonetheless, we did hear that quantitative impact measurement remains particularly important to certain interest groups, particularly government treasuries as well as private sector businesses.**
- 5. There are a number of survey-based, correlational and causal approaches that could be used to track the economic benefits of BOT reform. Approaches to measurement, however, always have trade-offs, often between how feasible**

it is to conduct an approach in the short-term, and its methodological robustness.

6. We found that estimations of particular benefit types are likely to be more robust and persuasive than large scale complex models. As such, this report is structured in terms of measuring specific benefits, and does not consider approaches for estimating the aggregate economic benefit of BOT, which are deemed unfeasible at present.
7. Currently, the most readily feasible approaches for measuring the value of beneficial ownership transparency interventions are survey-based. These methods could be employed both in jurisdictions where BOT has been implemented, and jurisdictions without a BOT regime in place.
8. Correlational and causal studies could also be possible in the longer term across countries with BOT regimes already in place. Findings generated by causal studies have the potential to be particularly robust, but these approaches would be both timely and costly to conduct.

Recommendations

In light of the research conducted in this report, we set forth the following key considerations for governments, international organisations and civil society stakeholders.

1. Whilst for many jurisdictions the available economic evidence already justifies the associated costs of beneficial ownership transparency, some of the methodologies outlined in this report would strengthen the understanding of the economic impacts of BOT in the short-term. Governments in particular should consider strategically employing the most cost-effective of these approaches to fill in the gaps in the existing evidence base.
2. Focusing on particular benefit types in relation to specific policy goals is likely to be the most practical approach to studying the economic benefits of BOT.
3. Governments conducting quantitative impact assessments in this space should publish their findings to help build the evidence base for the economic impact of BOT across jurisdictions.
4. In order to support more robust research to quantify the impacts of BOT in the future, and for their own monitoring and evaluation purposes, governments need to start tracking baseline data points now.
5. As the BOT policy area matures, further work should consider how specific design elements may lead to specific economic benefits. Future research is needed to understand the evidence not just for BOT in its broadest sense, but for the specific aspects of BOT implementation which amount to effective disclosure.

6. The Financial Action Task Force should play a role in supporting countries seeking to track the impact of BOT reform by publishing guidance around collecting and analysing statistical evidence for BOT.

Introduction

Beneficial ownership transparency (BOT) involves governments collecting beneficial ownership information² and making this information available to actors within and outside of government, such as law enforcement or the general public. Beneficial ownership data can then be used to tackle issues around corporate accountability and illicit financial flows, and to facilitate sanctions against corrupt officials, or actors accused of complicity in human rights abuses.³

The nature of BOT regimes varies significantly across jurisdictions. With effective implementation, however, BOT policies should align with Open Ownership's principles of effective disclosure.⁴ Broadly summarised, these principles state that data should be comprehensively collected and disclosed, freely available in a central register, and periodically verified, with sanctions enforced for non-compliance with disclosure obligations. Open and free-to-access BOT registries such as the UK's PSC (Person of Significant Control) register are examples of emerging best practice in this area, even though no registry to date fully meets all of the requirements set out in the Open Ownership Principles.

Since the introduction of the first standards on beneficial ownership transparency (BOT) published by the Financial Action Task Force (FATF) in 2003, more than 113 countries have made commitments to collect more information about the individuals who own or control registered legal entities.⁵ A few dozen have also created centralised beneficial ownership registers to house this information, particularly after the European Union's 5th Anti Money Laundering Directive mandated EU states to do so in 2015.^{6 7}

Despite this surge in measures intended to increase beneficial ownership transparency, there remains only a limited body of research which seeks to assess the impact of BOT interventions, and even less work that quantitatively measures the economic impacts of BOT. Instead, most material surrounding BOT focuses on its benefits to public integrity, positing BOT as an

² Open Ownership defines a beneficial owner as "a natural person who has the right to some share or enjoyment of a legal entity's income or assets (ownership) or the right to direct or influence the entity's activities (control)". See *Open Ownership*. (2020). Beneficial ownership in law: Definitions and thresholds. <https://www.openownership.org/uploads/oo-briefing-bo-in-law-definitions-and-thresholds-2020-10.pdf>

³ *Open Ownership*. What is beneficial ownership transparency? Accessed March 2022. <https://www.openownership.org/en/about/what-is-beneficial-ownership-transparency/#:~:text=A%20beneficial%20owner%20is%20a,controlled%20by%20their%20beneficial%20owners>.

⁴ *Open Ownership*. (2021). The Open Ownership Principles. <https://www.openownership.org/uploads/oo-guidance-open-ownership-principles-2021-07.pdf>

⁵ *Open Ownership*. Worldwide commitments and action map. Accessed January 2022. <https://www.openownership.org/map/#map>

⁶ Ibid.

⁷ *Official Journal of the European Union*. (2015). Directive (EU) 2015/849 of the European Parliament and of the Council. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015L0849&from=EN>

important tool designed to tackle money laundering and other criminal activity, as opposed to a driver of economic impacts. These ‘public good’ arguments have taken on particular significance prior to the publication of this report, with BOT being highlighted as a crucial reform when looking to enforce sanctions and prevent unwanted foreign influence in the context of Russia’s invasion of Ukraine.^{8 9}

Nonetheless, the perceived lack of quantitative economic evidence for BOT limits discussions about the broader impacts and benefits of reform. According to interviewees consulted during this research, this even has the potential to act as an obstacle to further implementation, particularly for budgetary officials or business leaders seeking proof that the economic benefits of BOT outweigh the costs of reform.¹⁰ As such, Open Ownership has identified a need to explore potential methods for measuring the economic impact of BOT, which forms the backdrop of this landscaping study.

At the outset of the project, we established a number of key research questions, including:

- What has been done so far to measure the benefits of BOT?
- What benefits can we expect from beneficial ownership transparency policies?
- How (and with what level of confidence) can we attribute a benefit to beneficial ownership transparency?
- How can we measure the scale of benefits?
- What are the limitations and advantages of different approaches to measuring the economic impact of BOT?
- To what extent is it possible to draw upon methodological approaches to measurement from other fields?
- How might quantitative evidence be used to advance BOT policymaking in the future?

Measuring the economic impact of BOT is not a straightforward task. Neighbouring research teaches us that quantifying the impact of anti-corruption initiatives more generally can present challenges given the clandestine nature of criminal financial activities and the difficulties of attributing benefits to specific interventions.¹¹ Similar obstacles arise when looking to measure the impact of BOT, alongside other challenges, such as concerns around data availability. This research looks to account for the ambitious nature of measuring the economic impacts of BOT by acknowledging the feasibility of potential approaches, as well as being candid about their trade offs.

⁸ Elgot, J. (2022). UK to expand Russia sanctions list as bill is fast-tracked. *The Guardian*.

<https://www.theguardian.com/world/2022/mar/14/uk-to-expand-russia-sanctions-list-fast-tracked-bill>

⁹ Open Ownership.(2021). Using beneficial ownership data for national security.

<https://www.openownership.org/uploads/oo-briefing-using-bo-data-for-national-security-2021-12.pdf>

¹⁰ Interview with subject matter experts, March 2022; Interview with advocacy organisation, January 2022.

¹¹ *Department for International Development*. (2015). Evidence Paper: Why Corruption Matters: understanding causes, effects and how to address them.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/406346/corruption-evidence-paper-why-corruption-matters.pdf

Methodological note

The methodological approach to this piece of work can be broadly divided into three phases:

1) Definitions and logic modelling

During the initial phase of the project, we worked to establish clear definitions of beneficial ownership, its specific policy objectives and implementation types, which could be used as a solid foundation for approaches to measurement.

We also conducted a logic modelling exercise to map out the kinds of benefits that one could logically expect to derive from BOT, which was supported by insights from desk research and expert interviews outlined below.

2) Literature review

To understand the landscape of work on BOT benefits, we conducted a review of work which has already sought to measure the economic impact of BOT (of which we found very limited examples) and material which is more sceptical about the potential for robust econometric analysis.

Given the limited amount of literature available which specifically focussed on the economic impact of BOT, we also looked to other policy areas including fiscal transparency and open contracting and sought out learnings from economic analyses in those fields which were relevant to this piece of work.

The literature review section of this paper, found in the annex, discusses our findings in more detail.

3) Scoping interviews with experts in the beneficial ownership field

We also conducted semi-structured interviews with experts from beneficial ownership advocacy organisations, academia, and government. Some interviews were specifically tailored to participants previous work, in order to deepen our understanding of the research landscape, but broadly we asked all interviewees:

- What benefits would they expect to arise from BOT?
- Did they have any experience of econometric analyses of BOT?
- What are the obstacles to measurement which might be expected?
- Whether they had any sense of the kinds of approaches that might be pursued in the future?
- Whether they thought measuring benefits was a priority (and if so, for whom)?

Following initial scoping interviews, we also returned to some of the experts engaged during phase 3 to discuss the approaches and recommendations identified and to solicit feedback, which has since been incorporated into this report.

Limitations, bias risks, and mitigation

Perhaps the most significant limitation of this study was the small sample size of experts consulted. Despite a short timeframe and limited expert availability, we were able to consult with 10 experts, some of whom were available for follow up interviews. Interviews provided valuable insights, which helped to shape the content of this report. However, we did have some difficulty getting access to government stakeholders. Therefore the report can offer only limited insights into particular government department approaches to impact measurement of BOT.

A further limitation is that much of the evidence included in the report is UK-centric. This is largely because the UK government has periodically published its impact assessments, post implementation reviews and service evaluations, which have been fundamental resources that have informed the discussions in the report. During the scope of this project, we were unable to find similar assessments from other jurisdictions, which could be due to a lack of public availability or that they have not yet been conducted. In order to mitigate somewhat against this bias, we reviewed literature which discusses BOT interventions in a number of countries and spoke to interviewees with expertise in a range of country contexts.

A final factor, which is perhaps not a limitation but rather indicative of the nature of this report as an explorative landscaping study, concerns the lack of literature which explicitly discusses the economic impacts of BOT. Interviews with subject matter experts helped to supplement our understanding of the benefit space of BOT where literature was not available. Broadening the literature review to include research on other forms of financial transparency, such as fiscal transparency, where a number of quantitative impact studies have already been conducted, also helped to strengthen the report's evidence base.

Mapping the problem space

Defining beneficial ownership, beneficial ownership policy types, and effective implementation

All econometric research requires a strong definition of the object of analysis – in this case, beneficial ownership transparency reforms. The need for strong definitions is particularly salient in the beneficial ownership policy sphere, given that in a number of countries, there is no strong definition (legal or otherwise) of beneficial ownership information at all.¹²

As argued by Open Ownership, having a clear definition of beneficial ownership is crucial for governments looking to minimise loopholes and make beneficial ownership data as useful as

¹² *Open Ownership, Open Contracting Partnership and Oxford Insights*. (2021). Integrity in IMF COVID-19 financing: Did countries deliver on their procurement & beneficial ownership transparency commitments? <https://www.openownership.org/uploads/oo-report-integrity-in-imf-covid-19-financing-2021-04.pdf>

possible.¹³ For the purposes of this project, we take the definition of beneficial ownership used by Open Ownership. This broadly posits a beneficial owner as:

“a natural person who has the right to some share or enjoyment of a legal entity’s income or assets (ownership) or the right to direct or influence the entity’s activities (control). Ownership and control can be exerted either directly or indirectly.”¹⁴

The means by which beneficial owners can achieve this ownership or control can be complex, ranging from shareholder agreements to more informal arrangements and ties of kinship. Specific legal contexts also play a role in how ownership structures function across countries.¹⁵ However, given that this is an exploratory piece which seeks to identify how multiple methodological approaches might quantify the impact of BOT across a range of country contexts, the project takes a broad view of beneficial ownership. More specific questions around definition, such as establishing thresholds for disclosure, are crucial for governments to establish, but will not be a primary focus of this work.

Whereas this piece is broad in its definition of beneficial ownership data, more detail is required when looking to define how beneficial ownership transparency can be implemented, which can vary greatly across jurisdictions. How a government chooses to implement these reforms will determine how effective a BOT regime is, and consequently will have an effect on the types of benefits which can be measured and their scale.

Literature in the beneficial ownership space points to a double movement in the political economy of BOT, between what can be characterised as formal and effective beneficial ownership transparency, which we define below. On the one hand, there is a large amount of formal international momentum in the policy area, captured in statements of aspiration and international prohibitions on anonymous firms, such as FATF recommendations, OECD principles on corporate governance, or the UN Convention Against Corruption.^{16 17 18}

Research suggests, however, that these more formal declarations do not always translate into the kind of effective implementation which can be classed as effective reform. For instance, Sharman (2011) and Allred et al. (2017) present interesting and rare examples of ‘participation’

¹³ *Open Ownership*. (2020). Beneficial ownership in law: Definitions and thresholds.

<https://www.openownership.org/uploads/oo-briefing-bo-in-law-definitions-and-thresholds-2020-10.pdf>

¹⁴ *Ibid.*

¹⁵ *Open Ownership*. (2020). Beneficial ownership in law: Definitions and thresholds.

<https://www.openownership.org/uploads/oo-briefing-bo-in-law-definitions-and-thresholds-2020-10.pdf>

¹⁶ *Financial Action Task Force (FATF)*. (2021). Recommendation 24: Transparency and beneficial ownership of legal persons.

<https://cfatf-gafic.org/index.php/documents/fatf-40r/390-fatf-recommendation-24-transparency-and-beneficial-ownership-of-legal-persons>

¹⁷ *Organisation for Economic Co-operation and Development (OECD)*. (2015). G20/OECD Principles of Corporate Governance.

<https://www.oecd-ilibrary.org/docserver/9789264236882-en.pdf?expires=1647457640&id=id&accname=guest&checksum=E49ECF052BFC43B51451670E2068CB3C>

¹⁸ *United Nations Office on Drugs and Crime (UNODC)*. (2004). United Nations Convention Against Corruption.

https://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf

studies, where the authors attempt to themselves create shell companies, finding that firms in OECD countries were *less* compliant with international norms and laws relating to firm anonymity than firms in developing countries and tax havens, despite their official commitments to BOT.^{19 20}

In order for a BOT reform to be truly effective, it needs to meet a number of criteria based on data availability and usability, which can be broadly categorised under three headings, in line with Open Ownership's principles for effective disclosure:²¹

Ensuring the disclosure and collection of data

- Policy which establishes robust definitions for beneficial ownership with sufficiently low thresholds to account for an effective level of transparency
- Policy which mandates the comprehensive disclosure of beneficial ownership data for all companies (with limited exceptions which are frequently reassessed)
- Policy which mandates the disclosure of key data fields (potentially conforming with an established data standard or template) which allow data to be easily interpreted

Ensuring data availability and accessibility

- The creation of a centralised beneficial ownership register
- Policy which ensures that the information available on this register is available to all for free under an open access licence
- Policy which ensures that data is available in a structured, machine-readable and bulk-downloadable format
- Policy which allows other government authorities to access data (including data which is not available publicly due to an exemption) facilitating cross-country anti-corruption activities.^{22 23}

Ensuring data quality and verifiability

- Policy which mandates that beneficial ownership data should be frequently updated, with an auditable record of all changes made publicly available

¹⁹ Sharman, J.C. (2011). Testing the Global Financial Transparency Regime, *International Studies Quarterly*. Volume 55, no. 4.

<https://doi.org/10.1111/j.1468-2478.2011.00693.x>

²⁰ Allred, B.B., *et al.* (2017). Anonymous shell companies: A global audit study and field experiment in 176 countries. *Journal of International Business Studies*. Volume 48.

<https://doi.org/10.1057/s41267-016-0047-7>

²¹ *Open Ownership*. (2021). The Open Ownership Principles.

<https://www.openownership.org/uploads/oo-guidance-open-ownership-principles-2021-07.pdf>

²² For instance, in the UK, companies which trade on regulated markets in the European Economic Area, or on other regulated exchanges internationally are exempt from listing their information on the PSC register. Exemptions can also be made in situations where publishing BO information might represent a demonstrable security threat to an individual.

²³ *Financial Action Task Force (FATF)*. (2021). Recommendation 24: Transparency and beneficial ownership of legal persons.

<https://cfatf-gafic.org/index.php/documents/fatf-40r/390-fatf-recommendation-24-transparency-and-beneficial-ownership-of-legal-persons>

- Policy which ensures that data is periodically cross checked and verified to ensure that any discrepancies can be detected and reported
- Setting out sanctions (both monetary and non-monetary) for companies or individuals who do not comply with any of the policies above
- Making data on sanction enforcement publicly available.

These policies can then be further distilled into a range of implementation design choices, which will determine to what extent a BOT regime can be classed as effective. The table below sets forth a non-exhaustive list of different examples of design choices which could lead to effective implementation.

Effective BOT design choice	Implementation examples
Centralised beneficial ownership register (vs. non-centralised register.)	A number of countries, including the whole of the European Union, have committed to creating a centralised beneficial ownership register that covers the whole economy. ²⁴ In other contexts, however, registers can be sector specific. For instance, in Myanmar the government has implemented a registry specifically for companies and owners linked to the extractives industry. ²⁵
Publicly available data set (vs. restricted access 'closed' dataset.)	Beneficial ownership information databases can have varying levels of open or restricted access. For example, the UK's PSC register is publicly available (although some limited data is only available to the government, such as beneficial ownership data of companies with voting shares admitted to trading in UK or EU markets). In contrast, the USA made a commitment to implementing a beneficial ownership register in 2021, but one without publicly available data. ²⁶ In other scenarios, a register might operate on a 'legitimate interest' basis, providing information to certain user groups, such as NGOs or journalists, but not to the wider public.
Free access for all (vs. paid access model)	Certain registries, such as the UK's PSC Register, mandate the disclosure of all beneficial ownership information (with limited exceptions) under an open access licence. Other countries have opted for paid models, such as the Netherlands, where users need to register and pay a fee of €2.55 per data extract. ²⁷
API publicly available (vs. no API)	An Application Programming Interface (API) enables interactive access to a database, making it possible to automatically query fields and reducing the need for manual analysis. For example, the

²⁴ *Open Ownership*. Worldwide commitments and action map. Accessed January 2022.

<https://www.openownership.org/map/#map>

²⁵ *The Extractive Industries Transparency Initiative (EITI)*. (2020). Myanmar takes steps to reveal the owners of extractive companies.

<https://eiti.org/news/myanmar-takes-steps-to-reveal-owners-of-extractive-companies>.

²⁶ *Open Ownership*. (2021). USA adopts a central beneficial ownership register.

<https://www.openownership.org/news/usa-adopts-a-central-beneficial-ownership-register/>

²⁷ *Netherlands Chamber of Commerce*. KVK uittreksel UBO-register. Accessed January 2022.

<https://www.kvk.nl/producten-bestellen/bedrijfsproducten-bestellen/uittreksel-ubo-register/>

Companies House API allows developers to retrieve real time information on company information in the UK.²⁸

Machine readable data (vs. non machine readable or unstructured data)

When data is available in a structured format in bulk, then multiple records can be analysed together, allowing for improved detection of irregularities. Bulk downloadable data which is available in a structured format, such as JSON, can help drive the development of new products aimed at identifying corruption cases and carrying out due diligence.²⁹

As these examples illustrate, BOT regimes are not homogeneous and can be implemented with varying levels of commitment to the principles of coverage, openness, accuracy and verifiability which make beneficial ownership data a useful and reliable resource.

For econometric analyses of BOT, this represents a challenge. First, the varying levels of implementation mean that measuring the impact of BOT across countries is likely to be very difficult at present, given how BOT regimes – and importantly, their benefits – vary in different contexts. A potential strategy for addressing this complexity could be to classify BOT regimes into intervention ‘typologies’ ranging from countries which have no BOT regime in place, through to regimes with partial coverage, paid access models with full coverage, and finally countries with centralised, free-to-access BOT registers.

However, even if implementations are simplified into typologies, there are multiple benefit variables of BOT. Measuring all these benefits at an aggregate level within a single model is likely to be incredibly complex and result in estimations with high margins for error. Therefore, following the advice of economic experts consulted, the report takes a simpler view of measurement, considering how approaches could measure impact according to the classes of benefit that can be expected to derive from a BOT intervention.

Crucially, however, measuring according to benefit type does not involve completely discarding the nature of implementation as an important factor. A number of approaches discussed in this report employ “difference-in-differences” methodologies, which require comparing the average change of a variable across jurisdictions which either have or have not implemented a BOT regime over time. Using implementation typologies to define what can and cannot class as an effective BOT regime will be crucial to conducting these approaches in a way that is sensitive to the fact that not all BOT regimes are equally effective.

Moreover, certain benefits can only be achieved if governments commit to the policies which constitute effective BOT. Logic modelling exercises, as discussed in the following section, can help to demonstrate how these particular design choices feed into the different classes of benefits discussed in the report.

²⁸ *Companies House*. Companies House API Overview. Accessed January 2022.

<https://developer.company-information.service.gov.uk/>

²⁹ *Open Ownership*. (2021). The Open Ownership Principles.

<https://www.openownership.org/uploads/oo-guidance-open-ownership-principles-2021-07.pdf>

Defining the expected benefits of a BOT intervention: a logic model approach

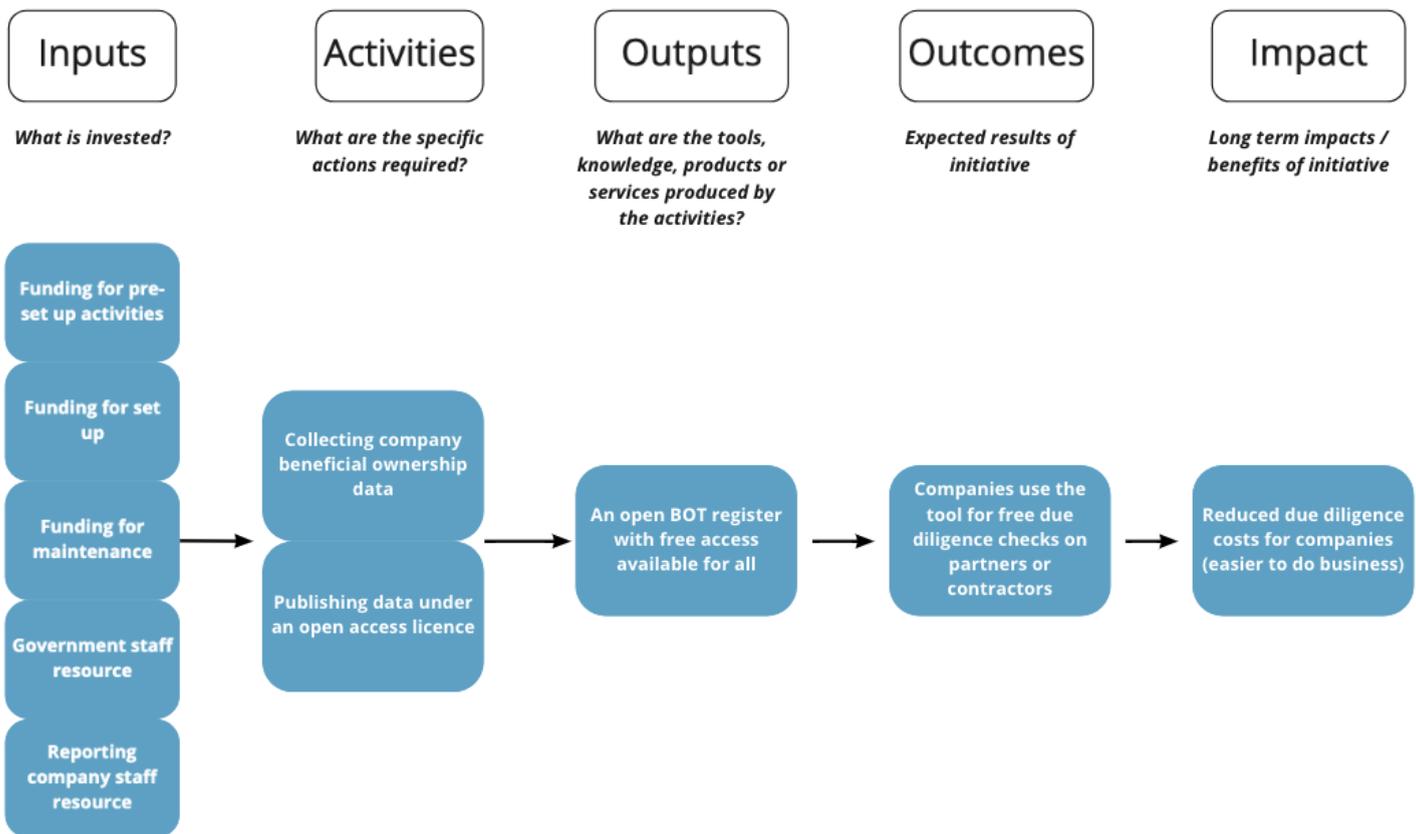
To anticipate the kinds of benefits which would logically arise from different BOT reforms, we used logic models. Logic models are graphic representations of the ways an intervention creates impact through causal chains of inputs, activities, outputs and outcomes.³⁰

Logic models have already been used in the UK government's discussions of BOT benefits. A BEIS Post-implementation review of the UK PSC register from 2019 uses a basic descriptive logic model to highlight the relationship between context, inputs, outputs, outcomes and impacts associated with the implemented regulations.³¹ We chose to build upon this framework by expanding the model into a larger logic map which helped us identify the specific mechanisms by which various types of BOT interventions lead to economic benefits. The model was then updated iteratively over the course of research, with new benefits, or causal mechanisms identified in interviews with experts and desk research.

A further function of logic modelling was to demonstrate how particular implementation design choices, such as the decision to make a register free, or provide an API, can lead to specific benefits, which are excluded or weakened in the case of less effective implementation types. Below we have included an exemplary chain from the logic model which represents how a specific design choice, in this case making a register freely accessible, can lead to reduced due diligence costs for companies.

³⁰ For a discussion of logic modelling and definitions of each stage in the process, see this [logic model template](#) published by the Open Data Institute.

³¹ *Department for Business, Energy and Industrial Strategy (BEIS)*. (2019). Post-Implementation Review of the People with Significant Control Register. https://www.legislation.gov.uk/ukxi/2017/694/pdfs/ukxi0d_20170694_en.pdf



In this example, “inputs” or resources invested, enable “activities” – collecting company and publishing data under an open access licence. This in turn creates an “output”, a BOT register with free access for all, which leads to the outcome of companies being able to use the registry to perform elements of due diligence for free. Finally, the financial impact or benefit is that due diligence costs will be reduced for companies, who in this scenario, can turn to a BOT register as a free-to-access resource for helping research the financial backgrounds of prospective partners and contractors.

Defining the costs of beneficial ownership transparency: preparing for a cost-benefit analysis

One advantage of a logic modelling approach is that in determining the benefits that can be logically expected to arise from a BOT intervention, it also allows for indicators to be established, which need to be benchmarked and evaluated over time to demonstrate progress in a particular benefit area.

At the other end of the scale, these models also help to outline the kind of costs that will be associated with the ‘inputs’ needed to generate a reform. Costs of reform are not the primary focus of this report, which focuses instead on how to measure impact. Costs, however, still need to be acknowledged as a fundamental element of a cost benefit analysis; the systematic process by which governments and businesses weigh up the benefits of an intervention minus its costs to determine whether it is economically viable and worthwhile.

The set up and maintenance costs of a BOT registry are the primary costs for governments looking to implement a BOT regime. According to estimates from one early implementer from the UK, the total cost of setting up a registry is estimated to be at least £770,000, with annual operating costs of at least £150,000.³² 40% of this budget is estimated to be made up of legal fees spent on drafting and reviewing legislation.³³ Elsewhere, the UK government has also estimated their initial set-up costs to be £72,000 to £112,000 for the IT development of the registry and communication to industry, and £225,000 of on-going annual investment for maintenance.³⁴ How much a register will cost to implement can vary significantly across jurisdictions, and will depend on factors such as whether a BOT register is being built from scratch or as an addition to an existing company information register.³⁵

Aside from costs to government, most of the regulatory burden of BOT registers falls on the private sector. Businesses need to commit time and resources to familiarising themselves with regulation, and to reporting their information to a register. In the UK context, a Post Implementation Review of the UK's PSC register estimates these costs at £649m of one-off costs for UK businesses to familiarise themselves with regulation, collect and submit ownership information, and £87.2 million in annual costs for companies to maintain records and report updates to Companies House.³⁶

Other costs are much more indirect, and concern the wider economic effects of introducing regulation. Critical anti-money laundering theory posits substantive compliance costs which distort markets, whilst leading to minimal results in terms of disrupting illicit financial flows.³⁷ Similar arguments have been applied to BOT; in a response to a public consultation on the UK beneficial ownership register in 2017, one respondent referred to a “chilling effect” on foreign direct investment (FDI) as a potential cost of reform linked to increased regulation for businesses.³⁸ We found no quantified evidence to support this specific claim, although some studies have discussed losses from regulatory arbitrage – companies circumventing regulation

³² Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International*.
<https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf>

³³ Ibid.

³⁴ Department for Business, Innovation and Skills (BIS). (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf

³⁵ Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International*.
<https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf>

³⁶ BEIS. (2019). Post-Implementation Review of the People with Significant Control Register.
https://www.legislation.gov.uk/ukxi/2017/694/pdfs/ukxi0d_20170694_en.pdf

³⁷ Pol, R. Anti-money laundering: The world's least effective policy experiment? Together, we can fix it. *Policy Design and Practice*. Vol. 3, No. 1, <https://doi.org/10.1080/25741292.2020.1725366>. pp. 73-94.

³⁸ BEIS. (2017). Beneficial ownership register: Summary of responses.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/606411/beneficial-ownership-transparency-summary-responses.pdf

by investing elsewhere – related to the OECD’s Anti Bribery Convention.^{39 40 41} However, the findings of these studies are ambiguous, and do not point to losses for OECD signatory countries, but for recipient countries with higher rates of corruption, which are likely to receive less and lower quality FDI following the Convention.

Working on the assumption that BOT is an effective policy, a more radical argument around costs could be that the proceeds of criminal financing are so high in certain jurisdictions that impeding them through Anti-Money Laundering (AML) interventions such as a BOT register would have a net negative economic impact. This is perhaps likely to be the case in jurisdictions which have developed niche statuses as money laundering centres.⁴² However, as outlined in the main report below, corruption and money laundering, whilst rich in proceeds, have a number of widely acknowledged social and economic harms. Given that it is in the public interest to impede these activities, any initial costs incurred from a reduction in criminal financing are unlikely to be considered in a cost benefit analysis.

A final risk associated with BOT which could be considered a cost concerns the privacy rights of beneficial owners. In some cases ownership transparency may expose individuals as wealthy, or link them to particular business practices, and so make them targets of criminal activity. Public identification of company owners and directors can be a risk, as evidenced in the UK in the 2000s, when the Stop Huntingdon Animal Cruelty group attacked the homes of directors of Huntingdon Life Sciences, an animal testing laboratory.⁴³ Whilst an important concern for the security of beneficial owners, particularly in jurisdictions with weaker law enforcement, this risk is unlikely to have significant economic implications, and are usually mitigated by using protected information statuses, which allow vulnerable individuals exemptions from appearing on a public register.

Although the costs outlined above do need to be acknowledged, and could reasonably be fed into a cost benefit analysis of BOT, it is likely that they are small, relative to benefits of effectively implemented BOT and the costs of not implementing reforms. Even without being able to precisely quantify benefits, the literature reviewed strongly suggests that the benefits of effectively implemented BOT would outweigh its costs for both government and businesses. For instance, whilst the costs to business might seem burdensome, we expect they pale in

³⁹ Brazys, S. and Kotsadam, A. (2020). Sunshine or Curse? Foreign Direct Investment, the OECD Anti-Bribery Convention, and Individual Corruption Experiences in Africa. *International Studies Quarterly*. Volume 64, no. 4.

<https://academic.oup.com/isq/article-abstract/64/4/956/5919191?login=false>

⁴⁰Cueva-Cazurra, A. (2008). The effectiveness of laws against bribery abroad. *Journal of International Business Studies*. Volume 39.

<https://doi.org/10.1057/palgrave.jibs.8400372>

⁴¹D’Souza, A. (2010). The OECD Anti-Bribery Convention: Changing the currents of trade. *Journal of Development Economics*. Volume 97. no. 1.

<https://doi.org/10.1016/j.jdeveco.2011.01.002>

⁴²Unger, B. and Rawlings, G. (2018). Competing for criminal money. *Global Business and Economics Review*. Volume 20, no. 3. <https://www.inderscienceonline.com/doi/pdf/10.1504/GBER.2008.019987>

⁴³ *BBC News*. (2018). Huntingdon Life Sciences terror plot couple sentenced.

<https://www.bbc.co.uk/news/uk-england-42811033>

comparison to the reputational cost, reduction in share price, and fines that a business could incur from becoming involved in a corruption or tax related scandal.⁴⁴

In the main section of the report which follows, we focus on how governments or advocacy organisations might look to size these benefits.

Main report: measuring the economic impact of BOT

Summary of findings

Existing literature already builds a strong economic case for beneficial ownership transparency. There is strong institutional logic surrounding the types of benefits we can expect from BOT reform, which when combined with the quantitative evidence available, builds a robust argument around the economic benefits of BOT.

There is a sizable body of work which points to the benefits which governments, business and civil society can expect to see from BOT reform.⁴⁵ Throughout this research, we found limited scepticism in the literature or from expert interviews around the economic and social benefits of BOT. The mechanisms by which BOT should lead to benefits are largely clear, as evidenced by the logic models underpinning this report.

We also found that there is strong evidence pointing to the size of the benefit areas identified through desk research and interviews. Combined with institutional logic, this research allows for a number of stories to be told about many of the economic impacts of reform, even without the direct quantification of benefits. Case studies also serve to bolster the existing economic case for BOT.

Research to date, however, has largely refrained from attempting to isolate the specific impacts of BOT, partly due to a lack of data, but also because of challenges surrounding benefit attribution.

Research which looks to directly quantify the impacts of BOT is scarce. Over the course of this project we only came across a limited number of papers which attempt to put a monetary value on beneficial ownership reform, one report commissioned by the European Commission, and

⁴⁴ Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International*.

<https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf>

⁴⁵ See literature review for an overview of work which alludes to (but rarely measures) the economic benefits of BOT.

the rest carried out by the UK government.^{46 47 48} One interviewee mentioned that robust quantitative research can be costly and is not guaranteed to yield persuasive results, and therefore was not a focus of attention for some advocacy organisations.⁴⁹ A number of papers explicitly refrain from quantifying the impacts of BOT for two main reasons: a lack of data availability, and challenges surrounding benefit attribution.⁵⁰

Multiple experts we spoke to cited data availability as a challenge when looking to measure the economic impact of BOT. Measuring impact often requires baseline figures off which to track change, the lack of which is a commonly cited obstacle in impact evaluations of other policy areas.⁵¹ Baseline data for BOT benefit areas such as reducing corruption or financial crime are particularly hard to establish given the difficulties associated with measuring activities which are clandestine by design.

Attributing impact to BOT reform is another difficulty because, as two interviewees expressed, BOT is never a standalone policy, and is usually implemented in the context of wider reforms in order to have impact.⁵² As such, isolating the impact of BOT can be challenging. Similarly, a number of the broader indicators which could be used to measure the benefits of an intervention such as a reduced perception of corruption or increased GDP, are affected by a wide range of factors extraneous to BOT. As such, causal models which can measure benefits in these areas are very unlikely to be feasibly conducted in the short term in a way that results in robust quantifications.

Despite these challenges, in some jurisdictions, qualitatively identifying the benefits of BOT, combined with international pressure for reform, has pushed forward policy change.

The challenges surrounding measuring the impact of BOT should not be understated. However, for the purposes of making the economic case for a policy change, what is already possible –

⁴⁶ *European Commission*. (2014). Report from the commission to the council and the European Parliament: EU anti-corruption report.

https://eur-lex.europa.eu/resource.html?uri=cellar:058aef0-d9b7-11e3-8cd4-01aa75ed71a1.0012.01/DOC_1&format=PDF

⁴⁷ *Department for Business, Energy and Industrial Strategy (BEIS), Companies House*. (2019). Valuing the User Benefits of Companies House Data, Policy Summary.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

⁴⁸ See literature review for a more in depth discussion of existing work which quantifies the value of BOT.

⁴⁹ Interview with BOT advocacy organisation, February 2022.

⁵⁰ See for example: *Department for Business, Energy and Industrial Strategy (BEIS)*. (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf

⁵¹ See, for example, this paper which looks to measure the impact of an open contracting intervention, and cites a lack of pre-intervention data as a key obstacle: Kovalchuk, A., Kenny, C. and Snyder, M. (2019). Examining the Impact of E-Procurement in Ukraine. *Center for Global Development*.

<https://www.cgdev.org/publication/examining-impact-e-procurement-ukraine>

⁵² Interview with academic subject matter expert, January 2022; Interview with subject matter expert, March 2022.

building the economic case about the size of the target problem, pointing to the logical mechanisms by which BOT impacts the problem, and providing case studies which demonstrate impact in action – can be sufficient to push forward a BOT reform.

Indeed, according to Open Ownership’s worldwide commitments and action mapping, a few dozen have already implemented online BOT registries, despite a lack of evidence quantifying benefits.⁵³ In the UK, the 2014 Impact Assessment that preceded the creation of a BOT register in 2016 simply listed the kinds of economic benefits associated with the register, claiming that quantification was impossible.⁵⁴

As such, a lack of evidence quantifying the impacts of BOT has not been a barrier to reform in some contexts. Governments have been able to push through reforms without conducting the kind of detailed cost benefit analyses which would require benefits to be monetised. Whilst this could suggest that some treasuries are convinced enough by the institutional logic behind benefits, it also raises questions about whether economic gain is really a major driver of BOT reform.

We heard from one interviewee that countries were much more likely to implement a regime under international pressure and mandates – such as the EU’s 5th Anti Money Laundering Directive, or fear of FATF greylisting – than due to an economic imperative.⁵⁵ Other interviewees, however, highlighted that compliance with international pressure in itself equates to economic benefits, given the economic harms associated with FATF blacklisting and greylisting.⁵⁶

We did hear, however, that quantitative impact measurement is particularly important for certain stakeholders, especially in the private sector, or for governments in developing countries.

Whilst some interviewees were more sceptical about the need for hard numbers to support BOT reform, others pointed to specific stakeholder groups who are unlikely to support policies in this area unless cashable or monetised benefits can be outlined. For instance, one expert we interviewed alluded to difficulties advocating for BOT amongst industry specialists without being able to offer quantified evidence around economic gains.⁵⁷ They claimed that the broader social value arguments, which posit that BOT is crucial to public integrity, preventing corruption and reducing financial crime, were readily dismissed by stakeholders in this context.

The UK government’s first valuation of Companies House data, which includes beneficial ownership information, appears to have been driven by similar apprehensions. The valuation

⁵³ *Open Ownership*. Worldwide commitments and action map. Accessed January 2022.

<https://www.openownership.org/map/#map>

⁵⁴ *Department for Business, Innovation and Skills (BIS)*. (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf

⁵⁵ Interview with academic subject matter expert, January 2022.

⁵⁶ Interview with subject matter experts, March 2022.

⁵⁷ Interview with BOT advocacy organisation, January 2022.

sits under the government's former Industrial Strategy programme and focuses primarily on benefits to the private sector (although benefits to 'public good' providers such as police are also evaluated qualitatively).⁵⁸ It is perhaps unsurprising that business communities in particular have called for more economic evidence in favour of BOT, given that businesses bear a large portion of the costs of BOT through compliance and legislative familiarisation activities.

We also heard multiple suggestions in interviews that quantifying benefits might make BOT a more attractive policy for lower-income countries with scarce public resources, for whom implementation costs need more financial justification.⁵⁹ One interview in particular highlighted the need for quantification amongst governments looking to finance BOT reforms through loans from international development banks.⁶⁰ They suggested that impact quantification would support ministries of finance, as it would demonstrate that an investment in BOT will not just have positive social impacts but also bring about economic benefits that facilitate the repayment of the loan.

In the same interview, we also heard that better means of measuring the impacts of BOT could help treasuries to justify pursuing BOT over other reforms in the wider financial transparency or anti corruption toolkit, where benefits are easier to quantify. For instance, at present, it might be easier to justify using budget to increase the capacity of an anti-corruption unit (where calculating benefits could be as simple as multiplying existing detection rates by an increase in capacity), as opposed to a BOT reform. In this sense, the interviewee suggested BOT was 'fighting an uphill battle' in terms of the challenges associated with assessing impact in this area compared with other reforms.⁶¹

There are a number of survey-based, correlational and causal approaches that could be used to track the economic benefits of BOT reform. Approaches to measurement, however, always have trade-offs, often between how feasible it is to conduct an approach in the short-term, and its methodological robustness.

As outlined in the UK government's advice on writing a policy business case, estimating the benefits of a policy is always possible *in principle*.⁶² Indeed, there are a number of methods set forth in this report which would allow governments or advocacy organisations to measure impacts in a number of areas. However, all approaches to measurement incur trade offs, often between how readily an approach could be conducted in the short term, and the robustness of the estimates generated.

⁵⁸ Department for Business, Energy and Industrial Strategy (BEIS), Companies House. (2019). Valuing the User Benefits of Companies House Data, Policy Summary. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

⁵⁹ Interview with academic subject matter expert, January 2022; Interview with BOT advocacy organisation, January 2022.

⁶⁰ Interview with subject matter experts, March 2022.

⁶¹ *Ibid.*

⁶² HM Treasury. (2018). Guide to Developing the Programme Business Case. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/749085/Programme_Business_Case_2018.pdf

To illustrate, a number of future approaches to measurement set forth in this report are survey based, measuring value according to expert estimates, or willingness-to-pay questionnaires. Whilst these methods still require careful design, they are generally feasible in the sense that they could be conducted at present, without the need to collect a range of data points that are not readily available. However, they also generate subjective value estimations, and cannot generate cash releasing values.⁶³

At the other end of the spectrum, causal studies represent an academic ‘gold standard’ which would establish a clear link between BOT and a benefit variable, addressing problems regarding attribution. Yet these approaches would require multiple data points across jurisdictions to be fed into complex regressions. As such, they would likely take years to develop, raising the important question of whether it is always proportional to commit to complex econometric approaches, especially where existing evidence is strong and the costs of measurement are high.⁶⁴

Finally, we found that estimations of particular benefit types are likely to be more robust and persuasive than large scale complex models at this stage. As such, this report is structured in terms of measuring specific benefits, as opposed to the aggregate impact of BOT.

A number of experts we spoke to over the course of this project were sceptical about the potential for robust macroeconomic approaches which seek to measure the aggregate impact of BOT in a jurisdiction, or the global value of BOT data. In the words of one interviewee, “the inclination is to want to come up with a nice econometric model with lots of variables. I would argue for simplicity.”⁶⁵ We heard that challenges surrounding data availability and attribution were likely to be easier to control for in simpler models, which look to measure one benefit area.

Furthermore, there is an argument to be made that measuring specific benefit areas has the potential to be a more useful approach, partly because the margins for error with macroeconomic estimations are especially large, but also because measuring in terms of benefit areas will appeal to specific user groups. For instance, measuring the impact of BOT upon businesses due diligence costs is likely to be persuasive to private sector stakeholders, whilst measuring BOT’s impact upon law enforcement investigation times might appeal more to certain types of government ministers.

Experts consulted during this research consistently emphasised that approaches to measurement need to be responsive to user needs. When asked about the kinds of benefits

⁶³ For instance, the UK Government’s 2019 Valuation of Companies House data uses a willingness to pay method, given a lack of data availability, but concedes that this would not be a first choice approach from a methodological perspective, given that Companies House data is provided without a cost.

⁶⁴ HM Treasury business case guidance raises the question of whether it is always “practical and proportionate” to pursue an impact measurement approach for these same reasons; *HM Treasury*. (2018). Guide to Developing the Programme Business Case. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/749085/Programme_Business_Case_2018.pdf

⁶⁵ Interview with academic subject matter expert, February 2022.

which econometric analyses of BOT should consider, a common response was that it depends on what measurement is aiming to achieve, or more specifically, who it is aiming to persuade. As such this report is structured according to the following benefit types:

- **impacts relating to crime and national security;**
- **impacts relating to financial markets and investment environments;**
- **impacts related to public procurement and corruption;**
- **impacts related to tax evasion; and**
- **impacts related to democracy and trust.**

We acknowledge that these benefit categories are unlikely to cover all of the economic benefits of BOT conceivable, which are broad and multiple in nature. Given that BOT is still a relatively nascent policy area, there may even be unexpected economic benefits of reform which are yet to be felt or documented. However, these benefit categories were most commonly identified in literature and interviews, and function as a good starting point for a discussion of potential approaches to impact quantification.

Each section includes a discussion of the existing evidence to support an economic case for BOT in the benefit area, before outlining potential future approaches to measurement. For every approach identified, an outline of advantages and drawbacks is provided, as well as an illustrative feasibility score, ranked from running from 1 (impossible to conduct in the short term given data availability and resource intensity) to 3 (could be conducted in the short term). In light of the importance of measuring with purpose and user groups in mind, each benefit area section is also accompanied by a brief discussion of potential audiences for measurement.

1. Measuring impacts related to organised crime and national security

1.1 Benefits identified in logic model

Facilitating the role of law enforcement authorities

- BOT should lead to a reduction in resource time spent on investigations by providing an accessible tool by which beneficial ownership and connections between companies can be discerned by law enforcement.
- In line with this increase in law enforcement efficiency, BOT could lead to an increase in prosecutions or convictions in cases related to corruption and financial crime.

Reducing the incidence of illicit financial flows (deterrent effect)

- BOT should increase the difficulty and risk of money laundering by forcing companies and individuals to report on ownership structures.

- With more efficient law enforcement investigations and the increased difficulty of concealing illegal movement of money, BOT should have a deterrent effect on financial crime.

Increased asset seizures

- Alongside an increase in law enforcement efficiency should come an increase in government asset seizures.⁶⁶

Strengthened national security

- BOT is a necessary precondition for enforcing sanctions on individuals with ties to hostile states, a sanction which is particularly high on the agenda at the time of writing, given the international community's response to Russia's invasion of Ukraine.
- BOT should also lead to a reduction, or at least the better identification of terrorist financing, since terrorist organisations are likely to use shell companies to hide ownership of assets.

1.2 Existing evidence regarding BOT as a tool for reducing organised crime, reducing the cost of investigations, and increasing national security

Strong institutional logic and preliminary studies already indicate that effective BOT reforms should reduce the time and resources taken to investigate money laundering and other illicit financial activities, and even the incidence of these crimes.

Historically, there is a strong institutional logic behind BOT as a policy reform to pursue in order to reduce financial crime. In 2003, the Financial Action Task Force (FATF) became the first body to set forth global standards on BOT, in order to “get rid of the cloak of secrecy concerning the ultimate owner of a company, foundation, association or any other legal person, and prevent their misuse for crime and terrorism.”⁶⁷ Since FATF's original standards were published, a number of organisations have continued to make the case for beneficial ownership transparency as a powerful tool in the anti-corruption arsenal, as outlined in this report's literature review. However, as a rule, most advocates of BOT have not attempted to quantify the impacts of BOT relating to organised crime and national security, instead framing the case for transparency as a question of broader ‘public good’.

Whilst the quantitative evidence base for BOT as a driver of anti-corruption is admittedly small, research which has attempted to monetise the value of beneficial ownership data supports the proposition that BOT is a valuable tool when fighting financial crime. For example, in 2002, a UK government Regulatory Impact Assessment (RIA) looked to assess the value of BOT

⁶⁶ Nonetheless, in a discussion with BOT subject matter experts and economists in January 2022 we heard that any revenue generated here is likely to be minimal in comparison to other benefits.

⁶⁷ *Financial Action Task Force (FATF)*. (2019). *Best Practices on Beneficial Ownership for Legal Persons*. <https://www.fatf-gafi.org/publications/methodsandtrends/documents/best-practices-beneficial-ownership-legal-persons.html>

information for law enforcement.⁶⁸ Through a methodological approach which relied upon estimates from financial investigators, the report concluded that an open BOT register could lead to cost savings of £30 million annually in terms of improved police efficiency and recovery revenues – eclipsing the costs to government associated with reform.⁶⁹

More recently, the UK government's 2019 valuation of Companies House data used qualitative interviews to identify the value of beneficial ownership data as a tool which improves the quality and depth of investigations and can act as evidence in court.⁷⁰ However, the 2019 paper was unable to quantify this value specifically, citing the number of public sector participants as insufficient in order to run a survey-based willingness to pay (WTP) study.⁷¹

Whilst the benefits of BOT to law enforcement have been broadly accepted, we found no evidence of research which looks to quantify how BOT might look to actually reduce the incidence of organised crime. However the scale of the problems BOT targets in this area represents a powerful upper boundary for estimates of economic benefits.

There are obvious difficulties associated with sizing the presence and scale of money laundering and other criminal activities – which are clandestine by design. Nonetheless, a limited number of methods have been proposed as means of estimating the size of money laundering flows globally, dating back to the Walker gravity model, which first estimated the worldwide allocation of money to be laundered at 2.8 trillion USD annually in 1999.⁷²

Since the publication of the Walker model, other studies have also used econometric gravity model estimations to attempt to size the amount of money laundered annually. For example, in 2020, Ferwerda et al. used suspicious transaction report (STR) data from the Netherlands to empirically test some of the Walker model's assumptions, concluding that money laundering is

⁶⁸ *HM Treasury / Department of Trade and Industry (DTI)*. (2002). Regulatory Impact Analysis: Disclosure of Beneficial Ownership of Unlisted Companies.
https://webarchive.nationalarchives.gov.uk/ukgwa/+/http://www.hm-treasury.gov.uk/media/9/9/ownership_long.pdf

⁶⁹ Ibid.

⁷⁰ *Department for Business, Energy and Industrial Strategy (BEIS), Companies House*. (2019). Valuing the User Benefits of Companies House Data: Policy Summary.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

⁷¹ Ibid.

⁷² Walker, J. (1999). How big is global money laundering? *Journal of Money Laundering Control*. Volume 3, no.1.
<https://ag-pssg-sharedservices-ex.objectstore.gov.bc.ca/ag-pssg-cc-exh-prod-bkt-ex/327%20-%20How%20Big%20is%20Global%20Money%20Laundering%20-%20Journal%20of%20Money%20Laundering%20Control-Walker-1999.pdf>

likely to account for 3% of global GDP – more than 2.5 trillion USD according to 2020 World Bank estimates of global GDP.^{73 74}

Whilst significant, these kinds of macroeconomic estimates are often recycled across literature with no methodological reasoning, and start to lose persuasive power as they become what the academic Michael Levi characterises as “facts by repetition”.⁷⁵ Crucially, they also shed no light on a) the *actual* harms associated with money laundering and illicit financial flows and whether these outweigh the cost of AML compliance, or b) the extent to which BOT reforms can influence these harms. Fully quantifying the former may be conceptually difficult to do in any meaningful way; in their 2013 work on harms, Greenfield and Paoli suggest that measuring the harmful impact of financial crime is impossible due to moral uncertainties surrounding what can be classed as harm, and the “infinite” of potential harms that could be considered for measurement.⁷⁶ Others have provided rough estimates of harms as a percentage of overall revenue from financial crime, such as Unger and Walker, who in 2009 referred to the harms of financial crime, including tax evasion, fraud, drug crime and theft amongst many others, at one third of the proceeds in the Australian context.⁷⁷

Meanwhile obstacles regarding causation and data accuracy render any causal analysis of how BOT impacts global flows of organised crime unfeasible at present. Causality is difficult to obtain due to the complex nature of money laundering and other financial crimes, which are influenced by a wide range of factors beyond BOT, whilst the broad margins for error associated with current macroeconomic estimates of the size of money laundering at present do not provide a solid basis for measurement. Nonetheless, estimates here represent a significant upper boundary for the quantity of assets that in principle *could* be seized, or prevented through deterrence. Based on these figures, even a small impact upon the incidence of financial crime would constitute a benefit which well outweighs the costs of BOT reform.

There is also a strong argument for BOT as a driver of national security, yet quantifying the monetary benefits of BOT in this regard is largely unfeasible. Again, even sizing the general costs of the benefit area, in comparison to the costs of BOT reform, begins to make a compelling economic case for reform here.

⁷³ Ferwerda, J., et. al. (2020). Estimating money laundering flows with a gravity model-based simulation. *Scientific reports*. Volume 10, no. 18552.

<https://www.nature.com/articles/s41598-020-75653-x>

⁷⁴ World Bank. GDP (current US \$). Accessed March 2022.

https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2020&name_desc=false&start=1960&view=chart

⁷⁵ Levi, M. (2020). Evaluating the Control of Money Laundering and Its Underlying Offences: the Search for Meaningful Data. *Asian Journal of Criminology*. Volume 15.

<https://doi.org/10.1007/s11417-020-09319-y>

⁷⁶ Greenfield, V. and Paoli, L. (2013). A framework to assess the harms of crimes. *The British Journal of Criminology*. Volume 53, Issue 5.

<https://academic.oup.com/bjc/article-abstract/53/5/864/336249?login=false>

⁷⁷ Unger, B. and Walker, J. (2009). Measuring Global Money Laundering: "The Walker Gravity Model". *Review of Law and Economics*. Volume 5, no. 2.

<https://www.degruyter.com/document/doi/10.2202/1555-5879.1418/html>

BOT has long been set forth as an anti-terrorism reform, as well as an AML policy. The initial 2003 FATF standards on BOT referred to preventing “crime and terrorism”, whilst the EU’s 4th AML directive bears the headline “preventing abuse of the financial system for money laundering and terrorism purposes”.^{78 79} Whilst there is little documented evidence of this occurring, terrorist organisations could use shell companies to hide beneficial ownership and launder the money used to finance their operations, and substantive BOT has the potential to help investigators uncover these connections, or reduce the risk of an organisation laundering money in a jurisdiction.⁸⁰

At the time of writing, during the 2022 Russian invasion of Ukraine, BOT as a driver for increased national security has also risen up political agendas as a necessary precondition for sanctions on hostile states. In February 2022, the UK government released its Economic Crime Bill⁸¹, which calls for further transparency in terms of the beneficial ownership of property, in the context of the estimated £1.2 million with links to the Kremlin held in UK property, via shell companies.⁸²

Quantifying the benefits of national security and anti-terrorism programmes is unfeasible, but also likely to be limited in terms of persuasive power, given how arguments in the national security space are rarely focussed on monetary benefit, rather geopolitical priorities and risk prevention. To make the economic case for BOT in this area using existing data, a better angle would be to examine the size of expenditures on antiterrorism specifically and national defence generally. If an intervention such as BOT can reduce funds accruing to terrorist cells, or provide a strong disincentive for states to engage in warfare, then the benefits are potentially enormous. To illustrate this, the UK government spends at least £2 billion annually on the implementation of its antiterrorism strategy, compared to the estimated set up costs of £72-£112k for the IT development of the PSC register, and £225k of annual maintenance costs.^{83 84}

1.3 Future approaches to measurement

⁷⁸ *Financial Action Task Force (FATF)*. (2019). Best Practices on Beneficial Ownership for Legal Persons. <https://www.fatf-gafi.org/publications/methodsandtrends/documents/best-practices-beneficial-ownership-legal-persons.html>

⁷⁹ *Official Journal of the European Union*. (2015). Directive (EU) 2015/849 of the European Parliament and of the Council. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015L0849&from=EN>

⁸⁰ Interview with subject matter expert, March 2022.

⁸¹ *Home Office, BEIS and HM Treasury*. (2022). Draft Economic Crime Bill. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1057822/DRAFT_Economic_Crime_Transparency_and_Enforcement_Bill.pdf

⁸² *Transparency International*. (2022). Press release: Transparency measures must be fast-tracked to kick-start dirty money crackdown.

<https://www.transparency.org.uk/russia-sanctions-UK-latest-news-property-dirty-money-suspect-wealth>

⁸³ *HM Government*. (2018). CONTEST: The United Kingdom’s Strategy for Countering Terrorism. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716907/140618_CCS207_CCS0218929798-1_CONTEST_3.0_WEB.pdf

⁸⁴ *BEIS*. (2014). Transparency & Trust – Enhanced Transparency of Company Beneficial Ownership. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/434546/bis-15-320-enhanced-transparency-of-company-beneficial-ownership-enactment-impact-assessment.pdf

1.3.1 Approaches to measuring potential reductions in law enforcement resource / time dedicated to investigations

<p>Potential approach</p>	<p>A survey-based approach, asking law enforcement officials to estimate the impact that a BOT intervention would have on investigation resource time</p> <p>Similar to the Regulatory Impact Assessment (RIA) carried out by the UK government in 2002 to estimate the potential time savings of a hypothetical BOT register, this approach would involve working with government officials to estimate how much time a BOT intervention – such as a centralised BOT registry – would save them in terms of resource.⁸⁵</p> <p>The survey would need to determine how and when officials were using (or would use) BOT data in their investigations, and collect estimations of time taken to conduct activities with and without this data available.</p> <p>Based on additional data such as the number of investigators, and average salary, monetary estimates of savings could then also be calculated.</p>
<p>Advantages</p>	<ul style="list-style-type: none"> • This approach would not require an existing BOT regime to be implemented before it can be carried out. • The approach could therefore be carried out in any jurisdiction. • The method tackles the data availability problem often associated with BOT, since it requires only a limited number of data points in addition to survey estimations, such as number of investigators and average investigator salary.
<p>Drawbacks</p>	<ul style="list-style-type: none"> • Results would be dependent on subjective estimations from law enforcement. • Survey would require a significant sample (and therefore buy-in from officials) in order to produce robust estimations. • In cases where the BOT regime has not yet been implemented, there will be a need to make assumptions about data quality of a future regime.
<p>Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)</p>	<p>3 – A feasible approach which could be carried out in any jurisdiction, does not require large datasets, and has been successfully employed in the past in a hypothetical setting (when a register had not yet been implemented).</p>

<p>Potential approach</p>	<p>A correlational study, comparing the time taken to conduct investigations before a BOT reform was implemented, with time taken <i>after</i> implementation.</p>
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⁸⁵ See literature review for a more detailed discussion of the RIA's methodological approach.

	<p>Simple to carry out with the right data, this correlational approach has the potential to be used to imply that BOT can have an impact upon investigation times.</p> <p>Data required would broadly include:</p> <ul style="list-style-type: none"> • Specific uses of BOT data within an investigation context • Investigation times for these activities before implementation • Investigation times for these activities after implementation <p>However, unlike a causal study, which would require much more data and effort to conduct, a correlational approach would not interrogate the reasons behind any potential change (which could be influenced by a number of factors, including BOT).</p>
Advantages	<ul style="list-style-type: none"> • This approach would produce a more direct estimate of a cash releasing benefit in contrast to a survey based approach. • The approach would not require a large body of officials to be recruited as participants.
Drawbacks	<ul style="list-style-type: none"> • This approach would require at least one and possibly several BOT regimes to be implemented before a correlational study could be conducted. • It would also require data on pre-intervention investigation times, which may not be available in all jurisdictions. • Correlational studies help to illuminate a connection between an intervention and potential effects, but do not interrogate the <i>causes</i> of the changes observed, and therefore have a poor methodological reputation within academic communities.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	2 – This approach is not methodologically complex but completely dependent on the availability of internal data.

1.3.2 Approaches to measuring potential reduction in criminal activity (illicit financial flows)

Potential approach	<p>Expert survey to estimate the % of criminal activity reliant on money laundering in a jurisdiction, and share of that money laundering activity which is affected by BOT.</p> <p>This approach would use law enforcement figures on incidence of illicit financial flows as a baseline dataset. Expert estimates would then be used to size any change in criminal activity from this baseline.</p> <p>Given the difficulty of quantifying the harms of financial crime, fully monetising this benefit is likely to be impossible. If available, data on the costs of investigating or policing money laundering could be used to provide some partial monetised estimates</p>
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	of benefit here. However, as outlined below, collecting comparable data across jurisdictions here would be challenging.
Advantages	<ul style="list-style-type: none"> • The approach does not require an existing BOT regime to be implemented. • The method would be relatively simple to execute. • With the right experts, the approach is likely to be persuasive.
Drawbacks	<ul style="list-style-type: none"> • The approach rests on subjective expert assessments. • Comparability of data between countries is likely difficult due to money laundering being defined using predicate crimes, which differ across countries. • Estimates could be difficult to make, given that money laundering is closely linked to other crimes. It may be hard to say where police work on money laundering specifically stops, and other investigation work begins. • Linked to the above, there is some risk that experts will be unwilling to estimate, or may challenge assumptions. • Benefits would be quantifiable, but potentially difficult to monetise, and not cash releasing.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	3 – Quantification through expert surveys is definitely feasible, but risks surrounding the subjective nature of difficult estimations would mean that pre-survey exploration should be carried out before investing into this approach.

Potential approach	<p>‘Difference-in differences’ study to track the impact of BOT reform on the prevention of financial crime</p> <p>This approach would use law enforcement agency figures on illicit financial flows intercepted (which might need to be ascertained through expert consultation if not readily available) to conduct a ‘difference-in differences’ study.</p> <p>This would involve comparing the average change in interception figures occurring over time in jurisdictions which implemented BOT reforms with the average change in jurisdictions which have not yet implemented BOT reforms.</p> <p>Data required would be average investigation times for investigations linked to BOT before and after an intervention. Multiple datasets would need to be gathered across jurisdictions.</p>
Advantages	<ul style="list-style-type: none"> • This approach would provide compelling evidence if a ‘difference-in-differences’ approach (a technique regarded as methodologically very sound) could demonstrate that BOT resulted in the improved interception of illicit financial flows

	<ul style="list-style-type: none"> Findings would be persuasive across jurisdictions, due to the cross country approach.
Drawbacks	<ul style="list-style-type: none"> This approach would require at least one and possibly several BOT regimes to be implemented to a similar degree. It would be likely very challenging to assemble comparable data across jurisdictions (collected in the same way, at similar intervals).
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term))	1 – Requires comparable data from across jurisdictions which is likely to be difficult to ascertain at present (although this could improve in the future).

1.3.3 Approaches to measuring impact on asset seizures

Potential approach	<p>Correlational or causal study to estimate the impact of BOT on asset seizures</p> <p>A correlational approach would compare data on asset seizures before and after a BOT intervention, either in a single jurisdiction, or across countries. The latter would produce more robust findings, but neither approach would interrogate the reasoning behind any potential change.</p> <p>A causative, difference-in-differences, methodology could be used here to compare impacts across jurisdictions with and without BOT reform in place. This would involve collecting asset seizure data from a range of jurisdictions (both with and without BOT interventions) and comparing changes over time.</p>
Advantages	<ul style="list-style-type: none"> Asset seizure data should be available in most jurisdictions, for example, this report provides data on asset seizures in the UK.
Drawbacks	<ul style="list-style-type: none"> A causal requires at least one or potentially multiple BOT interventions to be implemented in different jurisdictions before it can be carried out. Assembling comparable data across jurisdictions would be challenging (requires jurisdictions to collect and publish data comparably). From consulting with experts, we heard that revenues here were likely to be insignificant, and therefore not particularly persuasive.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>2 for correlational studies – This method should be largely feasible to implement at present, with caveats around data availability and quality.</p> <p>1 for causal studies – This would require a number of comparable BOT regimes to be implemented, and comparable data on asset seizures before the method could be carried out robustly.</p>

Potential approach	<p>Survey-based approach to estimate the % of asset seizures which are facilitated by BOT data</p> <p>This approach would involve working with law enforcement agencies to estimate the % of asset seizures that could have been facilitated using data from a central register (depending on whether BOT policy has been implemented or not).</p> <p>If available, data on the total value of asset seizures could then be used to estimate the monetary value of the % of BOT facilitated forfeitures.</p> <p>The method would supplement the correlational estimation outlined above, and provide some causal insight into how many asset seizures specifically are facilitated by BOT reform.</p>
Advantages	<ul style="list-style-type: none"> • This approach does not necessarily require a BOT intervention to have been implemented yet.
Drawbacks	<ul style="list-style-type: none"> • Experts may find the effects of BOT difficult to judge without more institutional context – especially if a reform hasn't yet been implemented. • The approach rests on subjective expert assessments • There is some risk that experts will be unwilling to estimate, or may challenge assumptions.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>3 – This approach is feasible in the sense that it requires very limited data to carry out, although the typical caveats around survey based approaches apply. Again, pre-survey exploration might be useful before deciding to invest in this method.</p>

1.3.4 Approaches to measuring national security benefits

Potential approach	<p>National security survey to assess the value of BOT for fighting terrorism and hostile entity financing</p> <p>A survey-based approach which would seek to assess the value of BOT information to public servants as well as investigative journalists or banks working on anti-terrorism matters, or to impede unwanted foreign influence through sanctions.</p> <p>Monetising this impact in terms of the broader economic benefits to national security would be impossible, but a survey could ask national security experts to estimate values such as:</p> <ul style="list-style-type: none"> • Amount of asset seizures facilitated by BOT • Number of economic sanctions more broadly facilitated by BOT • Investigation time saved by BOT
Advantages	<ul style="list-style-type: none"> • This approach does not require a BOT regime to be implemented yet. • The approach harnesses the authority and experience of experts, which is crucial given the lack of data availability in this sphere.

Drawbacks	<ul style="list-style-type: none"> ● Survey data is subjective. ● Monetised economic benefit of avoided harms cannot be quantified. ● Experts may find the effects of BOT difficult to judge without more institutional context.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>3 – In terms of practicality this approach is feasible (with the crucial trade off that direct monetary estimates of BOT’s influence on broader economic harms are unfeasible for this benefit area)</p>

1.4 Potential audiences for measurement

Government stakeholders are the most likely audience for methods which seek to estimate the value of BOT in law enforcement or national security contexts. Time saving for law enforcement officials in particular is one of the most direct, monetizable benefits that a BOT register will bring about for governments – with the caveat that data needs to be accurate, easily searchable, and interoperable with other systems to save police time.⁸⁶

Therefore, the approaches which use expert estimates or correlational techniques to quantify a saving in police time have the most potential to deepen buy-in within treasuries, particularly now that these kinds of studies could be tied to real experiences using an operational register, as opposed to theoretical projections. Findings from this type of approach could also be of interest to governments in other jurisdictions considering implementing BOT, but sceptical about economic returns.

The quantification of benefits relating to financial crime and national security potentially also has a broader audience, given how crime, law and order, and defence matters often feature amongst the top voter issues. The voting public might be more inclined to vote for a regime that can demonstrate that it implemented policies which have saved police time, led to the prosecution of more criminals, or tackled terrorist financing. Additionally, evidence around the benefits of BOT in a national security context are likely to be particularly persuasive during times of conflict, when governments might look to enforce sanctions.

However, arguably economic gain is unlikely to be the key determinant of reform in these areas, given that there is a strong moral component to these kinds of benefits, which are generally accepted as worth pursuing even without economic evidence. As such, investing in approaches which quantify the impact of BOT in a national security context should not necessarily be a priority for governments looking to pursue economic evaluations of reform.

2. Measuring impacts related to financial markets and investment environments

2.1 Benefits identified in logic model

⁸⁶ Caveat emphasised in interview with subject matter expert, March 2022.

Reduced due diligence costs, and reduced compliance costs associated with anti-money laundering procedures and human rights regulations for companies and financial institutions.

- Reduced due diligence costs for companies.
- Reduced AML compliance resource time and costs for regulated entities, such as banks. Notably, some interviewees did emphasise that this benefit is unlikely to be achievable at present, since currently the data available on BOT registers is not reliable enough to be compliant with regulated entities AML requirements. Nonetheless, we have included it here as an indication of a benefit which could be achievable in the future, as registers develop and introduce better data verification mechanisms.⁸⁷

Increased reputational value for the country's economy

- Better perception of investment environment
- Increased FDI from private investors

Decreased risk and consequent losses for companies and investors

- Losses avoided due to bad investments, such as 'pump and dump' schemes. A comprehensive BOT register facilitates better investor due diligence, meaning chosen partners are less likely to be investigated and penalised.

2.2 Existing evidence in favour of BOT as a tool for increasing market efficiency and investment

Existing evidence already makes a strong case that free-to-access beneficial ownership registers benefit business environments; it is already clear that registers can help reduce the cost of due diligence procedures of businesses. More limited evidence suggests BOT will reduce the cost of Know Your Customer (KYC) compliance for regulated entities.

Evidence from the United Kingdom demonstrates this point persuasively. In 2019, the UK's Government's Department of Business, Energy and Industrial Strategy (BEIS) conducted an economic valuation of Companies House data, which includes data published on the UK beneficial ownership register.⁸⁸ The valuation showed that 22% of UK businesses had used the register to look up information about other businesses, which bears testament to the utility of BOT data as a due diligence tool.

The valuation also included an analysis of willingness to pay survey responses. Based on these responses, the report estimated that the beneficial ownership data accounts for 4% of the total value of all Companies House data, which translates to approximately £40 million to £120 million of aggregate benefit per year. It is important to note, however, that this economic benefit

⁸⁷ Interview with subject matter experts. March 2022.

⁸⁸ *Department for Business, Energy and Industrial Strategy (BEIS). (2019). Review of the Implementation of the PSC Register.*

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/822823/review-implementation-psc-register.pdf

is contingent on free access to the beneficial ownership data. The report shows that if people interested in accessing the PSC register were charged an annual subscription fee, the register would suffer a net welfare loss despite the revenue which would come from the fees, due to a drop in data use. A more in depth discussion of this work, and its methodological approach can be found in this report's literature review.

Literature also indicates that regulated entities, such as banks, can also use beneficial ownership data to support compliance with Know Your Customer (KYC) anti-money laundering regulation, which involves identifying and screening banking customers.⁸⁹ There is currently no quantified evidence about how much money a free-to-use BOT register would save banks when carrying out these procedures, however, and these benefits are unlikely to be fully felt until the quality of data on registers improves.⁹⁰ For example, a 2014 impact assessment conducted by BEIS refers to the benefits of beneficial ownership transparency for banks, but says that they cannot isolate “the costs they incur in obtaining beneficial ownership information as separate from the total costs incurred in carrying out AML due diligence”.⁹¹

The institutional logic that BOT reduces the incidence of corruption also implies wider macroeconomic benefits. Research demonstrates that corruption reduces the efficiency of markets and firm valuations and hampers risk management.

Multiple studies have demonstrated the negative impact of corruption on business environments. Effects depend on the type of corruption and the stage of development, but in general there is robust evidence that corruption reduces market efficiency and the problem is quantitatively highly significant. As an illustrative example, Lee and Ng's research into international valuation from 2009 found that firms in countries with higher levels of corruption have generally lower valuations.⁹² Other studies on corruption and economic growth demonstrate that corruption substantially reduces a country's real GDP per capita, largely due to decreases in Foreign Direct Investment (FDI) and increases in inflation.^{93 94} In terms of aggregate impact, OECD broadly estimates that corruption adds up to 10% of the cost of doing business globally.⁹⁵

⁸⁹ *The Secretariat of the Global Forum on Transparency and Exchange of Information for Tax Purposes, Inter-American Development Bank.* (2019). A Beneficial Ownership Implementation Toolkit.

<https://www.oecd.org/tax/transparency/beneficial-ownership-toolkit.pdf>

⁹⁰ Interview with subject matter experts, March 2022.

⁹¹ BEIS. (2014). Transparency & Trust – Enhanced Transparency of Company Beneficial Ownership.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/434546/bis-15-320-enhanced-transparency-of-company-beneficial-ownership-enactment-impact-assessment.pdf

⁹² Lee, C. and Ng, D. (2009). Corruption and international valuation: does virtue pay? *The Journal of Investing*. Volume 18, no. 4. <https://joi.pm-research.com/content/18/4/23.short>

⁹³ Grundler, K. and Potrafke, N. (2019). Corruption and economic growth: new empirical evidence.

European Journal of Political Economy. Volume 60, no. 101810.

<https://www.sciencedirect.com/science/article/abs/pii/S0176268019301156>

⁹⁴ Wei, S. (2000). Local corruption and global capital flows. *Brookings Papers on Economic Activity*.

<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.631.7870&rep=rep1&type=pdf>

⁹⁵ Gurria, A. (2012). OECD, an active partner of the G20 and B20 in the global fight against corruption. *Organisation for Economic Co-operation and Development (OECD)*.

Based on the logic that BOT makes it more difficult to set up anonymous companies – which are the vehicle for more than 70% of corruption cases according to the World Bank⁹⁶ – it follows that BOT should lead to a decrease in corruption in a jurisdiction, which in turn could translate into the kinds of economic benefits discussed above. However, quantifying BOT's impact upon the incidence of corruption is unfeasible, given an inherent lack of granular data on the scale of corruption, meaning that these benefits are likely to remain speculative even in the longer term.

Whilst there is limited research which explicitly ties BOT to wider market benefits, econometric analyses of different types of financial transparency provide cause for optimism.

Mainstream economic logic supports the broad argument that BOT, as a step towards greater information transparency, will ultimately lead to better market performance. The economic theories advanced by Nobel Prize winners James Mirrlees and William Vickrey,⁹⁷ and George Akerlof, A. Michael Spence, and Joseph Stiglitz⁹⁸ draw a tight connection between market efficiency and other forms of transparency, by demonstrating perfect information is a key condition for perfect market efficiency. Asymmetric information, on the other hand, produces a variety of market failures.

Several studies have also identified causal connections between other forms of financial transparency, such as fiscal transparency, and positive effects on national investment environments, which might cast doubt over the argument that BOT would lead to an investment “chilling effect”. In one investigation, researchers found evidence of increased investment and wage payments after improving country-by-country reporting to European tax authorities.⁹⁹ Another study found that increasing fiscal transparency in middle and low-income countries boosts FDI,¹⁰⁰ while other researchers calculated that an increase of one point in a country's transparency rankings leads to an increase of 40% in FDI.¹⁰¹

<https://www.oecd.org/corruption/oecdanactivepartneroftheg20andb20intheglobalfightagainstcorruption.htm>

⁹⁶ Van der Does de Willebois, E., *et al.* (2011). The Puppet Masters How the Corrupt Use Legal Structures to Hide Stolen Assets and What to Do About It. *The World Bank and United Nations Office on Drugs and Crime (UNODC)*.

<https://openknowledge.worldbank.org/bitstream/handle/10986/2363/9780821388945.pdf?sequence=6&isAllowed=y>

⁹⁷ *Nobel Prize*. The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1996.

Accessed Monday 7 Mar 2022. <https://www.nobelprize.org/prizes/economic-sciences/1996/summary/>

⁹⁸ *Nobel Prize*. The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2001.

Accessed Monday 7 Mar 2022. <https://www.nobelprize.org/prizes/economic-sciences/2001/summary/>

⁹⁹ De Simone, L and Olbert, M. (2021). Real effects of private country-by-country disclosure. *The Accounting Review (forthcoming)*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3398116

¹⁰⁰ Cicatiello, L., *et. al.* (2021). Assessing the impact of fiscal transparency on FDI inflows.

Socio-Economic Planning Sciences. Volume 73, no. 100892.

<https://www.sciencedirect.com/science/article/abs/pii/S0038012119305142>

¹⁰¹ Drabek, Z. and Pane, W. (2002). The impact of transparency on foreign direct investment. *Journal of Economic Integration*. Volume 17, no. 4. <https://www.jstor.org/stable/23000835>

A further benefit of BOT is investor protection through a reduction in “pump-and-dump” style schemes, although evidence to demonstrate this connection, and the size of the target problem is sparse at present.

In principle, free beneficial ownership registers should protect investors from a type of fraud known as “pump and dump”. In these schemes, investors are tricked into buying artificially inflated shares, which fraudsters then sell quickly at a high price.¹⁰² In 2019, for example, two US businessmen were caught in an FBI sting operation after making more than US \$15 million over 5 years by defrauding elderly pensioners.¹⁰³ The fraudsters hid their ownership in inflated shares using offshore shell companies based in Malta.

Freely accessible beneficial ownership registers – with open access being a precondition of this benefit – give investors an accessible tool they can use to perform due diligence checks on companies. This can help investors see who has beneficial ownership of a company, if this person has involvement in other companies, and how those companies have performed in the past.

Some have estimated that pump and dump schemes could cost UK investors between US\$3 and US\$10 billion a year.¹⁰⁴ Despite this rough estimate, however, there is likely not yet enough evidence of the baseline data for money lost to pump and dump schemes to support the qualitative measurement of BOT’s impact in this area..

2.3 Future approaches to measurement

2.3.1 Approaches to measuring reduced due diligence costs for businesses

Potential approach	Stated-preference / willingness to pay survey to measure the value of BOT for the private sector This approach would involve administering a survey to businesses to measure willingness to pay for BOT information. The methodology could reflect the approach carried out in the BEIS 2019 evaluation of Companies House data. ¹⁰⁵
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¹⁰² *Corporate Finance Institute*. What is pump and dump? Accessed March 7 2022.

<https://corporatefinanceinstitute.com/resources/knowledge/trading-investing/pump-and-dump/>

¹⁰³ de Haldevang, M. and Rohrlich, J. (2019). How an undercover FBI sting busted an alleged multimillion-dollar stock fraud. *Quartz*.

<https://qz.com/1675811/how-an-undercover-fbi-sting-busted-a-multimillion-dollar-stock-fraud/>

¹⁰⁴ Ibid.

¹⁰⁵ *Department for Business, Energy and Industrial Strategy (BEIS), Companies House*. (2019). Valuing the User Benefits of Companies House Data: Policy Summary.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

Advantages	<ul style="list-style-type: none"> • This approach could be employed hypothetically and does not require a BOT regime to be implemented yet. • It would rely on credible industry-sourced estimates of benefits to industry. • The method could help to secure support from industry peak bodies.
Drawbacks	<ul style="list-style-type: none"> • Will not generate estimates of a direct, cash-releasing benefit. • A WTP approach might seem illogical considering BOT information should be provided for free (although introducing illustrative policy subscription fees can demonstrate a loss in willingness to pay and welfare benefits – see BEIS 2019 valuation).¹⁰⁶ • Requires careful design and buy-in from a significant sample of stakeholders to produce robust results.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>3 – This approach has already been carried out and is relatively feasible for a researcher as it does not require a BOT regime to have been implemented. However, it would require investment for the careful design, administration and analysis of the survey.</p>

2.3.2. Approaches to measuring reduced Know Your Customer costs for regulated financial entities

Potential approach	<p>Stated preference or willingness to pay survey for regulated financial entities, such as banks</p> <p>This approach would involve administering a survey to industry officials about their willingness to pay for BOT information and how the availability of this information would affect the costs they currently pay carrying out KYC checks.</p> <p>The method could employ a methodology similar to that used in the BEIS 2019 evaluation of Companies House data and applying it to users in banks and other regulated entities.¹⁰⁷</p> <p>Importantly, however, this approach is unlikely to demonstrate significant benefit, at least in the short term. During interviews, we heard scepticism about how useful BOT data is at present for KYC procedures, given concerns around data reliability on registers.</p>
Advantages	<ul style="list-style-type: none"> • This approach could be employed hypothetically, and does not require an existing BOT regime to be implemented yet.

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.*

	<ul style="list-style-type: none"> • This approach would rely on credible industry-sourced estimates of benefits to industry. • The method could help to secure support from industry peak bodies.
Drawbacks	<ul style="list-style-type: none"> • Will not generate estimates of a direct, cash-releasing benefit. • This approach would be somewhat illogical considering BOT information should be provided for free. • Benefit unlikely to be felt at this stage because data reliability on registers is not compliant with AML requirements.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	3 – This approach is relatively feasible for a researcher as it does not require a BOT regime to have been implemented. However, it would require investment for the careful design, administration and analysis of the survey.

2.3.3 Approaches to measuring increases in FDI

Potential approach	<p>Correlational or causal study exploring the impact of BOT on Foreign Direct Investment</p> <p>Following a simpler, correlational approach, researchers could conduct a reasonably simple study on FDI before and after implementing BOT across jurisdictions, using FDI data from the years preceding and following an intervention.</p> <p>There is also scope for causal studies to be carried out to explore the relationship between BOT and FDI, using regression analysis or difference-in-differences techniques. The latter would involve plotting FDI figures over time for countries that have implemented BOT compared with those that have not, and comparing average differences.</p>
Advantages	<ul style="list-style-type: none"> • FDI data should be readily available from international organisations, such as the OECD.¹⁰⁸
Drawbacks	<ul style="list-style-type: none"> • In order to generate the most results, this approach would require several BOT regimes to be implemented first. • The impact of BOT on FDI may be too indirect a benefit to quantify. • Other factors are likely to be much more important in determining FDI flows, meaning findings from correlational studies in particular could be dismissed as spurious.

¹⁰⁸ Organisation for Economic Co-operation and Development (OECD). (2021). Foreign Direct Investment Statistics: Data, Analysis and Forecasts. <https://www.oecd.org/investment/statistics.htm>

Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)

- 1** For causal analysis – This approach would require that multiple BOT regimes be implemented first, and it would be a challenge to isolate the effects of BOT specifically on FDI flows.
- 2** For correlational analysis – This approach would be much easier to conduct, but is accompanied by the usual caveats around correlational studies, which do not interrogate in any detail the motivating factors change (which in the case of FDI could be multiple).

2.3.4 Approaches to measuring improved investor confidence

Potential approach	<p>Measuring businesses confidence through causational or correlational studies</p> <p>For this approach, researchers would investigate business confidence using regression analysis or difference-in-differences techniques to compare outcomes in terms of business confidence for countries that have implemented BOT compared with those that have not.</p> <p>Researchers could also pursue the simpler approach of using a correlational study analysing business confidence before and after the implementation of BOT.</p>
Advantages	<ul style="list-style-type: none"> ● Business confidence data is readily available through indices such as the OECD’s business confidence index.¹⁰⁹ Some financial services companies also publish regular investor confidence indices, which could be used to support this approach.¹¹⁰
Drawbacks	<ul style="list-style-type: none"> ● This approach would require at least one and possibly several BOT regimes to be implemented first. ● Business confidence may be too indirect a benefit to quantify. ● Other factors aside from BOT are likely to be much more important in determining business confidence, meaning findings could be perceived as spurious. ● This method would not produce monetarily quantifiable estimations.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>1 For causal analysis – Researchers using this approach would face considerable challenges. At least one and possibly several BOT reforms would have to be implemented before this could be analysed. Business confidence may be too indirect</p>

¹⁰⁹ Organisation for Economic Co-operation and Development (OECD). Business Confidence Index (BCI). Last accessed March 2022.

<https://data.oecd.org/leadind/business-confidence-index-bci.htm>

¹¹⁰ State Street. Investor Confidence Index. Last accessed March 2022.

<https://www.statestreet.com/ideas/investor-confidence-index.html>

a benefit to quantify and it would be difficult to isolate the effect of BOT on business confidence, which will likely be affected by multiple factors.

2 For correlational analysis – This approach would be much easier to conduct, but is accompanied by the usual caveats around correlational studies, which do not interrogate in any detail the motivating factors change (in the case of investor confidence, BOT is unlikely to be a key driver).

2.4 Potential audiences for measurement

Industry stakeholders are most likely to be receptive to the kind of estimations calculated by approaches in this area, be that businesses or regulated entities. Being able to quantitatively demonstrate the benefits is likely to be particularly useful when making the economic case for BOT, given that private sector stakeholders are set to bear a large portion of the costs of BOT through compliance, and are therefore also likely to be the most sceptical about reform. Economic quantification of impacts also lends itself to the culture of measuring Return On Investment (ROI) in the private sector, where emphasis falls on monetised benefits, as opposed to the qualitative identification of ‘public good’ benefits which might be more acceptable to some governments.

We heard from interviews that using data to build industry support for BOT would be extremely valuable for both governments and advocacy organisations when looking to advance BOT policymaking internationally. The fact that the UK government’s valuation of Companies House data focussed, in large part, on benefits to businesses, is also perhaps testament to the importance of economic impact assessment in this benefit area. Conducting similar willingness-to-pay / stated-preference approaches with business stakeholders in other jurisdictions has the potential to help to bolster arguments surrounding BOT’s benefits for business.

More broadly, there is also scope for governments too to be interested in the more macroeconomic impacts of BOT, such as an increase in FDI or investor confidence. Quantitative exploration of both these benefits is largely unfeasible at present, although there is scope for relatively simple correlational studies to be undertaken, that might go some way towards quelling doubts about the ‘chilling effect’ which transparency has been said to have on FDI in a jurisdiction.

However, these approaches for measuring wider macroeconomic impacts have clear methodological limitations, in that FDI could be impacted by a number of factors aside from BOT, which correlational research cannot account for. Drawing on evidence from neighbouring financial transparency initiatives, which shows strong positive impacts on market performance, could be a good alternative to novel research here in the short-term.

3. Measuring impacts related to public procurement

3.1 Benefits identified in logic model

Reduced risk of government contracting corrupt or unfit providers

- With the implementation of effective BOT policies, procurement authorities can do research on the beneficial owners of companies and their business history.
- Governments should be better able to identify conflicts of interest or fraudulent providers, preventing these companies from winning a contract, and even participating in future tenders.
- The use of beneficial ownership data in procurement, therefore, helps to promote fair competition. This should also lead to governments receiving better value for money and improved contract performance by the companies contracted.

3.2 Existing evidence regarding BOT as a tool for reducing corruption in the procurement sphere

A number of quantitative estimates already indicate the sizable cost of corruption in the procurement sphere. Whilst we found no work which looked to quantify the relationship between BOT and these losses, it is widely accepted that ending anonymous company's participation in procurement processes will reduce the risk of corruption.

Procurement is a massive driver of the global economy. The World Bank estimated in 2018 that 12% of global GDP is spent following procurement regulation, approximately \$11 trillion of that year's \$90 trillion global GDP.¹¹¹ However, public procurement can also be a vehicle of corruption and inefficiency, as governments risk contracting companies with conflicts of interest or firms unfit to provide the goods or services required.

Multiple studies have looked to quantify the impact of corruption on procurement, generating varying, yet sizable estimates of economic harm. In 2014, the European Commission estimated that procurement corruption costs member states around €120 billion per year, or 1% of EU GDP at the time.¹¹² Meanwhile, the OECD estimates that corruption adds up to 25% to the cost of public procurement globally, a significantly larger estimate than that of the European Commission.¹¹³ The United Nations Office on Drugs and Crime has produced broader estimates, claiming that between 10 to 25% of contract value is lost to corruption worldwide.¹¹⁴

¹¹¹Bosio, E. and Djankov, S. (2020). How large is public procurement? *The World Bank*.

<https://blogs.worldbank.org/developmenttalk/how-large-public-procurement>

¹¹² *European Commission*. (2014). Report from the commission to the council and the European Parliament: EU anti-corruption report.

https://eur-lex.europa.eu/resource.html?uri=cellar:058aef0-d9b7-11e3-8cd4-01aa75ed71a1.0012.01/DOC_1&format=PDF

¹¹³ Gurria, A. (2012). OECD, an active partner of the G20 and B20 in the global fight against corruption. *Organisation for Economic Co-operation and Development (OECD)*.

<https://www.oecd.org/corruption/ocd/anactivepartneroftheg20andb20intheglobalfightagainstcorruption.htm>

¹¹⁴ *United Nations Office on Drugs and Crime*. (2013). Guidebook on anti-corruption in public procurement and the management of public finances.

We found no evidence regarding the direct impact BOT could have on reducing the monetary losses tied to corruption. Nonetheless, it is widely accepted that by reducing the participation of anonymous companies in procurement processes, BOT is a tool which alongside open contracting data, can help to identify conflict of interest and promote fair competition. As such, many organisations have advocated for and enacted BOT reforms with the explicit purpose of reducing public procurement corruption. For instance, in 2015, more than a hundred organisations sent a letter to the World Bank urging them to require all legal entity bidders on procurements funded by the World Bank to disclose their beneficial ownership information.¹¹⁵ The letter also asked the World Bank to publish this data openly. The World Bank now requires companies bidding on high value contracts to provide their beneficial ownership information.¹¹⁶

Similarly, the International Monetary Fund (IMF) has also made an explicit connection between BOT reforms and reducing corruption. They stipulated that jurisdictions receiving its emergency financing during the COVID-19 pandemic had to commit to “preventing conflicts of interest and corruption by publishing the beneficial ownership information of firms awarded procurement contracts”.¹¹⁷

Supporting this institutional logic, case studies make a compelling argument for the use of BOT in a procurement context. In a number of jurisdictions, effective BOT could have helped to prevent significant losses or risks incurred from contracting shell companies.

Numerous case studies across jurisdictions lay bare how anonymously-owned companies can be used successfully to facilitate corrupt public procurement deals, wasting procurement budgets. As just one illustrative example, in the United States, it has been estimated that the Pentagon has awarded hundreds, if not thousands of contracts to shell companies.¹¹⁸

In one high-profile case, the US Department of Defense awarded a contract to make safety gear for F-15 fighter jets to a US-based shell company which unbeknownst to government, was actually manufacturing parts in India. Upon delivery, it was discovered that these parts do not meet safety specifications, jeopardising the lives of service personnel. Used in a procurement context, effective BOT reforms could help to identify such risks, reducing budgetary wastage

https://www.unodc.org/documents/corruption/Publications/2013/Guidebook_on_anti-corruption_in_public_procurement_and_the_management_of_public_finances.pdf

¹¹⁵ *Transparency International*. (2015). World Bank should end corporate anonymity in bank-funded projects.

<https://www.transparency.org/en/press/world-bank-should-end-corporate-anonymity-in-bank-funded-procurements>

¹¹⁶ *World Bank*. (2018). Update on World Bank commitments following the UK anti-corruption summit in May 2016.

<https://www.worldbank.org/en/topic/governance/brief/update-on-world-bank-group-commitments-following-the-uk-anti-corruption-summit-may-2016>

¹¹⁷ *International Monetary Fund (IMF)*. (2021). How the IMF is promoting transparent and accountable use of COVID-19 financial assistance.

<https://www.imf.org/en/About/Factsheets/Sheets/2020/04/30/how-imf-covid19-financial-help-is-used>

¹¹⁸ Voreacos, D. and Weinberg, N. (2020). How the Pentagon gets duped by contractors using shell companies. *Los Angeles Times*.

<https://www.latimes.com/business/story/2020-01-08/pentagon-shell-companies>

and the wider negative consequences of contracting under qualified suppliers, which are particularly stark in a national security context.

Whilst there is limited economic research exploring BOT's impact on public procurement, there is evidence that other forms of financial transparency can have a positive impact on procurement by improving efficiency and reducing rates of corruption.

Fiscal transparency studies point to a positive relationship between transparency and procurement outcomes. Research has found that countries which rank higher on the Open Budget Index, which assesses the level of public access to information about how the central government raises and spends public money, have better public spending performance, measured using data from the World Economic Forum's Global Competitiveness Report.¹¹⁹ Elsewhere, survey-based research has demonstrated a connection between increased e-government transparency and reductions in perceptions of corruption in the EU.¹²⁰

Whilst this work does not reveal anything about BOT's impact upon procurement outcomes per se, it does provide methodological foundations to inform the measurement of BOT's impact on similar indicators, as outlined in the table of future approaches to measurement below.

3.3 Future approaches to measurement

3.3.1 Approaches to measuring BOT's impact on procurement outcomes

Potential approach	<p>A correlational study to assess the impact of BOT upon public spending performance (mirroring approaches conducted in fiscal transparency research).</p> <p>Researchers could analyse data on better public spending performance (calculated using data from public datasets, such as those from the World Economic Forum's Global Competitiveness Report) to assess the impact of BOT on procurement outcomes.¹²¹</p> <p>This would involve collecting data across jurisdictions which have / have not implemented BOT regimes to conduct a difference-in-differences comparison of changes to spending performance over time, with and without BOT policies in place.</p>
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¹¹⁹De Simone, E., et. al. (2019). The effect of fiscal transparency on government spending efficiency. *Journal of Economic Studies*. Volume 46, no. 7.

<https://www.emerald.com/insight/content/doi/10.1108/JES-03-2019-0123/full/html>

¹²⁰Faura-Martinez, U. and Cifuentes Faura, J. (2020). Does e-government promote transparency and the fight against corruption in the European Union? *International Journal of Electronic Government Research*. Volume 16, no. 4.

<https://www.igi-global.com/article/does-e-government-promote-transparency-and-the-fight-against-corruption-in-the-european-union/269392>

¹²¹ *World Economic Forum*. (2020). Global Competitiveness Report Special Edition 2020: How Countries are Performing on the Road to Recovery.

<https://www.weforum.org/reports/the-global-competitiveness-report-2020>

Advantages	<ul style="list-style-type: none"> This approach could emulate existing studies of the impact of financial transparency on procurement such as De Simone et al.'s study on the effect of fiscal transparency on the efficiency of government spending.¹²²
Drawbacks	<ul style="list-style-type: none"> In order to produce robust results, the approach would likely require several BOT regimes to be implemented first. Data on how much public money is wasted on contracting corrupt firms is likely to be difficult to find. Existing studies only obliquely capture the effects of financial transparency on procurement outcomes – this approach would not generate estimates of monetary value.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>1 For direct monetary estimate. Due to a lack of data on procurement wastage, it is not feasible to estimate the real monetary value of BOT reforms in this area.</p> <p>3 For emulation of existing studies, such as De Simone et al. referenced. This approach would be feasible for an academic.</p>

3.3.2 Approaches to measuring BOT's impact on perceptions of corruption in a procurement setting

Potential approach	<p>Survey of firms and governments on the effect of BOT on perceptions of government corruption in a public procurement context</p> <p>This approach would involve administering a survey to business leaders and procurement authorities to measure their perception of the effect of BOT on government corruption.</p> <p>It could draw on the methodology of similar financial transparency studies, such as research carried out by Bisogno and Cuadrado Ballesteros in 2021, which uses a survey based approach to demonstrate how public sector accounting reforms are tied to better governance around public spending.¹²³</p>
Advantages	<ul style="list-style-type: none"> This approach could emulate existing studies on the impact of financial transparency on procurement.¹²⁴

¹²² E.g. De Simone, E., et. al. (2019). The effect of fiscal transparency on government spending efficiency. *Journal of Economic Studies*. Volume 46, no. 7.

<https://www.emerald.com/insight/content/doi/10.1108/JES-03-2019-0123/full/html>

¹²³ Cuadrado-Ballesteros, B. and Bisogno, M. (2020). Public sector accounting reforms and the quality of governance. *Public Money & Management*.

<https://www.tandfonline.com/doi/full/10.1080/09540962.2020.1724665?scroll=top&needAccess=true>

¹²⁴ Ibid.

Drawbacks	<ul style="list-style-type: none"> • This approach would require at least one and possibly several BOT regimes to be implemented first • The survey would not produce a estimate value of the monetary impact of BOT on reducing corruption
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>1 For direct monetary estimate. This would be very difficult to achieve using a survey approach.</p> <p>3 For emulation of existing studies. This type of study would be very feasible for an academic.</p>

3.4 Potential audiences for measurement

Any work which demonstrates the impact of BOT on procurement outcomes is likely to be of most interest to procurement authorities and the wider open contracting community, including civil society and non-profit organisations. There is clearly already an appetite for qualitative impact evaluation in this field; in 2016 Open Contracting Partnership committed resources to designing an MEL framework in order to measure the impact of the Prozorro e-procurement system in Ukraine.¹²⁵ Measuring the impact of using open contracting and beneficial ownership data interoperably could be a further opportunity to collaborate on these issues, and raise further awareness of the importance of BOT in a procurement context.

Findings here are also likely to be of some interest to businesses participating in public tenders, who could be further persuaded of the need for BOT regulation if an approach demonstrated with confidence that it was being used to exclude shell companies from contracting processes, making contracts more accessible for legitimate entities.

However, crucially, neither of the approaches set forth in this section would lead to monetised estimations of direct benefit – in this case – the money that could be saved in a procurement context due to BOT. Such estimations, which arguably would have the most persuasive power, are unfeasible, given the lack of granular data across jurisdictions on money wasted as a result of contracting shell companies or firms owned by individuals with a conflict of interest. Therefore, whilst approaches from neighbouring policy areas could provide methodological inspiration for future work in this area, at present, case studies appear to be a more persuasive approach to demonstrating the impact of BOT in a procurement context.

4. Measuring impacts related to tax evasion

4.1 Benefits identified in logic model

¹²⁵ *Open Contracting Partnership*. (2017). Learning Insights: Measuring results from open contracting in Ukraine. <https://archive.open-contracting.org/2017/04/19/learning-insights-measuring-results-ukraine/>

Reduction in tax evasion

- With open access to beneficial ownership data, governments, journalists, and civil society organisations should be better equipped to expose alleged cases of tax evasion through company networks.
- BOT could also have a deterrent effect on tax evasion by making it more difficult for wealthy individuals to dodge tax obligations by placing assets in anonymous shell companies.

4.2 Existing evidence in favour of BOT as a tool for reducing tax evasion

We found no evidence of research which quantifies BOT's impact upon tax evasion rates. However, there is strong evidence which quantifies the overall levels of tax evasion, and how they are influenced by other transparency reforms, which helps support the economic case for BOT as a means of combating tax evasion.

Quantified evidence on the global scale of tax evasion unanimously suggests that it is a sizable economic problem for governments. In 2017, a US National Bureau of Economic Research Paper estimated that approximately 10% of global GDP is held in shell companies in tax havens in order to evade taxation in other jurisdictions.¹²⁶ In terms of losses to governments, this represents a significant figure; it has been estimated that the US government loses US \$100 billion in taxes annually due to multinational profit sharing.¹²⁷ Given US tax rates, this means that many hundreds of billions of profits in dollars are being shifted annually.

Despite the considerable scale of this problem, there is strong evidence that broader forms of financial transparency are effective in reducing rates of tax evasion.¹²⁸ A 2019 study which evaluated the impact of the US Foreign Account Tax Compliance Act showed that the legislation reduces annual flows through tax havens between \$56.6 billion to \$78 billion.¹²⁹ Improving country-by-country tax reporting has also been found to lead to reductions in tax evasion.¹³⁰ Increased financial transparency has also brought about wider economic benefits associated with a reduction in tax evasion, such as significant reductions in firm rents along with increases in market efficiency.¹³¹ Drawing analogies between beneficial ownership

¹²⁶Alstadsaeter, A., et. al. (2017). Who owns the wealth in tax havens? Macro evidence and implications for global inequality. *National Bureau of Economic Research*.

https://www.nber.org/system/files/working_papers/w23805/w23805.pdf

¹²⁷Clausing, K. A. (2020). Profit shifting before and after the tax cuts and jobs act. *National Tax Journal*. Volume 73, no. 4. <https://www.journals.uchicago.edu/doi/abs/10.17310/ntj.2020.4.14>

¹²⁸Capasso, S., et. al. (2021). Fiscal transparency and tax ethics: does better information lead to greater compliance? *Journal of Policy Modeling*. Volume 43, no. 5.

<https://www.sciencedirect.com/science/article/abs/pii/S0161893820300910>

¹²⁹De Simone, L., et. al. (2020). Transparency and tax evasion: evidence from the Foreign Account Tax Compliance Act (FATCA). *Journal of Accounting Research*. Volume 58, no. 1.

<https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-679X.12293>

¹³⁰De Simone, L. and Olbert, M. (2019). Real effects of private country-by-country disclosure. *The Accounting Review* (forthcoming). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3398116

¹³¹Johannesen, N. and Larsen, D. (2016). The power of financial transparency: an event study of country-by-country reporting standards. *Economics Letters*. Volume 145.

<https://www.sciencedirect.com/science/article/abs/pii/S0165176516301859>

transparency, and wider financial transparency reforms' success in having impact in this area, supports the logical argument that a reduction in tax evasion should be a benefit of BOT reform.

Indeed, a number of resources have pointed to better taxation enforcement as a key benefit of BOT. The potential for ownership information to help enforce taxation is made particularly clear by case studies, particularly big exposés such as the Panama Papers scandal.

Resources on beneficial ownership transparency often have pointed to a reduction in tax evasion as a key benefit associated with BOT policies. The Tax Justice Network, in calling for beneficial ownership registration laws, claims that “identifying and registering beneficial owners is vital to making sure the wealthiest are held to the same level of transparency and accountability as everybody else”.¹³² In line with this statement, most tax-orientated arguments for BOT place particular emphasis on the ways in which beneficial ownership data can support the administration and enforcement of wealth taxes in particular.

A 2020 report for the Wealth Tax Commission maps out the mechanical logic of the way in which BOT should lead to a reduction in tax evasion, particularly concerning wealth taxes.¹³³ The report sets out how the use of networks of private companies to manage assets is only feasible to those with substantial wealth. Without declaring their beneficial ownership, such individuals can spread wealth across these networks strategically to evade taxation, often using shell companies in different jurisdictions to avoid any association with the assets.

Leaks such as the Panama Papers, which revealed how high profile individuals had assets stored illegally in offshore accounts, demonstrate that routinely available company ownership data would empower law enforcement officials, journalists and oversight organisations to better expose potential cases of tax evasion.¹³⁴ In the UK, HMRC and HM Treasury estimated in 2019 that investigations resulting from the information leaked in the Panama Papers would yield over £190 million.¹³⁵ As this figure helps to illustrate, the order of economic benefits likely to be accessible through effective BOT reform is significant, especially considering that the Panama Papers leak covers only a minimal portion of what is estimated to be a much larger problem.

4.3 Future approaches to measurement

4.3.1 Approaches to measuring reductions in tax evasion

Potential approach	Survey of tax officials to estimate the expected impact of BOT on tax revenue
	A survey-based approach would recruit tax officials to understand their perspectives

¹³² Tax Justice Network. (2020). Beneficial ownership. <https://taxjustice.net/topics/beneficial-ownership/>

¹³³ Russell-Prywata, L. (2020). Beneficial ownership and wealth taxation. *Wealth Tax Commission*. https://www.wealthandpolicy.com/wp/BP124_BeneficialOwnership.pdf

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

	<p>on how BOT would affect tax revenue.</p> <p>The survey could also ask for the officials' perspectives on what percentage of additional tax revenue in a particular year is due to improved enforcement of tax laws resulting from BOT reforms.</p>
Advantages	<ul style="list-style-type: none"> • This approach does not necessarily require an existing BOT regime to be implemented yet (although experts would arguably find it easier to make estimates if BOT reform has already occurred). • Tax officials should have a reasonable knowledge of how useful BOT is in helping them recover taxes that would otherwise be avoided or evaded. This could be a very compelling benefit item to treasuries in multiple countries. • The survey does not require the collection of multiple data points
Drawbacks	<ul style="list-style-type: none"> • This approach would involve the subjective assessments of tax officials. • Tax officials may not be willing to make estimates, due to a lack of certainty. • Would require the buy-in of a reasonable sample size of experts.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>3 – This approach could be carried out relatively easily, but would require time to develop and administer the survey and then to analyse the results. Pre survey consultation activities would need to be conducted to ensure experts would be willing to make estimates.</p>

Potential approach	<p>Correlative or causative studies using tax data to assess whether a BOT intervention has impacted tax evasion</p> <p>Correlational or causative studies analysing the impact of BOT on tax evasion rates would be the ideal form of evidence for demonstrating impact in this benefit area. Nonetheless, implementing these approaches is likely to be very challenging due to a lack of data availability.</p> <p>A correlational approach in this area would analyse the effects of BOT on reductions in tax evasion using tax data from before and after implementation in a jurisdiction.</p> <p>A causative study would likely use a difference in difference method to assess the changes to tax evasion rates across a range of jurisdictions after a BOT method had been implemented.</p>
Advantages	<ul style="list-style-type: none"> • These approaches would produce the ideal form of evidence for measuring the effect of BOT on tax – since they would generate monetizable estimates of cash releasing benefits to governments.

Drawbacks

- This approach would require at least one and possibly several BOT regimes to be implemented first.
- Tax evasion data is generally of low quality. Data on tax gaps (the difference between tax that is due, and tax that is actually paid) is likely to be more readily available, but accounts for other miscalculations in tax paid and other factors, so is a weak proxy for true rates of tax evasion.¹³⁶
- The effect of BOT will depend on many other aspects of the tax enforcement institutions and international arbitrage opportunities, therefore, it may be difficult for these approaches to isolate the “true” impact of BOT across jurisdictions.

Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)

2 – This approach might be more feasible as more countries implement BOT regimes, however the low quality of data on tax evasion and the difficulties of isolating the effect of BOT is likely to remain challenging in the long-term.

4.4 Potential audiences for measurement

Governments, and specifically treasuries, are likely to be most interested in any BOT benefits tied to tax, as the direct beneficiaries of higher compliance with taxation. More broadly, approaches which measure BOT’s influence on tax compliance and revenue also have potential to be of interest to electorates, given that tax is a prominent voter issue across jurisdictions.

Almost all experts identified tax as a key benefit of BOT, but we did also hear the suggestion that estimates of tax related benefits were likely to be the least persuasive tool for advocates, particularly amongst industry stakeholders. There was the suggestion that tax was a taboo topic which often “falls flat” with civil society and private sector audiences.¹³⁷

Perhaps the most convincing story that can be told around BOT and tax evasion for civil society concerns the risks associated with not having effective BOT policies in place as opposed to observed benefits. Leaks such as the Panama, Paradise and Pandora Papers caused outrage internationally. Given the strong public reactions here, further articulating the case for beneficial ownership as a critical tool for uncovering (or even deterring) these kinds of high-profile scandals is arguably much more likely to convince civil society of the need for BOT reform than quantitative estimations.

5. Measuring impacts related to trust and economic growth

5.1 Benefits identified in logic model

Reduced perception of corruption

¹³⁶ HM Revenue and Customs (HMRC). (2022). Measuring Tax Gaps 2021 Edition. <https://www.gov.uk/government/statistics/measuring-tax-gaps/measuring-tax-gaps-2021-edition-tax-gap-estimates-for-2019-to-2020>

¹³⁷ Interview with advocacy organisation. January 2022.

- By increasing transparency of company ownership for citizens, improving governments' ability to intercept alleged corruption cases, and deterring financial mismanagement, effective BOT should logically reduce the perceived level of corruption in a jurisdiction.

Increased citizen trust in government and businesses

- Similarly, effective BOT should also increase trust in both public and private sector institutions, with the expectation that both will have better incentives to comply with regulatory requirements if a comprehensive, open register exists.

5.2 Existing evidence in favour of BOT as a tool in empowering democracy and trust

The final and most indirect set of benefits linked to BOT considered in this report concern democracy, trust and their wider economic effects. At present, there is a clear but only partially quantifiable link between BOT, corruption, and declining public trust in government.

As outlined earlier in this report, robust quantification of the influence of transparency reforms on corruption is challenging, due to the concealed nature of corrupt economic activity. However, strong institutional logic indicates that BOT should help to tackle corruption by making it harder for individuals to hide their ownership behind anonymous companies. It follows that BOT should also have a broader impact on levels of public trust in businesses and public institutions. With the implementation of BOT reform, individuals in both the public and private sector have strong incentives to report beneficial ownership information, and the state and civil society are equipped with better information available to more readily expose corruption.

Research shows that major events revealing political corruption lead to declines in trust and significant changes in voter behaviour.^{138 139 140} This also applies to scandals involving BOT; the release of the Panama, Paradise, and Pandora Papers all triggered distrust in electorates where political actors were found to be harbouring assets in offshore accounts.¹⁴¹ In Iceland, for example, a prime minister was forced out due to family connections with the Panama Papers.¹⁴² It follows that a lack of beneficial ownership can equate to a lack of trust, and vice versa.

¹³⁸Zimmer, T. (1979). The impact of Watergate on the public's trust in people and confidence in mass media. *Social Science Quarterly*. Volume 59, no. 4. <https://www.istor.org/stable/42860478>

¹³⁹Welch, S. and Hibbing, J. (1997). The effects of charges of corruption on voting behavior in congressional elections, 1982-1990. *The Journal of Politics*. Volume 59, no. 1. <https://www.journals.uchicago.edu/doi/abs/10.2307/2998224>

¹⁴⁰Peters, J. and Welch, S. (1980). The effects of charges of corruption on voting behavior in congressional elections. *American Political Science Review*. Volume 74, no. 3. <https://www.cambridge.org/core/journals/american-political-science-review/article/abs/effects-of-charge-s-of-corruption-on-voting-behavior-in-congressional-elections/479882C6E1A49228DF01D7CF6FF7F1FA>

¹⁴¹Martyn-Hemphill, R. (2017). Iceland goes to polls amid scandals, distrust and disgust. *New York Times*. <https://www.nytimes.com/2017/10/28/world/europe/iceland-elections-gunnlaugsson.html>

¹⁴² Ibid.

Measurements of trust are generally perceived as methodologically robust. The OECD's Trust in Government Index¹⁴³ and Transparency International's Corruption Perceptions Index¹⁴⁴ are particularly highly regarded in this field. Nannestad found in 2008 that despite concerns by social scientists about underspecification in questions about trust, the test-retest reliability for these studies is remarkably high, over 90%.¹⁴⁵ Measures of trust are comparable across countries, and they also correlate with actual behaviours and real effects.

Literature demonstrates that corruption and trust are not only entwined, but also together affect the performance of a given economy and the stability of its democracy. Trust, in particular, is one of the strongest determinants of economic growth in cross-country studies.

Multiple studies have analysed the relationship between trust and economic benefits. In 1997, Knack and Keefer published an early, formative study which found that "social capital" defined using indicators of trust and civic norms, was a determinant of economic growth.¹⁴⁶ Further research by Zak and Knack has demonstrated that low-trust environments cause economic harms to jurisdictions by reducing investment rates.¹⁴⁷ Other work which analyses these claims, finds that there is a strong link between social capital and economic growth^{148,149,150} and that Zak and Knack's conclusions are highly robust.¹⁵¹ Corruption also plays an important role here; literature also demonstrates that higher levels of trust lead to reductions in corruption and subsequent increases in economic growth.¹⁵²

There may be scope to locate financial transparency, and therefore BOT, as an important part of this story, as a determinant of corruption and trust, and in turn a determinant of the long-running performance of markets and democracies.

¹⁴³ Organisation for Economic Co-operation and Development (OECD). (2021). Trust in Government. <https://www.oecd.org/gov/trust-in-government.htm>

¹⁴⁴ Transparency International. (2021). Corruption Perceptions Index. <https://www.transparency.org/en/cpi/2021>

¹⁴⁵ Nannestad, P. (2008). What have we learned about generalized trust, if anything? *Annual Review of Political Science*. Volume 11, no. 1.

<https://www.annualreviews.org/doi/abs/10.1146/annurev.polisci.11.060606.135412>

¹⁴⁶ Knack, S. and Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*. Volume 112, no. 4.

<https://academic.oup.com/qje/article-abstract/112/4/1251/1911732>

¹⁴⁷ Zak, P. and Knack, S. (2001). Trust and growth. *The Economic Journal*. Volume 111, no. 470.

<https://onlinelibrary.wiley.com/doi/abs/10.1111/1468-0297.00609>

¹⁴⁸ Whiteley, P. (2000). Economic growth and social capital. *Political Studies*. Volume 48, no. 3.

<https://journals.sagepub.com/doi/abs/10.1111/1467-9248.00269>

¹⁴⁹ Horvath, R. (2012). Does trust promote growth? *Journal of Comparative Economics*. Volume 41, no. 3. <https://www.sciencedirect.com/science/article/pii/S014759671200087X>

¹⁵⁰ Dincer, O. and Uslaner, E. (2009). Trust and growth. *Public Choice*. Volume 142, no. 59.

<https://link.springer.com/article/10.1007/s11127-009-9473-4>

¹⁵¹ Beugelsdijk, S., et. al. (2004). Trust and economic growth: a robustness analysis. *Oxford Economic Papers*. Volume 56, no. 1. <https://academic.oup.com/oep/article-abstract/56/1/118/2472415>

¹⁵² Uslaner, E. (2004). Trust and corruption. In *The New Institutional Economics of Corruption*.

<https://books.google.com.au/books?hl=en&lr=&id=JeB-AgAAQBAJ&oi=fnd&pg=PA76&dq=Uslaner+>

As this report has outlined, case studies already demonstrate that the absence of BOT can lead to lower levels of trust in government. A strong body of empirical research then demonstrates that a lack of trust in a country’s government leads to negative impacts on the functioning of democracy and the country’s economic growth.

Further empirical work could be done to strengthen the first part of the logical chain by quantifying the link between BOT and trust. Some of the approaches outlined below demonstrate how researchers could establish a stronger link between BOT reforms and indexes relating to trust. Were this to be achieved, it would technically be possible to convert the relationships between BOT and trust into broad GDP estimates using ratios established in previous research.

A study from 2011 by Ugur and Dasgupta, for example, surveyed 55 empirical studies and concluded that a 1% increase on Transparency International’s Corruption Perceptions Index is associated with a decrease in GDP per capita by 0.12 percentage points.¹⁵³ Other studies have arrived at similar estimates.¹⁵⁴ By demonstrating a stronger connection between BOT and indexes of trust in government, researchers could in principle estimate the impact of BOT on a country’s GDP.

5.3 Future approaches to measurement

5.3.1 Approaches to measuring increased citizen trust in government

Potential approach	<p>Causal study seeking to estimate BOT’s relationship influence on levels of public trust in government</p> <p>This approach would involve analysing the OECD Trust in Government data across a combination of jurisdictions which have and have not implemented BOT reforms.¹⁵⁵</p> <p>Either a difference-in-differences, or a regression model could be developed to determine whether or not countries with BOT reform experienced higher levels of government trust according to OECD data.</p>
Advantages	<ul style="list-style-type: none"> • The OECD Trust in Government index is a highly regarded data source, and

¹⁵³Ugur, M. and Dasgupta, N. (2011). Corruption and economic growth: a meta-analysis of the evidence on low-income countries and beyond. *Munich Personal RePEc Archive*.
https://www.researchgate.net/publication/254443921_Corruption_and_economic_growth_A_meta-analysis_of_the_evidence_on_low-income_countries_and_beyond

¹⁵⁴Swaleheen, M. (2011). *Economic growth with endogenous corruption: an empirical study*. *Public Choice*. Volume 146.
https://www.researchgate.net/publication/225325767_Economic_Growth_with_Endogenous_Corruption_An_Empirical_Study

Dreher, A. and Herzfeld, T. (2005). The economic costs of corruption: a survey and new evidence. In De Luca F.N. (ed.) *Economic Corruption: Detection, Costs and Prevention*.
<https://econpapers.repec.org/paper/wpawuwpppe/0506001.htm>

¹⁵⁵ Organisation for Economic Co-operation and Development (OECD). (2021). Trust in Government.
<https://www.oecd.org/gov/trust-in-government.htm>

	would be a reliable indicator of trust.
Drawbacks	<ul style="list-style-type: none"> • This method would require at least one and possibly several BOT regimes to be implemented first. • Given the limitations of the OECD dataset, this method would be restricted to measuring impact across OECD countries. • Trust in government may be too indirect a benefit to quantify, especially on the short-run. • Factors other than BOT are likely to be much more important in determining trust in government. There is a strong link, however, between accounting transparency reforms and trust in government, as researchers have shown.¹⁵⁶ • A major problem is that while financial transparency affects trust, it is the interaction between BOT and other aspects of the institutional structure that will be decisive in affecting trust in government so the impact of BOT cannot be genuinely quantified.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	1 – This type of investigation is more likely to be done further in the future looking more holistically at countries' transparency reforms rather than specifically at the impact of BOT.

5.3.2 Approaches to measuring reduction in perception of corruption

Potential approach	<p>Statistical analysis of changes in Corruption Perceptions Index (CPI) linked to BOT, converted to an estimate of GDP growth.</p> <p>This approach would involve conducting a before-after statistical analysis of countries that have implemented BOT and the changes in their scores in Transparency International's Corruption Perceptions Index (CPI).</p> <p>The approach would allow researchers to determine whether, and to what extent, countries implementing BOT have lower perceived corruption.</p> <p>If revealed, a connection between a reduction in the CPI as a result of BOT could then be converted into an estimate of GDP growth using ratios from previous research.¹⁵⁷</p>
Advantages	<ul style="list-style-type: none"> • Transparency International's Corruption Perceptions Index is an accessible data source, which allows comparison over time.

¹⁵⁶Cuadrado-Ballesteros, B. and Bisogno, M. (2021). Public sector accounting reforms and the quality of governance. *Public Money & Management*.

<https://www.tandfonline.com/doi/full/10.1080/09540962.2020.1724665?scroll=top&needAccess=true>

¹⁵⁷ Ugur, M. and Dasgupta, N. (2011). Corruption and economic growth: a meta-analysis of the evidence on low-income countries and beyond. *Munich Personal RePEc Archive*.

https://www.researchgate.net/publication/254443921_Corruption_and_economic_growth_A_meta-analysis_of_the_evidence_on_low-income_countries_and_beyond

Drawbacks	<ul style="list-style-type: none"> • This method would require at least one and possibly several BOT regimes to be implemented first. • BOT is unlikely to have a detectable <i>short-term</i> effect on Transparency International's index given the number of factors that affect perceived corruption. If an improvement in the index is detected this could be linked to expected growth in GDP, but it is probably impossible to robustly quantify this benefit in monetary terms.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	1 – This type of investigation is more likely to be conducted further in the future looking at how holistic transparency packages impact the CPI, rather than specifically at the impacts of BOT.

Potential approach	<p>Novel survey or poll asking the public how much BOT would affect their perceptions of corruption and their trust in government.</p> <p>This approach would involve conducting a survey or poll of the public in different countries about their perceptions of BOT, and its impact upon trust in government.</p> <p>This would not be a correlational or causal study, but instead a point estimate using new statistics.</p>
Advantages	<ul style="list-style-type: none"> • This approach does not require a BOT regime to be implemented yet. • A novel survey may be possibly persuasive in an advocacy context.
Drawbacks	<ul style="list-style-type: none"> • Like a news poll, the novel survey would have very low methodological robustness – this may not affect its persuasiveness, however. • The effect of BOT would be impossible to quantify in monetary terms using this approach. • The approach relies upon the general public having a good understanding of BOT, which might not be the case, given that this is a relatively nascent policy area which is not always well defined, even in national legislation.
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	3 – This approach would be simple for researchers to carry out in the short term, with the caveats that it would be impossible to quantify the effect of BOT in monetary terms using this approach and that the survey would have low robustness.

5.3.3 Approaches to measuring both increased citizen trust in government and reduction in perception of corruption

Potential approach	<p>Willingness to Pay (WTP) survey investigating the willingness of the public to pay for a BOT regime</p> <p>This approach would involve conducting a survey in one country or multiple countries investigating how much money the public would be willing to pay for a BOT regime.</p> <p>The method would be similar to WTP surveys conducted for other public goods, and could employ a contingent valuation approach, where individuals are asked about different hypothetical situations that could apply to an intervention.</p> <p>For example, participants could be asked to value BOT regimes that would lead to certain benefits, or certain BOT intervention design choices (e.g. open vs. closed register).</p>
Advantages	<ul style="list-style-type: none"> • This approach does not require a BOT regime to be implemented yet. • It is a relatively simple study to carry out. • It provides an estimate of the monetary value of intangible benefits provided to the public.
Drawbacks	<ul style="list-style-type: none"> • Not a cashable benefit • Scenario misspecification: asking people what they would pay for BOT could be seen as somewhat poor public messaging given that advocates of BOT are campaigning for free-to-access registers
Feasibility (ranked from 1 – unfeasible at present, to 3 – could be carried out in short term)	<p>3 – This study would be relatively simple for researchers to carry out, however, the caveats outlined above associated with WTP studies will apply.</p>

5.4 Potential audiences for measurement

BOT's impact in this area is unlikely to be a major *direct* driver of policy reform. Historically, democracies have generally addressed corruption in response to scandals and on the basis of models of institutional functioning, not because of estimates of the causal effects of a policy change on corruption and GDP.

Moreover the link between beneficial ownership and economic growth (via trust) is somewhat roundabout, to the extent that estimations connecting BOT to GDP are unlikely to be convincing as a leading argument. One interviewee in particular was sceptical about benefits arising from trust, characterising them as “nebulous”, and unlikely to persuade governments or businesses concerned about the costs of reform.¹⁵⁸

Nonetheless, this class of benefits does have the potential to be a significant *indirect* driver of support for BOT interventions, as a motivator of effort from a wider community of civil society actors interested in the health of democracy and the market system. Case studies strongly imply a connection between BOT and trust in public institutions, and whilst quantifying the

¹⁵⁸ Interview with academic expert, March 2022.

impact of trust on GDP might be a stretch too far, novel empirical research to better establish a link between BOT and trust would allow for an effective story to be told around BOT's role in building functional democracy.

Concluding recommendations

Over the course of this research, we found very limited evidence of existing work which looks to quantify the economic value of BOT. BOT is widely understood to be an economically beneficial reform, and its benefits are well-documented in a qualitative sense, but research largely refrains from quantifying economic impacts in this area due to limitations regarding attribution and data availability.

These challenges to measurement are not insignificant, yet nor do they render measuring the economic impacts of BOT impossible. As this report has outlined, there are a number of potential approaches that governments *could* use to quantify benefits in this space, all of which are accompanied by trade-offs in terms of feasibility and robustness of findings. In light of the methodologies identified and insights from subject matter experts and economists, we set forth the following key considerations for governments:

- 1. Whilst for many jurisdictions the available economic evidence already justifies the associated costs of beneficial ownership transparency, some of the methodologies outlined in this report would strengthen the understanding of the economic impacts of BOT in the short-term. Governments in particular should consider strategically employing the most cost-effective of these approaches to fill in the gaps in the existing evidence base.**

Economic evidence that is already available justifies government spending on effectively implemented BOT, and its associated costs for the private sector. This research points to strong evidence of large economic costs that BOT is expected to directly or indirectly ameliorate. There is broad agreement that BOT is a missing piece in the existing institutional structure, and would bring significant benefits for the operation of markets and democracies. Case studies of analogous reforms, and a handful of studies of the value of BOT for end-users, suggest that these benefits can be realised. It appears resoundingly clear that the benefits outweigh the costs of reform, even if benefits cannot be precisely quantified at present; indeed, this is why we see broad support for BOT among economists and international institutions.

Given this existing evidence base, to commit funding to complex causal studies which measure the economic impact of BOT, would not be “practical” nor “proportionate”, to quote UK government guidance on preparing a business case, which warns against costly impact assessment where evidence is already available.¹⁵⁹ Indeed, such approaches are unlikely to ever be considered by analysts either in government or international organisations, given the intensive resources needed to conduct them.

¹⁵⁹ *HM Treasury*. (2018). Guide to Developing the Programme Business Case. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/749085/Programme_Business_Case_2018.pdf, p. 20.

Nonetheless, survey based approaches have the potential to supplement the existing economic argument in favour of BOT. For instance, data which is currently available provides little insight into how BOT may impact investigation times for enforcement agencies, the prevalence and profitability of organised crime, the robustness of procurement processes, or due diligence costs within the private sector. Survey-based estimates in these kinds of benefit areas would be an efficient means of contributing to the economic case for BOT.

2. Focusing on particular benefit types in relation to specific policy goals is likely to be the most practical approach to studying the economic benefits of BOT.

As outlined above, it will not always be financially viable to commit resources to the approaches identified in this report. In addition to justifying whether it is proportionate to carry out an approach, governments, organisations or researchers looking to carry out novel research should avoid measurement for measurement's sake and instead focus on measuring particular benefit types, where a need for additional evidence to support the case for BOT has been identified.

When looking to prioritise benefit types, researchers and governments need to consider which benefits are likely to be relevant to specific groups. For instance, we heard repeatedly throughout interviews that industry leaders were particularly likely to be interested in the benefits of BOT for businesses, given that the private sector shoulders most of the regulatory burden of BOT. Where this is the case, methods which look to gauge the benefits of reform for businesses should be prioritised in the short term, with a view to providing better evidence to support ongoing discussions around the costs and benefits of BOT for the private sector.

For governments more specifically, measuring via benefit type will also be crucial when looking to confirm the extent to which a BOT regime is able to meet its intended policy goals. Whilst the potential benefits of BOT are myriad, governments will often implement BOT reforms having identified key policy goals, such as reducing illicit financial flows and the time taken by law enforcement to investigate them. In addition to being more methodologically feasible and “proportionate” than attempting to measure aggregate economic impact, measuring by benefit type will allow governments to prioritise these policy outcomes in their impact assessments, and even to chart progress in key impact areas over time.

3. Governments implementing BOT reforms should conduct impact assessments and publish their findings to help understand the economic case for BOT across jurisdictions.

Most of the evidence collected during this project is UK-centric, given that almost all of the resources encountered in the literature review which actively seek to measure the impact of existing BOT reforms were published by the UK government. This is perhaps unsurprising, given the UK is one of the forerunners in terms of BOT implementation. However, now that more than 30 registers have been implemented worldwide, the economic case for BOT could be strengthened by other jurisdictions dedicating resources to conducting their own impact assessments.

Crucially, if governments are to commit resources to evaluating the costs and benefits of a BOT intervention, they should also publish their methodologies and findings publicly, to add to the growing evidence base in this area. The work carried out by BEIS and Companies House in 2019 is available in full online, and was published alongside a methodological paper, which provides a useful starting point for other jurisdictions looking to conduct similar work, in a way that is sensitive to their specific country context.¹⁶⁰

4. In order to support more robust research to quantify the impacts of BOT in the future, and for their own monitoring and evaluation purposes, governments need to start tracking baseline data points now.

In the future, there is scope for a range of correlational and causal studies to be conducted in this area, mostly by economists and other social scientists. Correlational studies would simply demonstrate a before and after change in an indicator following reform, whereas causal studies could go further, in an attempt to prove whether, and to what extent, BOT was the determinant of change.

To facilitate this kind of research, and for the purposes of their own monitoring and evaluation activities, governments need to work to establish the baseline data from which impact can be measured as soon as possible. This might include data on asset seizures, investigation times, and financial crime detection rates, although the types of data collected will depend on the benefits a government has prioritised for measurement. Consultation with economists and social scientists about data requirements is advised.

5. As the BOT policy area matures, further work should consider how specific design elements may lead to specific economic benefits. Future research is needed to understand the evidence not just for BOT in its broadest sense, but for the specific aspects of BOT implementation which contribute to an effective disclosure system.

As a preliminary landscaping study, this report has focussed primarily on how methodological approaches might measure specific classes of benefit relating to BOT. However, future work may be able to isolate particular BOT design features, assess their value, and in doing so guide continued improvements. Important dimensions include data quality, coverage, verification mechanisms, cross-border data sharing and processes of review to close emerging loopholes. Some work has already been done by the UK government in this regard; the 2019 valuation of Companies House data illustrates how making company data (including the PSC register) *freely*

¹⁶⁰ Department for Business, Energy and Industrial Strategy (BEIS), Companies House. (2019). Valuing the User Benefits of Companies House Data: Policy Summary. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

accessible is economically advantageous. The report outlines how switching to a fee-based model would generate welfare losses.¹⁶¹

As more and more governments move from the initial step of implementing a BOT register, to iterating and improving the way that data is collected, structured and verified, there is increasing scope to assess which design features constitute *effectively implemented* BOT – that is, emerging good practice that meets the criteria outlined in Open Ownership’s principles for effective disclosure.

6. The Financial Action Task Force could play a role in supporting countries seeking to track the impact of BOT reform by publishing guidance around collecting and analysing statistical evidence for BOT.

As a leading standard setting body on BOT, the Financial Action Task Force (FATF) has the potential to be instrumental in encouraging governments to implement monitoring, evaluation and learning practices around reforms in this area.

FATF already advocates for the quantitative impact evaluation of anti money laundering reforms. Recommendation 33 states that “Countries should maintain comprehensive statistics on matters relevant to the effectiveness and efficiency of their AML/CFT systems”.¹⁶²

Acknowledging the challenges around assessing effectiveness, FATF has also published guidance which sets out options for collecting, maintaining and analysing anti-money laundering (AML) and countering the financing of terrorism (CFT) data.¹⁶³ In addition, guidance provides concrete examples of the kind of statistics that could be useful to collect.

Particularly as FATF revises Recommendation 24 on beneficial ownership, the organisation should consider developing further non-binding guidance, specifically focussed on measuring the impact of BOT. Designing and implementing impact evaluations for BOT policies is not straightforward, and more practical guidance for countries in terms of data collection, in line with existing resources in the broader anti corruption space, would be a useful resource for governments.

¹⁶¹ *Department for Business, Energy and Industrial Strategy (BEIS), Companies House. (2019). Valuing the User Benefits of Companies House Data: Policy Summary.*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

¹⁶² *Financial Action Task Force (FATF). (2015). Guidance on AML/CFT related data and statistics.*
<https://www.fatf-gafi.org/media/fatf/documents/reports/AML-CFT-related-data-and-statistics.pdf>

¹⁶³ *Ibid.*

Annex I: Literature review

Measuring the tangible economic impact of beneficial ownership transparency: a nascent field

To date, most arguments in favour of BOT have focussed on non-monetised benefits, emphasising instead the social value arguments in favour of increasing company transparency in order to prevent financial crime through case studies and impact stories.

Historically, a leading argument in favour of beneficial ownership transparency has always been that as a reform designed to reduce the use of anonymous shell companies to launder the proceeds of crime and corruption, BOT is a reform to pursue in order to reduce financial crime. In 2003, the Financial Action Task Force (FATF) was the first body to set forth global standards on BOT, with the aim of helping to “get rid of the cloak of secrecy concerning the ultimate owner of a company, foundation, association or any other legal person, and prevent their misuse for crime and terrorism.”¹⁶⁴

In the years following the original FATF publication, organisations such as Open Ownership, Global Witness, Transparency International and the Open Government Partnership have continued to make the case for BOT as an important tool in the anti-corruption space *without* attempting to quantify the economic impact of reform. Instead, almost all of the BOT advocacy materials we encountered used case-study examples to demonstrate the positive impact of BOT registers where they have been implemented. Examples of this include Open Ownership’s impact stories¹⁶⁵, and Transparency International’s work to identify how beneficial ownership data had been used to uncover cases of corruption or financial mismanagement by officials in the Czech Republic, Turkmenistan, Brazil and Denmark (amongst other jurisdictions).¹⁶⁶

In addition to making the case for beneficial ownership as being in the public interest, the literature we encountered also identifies a number of more readily monetisable and quantifiable benefits of BOT.

In addition to arguments which emphasise social value, research and advocacy materials on the subject of BOT have also identified a number of quantifiable and monetisable benefits associated with BOT (as laid out in this report’s logic model).

Indeed, it is worth acknowledging that benefits associated with a reform are more often than not measurable and monetisable in principle. Crucially however, there are various degrees to

¹⁶⁴ *Financial Action Task Force*. (2019). Best Practices on Beneficial Ownership for Legal Persons. <https://www.fatf-gafi.org/publications/methodsandtrends/documents/best-practices-beneficial-ownership-legal-persons.html>

¹⁶⁵ *Open Ownership*. Impact stories. Last updated April 2021.

<https://www.openownership.org/resources/?type=case-studies&category=impact>

¹⁶⁶ *Transparency International*. (2021). Out in the open: How public beneficial ownership registers advance anti-corruption.

<https://www.transparency.org/en/news/how-public-beneficial-ownership-registers-advance-anti-corruption>

which these calculations can be readily made.¹⁶⁷ In the UK, HM Treasury provides four definitions of benefit types which can arise from government reforms, which can be used as a cursory tool to map out the BOT benefits encountered across literature and in our logic model:

Benefit type	Examples of BOT benefit identified in literature
<p>Cash releasing benefit (CRB) – a monetisable benefit which is ‘cashable’ for a particular stakeholder group, releasing additional funding for a government, business, individual etc.</p>	<p>Reduced due diligence costs for businesses</p> <p>Reduced AML compliance costs for banks</p> <p>Increased government revenue from asset seizures (likely to be limited in size – but still a CRB)</p>
<p>Non cash releasing benefit (Non CRB) – a monetisable but not cash-releasing benefit</p>	<p>Further law enforcement efficiency when investigating cases of potential financial mismanagement (reduction in police time and resource)</p> <p>Less public money wasted on unfit providers (better value for money in government contracts)</p> <p>Reduced risk of losses for shareholders involved in ‘pump and dump’ schemes</p> <p>Increasing investor protection by reducing the risk of misallocated funds, and of investors breaking bribery laws</p> <p>Reduced tax evasion and tax avoidance</p>
<p>Quantifiable benefit – a quantifiable but not monetisable benefit</p>	<p>Reduced perception of corruption (quantifiable via indexes such as the Corruption Perception Index)</p> <p>Increased prosecutions or convictions in cases related to corruption / financial mismanagement (reduced impunity)</p> <p>Increasing international economic stability by making it easier to gauge risk in financial transactions</p> <p>Increased data use by civil society and government officials</p>
<p>Qualitative benefit – a benefit which can be</p>	<p>More trust in public institutions and business</p>

¹⁶⁷ HM Treasury. (2018). *Guide to Developing the Programme Business Case*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/749085/Programme_Business_Case_2018.pdf

qualitatively identified, but not readily quantified

environment

Increased insight into company ownership structures for civil society, government and businesses (normative value of transparency)

Table adapted from HM Treasury's *Guide to Developing the Programme Business Case*.¹⁶⁸

Whilst literature identifies a number of benefits that are in principle quantifiable or monetisable, there has been little done to measure any of these benefits to date.

Generally, the sources we consulted which describe the economic benefits that one could logically expect to arise from BOT, do not look to quantify these benefits. This echoes findings from a 2021 European Commission report which looks to assess the impact of high value datasets, (including company ownership data), which states that whilst experts consulted were able to speak to case study examples demonstrating company data value, they could not refer to robust figures or means of quantification.¹⁶⁹

Moreover, a number of studies explicitly refrain from attempting to conduct an economic analysis to either forecast, or assess the quantitative impact of BOT. We found two recurring explanations for reticence here:

1. Some studies refrain from quantitative impact analysis on the rationale that it is too early to assess impact.

A number of studies have taken the stance that beneficial ownership as a nascent policy field is too difficult to measure due to a lack of empirical data. For instance, the 2019 Adam Smith International report states:

“it is largely too early in the implementation of BOT to measure its impact on most of these hoped-for benefits on a systematic comprehensive basis”¹⁷⁰

Similarly, a 2020 Transparency International helpdesk response paper outlined how the supporting evidence for BOT reform remained “anecdotal”, referring to “a dearth of empirical evidence” and the current impossibility of identifying the causal effects of implementation.¹⁷¹

¹⁶⁸ *Ibid.* p.20.

¹⁶⁹ *European Commission.* (2020). Impact Assessment study on the list of High Value Datasets to be made available by the Member States under the Open Data Directive.

<https://www.access-info.org/wp-content/uploads/Deloitte-Study-2020.pdf>

¹⁷⁰ Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International.*

<https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf>, p. 34.

¹⁷¹ Van der Merwe. T. (2020). U4 Helpdesk Answer, Beneficial ownership registers: progress to date. *Transparency International.*

https://knowledgehub.transparency.org/assets/uploads/kproducts/beneficial-ownership-registers-progress-to-date_U4-revised_PR.pdf, p. 16.

Meanwhile, even within the UK government, which is widely regarded as a forerunner in terms of BOT reform, some implementers have expressed doubt about being able to quantifiably measure impact due to a lack of policy maturity. For instance, the BEIS Post-Implementation Review of the UK PSC register from 2019 refrains from any quantitative impact measurement, reasoning that it is “too early to evaluate its wider economic effects”.¹⁷²

2. Other studies refrain from quantitative impact analysis on the rationale that it is too difficult to attribute potential economic benefits directly to beneficial ownership transparency.

A further challenge which surfaced throughout research is that isolating beneficial ownership transparency (and the design choices it invokes) as the sole drivers of economic benefit is extremely difficult, especially without baseline data. As one of our interviewees for this project pointed out, “beneficial ownership is just one piece of the puzzle”, and is always part of a broader package of transparency reforms. The same view is reflected in the Adam Smith report which states that “BOT is only one element of systems to address corruption or money-laundering, for example, which makes attribution more challenging”.¹⁷³

The UK government also acknowledged the challenge of attribution. A 2014 impact assessment of its ‘Transparency and Trust’ programme of reforms, which included an assessment of the costs and benefits of creating the UK’s centralised PSC register, makes no attempt to quantify the economic benefits of the register. Attribution emerges as a key obstacle when discussing BOT’s impact upon law enforcement resourcing costs:

“We should also note that beneficial ownership reform is only one part of the Transparency and Trust package. While it is difficult to predict reliably change in the crime rate related to any one part of the package, we could consider that the overall combined effect from implementing the comprehensive package is likely to be greater than the sum of its parts.”¹⁷⁴

Given the challenges associated with attribution and data availability, benefits that are technically monetisable or quantifiable have often been captured only qualitatively.

For instance, the authors of the 2019 Post Implementation Review of the PSC register made a decision to use qualitative interviews to discuss the value of UK PSC data with law enforcement, civil society organisations and financial and business institutions. This was

¹⁷² Department for Business, Energy and Industrial Strategy (BEIS). (2019). Post-Implementation Review of the People with Significant Control Register.

https://www.legislation.gov.uk/ukxi/2017/694/pdfs/ukxi0d_20170694_en.pdf, p. 40

¹⁷³ Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International*.

<https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf> p. 34.

¹⁷⁴ Department for Business, Innovation and Skills (BIS). (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf, p.25.

attributed to a lack of data maturity following the registers release in 2016 and the staggered introduction of reporting measures which followed.¹⁷⁵ Based on these interviews, the resulting report was able to speculate qualitatively about the presence of benefits such as reduced due diligence costs, but wasn't able to monetise this as a cash releasing benefit (as it is in principle). The conclusions made by the Post Implementation Review indicated that 4 out of the 5 objectives of the PSC regulations were being met. They were deemed successful in the areas of increasing company transparency, increasing confidence in the business environment, facilitating economic growth and facilitating investigations into economic crime. The only objective for which no evidence was found, was reducing illicit activity and improving corporate behaviour.¹⁷⁶

Similarly, the 2014 BEIS impact assessment of the 'Transparency and Trust package' refrains from monetizing reductions in law enforcement resource time and costs (in principle, a non-cash releasing, but monetisable benefit):

“there is no reliable or systematic way of attributing reductions in law enforcement agencies' costs or the consequences directly and exclusively to enhanced transparency of company beneficial ownership. For this reason, the benefits resulting from reduced costs to law enforcement remain non-monetised.”¹⁷⁷

Despite the barriers to measurement, there remains a widespread assumption that these economic benefits of BOT are significant, and it has been implied that they outweigh the costs associated with BOT reform and the costs associated with inaction in this area.

As characterised by a report commissioned by the European Union into high value datasets, which includes a discussion of the value of BOT data, “beneficial ownership datasets are unanimously considered of high value by the literature”.¹⁷⁸

Whilst there were a number of sources consulted which mentioned the costs of beneficial ownership transparency (including set up costs and maintenance for government, and compliance costs for business), it was consistently implied that these costs would be eclipsed by the wider economic benefits of beneficial ownership transparency, even if the latter could not be readily quantified.

¹⁷⁵ Department for Business, Energy and Industrial Strategy (BEIS). (2019) Post-Implementation Review of the People with Significant Control Register.

https://www.legislation.gov.uk/ukxi/2017/694/pdfs/ukxi0d_20170694_en.pdf, p. 12.

¹⁷⁶ *Ibid.* p. 39-40.

¹⁷⁷ Department for Business, Innovation and Skills (BIS). (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf, p.25.

¹⁷⁸ European Commission. (2020). *Impact Assessment study on the list of High Value Datasets to be made available by the Member States under the Open Data Directive.*

<https://www.access-info.org/wp-content/uploads/Deloitte-Study-2020.pdf>, p. 25.

For instance, the Adam Smith International 2019 report states that centralised beneficial ownership registries do incur some costs for businesses, including submission fees and time taken for business to report, but these are “outweighed by the benefits that business can derive from greater transparency and from the risks of resistance to BOT”. The report argues that smaller costs to businesses pale in comparison to risk costs associated with the lack of a register – such as the reputational risk of a business being involved in a corruption scandal.¹⁷⁹

Elsewhere, the UK Government's 2014 Impact Assessment for a public centralised beneficial ownership registry sizes costs for government and businesses over 10 years at around £1088 million total – but frames this alongside the cost of organised crime and fraud in the UK, which is estimated at £24 billion annually according to Home Office.¹⁸⁰¹⁸¹

We came across no literature during our research which explicitly made the case against beneficial ownership registries based on cost-concerns.

Existing work to track economic impact of beneficial ownership transparency

Where literature *does* attempt to put figures on the benefits associated with BOT reform, these are often high-level and lack methodological rationale.

Such figures can be found cited in both government materials and in advocacy settings, and are more often than not linked to the costs associated with broad areas of criminal activity, such as corruption or money laundering.

Sources consulted generally fell short of outlining exactly how, and to what extent BOT would minimise these costs: for example, the aforementioned 2014 UK government impact assessment references the £24 billion cost of organised crime estimate, but offers no insight into how a centralised BOT registry will affect the figure.¹⁸²

Moreover, these numbers are rarely accompanied by methodological rationale, and sometimes their provenance is unclear. As an illustrative example of all of the above, a 2011 World Bank report titled *The Puppet Masters*, which calls for a more effective approach to beneficial

¹⁷⁹ Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International*.

<https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf>, p. 43.

¹⁸⁰ *Department for Business, Innovation and Skills (BIS)*. (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf, p.25.

¹⁸¹ *Home Office*. (2013). Understanding organised crimes: estimating the scale and the social and economic costs.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/246390/horr73.pdf

¹⁸² *Department for Business, Innovation and Skills (BIS)*. (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf

ownership transparency, begins with the assertion that corruption siphons around \$40 billion annually away from legitimate economies.¹⁸³ There is no indication of how this figure was calculated, or by whom, but it also been cited by the United Nations¹⁸⁴, news outlets¹⁸⁵ and academic papers.¹⁸⁶ A number of figures have been similarly ‘recycled’ without any easily identifiable methodological grounding.

Nonetheless, there are a very limited number of studies that *have* sought to quantify and even monetise the benefits of beneficial ownership transparency, often with clear limitations.

The first attempt to monetise the benefits of BOT we encountered dates back to 2002, when the UK government published a Regulatory Impact Analysis (RIA) which seeks to place value on the benefits of BOT implementation options for law enforcement purposes. This includes the creation of a “modern database” of BOT information searchable by name (early ideation of the UK PSC register). The RIA summarises its methodology as follows:

The RIA estimated the benefits of different levels of BOT, varying by timeliness and access to data and the linkage of databases on company ownership with other databases. After consulting with agencies involved in pursuing and recovering the proceeds of financial crimes, HM Treasury/DTI concluded there were three different levels of benefits of BOT, corresponding to the different options, particularly 5%, 15%, and 30% orders of economy. These percentages were then applied to estimates of costs involved in pursuing and preventing financial crimes, as well as the value of recoveries from financial crimes, to generate economic benefit estimates.¹⁸⁷

To illustrate, the RIA cited an average expenditure per head for a law enforced specialised in recovery of £30k. Taking reported estimates of 1,700 financial investigators in UK law enforcement, multiplying by £30k, and applying 5% yields the estimated £2.55 million savings for this element in the first order of economy scenario (i.e. 5%).¹⁸⁸ Similar calculations were undertaken for the other benefit elements – i.e. reduced prevention efforts, greater recoveries,

¹⁸³ Van der Does de Willebois, E., et. al. (2011). The Puppet Masters: How the corrupt use legal structures to hide stolen assets and what to do about it. *World Bank*. <https://openknowledge.worldbank.org/bitstream/handle/10986/2363/9780821388945.pdf?sequence=6&isAllowed=y>, p. ix.

¹⁸⁴ *United Nations Office on Drugs and Crime (UNODC)*. Asset Recovery. Accessed February 2022. <https://www.unodc.org/unodc/en/corruption/asset-recovery.html>

¹⁸⁵ *The India Economic Times*. (2010). Corruption robs developing nations of \$40 billion annually: World Bank. <https://economictimes.indiatimes.com/news/economy/indicators/corruption-robs-developing-nations-of-40-billion-annually-world-bank/articleshow/6044228.cms>

¹⁸⁶ Vlasic, M. V. and Noell, J. N. (2010). Fighting Corruption to Improve Global Security: An Analysis of International Asset Recovery Systems. *Yale Journal of International Affairs*. <https://www.yalejournal.org/publications/fighting-corruption-to-improve-global-security-an-analysis-of-international-asset-recovery-systems>

¹⁸⁷ *HM Treasury / Department of Trade and Industry (DTI)*. (2002). Regulatory Impact Analysis: Disclosure of Beneficial Ownership of Unlisted Companies. https://webarchive.nationalarchives.gov.uk/ukgwa/+http://www.hm-treasury.gov.uk/media/9/9/ownership_long.pdf, p. 6-7.

¹⁸⁸ *Ibid.* p.58.

and reduced business risk – for first (5%), second (15%), and third (30%) order of economy scenarios.

The RIA estimates appear reasonable, with cost and recovery estimates based on official data, and assumed orders of economy based on consultation with agencies, in which they were asked to give a range (e.g. 5-10%) of assumed economies in their operations or improvements in fraud recovery. In all cases, HM Treasury/DTI followed the lowest estimate provided.

The RIA is candid about the margins for error associated with this approach, noting that quantifying the impact of financial crime is “notoriously difficult”, and therefore acknowledging that it does not look to make precise benefit calculations for each option put forth. Perhaps due to the choice of following lowest estimates, the figures generated were regarded as a conservative underestimation by the Open Government Partnership.¹⁸⁹

In 2015 the UK government published a further impact assessment which covers limited economic benefits of BOT reform, with a specific focus on costs and benefits for businesses responding to direct requests from the public for PSC information.¹⁹⁰ The report suggests that costs for businesses to familiarise themselves with guidance, and to respond to these requests are likely to amount to £137.1 million over 10 years. Based on a prescribed flat fee of £12 which businesses would charge to process PSC requests, and the average number of requests businesses would receive, benefits to businesses are estimated to be £47.3 million over 10 years. Crucially, the benefits calculated here are limited to the ‘cashable’ benefits for businesses associated with a fee-based approach; the report does not attempt to quantify the wider benefits of being able to access this information for requesters.

Outside of the UK context, we only found two examples of work which looks to quantify the monetisable economic benefits of BOT. The first, a study conducted by PwC, focused on BOT within the context of the wider value of the business information sector in Italy, and identified a constant growth in the last three years (from a value of 57 million euro in 2017 to 58 million euro in 2018 and 60 million euro in 2019). However, the report is not publicly available, only referenced in the European Commission report on high value datasets, which provides no insight into its methodological approach or the specific types of business information considered in the analysis.

Finally, the European Commission impact assessment itself conducts a macro-economic impact assessment which looks to size the value of company and company ownership data. To achieve this, the report looks back to a study conducted by Graham Vickery in 2011¹⁹¹ to

¹⁸⁹ *Open Government Partnership*. (2019). Global Report: Beneficial Ownership.

https://www.opengovpartnership.org/wp-content/uploads/2019/05/Global-Report_Beneficial-Ownership.pdf, p.5.

¹⁹⁰ This is because the PSC information on the register is only confirmed to be accurate in confirmation statements every 12 months. Therefore, sometimes onlookers wish to request more up to date information directly from companies. In other instances, onlookers also wish to request the date of birth of a PSC which is required for certain banks’ due diligence processes, but isn’t available on the public register, to protect against identity fraud.

¹⁹¹ Vickery, G. (2011). Review of Recent Studies on PSI Re-Use and Related Market Developments. *European Commission*. https://digitaliser.dk/resource/1867487/artefact/final_version_study_psi.docx

estimate the market size of public sector information (PSI) in its broadest sense, and applies forecasts from the European data market monitoring tool¹⁹² to predict a baseline scenario for growth up to 2025. From here, company and company ownership data is estimated to represent 6% of total PSI market size, giving it a representative value of 3016 million euros in 2020 across all EU member states, growing to 4132 million euros by 2025 (see Table 1 annex)¹⁹³.

Crucially, however, these estimates are limited by the fact that the report doesn't extrapolate on how a 6% market share value for company and company ownership data was identified, only that it was determined based on "existing literature" and the study's research – which raises some questions as to the accuracy of these large macro-economic figures. Moreover, the report refers to "company and company ownership data" throughout. Whilst beneficial ownership data is referenced during the discussion, no specific estimations are attributed to BOT data in isolation.

Of all the studies we encountered, the joint Companies House and BEIS 2019 valuation of Companies House¹⁹⁴ data is the best example of work which measures the monetisable benefits of beneficial ownership data specifically.

Indeed, of all the existing research reviewed, the Companies House/BEIS report was one of the most relevant to this study, for three reasons:

1. It is the only study we came across which has attempted to isolate the benefits of beneficial ownership data transparency using a specific BOT intervention (the introduction of the UK PSC register) as one of the focuses of analysis. As emphasised in the EU/Deloitte report, the Companies House valuation is the first of its kind in this sense – as other countries like France and Denmark, which have also moved forward with the creation of PSC registers, have not conducted similar analyses.¹⁹⁵
2. The report also considers the economic implications of making company data available under a paid-access model only – and hence comes closest to measuring the impact of making a BOT register freely accessible to the public – one of the key design choices underpinning BOT interventions at the start of this project.

¹⁹² *Data landscape*. Data Landscape: The European Data Market Monitoring Tool. Accessed February 2022. <http://datalandscape.eu/european-data-marketmonitoring-tool-2018>

¹⁹³ *European Commission*. (2020). Impact Assessment study on the list of High Value Datasets to be made available by the Member States under the Open Data Directive.

<https://www.access-info.org/wp-content/uploads/Deloitte-Study-2020.pdf>, p.390.

¹⁹⁴ *Department for Business, Energy and Industrial Strategy (BEIS), Companies House*. (2019). Valuing the User Benefits of Companies House Data: Policy Summary.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

¹⁹⁵ *European Commission*. (2020). Impact Assessment study on the list of High Value Datasets to be made available by the Member States under the Open Data Directive.

<https://www.access-info.org/wp-content/uploads/Deloitte-Study-2020.pdf> p.137.

3. The valuation is accompanied by a thorough methodological discussion of potential approaches for valuing the benefits of company data and their limitations and advantages, which is likely to be instrumental to informing some of the avenues explored in this paper.

The key findings of the report concerning the value of beneficial ownership data are as follows:

- **Based on willingness to pay survey responses, beneficial ownership data was estimated to account for 4% of the total value of all Companies House data – or approximately £40 million to £120 million of aggregate benefit per year.**
- **Yet for “high use” users – who are characterised as “public good” users working in transparency organisations, government departments or law enforcement entities – the report acknowledges that the value of PSC data rises to 13% of the total value.**
- **An illustrative policy application shows that introducing subscription fees to the PSC register would generate a net welfare loss. This is because of transactions that would no longer take place because of the fees, and represents what economists would label as lost consumer surplus.¹⁹⁶**

These findings were calculated through a willingness to pay (WTP) survey-based approach and a discrete choice model, whereby the authors broke down Companies House datasets and services in order to isolate their specific elements, such as PSC data. Respondents were then asked how much they would be willing to pay to use or access each element. Furthermore, for the intermediaries and ‘public good’ providers who were the most frequent and intensive users of PSC data, WTP surveys were supplemented with additional qualitative research exploring their use of data, its associated costs and revenues and the potential availability of alternative data sources. This was to ensure the robustness of findings, given that there were a limited number of respondents from the ‘public good’ user groups.

In addition to quantifying the benefits of PSC data, the report also makes a solid economic case for the open access provision of company data. An estimated demand curve is used to highlight how introducing an annual subscription charge for Companies House data would severely reduce numbers of users and transactions, leading to a net economic loss to the service despite a hypothetical new revenue stream. This was achieved by estimating demand based on the results from the WTP survey to associate a new number of users for each annual price range.

Although this element of the report refers to Companies House data more broadly, it nonetheless provides some methodological grounding for pursuing a similar approach for measuring the varying economic impact of making BOT data available under paid / free models

¹⁹⁶ *Department for Business, Energy and Industrial Strategy (BEIS), Companies House (2019). Valuing the User Benefits of Companies House Data: Policy Summary.*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833764/valuing-benefits-companies-house-data-policy-summary.pdf

– an important intervention design choice identified at the start of this work as a potential avenue for measurement.

The report’s wider exploration of potential approaches to benefit measurement also provides valuable insight for this research.

In addition to its findings, the report also includes a discussion paper outlining methodological options for measuring the economic value of company data, outlining the different methods available to evaluators, and the kinds of data points which would be required to execute them:

Method	Data required	Category
<p>Point expansion Observing a single point of the demand curve and applying pre-determined elasticity assumption to estimate the demand curve for a good or service. Simplified approach but pragmatic in situations where demand information is very limited.</p>	Market data, empirical data	Market value-based analysis
<p>Residual imputation method Estimating the economic rent or marginal revenue of a non-priced input to production provides an output of known value. The value of the non-priced input is calculated by subtracting all other costs of production from the value of the output that is produced; hence the ‘residual’ value is assigned to the non-priced input.</p>	Market data, production data	Market value-based analysis
<p>Direct estimation Using econometrics to directly estimate the demand curve for a good or service when data is available. This approach is the most accurate, but is reliant on the accessibility of data.</p>	Market data, empirical data	Market value-based analysis
<p>Production function Quantifying relationship between an input to production and the output. Marginal product of data is calculated by holding all other inputs constant and looking at the change in output when only the measured input changes.</p>	Market data, production data	Production function
<p>Inference from market values Using comparable income streams or sales values to estimate value for non-priced assets. The marginal value associated with non-priced uses of CH data could be assessed by assuming that the price associated with ‘paid for’ uses of the data also represents the WTP of open access</p>	Market data	Inferring the value of non-priced uses from market data

users.

Revealed preference Observing relationship between demand for market-price goods and preferences for related non-priced goods. Analysing choices made by consumers and consequently attributing value to individual features in terms of their willingness-to-pay.	Market data, attribute data and survey data	Non-market valuation methods
Stated preference Simulating markets for trading non-priced goods through survey-based approaches. Discrete choice experiments are an attribute-based approach that break a good or service down into its characteristics or features and provide a value for changes in the provision of these attributes.	Attribute data, survey data	Non-market valuation methods

Table and method summaries adapted from Valuation of Companies House Data, Report 1: Methodological Framework¹⁹⁷

After weighing up the trade-offs associated with each approach, the BEIS/Companies House report is also candid about the limitations of its chosen methodology. This, in turn, raises important considerations about how the results of different methodological approaches to economic measurement can be interpreted.

Following a discussion of the advantages and trade-offs associated with each approach, the authors of the report chose to pursue a stated preference approach, using a discrete choice experiment (DCE) to estimate user willingness-to-pay (WTP). It is acknowledged that stated preference / WTP is not necessarily a first choice approach from a valuation perspective, since Companies House data is largely unpriced.

However, this decision was made for a number of reasons which are outlined in the methodological framework:

- A stated preference approach can be applied across various data types and user groups, ensuring consistency of perspective across the valuation study;
- non-market valuation methods are not necessarily reliant on third party data, and all data requirements could be met through survey design and Companies House product data, and;
- a stated preference approach allowed the authors to design a survey which incorporates in-built consistency checks for the WTP estimates collected.

¹⁹⁷ Department for Business, Energy and Industrial Strategy (BEIS), Companies House (2019). Valuing the User Benefits of Companies House Data, Report 1: Methodological Framework. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833766/valuing-benefits-companies-house-data-report-1-methodological-framework.pdf p.16-21.

Whilst these concerns, particularly surrounding data availability, justify the use of a WTP approach, the discussion nonetheless serves as an important illustration of how certain methodological approaches might impact the way we can frame and understand its estimates.

Ultimately, the value identified in the Companies House / BEIS report will never be realised or released back into government budgets – it produces a monetised but non-cashable benefit estimation. This could, in theory, be a potential trade off associated with other methodological approaches explored in this study; for instance, if stakeholders were more interested in measuring cash releasing benefits, to assess the amount of budget freed up by an intervention, then alternative approaches should be pursued.

Looking to other policy areas for insight: measuring the economic impact of corruption, fiscal transparency and open contracting

The BEIS valuation of Companies House data serves as a particularly useful starting point when looking at potential methods for valuing beneficial ownership data. However, the fact that the study is the first of its kind, and that PSC data only constitutes a fraction of the report still means that the field of literature surrounding this piece of work is limited.

Given the lack of literature which actually quantifies the economic impact of BOT, we have looked to three other jurisdictions for insight into potential approaches for measurement, to explore how economic impact has been quantified in literature on anti-corruption, fiscal transparency and open contracting.

Our findings from each of the jurisdiction have been summarised below.

1. Measuring the economic impact of corruption

In contrast to beneficial ownership transparency, there is a wealth of literature seeking to quantify impacts of corruption. Given the logical connections between corruption and BOT, some of this work could reasonably be applied to the methodologies explored in our research.

There is a clear link between corruption and certain company structures.¹⁹⁸ As outlined in this study's logic model, beneficial ownership transparency provides law enforcement, journalists, and NGOs with the tools and data to explore these structures and identify cases of potential corruption and other illicit financial flows, whilst acting as a deterrent for the same. Consequently, as the 2019 Adam Smith International report neatly summarises, "the potential impact of effective BOT can be viewed as a potential reduction in the scale of corruption facilitated by the opacity of company structures".¹⁹⁹

¹⁹⁸ Department for Business, Energy and Industrial Strategy (BEIS). (2017). Register of Overseas Entities. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727827/3_ROEBO_final_stage_impact_assessment.pdf

¹⁹⁹ Davila, J., et. al. (2019). Towards a Global Norm of Beneficial Ownership Transparency. *Adam Smith International*. <https://adamsmithinternational.com/app/uploads/2019/07/Towards-a-Global-Norm-of-Beneficial-Ownership-Transparency-Phase-2-Paper-March-2019.pdf>, p. 34.

There is a wide body of literature looking to quantify, and often monetise, the impact of corruption on a range of economic indicators – many of which are also present in our logic model. Cross-country panel studies draw upon corruption indices like the [ICRG](#) (International Country Risk Guide) risk of corruption measure and the [FFC](#) (Freedom from Corruption) index, combined with longitudinal techniques,²⁰⁰ random effect models²⁰¹ and data envelopment analyses²⁰² to put an economic value on the economic effects of corruption.

There is some underexplored potential for the methodologies in this research to draw upon some of these methods to quantify the relationship between BOT and economic impact, if it is assumed that a reduction in corruption would act as an intermediary logical step here.

Despite more progress in the field of quantifying the effect of corruption, analyses remain subject to critiques which could also be applied to work seeking to measure the economic impacts of BOT.

A 2015 UK Department for International Development (DfID) report exploring the causes and effects of corruption identifies a number of difficulties in terms of measuring the economic impacts of corruption. These include: a lack of clear definitions to set the parameters for measurement, aggregation problems when attempting to demonstrate direct causality and, probably the most significant in the context of the report, “the limited range of methodologies that can adequately demonstrate causal relationships between corruption and [economic] growth”.²⁰³

Elsewhere, economists at the World Bank have drawn attention to issues concerning data availability, quality and coverage as key challenges for econometric analyses of the impacts of corruption. Echoing the compromise taken the Companies House / BEIS report, the World Bank economists here, who were looking to estimate the effects of corruption in Bangladesh, chose to set aside the ‘preferred’ approach in favour of a method which better suited the data available, carrying out a cross-country empirical regression, as opposed to a time series econometric analysis.²⁰⁴

²⁰⁰ Rahman, A., Kisunko, G. and Kapoor, K. (2000). Estimating the Effects of Corruption: Implications for Bangladesh. *The World Bank*.

https://openknowledge.worldbank.org/bitstream/handle/10986/19765/multi_page.pdf?sequence=1&isAllowed=y

²⁰¹ Alemu, A. M. (2012). Effects of Corruption on FDI Inflow in Asian Economies. *Seoul Journal of Economics*. Volume 25, no. 4. <http://sje.ac.kr/xml/26435/26435.pdf>

²⁰² Faruq, H., Webb, M. and Yi, D. (2013). Corruption, Bureaucracy and Firm Productivity in Africa. *Review of Development Economics*. Volume 17, no. 1.

https://onlinelibrary.wiley.com/doi/epdf/10.1111/rode.12019?saml_referrer

²⁰³ Department for International Development (DFID). (2015). Why corruption matters: understanding causes, effects and how to address them.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/406346/corruption-evidence-paper-why-corruption-matters.pdf p. 38

²⁰⁴ Rahman, A., et. al. (2015). Estimating the Effects of Corruption: Implications for Bangladesh. *The World Bank*.

https://openknowledge.worldbank.org/bitstream/handle/10986/19765/multi_page.pdf?sequence=1&isAllowed=y

Whilst the vast majority of research measuring the economic impact of corruption has employed cross-sectional methodologies – like the one selected by the World Bank economists working on Bangladesh – these approaches have also been critiqued for presenting only a “snapshot in time”, which does not fully represent corruption and economic growth over a longer period.²⁰⁵ The aforementioned report suggests longitudinal approaches as a possible solution, but as identified by the World Bank, data availability can be a barrier to models which assess impact across time.²⁰⁶

Others have recognised that analyses sometimes neglect to account for other institutional factors, echoing the fears around attribution surfaced in discussions earlier in the literature review. For instance, Al-Sadig finds that when the quality of institutions is controlled for, the negative effects of corruption on FDI identified by Wei, Habib and Zurawicki, and Voyer and Beamish “disappears”.²⁰⁷

Another final challenge concerns the universality of analyses – for instance, considerable differences have been found in terms of corruption’s impact on FDI flows both within and outside the OECD.²⁰⁸

2. Measuring the economic impact of fiscal transparency²⁰⁹

Despite a fairly small body of work into the economic impacts of fiscal transparency, the research we encountered in this area raised important questions regarding the trade-offs associated with causal analysis, which have been factored into our discussion of potential methodologies for measuring BOT benefits.

Fiscal transparency and beneficial ownership transparency can be viewed as neighbouring fields, which share some policy objectives in terms of controlling public sector corruption and boosting citizen trust in government, and look to achieve them through principles of open, reliable, and timely data publication. Given these shared objectives and mechanisms for leading to impact, we conducted a review of econometric studies in the fiscal transparency field to determine how researchers have tracked impact, and assess how this might be relevant to our work.

²⁰⁵ Department for International Development. (DFID) (2015). Why corruption matters: understanding causes, effects and how to address them.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/406346/corruption-evidence-paper-why-corruption-matters.pdf p. 38.

²⁰⁶ *Ibid.*

²⁰⁷ Al-Sadig, A. (2009). The effects of corruption on FDI flows. *Cato Journal*. Volume 29, no. 2.

<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.520.6068&rep=rep1&type=pdf> p. 283.

²⁰⁸ Department for International Development (DFID). (2015) *Why corruption matters: understanding causes, effects and how to address them.*

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/406346/corruption-evidence-paper-why-corruption-matters.pdf p. 46.

²⁰⁹ Fiscal transparency can be defined as “the comprehensiveness, clarity, reliability, timeliness, and relevance of public reporting on the past, present, and future state of public finances”. Source: IMF. *Why Fiscal Transparency Matters*. Accessed February 2022.

<https://www.imf.org/en/Topics/fiscal-policies/fiscal-transparency>

Overall, the literature covering the economic impacts of fiscal transparency is much more modest than that on corruption. The studies we encountered in this field tended to focus on identifying causal associations between fiscal transparency and a range of positive outcomes. For instance, a number of papers including Hameed,²¹⁰ Glenersster and Shin,²¹¹ Alt and Lassen,²¹² and De Simone et al.²¹³ find that even after controlling for several variables, fiscal transparency is positively associated with higher credit ratings, lower public debt, and control of corruption.

Crucially, however, as causal models, none of the work here attempts to size or monetise the benefits identified. Instead, studies seek to prove the existence of qualitative benefits with confidence, and as such, address the ‘attribution’ problem identified in literature on BOT and corruption.

Whilst they might be described as an academic gold standard in terms of linking benefits to a certain variable, accurate casual models can be extremely time-consuming and expensive to produce and often result in findings that are narrow in scope. As such it is unsurprising that they have not yet been produced for BOT – a relatively nascent policy field compared to fiscal transparency.

3. Measuring the economic impact of open contracting

In the analyses we encountered which measure economic impact in the open contracting space, case studies were often used to make simple and persuasive pre- and post-implementation comparisons. Whilst little work has been done to put an economic value on contracting data itself, research here emphasises the need for baseline, counterfactual and costing data in order to track impact.

The final jurisdiction we analysed in the literature review was open contracting. The connection between procurement transparency and beneficial ownership information is a crucial one; when open contracting and beneficial ownership information are combined, it is possible to reach conclusions on where contracts are being concentrated and whether the government is getting value for money. Without beneficial ownership information, it is much more difficult to determine any possible conflicts of interest using open contracting data, and to ensure questionable or unreliable suppliers are not re-engaged under another name.²¹⁴

²¹⁰ Hameed, F. (2005). Fiscal Transparency and Economic Outcomes. *International Monetary Fund (IMF)*. <https://www.elibrary.imf.org/view/journals/001/2005/225/article-A001-en.xml> p. 17.

²¹¹ Glennerster, R. and Shin, Y. (2008) Does Transparency Pay? *International Monetary Fund (IMF)*. <https://www.elibrary.imf.org/view/journals/024/2008/003/article-A006-en.xml> p. 206.

²¹² Alt, J. E. and Lassen, D. (2006). Fiscal transparency, political parties, and debt in OECD countries. *European Economic Review*. Volume 50, no. 6. <https://www.sciencedirect.com/science/article/pii/S0014292105000668>

²¹³De Simone, E., et. al. (2017). The Impact of Fiscal Transparency on Corruption: An Empirical Analysis Based on Longitudinal Data. *The B.E. Journal of Economic Analysis & Policy*. Volume 17, no. 4. <https://ideas.repec.org/a/bpj/bejeap/v17y2017i4p17n10.html>

²¹⁴ *Open Ownership, Open Contracting and Oxford Insights*, (2021). Integrity in IMF Covid-19 financing: did countries deliver on their procurement & beneficial ownership transparency commitments?. <https://www.openownership.org/resources/integrity-in-imf-covid-19-financing/>

Given the interoperability of data in each field, and some of the shared objectives of open contracting and BOT in terms of improving public procurement outcomes and reducing illicit activity, it seemed natural to look to literature measuring the economic impact of open contracting for insight.

Perhaps due to the relative maturity of the open contracting advocacy space, we found more examples of impact quantification linked to e-procurement systems than BOT registers. However, we didn't encounter any research which attempted to size the economic effects of open contracting as a policy across countries, in the same way that the Deloitte / European Commission report and the BEIS/Companies House 2019 paper sought to put a value on company ownership data.

Instead, quantitative impact tracking in the open contracting space has been largely tied to specific case study examples. A number of examples we identified here relate to open contracting reforms in Ukraine, where the introduction of a new e-procurement platform, Prozorro, led to a range of observed benefits, including average savings of 15% for healthcare organisation publishing contracts on the platform.²¹⁵

Open Contracting Partnership's monitoring evaluation and learning work in this area has been crucial to generating these descriptive statistics. By establishing a number of [key indicators](#) at the start of the ProZorro project in 2015, OCP and the ProZorro team have been able to establish a number of baselines off which progress can be measured. Initial findings pointed towards a number of positive impacts, including a 9.7% increase in savings overall when comparing estimated contract value with actual contract value.

Despite this progress, a 2019 study in which Kovalchuk et al. used a regression discontinuity approach to show that the implementation of ProZorro was linked to an increase in the number of bidders, cost savings, and reduced contracting times, pointed to a lack of data preceding the implementation of ProZorro as a key barrier to robust implementation.²¹⁶ According to one of the author's of the report, C. Kenny, the lack of data for small "below threshold" contracts before implementation meant that results were "still informative, but not as conclusive as we had wanted".²¹⁷

In addition to emphasising the importance of collecting baseline data both at the start of an intervention, and before it is implemented, literature in the field of open contracting also emphasises the importance of work to estimate the costs of an intervention, so that these figures can be used in future cost-benefit analyses. In another paper focussing on ProZorro,

²¹⁵ Amin, L. (2017). Making the case for open contracting in healthcare procurement. *Transparency International*.
<http://ti-health.org/wp-content/uploads/2017/01/Making-The-Case-for-Open-Contracting-TI-PHP-Web.pdf>

²¹⁶ Kovalchuk, A., Kenny, C. and Snyder, M. (2019). Examining the Impact of E-Procurement in Ukraine. *Center for Global Development*.
<https://www.cgdev.org/publication/examining-impact-e-procurement-ukraine>

²¹⁷ Kenney, C. (2019). Measuring the impact of open contracting. *Centre for Global Development*.
<https://www.cgdev.org/blog/measuring-impact-open-contracting>

Vissapragada uses the Open Government Costing Framework and Methods developed by Results for Development to estimate that the initiative cost over 4.6 million euros to set up and put into operation, arguing that these figures provide “a first step towards conducting a cost-benefit analysis of open government reforms”.²¹⁸

The emphasis on cost is an important one, and perhaps provides some optimism around the potential for further cost-benefit analyses in the beneficial ownership space using costing data from the UK government, some of which has been documented in the 2014 impact assessments and 2019 Post Implementation Review of the PSC register.^{219,220}

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²¹⁸ Vissapragada, P. (2017). Open Government Case Study: Costing the ProZorro e-Procurement system. *Results for Development*.

https://www.r4d.org/wp-content/uploads/R4D_OG-ProZorro-CS_web.pdf

²¹⁹ Department for Business, Innovation and Skills. (2014). Final Stage Impact Assessments to Part A of the Transparency and Trust Proposals (Companies Transparency).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/324712/bis-14-908a-final-impact-assessments-part-a-companies-transparency-and-trust.pdf;

²²⁰ Department for Business, Energy and Industrial Strategy (BEIS). (2019). Post-Implementation Review of the People with Significant Control Register.

https://www.legislation.gov.uk/ukxi/2017/694/pdfs/ukxi0d_20170694_en.pdf.

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