CONCEPT NOTE

Bankable Frontier Associates

Regulatory Impact Assessment Methodology:

Towards Evidence Based Policy Making in Financial Inclusion

I. A NEW APPROACH TO ASSESSING IMPACT

A systematic assessment of the impact of regulatory reform can support regulators in the design, development, coordination, and monitoring and evaluation of changes in regulation. The umbrella term “Regulatory Impact Assessment” (RIA) is often used to describe a handful of differing methodologies aimed at evaluating the impact of regulatory change. This concept note introduces the Rationale-Objectives-Indicator (ROI) approach for conducting an impact assessment for financial inclusion regulation[1].

An ROI assessment provides a pragmatic framework through which to conduct an examination of the consequences of a policy or regulatory choice(s) and assess the positive and negative impacts of existing or potential regulatory measures. The ROI approach for a particular regulatory intervention can be broken down into six steps (depicted in Figure 1):

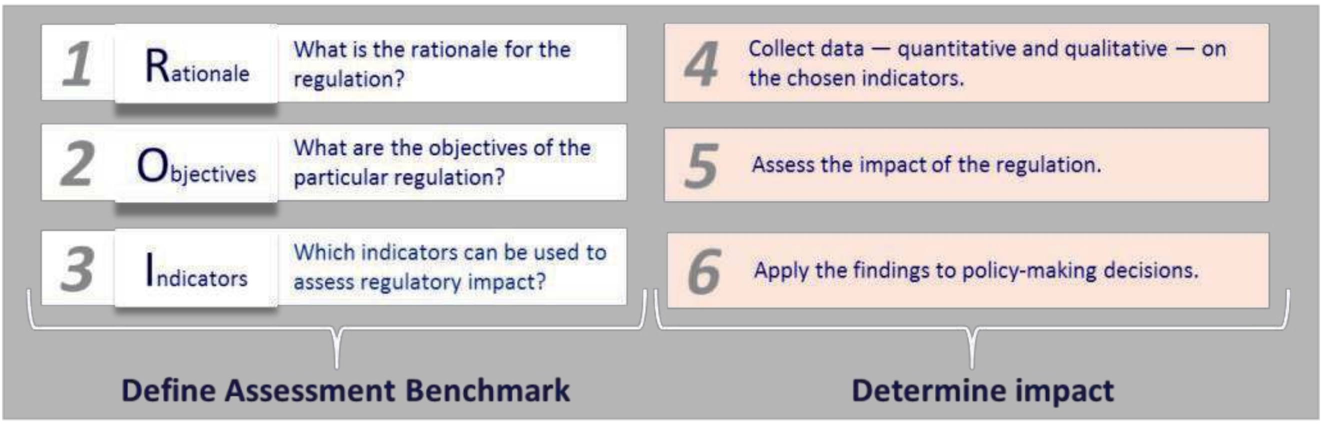
The first three steps determine benchmarks for success. The name of the methodology is derived from these core steps which power the assessment. Step 1 is the identification of the main ***rationale*** for the regulatory intervention, generally market failures. This is followed by Step 2, the definition of public interest ***objectives*** linked to the market failure. Performance is assessed based on the attainment of these objectives. Step 3 is the definition of corresponding quantitative and qualitative ***indicators*** that measure regulatory impact. Steps 1 to 3 result in a list of impact indicators that can measure market outcomes and institutional change. Steps 4, 5 and 6 are related to executing the assessment. The fourth step is ***data collection*** based on the indicators defined. Step 5 is the actual measurement of the impact. To isolate the regulatory impact and attribute changes to the intervention, the ROI assessment may either use a control group not subject to the same regulatory treatment, or identify a structural break caused by the treatment using trend data. Finally, in step 6, the results are used to inform policy decisions.

A ROI assessment can further be characterized by the period in which the assessment is conducted in relation to the implementation of the regulation themselves (i.e. *ex ante* vs. *ex post*).

Assessing the impact of regulation on financial inclusion

A ROI assessment can be used for all types of regulatory reform initiatives. A ROI assessment for *financial inclusion regulations* will always identify ‘improving access to financial services’ as one of the regulatory objectives to be attained. A Financial Inclusion impact assessment thus follows the double bottom line paradigm by combining traditional regulatory objectives based on economic analysis (e.g., safety and soundness of financial institutions or depositor protection) with the provision of a merit good - advancing financial inclusion[2].

Figure 1: Six steps of the ROI approach



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[1]The ROI Assessment can also be adapted to go beyond regulation and assess financial sector *policies* towards financial inclusion. For simplicity this document will use the language of regulation.

[2]Promoting financial inclusion can also be justified on economic grounds (e.g. with reference to market efficiency arguments), but the stronger argument is for access to be a merit good, whose promotion is in the interest of the general public.

Regulators can derive significant benefits from a ROI assessment of financial inclusion regulations because of its potential to identify and manage complexity. Financial inclusion regulations take on the formidable task of enabling market development to take full advantage of new product and service innovations. In this new realm, the market transmission mechanisms are challenging to anticipate, making it difficult to attribute change and isolate the right variables. Furthermore, these regulations often involve multiple stakeholders (many of them non-traditional) and goals that are politically sensitive. The ROI assessment process can serve as a tool to help unpack, or even bring objectivity to designing or assessing this type of regulation.

Over the last decade regulatory interventions for financial inclusion have proliferated. As these regulations begin to reach maturity and bear fruit in certain geographies and begin to take off in others, there is a timely opportunity for regulators to draw on this rich experience and dedicate resources to assessment. The expected impact of financial inclusion is both societal and economic, compelling careful consideration to identify and measure progress towards these dual goals.

II. THE 101 OF THE R.O.I. METHODOLOGY

Understanding the Rationale, Objectives, Indicators (ROI) approach

The ROI approach was first developed and successfully applied to the case of introducing a special microfinance law in Uganda[3]. It is flexible enough to be used for a wide range of regulatory changes with relevance for financial inclusion. The ROI methodology is used both in *ex ante* and *ex post* assessments, with a more detailed explanation can be found later in this note.

To assess the impact of regulation, two basic issues must be addressed: the first, is the definition of a **benchmark** against which to measure regulatory success, and the second is the isolation of the impact of regulatory change from other changes in the market occurring at the same time, that is the **attribution** of regulatory impact. Below each of these will be discussed in turn.

The ROI assessment takes its name from the methodology used for benchmarking. It is firmly rooted in the economic theory of regulation by assuming that the main **rationale** for imposing regulations is market failures. The second step in the ROI approach is to define **regulatory objectives**. While the rationale explains *why* regulation is needed, regulatory objectives define *what* regulation is trying to achieve. In a third step, **impact indicators** are identified that can be used to measure the achievement of regulatory objectives.

Towards evidence-based regulation

ROI assessments support policymakers to gather the data and information necessary to make more informed decisions and weigh their policy options based on the rationale and objectives for action. The emphasis is on evidence based policymaking.

Ex ante, the use of an ROI assessment can help to ensure the objectives of regulation are met (effectiveness) in a cost-effective manner (efficiency). *Ex post* ROI assessments provide a powerful tool for monitoring and evaluating the effects of regulation. While *ex ante* ROI assessments are targeted at choosing the best regulatory design for a specific problem; *ex post* ROI assessments can be used to revise the existing regulation based on past experience and distill lessons for similar regulatory reform initiatives elsewhere.

Yet, the value of a ROI assessment is broader than assessing the achievement of regulatory objectives. The structured process of understanding real-world impacts through *exploring market failures, defining regulatory objectives and assumptions, collecting quantitative and qualitative data, encourages refinement and well-thought out interventions.* If the process is closely linked to market realities and combined with active industry consultation, it encourages transparency and accountability of the regulatory and policymaking process for concerned stakeholders and the wider public.

Conducting structured impact assessments provides regulators with the analytical toolkit to systematically think about impact, carefully design policy and critically evaluate existing policies. These lessons and skills are valuable in the sphere of financial inclusion and beyond.

DEFINING ASSESSMENT BENCHMARKS

It is important for an assessment to go beyond simply measuring the *effects of* regulation (e.g., the profitability of providers has increased) and to also assess whether overall, regulation has been positive or negative. This is particularly important in cases where some elements of the regulatory framework have a

[3]See Staschen, Stefan (2010). *Regulatory Impact Assessment in Microfinance: A Theoretical Framework and Its Application to Uganda*. Wissenschaft-licher Verlag Berlin.

positive impact and others a negative impact. For this purpose, the ROI approach defines a clear *benchmark* that allows us to say what regulation is supposed to achieve. The benchmark proposed here is the degree to which *regulatory objectives* have been achieved.[4]

Step 1: Identify the main rationale for regulatory intervention:

The ROI approach assumes that in a market economy regulatory interventions can only be justified with reference to *market failures*. Such market failures are associated with information problems, externalities, competition problems, and the existence of public goods. Thus the **main rationale** for regulating financial markets is addressing the particular market failure at hand. The burden of proof lies with the regulator: a clear case has to be made for why regulation is expected to lead to a superior outcome. Regulation is not always the best response to market failures. Alternatives could be private sector solutions such as industry code of conducts.

Step 2: Define public interest objectives

The second step of the ROI approach is to define **public interest objectives** that are directly related to a specific market failure (e.g., to improve the availability of information as a response to information problems in financial markets). In cases where residual market failures continue to exist, either because the market failure cannot be removed to the fullest extent or because interventions in one area lead to market failures elsewhere, public interest objectives may also be targeted at the negative consequences of such residual market failures.[5]

Policy makers' public pronouncements about what a specific regulatory measure is supposed to achieve form an additional, complementary regulatory objective and benchmark for the analysis. Policy makers typically follow wider social policy objectives, which cannot necessarily be justified with reference to the economic analysis of market failures.[6] Such **social policy objectives** can be found in sources such as public speeches, official government policies, debates in parliament, preambles to laws, etc. Often there will be overlap between public and social policy objectives.

Within the objectives, some may be subject to trade-offs, while others might be complementary or even mutually reinforcing. For example, both access and safety/soundness are common objectives. In the long run, these may be complementary, since only safe and sound MFIs will be able to serve a growing number of customers. However, in the short run, strict safety and soundness rules may increase barriers to entry and reduce access.[7] For some objectives the preferred strategy is to maximize their achievement (e.g., the consumer protection objective), for others there is an optimal level, below and above which customers are worse off (e.g., the objective to create "healthy" competition). The optimal "mix" of achievement of various objectives, is ultimately a senior management decision.

Step 3: Define Impact indicators

The final step in the benchmarking process is to define a relevant set of **impact indicators**. The achievement of objectives (such as the establishment of a competitive market or the reduction of information problems) cannot be measured directly with a single variable. Instead, a multitude of *quantitative* and *qualitative* impact indicators have to be defined.

The ROI approach uses both types of indicators directly measuring *market outcomes* (e.g., the number of deposit accounts opened as a measure for the achievement of the objective to increase access) and indicators measuring *institutional changes*. The latter are particularly useful if regulatory interventions are targeted at prevention, but do not immediately lead to observable changes in market outcomes (e.g., the setting up of a deposit insurance system as an instrument to prevent depositor "runs").

Indicators of institutional change include changes in systems (e.g., the introduction of an ombudsman function) and processes (e.g., new procedures for conflict resolution). Indicators measuring market outcomes tend to be quantitative, while indicators measuring institutional changes are mostly qualitative.

Indicators may measure impact on the *provider level* or on the *client level*. While the ultimate objective is to maximize benefits for the clients, it is often easier to measure indicators at the provider level. As long as it can be assumed that benefits for providers will be passed on to clients in the form of lower prices, better services, lower risks, etc., indicators on the provider level can be used as proxies for the benefits for the ultimate client.[8]

It is important to focus on a few, well-chosen indicators. Too many indicators can complicate the assessment process by clouding the view of the market with too much data "noise". The experience of

[4]This part of the discussion applies equally to *ex ante* and *ex post* RIAs only that in the former case the past tense should be used (the regulatory change has already happened), while in the latter case the future tense. For simplicity, we will henceforth only use the past tense.
[5]The assumption is that it is not possible to reach a first best world without market failures and that the "residual" market failures can trigger the need to impose regulation.
[6]A purely economic analysis of regulation only looks at allocative efficiency, while public policy is typically also interested in distributive efficiency.
[7]Staschen 2010
[8]This might eventually lead to a reduction of the number of institutions that get into financial difficulties, but such a market outcome indicator can only be observed after a couple of years.

regulators to date shows the most effective route to measuring impact is to develop a few, tightly focused indicators, and to establish the confidence that they can be relied on to depict the real impact of regulation on the market.

Steps 1 to 3 of the ROI approach finalize a list of impact indicators, divided by market outcomes and institutional change, for each regulatory objective. The optimal level for the indicator must be established to complete the benchmark. Some indicators may be relevant for more than one objective (e.g., an increase in the number of consumer complaints can be an indicator for a deterioration of consumer protection measures, but also a sign of consumers being better informed about their rights).

In determining benchmarks, the maximization (or minimization) of an indicator may not always be the preferred strategy. Rather, there could be an optimal level above or below which there is deterioration. An example for this is the return on equity, where a very high value indicates a lack of competition, while low or negative values are a sign of financial difficulties of the provider.

To define impact indicators and how to assess them, it is helpful to identify *impact channels* for each regulatory intervention that describe how the impact of regulation is transmitted through various channels, and ultimately reveals itself in changes in market outcomes.

***Timing is important: Ex ante* vs. *ex post* impact assessment**

An ex-ante ROI assessment begins before the implementation of regulation. It begins at a time where impact cannot be measured yet, but instead one has to make assumptions about how the market will respond and estimate the indicator values. A more sophisticated version would be to distinguish different scenarios.

An ex ante assessment begins with comparing regulatory options, using the ROI approach described above. For *ex ante* impact assessments, the list of possible options can be very long. A market diagnostic that analyzes the current supply, demand, and policy and legal environment can help determine which options are most likely to have the desired impact and are therefore worth being analyzed more closely. One of the options to consider is always the “do nothing” option.

Finally, an *ex ante* impact assessment should always have an *ex post* assessment already built in. Ideally, impact assessments should be conducted on a regular basis starting with an *ex ante* assessment followed by periodic *ex post* impact assessments **Therefore it is important to create mechanisms that allow policy makers to track relevant indicators over time and revise their regulations regularly in line with the results.**

EX-ANTE

Ex ante impact assessments can play an important role in public consultations and in generating buy-in from market participants. The upfront definition of regulatory objectives and how best to achieve them will provide clarity to market participants what policy makers are trying to achieve. The ROI process requires a candid dialogue regarding expected market outcomes and underlying assumptions about how market participants will respond to regulatory changes.

EX-POST

Ex post assessments focus on evaluating the impact of regulations after they have been implemented for some time. Therefore, isolating regulatory impact from other changes occurring at the same time is a fundamental concern. This is discussed in Step 5 below. The issue of attribution does not arise in ex-ante assessments, as these changes are either not yet known (thus cannot be taken into consideration) or, if they are known, their impact has to be considered in all the options to be compared (including the “do nothing” option).

[9]Only in a non-competitive market there is a risk of providers appropriating all consumer surplus.

DETERMINING REGULATORY IMPACT

Steps 4 through 6 determine regulatory impact using the benchmark developed in steps 1 through 3.

Step 4: Data collection

Both *ex post* and *ex ante* impact assessments hinge on the availability of appropriate data. With a list of impact indicators in place, good data is required to depict market changes accurately. Collecting sufficient data is often a major challenge. A wide collaboration with various market participants is essential, allowing access to data from a wider range of sources.[10]

Ex ante assessments benefit from timing as the data needs can be defined with indicators and collection initiated prior to the intervention to establish a baseline. Even ex post, ROI assessments require data from prior to the regulatory intervention. Ex post assessments may be challenged by a lack of available data, if an assessment was not foreseen pre-intervention.

Figure 2 provides a snapshot of the relationship between data needs and the timing of the assessment.

Step 5: Attributing regulatory impact

Now that we have a list of impact indicators for each of the regulatory objectives, how do we know that what we observe can be attributed to the regulatory change under consideration? In other words, how can we isolate the impact of a specific regulatory intervention from other changes in the market occurring at the same time? The clear attribution of observed changes to specific elements of the regulatory framework is even more important if the ultimate objective of the impact assessment is to draw general lessons that can be used in other countries.

If we simply compare the values of the indicators before the regulatory change with its values at different points in time after the change, we implicitly assume that the market would not have changed had it not been for the regulatory change. Typically, this is not a realistic scenario.

Determining a benchmark does not solve the problem of controlling for other exogenous changes happening at the same time (e.g., changes in the macroeconomic environment, policies in other areas such as tax, or even the political stability). This is because we lack a *counterfactual* – what the world would have looked like without the policy change.

Figure 2: ROI timing and data needs

Ex-Post	Ex-Ante		
Assess impact to guide future regulations	Estimate impact to choose regulatory options	Purpose	
X	X	Quantitative and qualitative	Data needs
X	X	Multiple time periods	
X	X	Before design of regulation	
X	X	Before implementation of regulation	
X		Soon after implementation of regulation	
X		Extended period after implementation	

Therefore, regulatory impact is easiest to measure if there is a distinct regulatory change with a profound impact on the sector (e.g., the introduction of a new law or regulation; the removal of a serious bottleneck for the sector to develop).

This concept note suggests using two basic methods of attributing regulatory impact: the difference-in-difference approach and the concept of structural breaks.

Structural breaks can be used if one can claim with some confidence that the most important change during the observation period has indeed been the change in regulatory treatment. It requires time series data (for quantitative indicators) and qualitative information about systems and processes for at least a few years prior to the introduction of the regulatory change (the treatment year). A sudden change in trend (a "structural break") in the defined indictors around the time when the treatment occurs can then be attributed to the treatment.

[10]Experience shows that in most cases the number of observations will not be sufficient to allow for a formal regression a

The *difference-in-difference approach* is methodologically superior to the concept of structural breaks through the establishment of a “control group”, as it is better able to deal with other changes occurring at the same time. The control group is ideally similar to the treatment group in all respects but one: it is not affected by the treatment, i.e. by the regulatory change.

The difference-in-difference approach is more demanding in terms of availability of data, as it requires time series data for the “treatment group” (the providers and clients directly affected by the regulatory change) and the control group. For the difference-in-differences approach, the availability of time series data from before the regulatory treatment (baseline data) is helpful to prove the treatment and control groups were indeed similar prior to the treatment (in other words, the difference-in-differences should be close to zero).

One example of control and treatment groups would be a financial services provider that decides to come under a newly issued regulation, while another similar provider decides to continue operating under the old regulatory regime. To isolate regulatory impact for each impact indicator, the difference in values for the treatment group before and after the treatment has to be compared with the same difference for the control group. If some other exogenous changes had happened during the same period, both treatment and control group would have been affected in the same way and therefore the effect of this change would not show in the difference-in-differences.

Qualitative indicators are different from quantitative indicators as they do not have continuous values for the observation period, but are typically subject to distinct changes at specific points in time. It is therefore easier to decide whether a particular change in value has been caused by the regulatory treatment or not.

Once variations in the chosen indicators can be attributed to the regulatory change, the results can be interpreted against the optimal levels established to determine to what degree regulatory objectives have been achieved. In interpreting results, regulators may need to prioritize regulatory objectives.

Step 6: Informing the policymaking process

In the final step of the process , regulators should use the results as feedback to inform decision-making. The data and results provide concrete evidence to determine the appropriate course of action and continue to move forward towards objectives. This may include amending the regulation, stimulating new reforms, or seeking deeper understanding.

III. PRACTICAL CONSIDERATIONS FOR REGULATORY IMPACT ASSESSMENTS

The ROI assessment has many distinct benefits, but there are many practical factors to consider when it comes to implementation. This section will highlight how the ROI methodology benefits the policy making environment and discuss key dimensions that will affect feasibility of a structured regulatory impact assessment.

Understanding the benefits of a ROI Impact Assessment

The specific approach proposed in this note does not claim to be the only possible impact assessment methodology, but rather one that has a number of important advantages when applied in a developing country context. The following table summarizes how the ROI approach addresses critical issues when conducting impact assessments.

Table 1: Benefits of ROI approach

Critical issue	Response of the ROI approach
Advancing evidence-based policy making and accountability of regulator	Require the policy maker to clearly spell out the evidence base for its decisions. Be combined with a public consultation process so that it can be a powerful tool to promote accountability in policy making.
Consider differences in conducting *ex ante* and *ex post* impact assessments	Be flexible enough so that it can be applied for both cases with a few (but important) differences .
Wide range of reform initiatives that can be distinguished by their scope	Be flexible enough to be applied to broad sector-wide reform initiatives and to changes limited to specific regulatory provisions or tools.
Limited capacity by regulators or policy makers to conduct a RIA	Draw on experience with conducting similar assessments elsewhere. Allow for a “ROI light” that is focused on spelling out the main regulatory objectives and a limited number of key indicators measuring the main impact areas.

Table 1: Benefits of ROI approach (con't)

Critical issue	Response of the ROI approach
Clear justification why regulation should be applied	Assume that the rationale for regulation is firmly rooted in the economic theory of market failures (at times underpinning an activist approach to policy making) while providing flexibility to also account for social objectives that are not necessarily linked to market failures.
Some regulatory objectives are subject to trade-offs, others are mutually reinforcing	Leave it to the policy maker to decide how to weight various objectives as this is ultimately a political decision.
Possibility to quantify impact limited	Recognize that not all positive and negative impacts can be quantified (as in a cost-benefit analysis) and use both quantitative and qualitative indicators.
Defining a clear benchmark against which to measure impact	Use as benchmark is the "do nothing" option as a (hypothetical) world without any regulatory changes. Measure regulatory impact by the degree to which regulatory objectives have been or will be achieved.
Poor data availability in many developing countries	Draw on a variety of data sources and use triangulation. Use expert interviews and qualitative evidence where quantitative data does not provide a sufficiently clear picture.
Regulatory changes trigger a complex web of impact channels	Use a multitude of impact indicators with some of them measuring changes in market outcomes and others institutional changes that allow for the estimation of future impact.
Attribution of observed changes to the regulatory change	Use the difference-in-differences approach and the concept of structural breaks, which allow for the isolation of regulatory impact from other changes occurring at the same time.

Feasibility of executing the ROI methodology

As discussed above, there are various factors to consider when preparing to conduct an impact assessment of financial service regulation. In summary, these considerations include:

- availability and collection of data
- assessment timing (ex post vs. ex ante)
- clear understanding of the policy scope
- technical and management capacity
- identification of relevant stakeholders
- available financial resources

While all of these factors will impact the execution of the assessment in different ways, it is important to understand which are the minimum criteria that make a ROI assessment process feasible. Here we will briefly explore the practical considerations associated with these minimum criteria .

A minimum, and critical, requirement of the ROI approach is access to **sufficient data** to track agreed upon indicators and measure against determined benchmark, coupled with a clear understanding of the policy scope as it relates to the regulatory objectives.

Data requirements will vary depending on the timing of the assessment. Defining the scope of the policy is fundamental as it sets the parameters in which the data must be collected and guides the determination of an appropriate benchmark and associated indicators. The broader the scope of the regulations in question, the greater the scale and resources needed for the assessment. For example, an ROI assessment of regulations with a narrow scope such as branchless banking regulations will require fewer resources than those needed for an assessment of a national financial inclusion strategy.

The capacity to execute an impact assessment is also dependent on the availability of **both** technical expertise and senior management engagement. While the technical expertise can be outsourced (in-part) to manage the data collection and analysis, ultimately senior management must assess the findings to determine the policy course to take. In fact, often the technical team will require regular engagement with senior or executive management to discuss policy intentions and objectives that may have broader intentions and impact than those stated in publicly available documentation. The high level perspective of senior management is essential to enable the technical team to focus on the quantitative and qualitative data that relates directly to the intentions of the regulation.

With this context in mind, the feasibility of an ROI impact assessment is dependent on a clearly defined policy scope, fully engaged senior management, and availability of appropriate data. Once these criteria are in place, then the remaining components can be established, namely the identification of key stakeholders, determination of technical expertise required, and ultimately the financial cost of conducting the exercise.

IV. GUIDING ATTRIBUTES OF A REGULATORY IMPACT ASSESSMENT

There are many options available to policy makers who decide to undertake a ROI assessment. The methodology is flexible and can be scaled to the needs of the market and resources available. Three key attributes act as a touchstone for the execution of this methodology, regardless of the scale and relative complexity in which it is executed.

Firstly, the methodology embraces the inherent complexity within the market, and provides a structured process from which the critical variables can be isolated. The nature of the complexity may vary greatly based on the policy rationale and market dynamics, therefore it is important to understand the interplay of the various dynamics to determine their respective impact on the policy objectives.

Secondly, the ROI process described here makes use of both qualitative and quantitative indicators. Many variables that may impact policy may not be quantifiable, and likewise qualitative indicators alone may not provide a sufficiently granular picture of the environment. It is the combination of these factors that provides the most accuracy in determining the impact of financial inclusion policy.

Lastly, policy success can often be tied to a consistent and transparent consultative engagement with the industry. This methodology leans heavily on stakeholder engagement to access many of the quantitative data as well as assessing the qualitative factors that impact market confidence for key industry stakeholders and consumer alike.

To date, few regulatory impact assessments have been conducted outside of developed countries because of a lack of time, resources, and/or knowledge about how to do them.

The ROI approach is unique in that it originates from the context of financial inclusion where it was first tested in Uganda with regards to the Microfinance Deposit-taking regulations. It has the potential to be used in other developing country contexts without overburdening policy makers, while still providing crucial guidance on how best to achieve regulatory objectives.

Achieving financial inclusion is an inherently complex endeavor that requires aligning the needs and incentives among many complex relationships. The global experience to date shows that success is predicated by careful and considered policy making that is tied to a clear vision of success. The **attributes** outlined in this note, when applied consistently, will strengthen the policy making environment by pinning the assessment process to a robust methodology that is sufficiently flexible to meet the evolving needs of dynamic policy frameworks, such as those that are fundamental to the financial inclusion agenda.

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