



Legislations Impacts Assessment

First Edition (Guide)
Rajab 1445 AH - January 2024 AD



**In the name of God,
the Most Gracious,
the Most Merciful**



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The Kingdom is taking serious steps towards developing the legislative environment, by creating and reforming laws that preserve rights, establish the principles of justice and transparency, protect human rights, achieve comprehensive development, and enhance the Kingdom's global competitiveness.

His Royal Highness

Prince Mohammed bin Salman bin Abdulaziz

Crown Prince, Deputy Prime Minister



► Chapter one
Introduction



1.1 Study of Legislative Impact Assessment



The Kingdom of Saudi is perceiving a considerable qualitative leap towards achieving its ambitious Vision 2030. This leap has been accompanied by a wide range of legislative and regulatory developments and changes to provide the necessary legal infrastructure for implementing this vision.

The sustainability of these social and economic gains depends on the presence of a management law for the legislative process, able to develop and innovate the necessary legislation, while, in the same time, able to continuously evaluate the impacts of these legislations, consequently, can adopt any amendments required by the legislative intervention.

Given that the responsible entities play an active role in drawing this legislative framework, starting from proposing the legislation, ending with its issuance and publishing, it has become necessary to have what ensure coordination in this regard in terms of goals and quality standards, whether concerning the mechanisms for adopting the legislations or for its implementation.



To achieve this sustainability and promote quality and standards, a unified detailed guideline for the mechanism of legislative impact assessment has been developed, known as the Regulatory Impact Analysis (RIA).

Adopting the mechanism of legislative impact assessment is a significant step at both national and international levels, whether in developed countries or through international organizations concerned with development, such as the World Bank and the Organization for Economic Co-operation and Development (OECD). This can be attributed to its benefits and impact on the decision-making process. There is no doubt that every decision aims to achieve a specific purpose, through which the decision taker seek to solving an existing problem that requires the intervention of the legislator to enact laws and legislations that ensure the problem solving or mitigation. Therefore, the decision-maker seeks to consider the various available means, weighing and comparing them, and choose the most suitable one based on logical and scientific grounds, thereby achieving the steps of legislative impact assessment.

▶ 1.2 Definition of Legislative Impact Assessment



Legislative impact assessment refers to the application of a detailed methodology to analyze the expected impacts of adopting or amending a specific legislation and to evaluate whether this legislation will achieve its intended purpose in a manner that aligns with and suits the need that prompted its issuance.

The need for such a detailed methodology could be attributed to the fact that each legislation in a society has multiple, varied, and intertwined impacts on that society, which are often difficult to be predicted without a careful and detailed study that involves communication with the parties concerned to the legislation. **To reach this goal**, different economic approaches are to be used to assess the risk of "legislative failure in maximizing net benefit" for those targeted by the legislation. **Hence**, the main objective of the legislative impact assessment is to **verify that the legislation will achieve its goals and that its benefits will outweigh its costs**.



This methodology is based on collecting, organizing, and analyzing information related to the expected impact of available legislative options. **The purpose of adopting this methodology** is to rely on a legislative mechanism supported by the modern legislative methodologies, for predicting the future impacts of the legislative interventions, thereby enhancing legislative responsiveness to societal issues.

The mechanism relies on evaluating both quantifiable and non-quantifiable impacts equally, consequently the assessment remains objective and unbiased.



Therefore, the process of legislative impact assessment aims to achieve two main objectives:

- 1** Verifying whether the legislative intervention is justified
- 2** Selecting the most efficient available intervention methods to achieve its goals.



The document is prepared for use by who has experience in the field of legislative impact assessment.



1.2 Definition of Legislative Impact Assessment





Legislative impact assessment does not aim to promote the adoption of a certain approach or to support a previous outcome. Rather, **its goal** is just to describe the legislation potential impacts in a way that enables the legislator to base their decision on objective and methodical grounds, supported by accurate data and information. **This can only be achieved if** the assessment includes a comparison of different legislative options with the possibility of maintaining the status quo without intervention. Therefore, the analysis must also consider the various legislative and administrative requirements surrounding the issue under study.





All of this falls under what is known as ex-ante legislative impact assessment (Ex-ante RIA), **a study conducted before the legislation is actually enacted**. In addition to this ex-ante assessment, **the guideline also adopts** the necessity of retrospective impact assessment (Retrospective RIA), which examines the impact of the legislation in reality after its implementation. **This includes evaluating whether it achieved its goal, whether it had any negative side effects, whether there are obstacles to practical application, and whether corrective actions are necessary**. This approach follows the latest trends in legislative impact assessment, **known as "return" or "feedback" assessment**, which also aims to evaluate existing legislation to determine whether it should be maintained, amended, or abolished if it is found to be no longer suitable or has negative effects on society that contradict the intended objectives.


▶ 1.3 The Objective of Legislative Impact Assessment

 **Legislative intervention aims to improve** citizens' lives, for instance their health, safety, security, the environment they live in, their living conditions, and life quality, which are among the objectives of Saudi Vision 2030.

 To achieve this, **legislative intervention** aims to improve the economic performance without imposing costs on the society, since promoting individual initiative and the free market is one of the vital mechanisms for achieving economic growth that legislators try not to interfere with unless the benefits of legislative intervention outweigh the negative side effects.

 **As a result**, effective legislation requires harmony and coordination, whether when proposing legislative intervention or when assessing the need for this intervention and its form. **This guide aims to** provide a balanced vision by establishing clear model standards for the relevant authorities to follow and refer to when proposing, enacting, implementing, and evaluating legislation.

 Legislative impact assessment begins before the legislative process, continues during it, and extends beyond the issuance of the legislation.

 **In preparing the Guide, consideration was given** in terms of the methodology to fulfilling the contents of Cabinet Decision No. 713 in 30/11/1438 AH, which approved the controls that should be observed when preparing and studying draft laws, Regulations and the like. In addition to Cabinet Decision No. 476 in 15/7/1441, which established the laws, Regulations - and the like - Support Unit at the National Competitiveness Center, which had, by the resolution, several tasks, including:

Establishment of the Electronic Unified Platform for opinion poll and supervise public opinions and governmental entities

Awareness and dissemination of culture of recognizing the importance of participation in laws impacts assessment

Presenting observations and opinions on the opinion poll outcomes and preparing models for assessing its impacts



1.4 Reasons for Legislative Action

Legislator intervention through a legislative tool should be limited to the cases explicitly required by law, when necessary to interpret or apply the law, or when there is a public need that cannot be adequately met through individual initiatives or free market mechanisms. In such cases, the options for intervention must be evaluated in terms of their cost and benefit, both quantitatively and qualitatively.

In light of that, the legislative authority should, as much as possible, follow these steps:

1

Clear and accurate identification of the problem that the legislator wishes to address.

2

Consider whether existing legislations contributed, in one way or another, to creating the problem and whether these legislations need to be amended to achieve the legislative goal more efficiently.

3

Identify and evaluate the available options for direct legislative intervention, including providing some economic incentives to encourage those addressed by the legislation to adopt the desired behaviors, for instance imposing certain fees on the use of specific resources, issuing tradable licenses among the addressees, or merely providing sufficient and clear information to individuals about the available options so they can choose the optimal solutions for themselves and society.

4

Determining the legislative priorities and intervene based on appropriate consideration and estimation of the degree and nature of risks resulting from the legislation activities.

5

If legislative intervention is considered the optimal solution, this intervention should be designed in a way that ensures the optimal use of resources in achieving the legislative objectives. The relevant authorities should consider the possibility of creating incentives for innovation and renewal, ensuring harmony and consistency between legislations, making it easy for the addressees by the legislation to expect its outcomes, reducing the cost of applying these rules, and ensuring compliance by individuals – whether for the administration, individuals, or society in general. In addition to ensuring flexibility in application and justice in bearing the burdens of these legislations.

6

Assessing the costs and benefits of the targeted legislative intervention, and proposing and adopting the rules if the study concluded that the expected benefits justify the costs that will be incurred, taking into account that some costs and benefits may be difficult to quantify accurately.



1.4 Reasons for Legislative Action

Legislative action through a legislative tool should be limited to cases explicitly required by law, when necessary to interpret or apply the law, or when there is a public need that cannot be adequately met through individual initiatives or free market mechanisms. In such cases, the options for action must be evaluated in terms of their cost and benefit, both quantitatively and qualitatively.

In light of the above, the legislative authority should, as much as possible, follow these steps:

7

Building the decision on the best available scientific, economic, and other relevant data regarding the need for intervention and its effects.

8

Identifying and evaluating different options for intervention, then setting the desired, precise and detailed objectives, as much as possible, in terms of the final results rather than merely changing the behavior of individuals.

9

Seeking to understand the perspectives of various administrative bodies related to the legislation as much as possible, so that the final legislation may minimize the burdens on these different bodies, in addition to coordinating the performance of all these bodies regarding the application of these proposed rules.

10

Avoiding the legislative intervention in conflicting or contradictory ways, and avoiding duplicated legislative intervention by different methods or from different authorities.

11

In designing legislations, the society should bear the least possible burden, including individuals, businesses of all sizes, and communities and urban areas, taking into account that the accumulation of legislations and legislative intervention may create additional burdens.

12

Finally, legislation should be drafted in a simplified and easily understandable manner, consequently avoiding any potential for ambiguity or legal disputes that might arise from such ambiguity, which in turn adds burdens to the judicial bodies.



1.5 Responsibility for Legislative Impact Assessment



The Legislation and Regulations Department in any government entity is the major source of scientific and practical expertise in its areas of specialization. **It bears the responsibility, when proposing any legislative intervention, to conduct a study assessing the anticipated impact of this intervention by itself.** This approach ensures that the decision of the relevant authorities and the support and compliance of the citizens are based on clear and correct foundations.



Undoubtedly, the relevant authorities may, **if necessary, seek the expertise of external consultants** to provide practical and technical assistance in that study.



It is undoubtedly beneficial to **draft an initial report of the study**, then publishing it and seeking feedback from experienced stakeholders. This process will yield additional valuable information and opinions that can be incorporated into the final report.

► Chapter two
The Application Mechanism of the
Legislations Impact study

Chapter Two: Mechanism for Implementing the Legislative Impact Assessment Process



This chapter explores the importance and methods of data collection for conducting an effective and accurate study of the legislations impact. Then, discusses the importance of consulting stakeholders involved in the legislative intervention during the legislative impact assessment study. Finally, it outlines the main steps for implementing the legislation impact assessment study.



2.1 The Importance of Having a Data Collection Plan

Collecting data and information is of most importance in estimating the anticipated impact of any legislative intervention. **Undoubtedly**, the methodology for collecting the required data depends on various considerations surrounding the issue. These methods should range from reviewing scientific research related to the topic, to conducting new research to cover certain relevant aspects, and meeting and consulting with the concerned parties, whether in government entities or the private sector.

It is essential that the data collection process is appropriate in terms of timing, cost, and scope, consequently it suits the scale and **importance of the proposed legislation**. In this regard, prior planning for the data collection process contributes to saving time and effort and ensures that the final decisions will be based on the best available evidence. Having a data collection plan **contributes** to the establishment of a clear institutional methodology at all stages of decision-making.



There are some questions that help in designing a data collection plan:

How easy is it to access the data sources?

What is the validity of the collected data, and does it need to be updated?

Are there any gaps in the available information?

What is the time frame required to collect the necessary data?

Where can the required data be found?

Is the required data need to be collected, or has already been gathered through existing mechanisms?

Can the concerned authorities collect the required data, or do they need external assistance? In that case, what type of assistance is needed?

Are all available sources equally reliable and trustworthy?

Does the data need to be reviewed for verification and validation? Who can perform such a task?



2.1 The Importance of Having a Data Collection Plan



On the other hand, the available sources of information may include:

Monitoring and evaluation reports issued by previous similar projects and programs.

Documents and reports related to the sector concerned with the issue.

Available Statistics from the General Authority for Statistics in the Kingdom.

Related sources to the addressees with the proposed rules, such as previous conferences, journalistic reports, statements and data, or previous Hearing sessions.

Research published by governmental agencies and specialized research institutes.

Academic databases available online.

Previous experiences of other countries or international organizations.

Moreover, there are various strategies for obtaining appropriate indicators if access to an integrated database is not available. An example: dealing with data scarcity, where there are several strategies for obtaining assessment indicators that can be inferred to assess impact in cases of data scarcity or unavailability. These strategies include:

1

Taking a representative sample from the target population:

The sampling method is used in statistical analysis methodologies by collecting results, insights, and observations about a specific population group that can be relied upon with confidence to represent a larger population under study and accurately reflect the characteristics of this group. **The representative characteristics are to be chosen** by statisticians to meet research objectives, and may include key attributes such as gender, age, education level, and socio-economic status. Generally, the larger the population under examination, the more characteristics may arise to be considered.

Sampling methods:

Random sample: When a sample is not represented, it is called as a random sample. Although random sampling is a simplified approach to sampling, it is accompanied by an increased risk of sampling error, which can lead to incorrect results or strategies and may be costly.

Regular sampling: regular sampling is another type of sampling methods that seeks to organize its components. Although this method takes a regular approach, it is still possible that a random sample may result.



2.1 The Importance of Having a Data Collection Plan

2

Using Reference Sources:

- Verifying the details of how numbers are derived.
- Using multiple sources, with careful evaluation to suit the purpose.
- Avoiding unrealistic or impractical sources.

4

Estimation:

- Using rates that do not vary significantly from one place to another to estimate a specific number, such as estimating the number of deaths, and multiplying the mortality rates by the population, instead of collecting actual numbers from population records.
- It is to be considered whether there are widely accepted general rules.
- Using rates to describe similar phenomena.
- Using a known variable to estimate another when the relationship between both is known (population growth over time, and previous growth rates).

3

Using surveys (questionnaires):

- Surveying stakeholders in a regular and organized manner.
- In case of limited time or lack of resources to conduct a specific survey, it is advisable to revise local and national surveys conducted by reputable organizations such as research centers and similar entities.

5

Seeking and using experts:

- Verifying the credentials of experts.
- Adopting methodologies and criteria that minimize the margin of error in estimations and forecasts.

6

Data collection methods:

Data collection methods are divided into two types: qualitative and quantitative. **Each method is described in the following table:**



2.1 The Importance of Having a Data Collection Plan

1 Qualitative Methods, with description:

Open Interviews (Unspecified Questions)	Brainstorming (Delphi's Method)	Focus Groups	Case Study
<p>To be usually conducted in the preliminary phases of the defining and drafting process of the legislation, for the initial verification and scoping. This method allows to change and adapt the questions to match the respondent's intelligence, understanding, or beliefs, unlike structured surveys where data repetition and comparability are more challenging.</p>	<p>This method is based on philosophical consideration that the opinion of two people is better than that of one, and that the experts opinions and judgments are objective and less speculative. The purpose of this method is to gather new ideas. It involves presenting several questionnaires to experts without bringing them together in a meeting, thereby eliminating personal conflicts. Participants are allowed to remain anonymous in the questionnaires. This method is a modern development of the committees work style, however the dominance of strong individuals over the less assertive ones should be avoided.</p>	<p>It is a means of collecting opinions through interviews with several people sharing a common factor. The more experience and expertise the participants have, the more mature and useful the results will be. Focus groups can be used to understand participants' work habits and identify gaps in current services. A moderator leads the session, asking questions, listening to the responses, facilitating discussion, and encouraging participants' ideas. The moderator also notes all observations, ideas, and key conclusions.</p>	<p>This method is used when the scope is relatively narrow or data access is limited. A case study allows for extrapolation and generalization to answer a set of "what" and "why" questions. Generally, case studies include a mix of quantitative methods, such as surveys and statistics, and qualitative methods, such as interviews and focus groups.</p>

2 Quantitative Methods , with description:

Surveys (Questionnaires)	Statistics
<p>Collecting primary data methodically using a questionnaire applied to a pre-selected sample of individuals. Questionnaires rely on both open and closed-ended questions and it is allowed also to use statistical approaches due to their research advantages.</p>	<p>Statistics involve the collection, processing, interpretation, and presentation of data. Descriptive statistics are used to summarize and describe a dataset, while inferential statistics focus on modeling data patterns using samples and populations to test hypotheses.</p>



2.1 The Importance of Having a Data Collection Plan

The rapid evolution - in technology - has contributed to the development of additional tools for collecting a large amount of accurate data very quickly. The following table illustrates modern methods of data collection:

Method and Description:

Data Extraction and Harvesting	Social Media Analysis	GPS Tracking
<p>Data extraction and harvesting involve importing information from a website into a spreadsheet or a local file saved in, e.g., an electronic memory or on a computer. Data can be harvested from multiple sources (e.g., maps, images, texts). Valuable data can also be extracted from digital and non-digital sources that are not freely accessible through the internet. This type of data can provide hard-to-gather information, such as using satellite images of a country to monitor deforestation rates, electricity access methods, and more.</p>	<p>Researchers can also extract and analyze data from social media platforms (Twitter, Facebook, etc.). These techniques are particularly useful for performing what is called "sentiment analysis" and "emotion assessment" regarding a company, brand, product, or specific issue</p>	<p>Tracking the movement patterns of individuals through digital devices has become highly important. Researchers have recognized that location and context dynamics are the primary driving forces behind consumer decision-making.</p>
Web Tracking Technologies	Passive Assessment (Other Passive Assessment)	Transaction Data
<p>These technologies (such as cookies or web beacons) allow researchers to monitor websites, record the time on which users spend, and track the links they have browsed. This enables researchers to gain a deep understanding of how consumers behave online.</p>	<p>Any modern electronic device has the capability to capture data from its user. This data can be useful for studying specific research questions or for observing individual behavior in a particular manner.</p>	<p>Financial service providers, mobile network technicians, retailers, and others collect various types of transaction data. This data can be extremely valuable for gathering information about the determinants of individual behavior and changes in behavior related to new policies.</p>



2.2 The Importance of Consulting the Stakeholders concerned to the Legislative Intervention



Before developing the final concept for the proposed legislative intervention, it is essential to consult the public and stakeholders addressed by the legislation provisions in an effective and appropriate manner. This means consulting those who will be impacted, either positively or negatively, by the legislation.



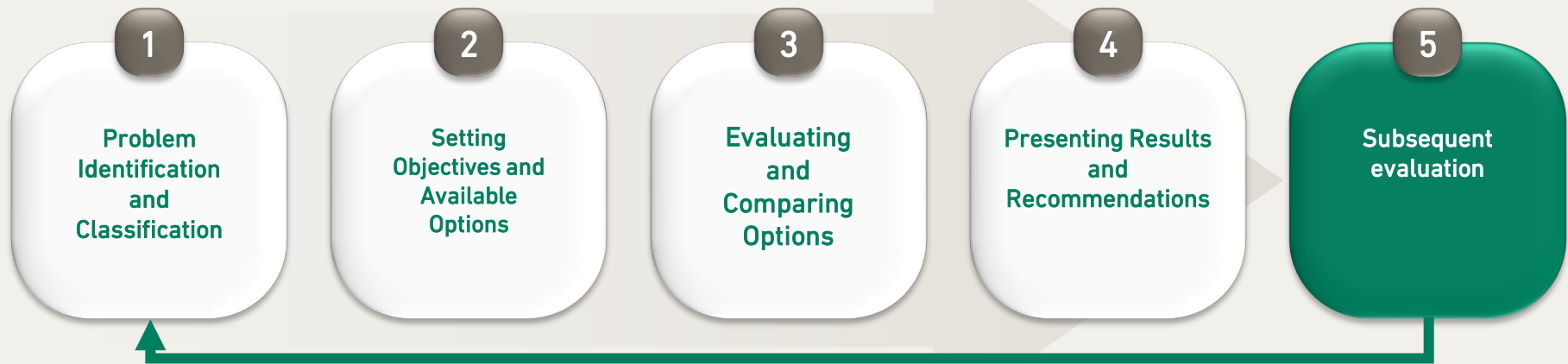
The public should be given sufficient time and opportunity to review and comment on the proposed legislation. To facilitate this, clear and specific questionnaires and questions should be provided, allowing the addressee to give direct feedback, especially on issues on which the researcher or legislator deems it important to understand the addressee' opinions. This process promotes community support and acceptance of the legislation's importance and positively influences the addressees compliance with its provisions.



2.3 Stages of the Legislative Impact Assessment Guide



Conducting a legislative impact assessment requires clearly defining the problem, identifying available options to address it, evaluating the potential impacts of these options, selecting the best option, and developing an integrated concept for the legislative intervention. In addition to planning for subsequent evaluation of the actual implementation. This process is illustrated in the following diagram:



2.3 Stages of the Legislative Impact Assessment Guide

This guide displays the steps for each stage as follows:

1 Problem Identification and Classification (Chapter Three):

This chapter explains how to present and describe the problem, including identifying the concerned parties and target audience, as well as the available and possible options to solve it. At this stage, special emphasis should be placed on quantitative and qualitative risk assessment mechanisms, then studying the appropriateness or necessity of legislative intervention.

2 Setting Objectives and Available Options (Chapter Four):

This chapter discusses the importance and methods of setting the objectives of legislative intervention. These objectives should be clear, specific, and measurable. After defining the objectives, the various available options to achieve these objectives should be presented in a way that enable studying these options, considering their pros and cons, in preparation for their evaluation and comparison.

3 Evaluating and Comparing Options (Chapter Five):

This chapter outlines methods for studying and comparing the available options, based on a cost-benefit analysis. It presents various statistical methods that can be used to calculate both direct and indirect costs and benefits.

4 Presenting Results and Recommendations (Chapter Six):

This chapter provides practical recommendations that are to be follow when presenting the study's content and the results obtained. The aim is to support informed decision-making in this regard.

5 Subsequent evaluation (Chapter Seven):

This chapter discusses the importance of subsequent evaluation of the legislative intervention. It covers how to plan for this evaluation, the steps to carry it out, and the resulting outcomes.

► Chapter Three
Problem Identification and Definition

Chapter Three: Problem Identification and Definition



This chapter explains how to present and describe the problem, including identifying the concerned parties and target audiences, as well as the available and possible options to solve it. Special emphasis should be given to quantitative and qualitative risk assessment mechanisms to determine the appropriateness or necessity of legislative intervention.

The first stage in studying legislative intervention is identifying the problem that requires legislative intervention. This is done in two steps:

Step One:

Recognizing the existence of a problem that needs a solution, or in a more technical word, the existence of a risk, i.e. the possibility of a future loss. Once such a risk is identified, its nature and extent (both qualitative and quantitative) should be determined, as well as the likelihood of its actual occurrence.

Step Two:

After identifying and defining the risk, the next question must be posed and answered: Should the legislator intervene, or are there other methods to eliminate, reduce, distribute, or mitigate this risk?



3.1 Risk Assessment

Risk assessment involves considering the available facts to determine the potential exposure to harm. This is done through three main steps:

1 Hazard Identification and Characterization

2 Exposure Assessment

3 Risk Characterization / Evaluation



Step One addresses two questions:

Does the current status of the problem pose a potential harm?

What are the damages, impacts, and losses that may result from the current status of the problem?

For example, when considering a specific plan to build a specific factory in a certain area, is there a potential risk of harm to the surrounding environment? If the answer is yes, there is a risk from chemical leaks into the air. The next question is: What are the potential damages? The answer might be identifying specific respiratory illnesses, the risk of cancer, or allergies. This allows us to describe the harm.

The risk doesn't have to be tangible or physical; it could also be behavioral or moral (Moral Hazard). For instance, a common phenomenon is that insuring someone against risks might encourage him to take actions that expose him to greater risks, although he can't bear the full financial losses resulting from his behavior.



3.1 Estimating the Risk of the Problem Occurring

1

Hazard Identification and Characterization

Similarly, imposing certain fees or taxes on less risky behaviors or activities might drive individuals toward alternative behaviors or activities that fulfill their goals at a lower cost, even though these activities may be more hazardous to them or the environment. **In this case**, the risk actually stems from the imposition of the tax.

This highlights a very critical point: the legislator should not only evaluate the risk posed by external factors when assessing the appropriateness of legislative intervention. He must also detect the extent to which current legislation and standards contribute to the risk. The source of the problem may be the poor previous legislation or conflicting legislative goals and methods. **In such cases, the solution may not lie in enacting a new legislation** but rather in coordinating existing legislations to ensure they all move in the same direction.

This model can be followed not only in its actual form but also as an approximate model in other cases where we discuss the relationship between legislation and risk. **For example:** There is a risk of traffic accidents caused by drivers being distracted by sending messages from their mobile phones while driving. However, this can also be represented in a "dose-response" model, where the dose is the time the driver spends sending the message and the response is the occurrence of an accident. For instance, the probability of an accident occurring if the message sending duration exceeds one full minute is 80%, while the risk for messages that take less than a minute is 40%.

It should be mentioned that it is not enough to merely identify the potential harm; but also to assess whether the occurrence of such harm is realistic and possible. Highly unlikely harm should be evaluated proportionally, and concerned authorities should make focus on the damages that are likely to occur to proceed to the next step, which is harm characterization.

Harm characterization goes beyond simply identifying potential harm to determine the conditions necessary for the harm to occur. This step asks: What conditions must be met for the harm to occur? The importance of this step lies in its role as an entry point for studying the factors influencing the harm, its likelihood, and its extent when it occurs.

This step should, if possible, include an integrated quantitative model to estimate the "dose-response" or "effective dose", to determine the correlation between exposure to a certain risk and the resulting outcome or response. **For example, exposure to a specific environmental pollutant may increase the risk of cancer, and the dose-response study would identify the relationship between the level of exposure (in terms of pollutant quantity or duration) and the severity or type of cancer that might develop.**



3.1 Estimating the Risk of the Problem Occurring

2

Exposure Assessment

After estimating and describing the damage, the next step is to assess the extent of exposure; to determine who is at risk, when, and how they are exposed to this risk. **In other words:** When does the risk arise? How does it increase, decrease, or completely disappear? This becomes more apparent with regard to risks related to public health.

For example, once the risk of exposure to a particular infection is identified, it becomes necessary to answer the next questions: How is one exposed to the infection? When? What factors contribute to the spread of the infection? What factors reduce it? Who are the individuals more at risk than others? Is one-time exposure to the causative agents of the infection sufficient, or does the infection arise from repeated exposure? What are the factors related to the duration of exposure, its frequency, concurrency, and method?

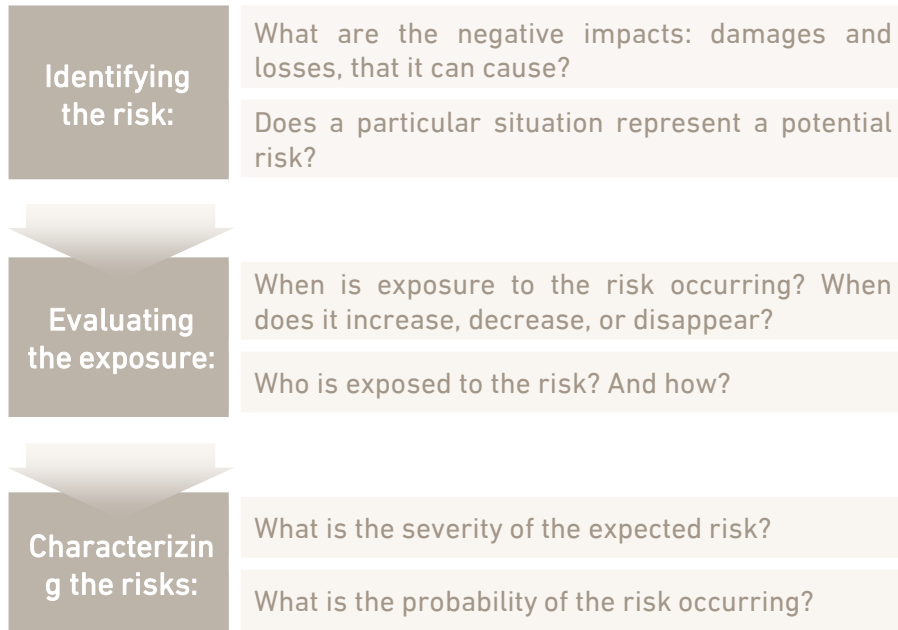
This could be obvious in the investment environment; the risk of making a wrong investment decision based on unsound advice is always an existing risk in the financial market. But who is most susceptible to receiving such advice? Can investors, for example, be categorized into groups, some of which are more prone to this risk than others? Also, are there specific activities or types of investments where errors in assessment are more likely or frequent?

Identifying all these factors and others is essential for determining the necessary next steps to issue targeted and focused regulatory rules to confront the risk, instead of general rules that exceed the intended scope and cost and may have serious side effects. **The fourth chapter will** clarify that when issuing legislation, it is necessary to balance the legislation cost and benefit, which fundamentally depends on defining the scope of the problem and the scope of intervention needed to address it.

3.1 Estimating the Risk of the Problem Occurring

3 Risk Characterization / Evaluation

A summary of the steps of assessing the risks of the problem:



The final steps in risk assessment are risk characterization, or risk assessment and estimation. Based on the previous two steps, concerned entities must now estimate the likelihood of harm occurring and the severity of the harm that will occur.

“**Risk characterization**” can be defined as the estimation of the probability and severity of known or expected adverse effects in a given environment, based on the steps of identifying the harm and estimating the exposure to it. **This step presents** the results of the risk assessment in the form of an estimation of the risk probability and its description, providing the best possible scientific evidence to support risk management decisions.

Once the risk estimation steps are completed, the results are to be presented to decision-makers and relevant authorities. **This requires that the analysis be as clear as possible**, not only in terms of presenting the results but also in describing the tools and methods used in estimating the damage, especially if the report will be presented to who evaluate the validity of these results. **The importance of this lies in two factors:** it allows the reader to assess the accuracy of the results, and more importantly, it provides a clear and integrated understanding of the problem to those involved, which enhances their perception of it, supports the measures to be taken to manage the risk, and the legislative intervention that may occur, which ultimately facilitates the implementation of these measures and increases their effectiveness in achieving results.

3.2 The actual Need for Legislator Intervention



Once the risk (problem) has been identified, the following question can be posed: **Should the legislator intervene?** The answer is that legislative intervention is not the only means to solve all problems, and it has costs and side effects. Therefore, merely identifying a problem is insufficient to warrant immediate legislative intervention to resolve and conclude it.

If the economic law is functioning well, individual initiatives are often capable of meeting the society needs. Through economic mechanisms like supply and demand, the market can provide the society's needs at the lowest possible cost. The market does not need to conduct studies to reach this conclusion; it is a result that occurs automatically through market mechanisms, provided that conditions of perfect and typical market competition are met.

Nevertheless, practical reality often differs from theory, as conditions of perfect and typical market competition are not always met in reality, **which is called as "market failure."** I.e. the market's inability to achieve the ideal outcomes expected by theory. In such case, individual initiative and market mechanisms are unable to solve problems without legislative assistance to achieve conditions of perfect competition, or without direct state intervention to meet societal needs that the market fails to provide. In addition to these economic justifications for legislative intervention, there may be reasons for intervention that go beyond purely economic considerations.

If legislative intervention to correct these problems is very important, such intervention can sometimes lead to negative and unintended consequences, either on the market itself or on the originally desired outcome. Intervention may disrupt market mechanisms in one way or another and can lead to additional expenses and costs to achieve goals that the market could have achieved at lower costs, which means that legislative intervention has led to reduced economic efficiency, which is the exact opposite of what was intended.

Here is an overview of some factors that may justify the legislator intervention:

The justifications based on market considerations: a perfectly competitive market assume the presence of key elements, including three main things:

- 1 Individuals have property rights over their resources, and these rights are protected and clearly defined.
- 2 Individuals can exchange these resources among themselves with minimal, if any, costs or restrictions, including the availability of necessary and sufficient information to contracting based on and to make sound decisions.
- 3 Every individual bears the cost of his decisions, behaviors, and transactions.

▶ 3.2 The actual Need for Legislator Intervention

The absence of any of these factors may lead to market failure in achieving the desired outcome. Examples of market failure include:

Transaction Cost

Transaction costs means: everything that individuals may expend in the course of conducting a specific transaction and exchanging resources among each other, whether it is money, time, or effort. **This applies to the cost of searching for a contractor** (such as finding a seller for the desired goods, or a financier for the anticipated project), or through finding and analyzing information, or the cost of the contracting process itself (such as hiring a lawyer, or negotiation, or drafting and documenting the contract if necessary), or the cost of the contract execution and the rights arising from it (including the cost of resolving any disputes that arise). If transaction costs are minimal, individuals can contract freely and achieve the desired outcomes. **As these costs increase,** interactions between individuals become more difficult and the final outcomes less efficient for both individuals and society as a whole.

For example, if obtaining an original copy of a software program is difficult and costly due to taxes or any other restrictions, while obtaining a fake version from the black market is easy, affordable, and effectively unpunished—at least in practice—individuals are likely to opt for the fake. Generally, if the taxes on legitimate transactions are high, while it is possible to deal in the black market and through the informal economy with no significant problems, individuals will resort to the black market.

Assuming other factors remain constant, legislators should strive to reduce or eliminate transaction costs; to encourage freedom of exchange and enhances the efficiency of outcomes. In other words, the proposed legislation should aim to reduce the effort, time, and money that individuals spend in concluding and executing their transactions.



3.2 The actual Need for Legislator Intervention

External effect of individual behavior

The term "external effect" refers to any cost borne by the society or the public that is not accounted for in dealings between individuals and is not borne by the person whose behavior causes it.

A clear example is: the environmental damage resulting from certain activities. For instance, factories might use cheap raw materials as an energy source or old equipment to save costs and maximize profits. In the end, their final statements and budgets will show the costs incurred by the factory and the profit earned over the year. However, there is an unseen cost here, i.e. the cost of water and air pollution and the resultant harm to the health of community members. This is an external effect of the factory owner's behavior, and this damage is not borne by the factory itself.

The inevitable result is an imbalance in efficiency because the factory produces harm that exceeds the benefit derived from it.

Therefore, the welfare of society can be increased either by reducing the level of pollution per unit through the development of production methods (such as adopting advanced technology), or by reducing the amount of production itself. This can be achieved by obliging the factory to consider the costs borne by society when calculating its expenses. This occurs through the intervention of environmental legislation that holds producers accountable for the damages resulting from the pollution their factories produce, which in turn encourages the factory to use resources and tools that minimize pollution.

Consequently, legislation can achieve efficiency at the community level in general if it can compel individuals to take responsibility for the external effects of their behavior, prompting them to take into consideration the cost of these effects when engaging in any activity.



3.2 The actual Need for Legislator Involvement

Defective Property Rights:

In order to reply on the market to achieve effective results, it is necessary for market participants to have a clear understanding of their rights and to be confident that these rights are secured and protected. If property rights are not clear or protected, this will lead to higher transaction costs and may even prevent the existence of a market in the first place.

For example, when the legislator protects intellectual property rights—such as in patents or copyrights—creators will have a greater incentive to innovate and then make their innovations available to the public. However, if the creator or inventor cannot protect his rights, he will mostly attempt to exploit his invention while keeping its operation a secret. Similarly, if land ownership is based solely on possession, businessmen will be reluctant to invest in remote areas for fear of encroachment on their land and the loss of their property and investments. Assuming all other factors remain constant, the legislator should strive to protect and clarify property rights.

Common Goods / Public Resources

Among the most significant examples and areas of market failure in achieving the desired results are public goods or common resources, which cannot exclude others from enjoying them. In such cases, an individual spends on producing a certain good, bearing the cost alone, and then, once produced, its benefits become widespread and include others. This is especially true if one individual's enjoyment of the good or resource does not prevent others from enjoying it as well.

Clean and safe air is an example of a public good. If an individual spends on hiring armed guards and installing surveillance cameras for their facility, this often results in nearby facilities and individuals also benefiting from enhanced security. Similarly, if a factory invests in installing air purification filters to ensure clean air, everyone around will also enjoy this clean air. Common resources, such as congested roads, are another example. Roads are available to everyone, used by all, and no one cares if this leads to congestion.

As a result, those who spend on such resources and goods cannot fully recover their costs, which leads to insufficient sustainable production, and maybe not being produced at all or investments is less than required. This situation may necessitate intervention by the legislator to ensure adequate production and provide the necessary protection (for instance, he state establishes the military and police forces, enacts criminal laws, regulates road construction and tolls, and so on).



3.2 The actual Need for Legislator Involvement

Monopoly and Dominant Market Position

Market competition requires multiplicity of sellers and buyers who freely exchange and interact with each other. **In this case,** goods and services will be produced in the required quantity and quality and sold at prices that balance supply and demand.

However, there are some situations where a free market does not exist for certain goods and services due to the presence of a few producers or a single producer. **Sometimes,** a producer naturally reaches this monopolistic position by competing freely and legitimately with others, overcoming them, and dominating the market, or by inventing a new product that reach firstly the market, thereby monopolizing it. **In other cases,** the producer may achieve monopoly status through illegitimate or unfair means. The monopolistic producer might then seek to exploit his monopolistic position or his control on a specific market to achieve unjust and unfair gains by manipulating market mechanisms to harm competitors or exploit consumers.

This fine line is especially evident in the competition between high-tech products. Many technology companies achieve market dominance by pioneering new products and services. However, as they seek to capitalize on this dominant position, legal issues arise. Regulatory authorities and courts often find themselves having to distinguish between company behavior that advances science and develops better products for the benefit of consumers and society at large, and company behavior that is unfair, unethical, and harmful to the market, competition, competitors, and consumers.

Thus, there is a justification for legislator intervention to protect competition and businesses that compete freely and fairly in the market. This intervention should also prevent unfair competition, market monopolization, and the misuse of a dominant position in ways that harm competition, market mechanisms, or exploit consumers and suppliers.



3.2 The actual Need for Legislative Involvement

Insufficient or Asymmetric Information

Insufficient or Asymmetric Information

An important factor for competition is the availability of sufficient information for all parties involved. Without sufficient information, parties may be unable to take suitable decisions, **leading to** the suboptimal use of resources.

For example, when a company offers its shares in the market, it possesses extensive information about itself and its operations, unlike the investor who is looking to buy the shares. In the past, the lack or insufficiency of such information has led to numerous financial disasters and attempts to defraud investors.

Therefore, modern financial market laws oblige companies to disclose all necessary information when issuing shares, to help investors in taking a well-informed decision based on all the essential information.

Similarly, when a person wishes to insure, for instance, his property or health, he usually has much more information than the insurance company regarding the item being insured and the various factors that influence the insured risk. The company often cannot obtain this information, even if it spends significant amounts on verification and investigation. This leads to undesirable outcomes: the company may increase the insurance premium, refuse to insure, or, conversely, accept the insurance for a risk it would not have accepted if it had known the truth. It may also try to avoid paying compensation when the risk occurs. **All of this leads to undesirable results.** Therefore, the law intervenes by obliging the insured to disclose all important information before insurance and penalizes him if he failed to do so.

A related issue is that some people, especially consumers, may not be able to understand the available information and take informed decisions based on it. **A consumer cannot always understand technical information** about a new electronic device or a medical machine, or some complex contract terms, especially when contracting with professionals or another party with far superior expertise and knowledge.

In light of the above, there is a justification for legislative action aiming to increasing the availability of information to market participants in a way that helps them to take informed decisions. It should also ensure that the available information is clear and easy to understand, enabling the consumer to take an informed decision.



3.2 The actual Need for Legislator Involvement

Non-Economic Justifications:

In addition to the justifications for legislative intervention arising from the economic analysis of market mechanisms, the state may find itself compelled to intervene to achieve goals unrelated to the market and its mechanisms for various reasons, including:

1 Ethical Justifications:

The legislator may be compelled to issue Regulations that encourage or prohibit behaviors deemed harmful or unacceptable by society. These behaviors may be ineffective from an economic standpoint, but that is not the primary motivation for intervention.

An example is the laws that prohibit robbery, racial discrimination, or the violation of others' freedoms.

2 Distribution and Justice:

Even if the market is generally capable of producing effective results at a macro level, where the benefits outweigh the costs, the impact of this efficiency and its benefits does not manifest equally for all citizens. The benefits and wealth generated, or the costs and expenses borne by the economy, are often distributed unevenly across different segments of society. Some groups bear a larger burden, mostly if they are already suffering from low conditions or severe and chronic problems. In these cases, the situation calls for direct intervention by the legislator to address these issues.

Economists usually prefer redistribution through taxes and then reallocating resources via subsidies and direct support to those in need, rather than intervening with rules that change individual behaviors and, consequently, free market mechanisms. However, this approach may not always be available or optimal for addressing the issue at its roots.



3.2 The actual Need for Legislator Involvement

Proving the Need for Legislator intervention

After identifying and describing the problem, the focus shifts to proving whether any of the previously mentioned factors exist in the presented case and justify legislative action or not.

The concerned authorities must answer the following questions: **is there transaction cost that prevent interactions between individuals? Are property rights clear and protected? Is there an illegal monopoly?**

If the answer is "YES", the next question concerns the existence of a causal link between the market mechanism failure and the problem under study. **For example, is there evidence that reducing the cost of contract documentation actually encourages citizens to document their contracts?** While the answer to this question may seem obvious, it is important to verify it practically to make certain that there are no other hidden factors influencing individuals' reluctance to document, which might be the real cause of the problem.

If the causal link is proven, the concerned authorities must ensure that legislator intervention is the most necessary or most appropriate solution.

If so, the recommendation for intervention should follow the following model:

- 1 **Clearly describe** the extent of the authority to make the necessary decisions.
- 2 **Identify the problem to be addressed precisely**, the reasons that led to market failure or the failure of individual initiatives, and the existing legislation's effectiveness in solving it. Additionally, assess the severity of the problem.
- 3 **State the reasons for legislative intervention**, whether due to market failure or other important considerations such as improving government performance or supporting essential societal pillars like distributive justice or privacy.
- 4 If the purpose of the legislation is, **to address market failure** it should be described both quantitatively and qualitatively as much as possible.
- 5 **The report must demonstrate** that legislator intervention will likely result in benefits that outweigh its costs, including potential side effects. This conclusion should be based on both the societal need for an action and the strong likelihood that the intervention will be effective.
- 6 Finally, even though all or some of these mentioned factors may be present, they might be difficult to analyze quantitatively. Therefore, it remains **important to be analyzed in detail** and present a proposal for the strengths and weaknesses of each as clearly as possible.

► Chapter Four
Identifying Objectives and Available
Options for Achievement



Chapter Four: Identifying Objectives and Available Options for Achievement

This chapter reviews the importance of and how the objectives of legislative action are defined, these objectives must be clear, specific and measurable, and then, once the objectives have been set, the different options available for achieving these objectives should be presented; To be studied with all pros and cons; In preparation for evaluation and comparison.



The next step, after it has already been determined that legislative intervention is most suitable to solving the existing problem, is choosing the best option from the means available for such intervention. There are often different options, but some may be easier to dismiss at first glance as inappropriate for one or another apparent reason. Only options that need scrutiny and research to be evaluated and differentiated remain

Of course, there may be time and financial constraints to such an in-depth study, however - in any event - this issue needs to be examined in sufficient depth; to assess each option's applicability and its ability and efficiency to achieve the desired results, before taking the final decision.

Some of the most important factors to be taken into account when considering available options are:



4. 1. identifying the results to be achieved

This is a fundamental initial step in determining the desired outcome. It is not only a repetition of the risk characterization phase and the determination to reduce its likelihood, but also the identification of measurable outcomes, which should be the clear objective of legislative intervention. **This necessarily results in** a focus on the results, **which is a very important** requirement for the ongoing and subsequent assessment of the problem, as well as for the way of addressing it.

Legislation and legislative intervention are not an end in themselves, and concerned entities should not be satisfied because of taking specific regulatory action or issuing Regulations.

Legislative intervention must have an objective, that must be clear, and choosing and clearly defining the objective from the outset will help to choose the most appropriate means for achieving this objective, and then it can also be used as a benchmark for assessing the success of legislative intervention in solving the problem.

For this, the desired result must be measurable, preferably with clear quantitative criteria whenever possible, while also using qualitative criteria if they are necessary or more appropriate.

For example: if the problem is pollution, the desired result may be to reduce pollution or to see how low pollution measures are with a particular substance in air or water.

If the aim is to move from the black market to the formal economy, this can be measured by the high registration figures in the commercial registry or chamber of commerce, or by the high rate of filing of tax returns.

If the objective is to increase the quality of the service, the measure may be the result of users' queries about their satisfaction with the service, the difficulties they may have encountered, and so on.

At this stage, it is important to think about how this assessment can be carried out, and how statistical data that will need to be collected to undertake this assessment will be made available while identifying measurable results.

▶ 4. 2 considering the possible means of intervention

After clearly identifying the desired results, it becomes important to explore the different approaches and methods that can achieve these results, **it is important that this exploratory study be made independent of the subsequent step** of evaluating the options and deciding the appropriate ones. The purpose is to give more freedom to examine different options without limitations from the previous assessment and different practical or theoretical biases of the decision maker. **This is the time to explore** all the different weaknesses and strengths of all options, and while some options are easily excluded, some need to be studied more in depth.

The exploration process involves two steps:



Identifying the range of possible means, approaches and actions.



Awareness of the different factors and determinants affecting the final selection.

▶ 4. 3. Identification of the toolkit available for legislative intervention

The intervention of the State to organizing particular activity has multiple ways, there is no specific appropriate way to achieve all the goals. If the desired goal can be achieved through a simple intervention and did not require an attempt to achieve it by any stricter or more severe means The legislator entity should try to achieve its objectives with the least possible interference in behavioral models, market mechanisms or individuals' personal initiatives and freedoms. **Available options include the following:**

1 incentives:

It means intervening by giving appropriate motivation to the addressees to achieve certain goals rather than obliging them and forcing them into certain behavior, **such as: Tax reductions, for example, charging or reducing fees for certain services, or providing cash support for certain activities**, all of which are soft interventions. Although they are described as "Soft tools", it must be carefully considered to ensure that there is no disruption to market mechanisms. Support for certain activities may in fact shift investments from some activities to others, and may have adverse long-term effects.



4. 3. Identification of the available toolkit for legislative intervention

2 Treatment of causes of market failure:

Amongst the soft intervention methods also, the intervention to correct and remedy the causes of market failure, **such as reducing the cost of exchange from time and effort**, through setting certain contract forms, making the contracting process automatic or remotely, or protecting property rights.

3 Using tools based on market mechanisms:

The legislator or the administration creates a market in which different players exchange their legislative commitments as far as such an exchange is possible, the legislator sets limitations on the emission or pollution limits that each plant, region or territory can emit in the air. But some factories, for example, have a lot of manufacturing power and want to blow more emission, While some factories do not breathe maximum permissible emission ", it would be permissible for the first plant to buy the right to pollute the atmosphere from the second plant, As long as the overall emission of the two manufacturers does not exceed the limit set for them together.

4 Developing supplementary rules:

"Supplementary legal rules" means legal rules that individuals can agree to breach. **Those rules oblige them only if they wish to abide by them**, but if they wish not to abide by them and agree to do so, the law permits this.

It might seem strange to consider this kind of legislative intervention as a "regulations", but the insight into the existence of these rules sees a clear impact on individuals' behaviour. The real consequence of such rules is developing a clear "model" to be followed and adhered to by individuals, which implies that individuals are often bound by it except in rare cases, they may find their interest in exerting effort, time and money to negotiate and contract what contradict it.

Nonetheless, non-mandatory is deceptive, **and the legislator should not rush to adopt supplementary rules without careful consideration**; The success of these rules depends on the choosing the customary complementary, logical and accepted rules, so that it is predominantly expected that individuals would have agreed to them initially; because of its adequacy for their needs, but if the legislator chose the "wrong" supplementary rules, which are not appropriate for the individuals needs, **these rules will have an opposite effect**; since individuals will do their best and time in contracting to get rid of and circumvent them. If they succeed, the result is an increase in the cost of trading in the market, resulting in a decrease in market efficiency against the already required state of legislative non-intervention.



4. 3. Identification of the available toolkit for legislative intervention

5 Providing information:

Providing important information is sometimes a very sufficient means to achieve the desired purpose. This can be accomplished by obliging a particular category of customers to make information available in a certain manner to the public or to the contractors, **such as ingredient data placed on different goods, smoking damage warning, for example, on cigarette packs, or financial information in stock bulletins.**

In other times information can be provided to the public, **such as in raising awareness campaigns of the harm of smoking, or of the importance of vaccination from a particular disease.**

6 Direct control and hybrid approach:

This means: direct obligation by the legislator, or a combination of direct order with the use of some other means (hybrid model).

Sometimes soft interventions are not sufficient or effective, and concerned entities find themselves forced to intervene directly to control the situation and achieve the desired results through prohibiting certain behaviors, setting certain standards or achieving a distribution of rights and obligations in a particular desired way.

Of course, the justification for such severe intervention must be strong in order to justify severe interference and disruption of market forces. Benefits and costs, quantitative and qualitative, of such actions must be subject to stringent scrutiny.

However, results are often achieved through a hybrid approach that combines some or all of the previous different means, to varying degrees, and the difficult equation between these means is determined by some factors and determinants that may restrict concerned entities or affect the preference for certain options.



4. 4 Trade-off determinants among available options

Hereto there may be some or all of these determinants, influencing the final decision taken:



Options approved or necessitated by the law: The law may determine which means can be chosen and differentiated, or even the terms of this trade-off, and the law may give the administrative body the sufficient flexibility in these choices. **It is imperative that the Administration adhere** to the limits of discretion and appropriateness granted to it by law.



Factors affecting the selection of application mechanisms: One of the most important factors to be taken into account is the actual applicability of legal rules, the extent to which addressees can be bound, and the means for such application.

Implementation usually includes follow-up, surveillance, inspection, periodic reports, binding mechanisms through sanctions and incentives for violators. **In the trade-off between options**, consideration should be given to the feasibility and cost of actual application; **Because these factors will inevitably affect the efficiency of legislation in achieving its objectives.** While some rules appear appropriate and theoretically efficient, their practical application may face difficulties leading to their failure. Thus, less theoretical but more effective legislative intervention in terms of application may be the most appropriate choice than a rigorous regulations that theoretically eliminates the problem but cannot be put into practice, or the cost of doing so is too high.



Time factor: Time factor is often an influential factor in narrowing the range of available options, **for example:** It may be necessary to issue Regulations or apply the necessary precautionary measures within a certain period required by the law, or required by the circumstances of the case, and the time factor may be influential on the effectiveness of the action in avoiding the risk, as if the health or environmental risk is linked to a particular chapter of the year, action must be taken before this chapter (such as children entering school, or the festive season), the time factor may also affect the cost of applying the procedures, thereby exceeding their expected usefulness, making it necessary to expedite the choice of the means that can be applied as soon as possible in order to benefit from intervention.

Finally, the time element may lead to the necessity to apply the procedures at different stages of time or in a gradual manner, as there is a simplified initial phase, followed by phases that gradually escalate in the intensity of the actions taken or vary in their type depending on the stage.



4. 4 Trade-off determinants among available options



Different severity (firmness): Generally speaking, **the benefit and cost of legislation increases exponentially with the severity and firmness of legislation**, noting that the threshold cost - the cost to produce an additional unit - increases with severity while the threshold benefit diminishes.

The degree of intensity and firmness of intervention must therefore be carefully studied; To understand the full truth about the relationship between the severity and firmness of legal rules and the usefulness thereof and the cost involved.



Differing methods by circumstances: **One of the most important factors to be taken into account the suitability of legislation for the circumstances in which it is applied, which may imply different methods and different requirements depending on financial, geographical and human factors.** The size and financial capabilities, for instance, of a project may affect the type and volume of obligations that it may incur, Small and microenterprises can be adversely affected by, for example, high registration expenses or by requiring advanced electronic payment devices, etc., while such expenses do not affect large enterprises much.

Similarly, **the nature of the category** under legislation and the nature of its relationship with the regulatory body is an important determinant of the type and severity of legislation. **For example:** financial institutions are often linked to a close and continuous relationship with financial regulatory bodies, which helps to give financial institutions self-censorship roles (Self regulations); To contribute to the achievement of the objectives of the regulatory bodies, the relationship in this case is governed by cooperation and not purely by firmness control, which may not be available in some other activities. **Geographical and climatic factors may also have** an impact on environmental and health risks. All of this requires awareness and response.

One of the most important practical examples is the financial market situation. Market financial regulatory bodies differentiate in the legislation according to target groups. Qualified professional investors have a simple and preliminary protection; Based on their ability to gather and analyze information and make sound decisions about the extent of risks they wish to be exposed to in exchange for higher returns, and considering that subjecting them to more detailed and stringent rules may, on the contrary, reduce the efficiency of their decisions both for them and for the overall market.

On the other hand, the Financial Market Authority establishes very strict rules regarding protecting investor audiences with little or no experience against the complexity of investment decisions they may take and, in this case, places a heavy burden on professionals who advise these individuals on their behalf and manage their investments. **However, caution must be taken when diversifying the legislation methods,** which may result in unfairness among those are equal in legal positions, or may negatively affect the behavior of the target groups, so that careful consideration must be given not only to the type of legislation but also to the impact of its diversity according to the diversity of circumstances.



4. 4 Trade-off determinants among available options



Establishing results-related standards rather than standards of conduct (performance, not design): Performance criteria (or results) are intended to require the legislator to achieve a specific result (e.g. low emission rate of certain gases) instead of requiring certain behavior (a particular design) such as using a particular type of filters or chimneys, regulating behavior may be easy to respond to by addressees, but less useful or more costly, while **establishing a standard of result and giving addressees** sufficient flexibility leads to the desired results in ways that the assignees find more appropriate and less costly, **which is of interest to the legislator, administration and society in general.**

This flexibility also has additional benefits; It makes addressees less opposed to being subject to the rules and reduces the cost of administration's inspection and control; **It is sufficient to measure the proportion of pollution in the atmosphere, for example, instead of periodic detailed inspection to ensure that the required devices are used and maintained periodically, etc.**



Preference for market-based options over direct control options: It is a determinant close to the previous determinant of behavior and result. Intervention based on market forces depends on incentives to achieve results rather than prohibition and obligation, for example: Instead of prohibiting pollution, taxes are to be reduced for enterprises that achieve a certain reduction in emissions, or as other economic incentives for enterprises that employ local rather than non-local labor, or for enterprises that train fresh graduates.



4. 4 Trade-off determinants among available options



Making information available instead of regulating behavior: this depends on the justification for legislative intervention, **when the justification is that there is insufficient information or unbalanced information**, it is often enough to take actions that leads to the availability of sufficient information understandable to the target groups.

For example, insurance control rules require insurance companies to provide some information to the applicant prior to contracting, and the employee should explain and clarify such information and its requirements to the client. Sometimes this requires clear warning signs with certain lines in certain places, or certain information may need to be made available for a specific period sufficient for the addressees; to study it and act according to it, e.g. two weeks or a month.

Even at this level, **attention should be paid to calculating the cost and benefit of providing information, for example:** Providing information in an exaggerated amount or of a particular quality may have adverse effects, for example: The Medical Implications Bulletin accompanying medicines, such bulletins contain precise medical details and legal language intended primarily to address specialized doctors and protect producers from legal liability. However, when an ordinary person or non-specialist patient's reads this information, it may have adverse effects by alarming or hesitating to take the medication or varying doses for the dose prescribed by the doctor and therefore some States require the pharmacist to either remove the leaflet from the medicine before it is delivered to the patient or place the medicine in packages specific to patients with direct instructions prescribed by the doctor only, as long as it is given on prescription.

Alternatively, instead of obliging the provision of certain information, it is possible to make such information optional, with a law for evaluating and classifying organizations based on the amount of information they provide to customers, and the clarity, accessibility and understanding of such information. **This classification constitutes a sufficient incentive to provide information as a means of publicity and good reputation in the market.**



4. 5 Automation and digital transformation

Automation and digital transformation is an important and effective means of standardizing customers' behavior in the market, **as well as standardizing products themselves**; The product must conform to the website requirements of the control authority, **which is in fact an advanced way of developing specific models** with which producers are committed when providing their goods and services, while it constitutes, at the same time, an effective way of reducing the cost of the exchange, facilitating control over behavior and results, and gathering information on the performance of institutions and individuals.

► Chapter five
Options Analysis



Chapter five: Options Analysis



This chapter presents ways of examining available options, how to differentiate them on the basis of an assessment of each other's costs and benefits, and the different statistical methods that can be used to calculate direct and indirect costs and returns.

After the preliminary assessment of the legislative alternatives in the previous chapter, a more comprehensive assessment of the options is required in order to determine the most appropriate option. This requires the following steps:

First step

Establishment of baseline analysis, baseline scenario:
This is a scenario in the absence of regulations, through which the cost and benefits of laws can be compared.

Second step

Analyzing the benefits and cost of each option and identify the most appropriate ones.

The baseline scenario, the most important economic approaches and tools used to analyze the benefits and costs of the options presented will be discussed below.

5. 1 Creation of Baseline Scenario

In the economic analysis, Baseline Scenario refers to the continuation of the current situation without the enactment of the proposed legislation, **considering it the starting point for any economic analysis** of the potential benefits and costs of the proposed legislation, calculating in the baseline the costs and benefits if the current situation continues (i.e. without issuance of any legislation or regulations).

Since economic analysis takes into account the impact of the legislative policy on the baseline, **it is important and necessary** to carefully choose and describe this basis; This choice may have a subsequent physical impact on the outcomes of the economic analysis. **Although the baseline assumes that no new legislation will be enacted**, it also does not presume no changes in the current situation. Instead, it needs to carefully consider the possible sources of change that may occur in the absence of legislation. **This includes consideration of a wide range of factors as described below:**

- Natural Development of the market
- Changes in external factors that affect expected benefits and costs.
- Changes in legislation issued by other governmental agencies (other than the proponent).
- Degree of compliance of entities subject to the legislation with other legislation.



5. 1 Establishing the baseline scenario

The baseline must reflect the future impact of current government programs and policies. To review current legislation, the baseline - which assumes no change in the legislative programs in general - provides an appropriate basis for assessing legislative alternatives.

Because of uncertainty about the future, choosing a single baseline may be difficult. **In such cases** choosing a single baseline would significantly affect the estimated benefits and costs, making it necessary to measure benefits and costs against establishing alternative baselines; to provide a better picture. **To do so in the analysis**, the implications of the benefits and costs of legislation must be examined and different assumptions made, and on the degree of compliance with existing rules. **In all cases**, the same baseline must be used to assess benefits and costs.

The objective of the baseline scenario is to explain how the current situation has evolved without interference with the option of not enacting legislation. **It answers the question: what will happen if the legislator does not intervene with a new legislation?** It could be said that the impact assessment study is a comparative exercise to assess what might happen later after a legislator's intervention as opposed to what would happen if the government did not intervene.

However, this cannot be reached without specifying the scenario associated with the definition of the problem. Once the nature of the problem has been ascertained, it must be clarified whether it may evolve and whether or not the legislator's intervention is required? The effectiveness of this in dealing the problem successfully in the event of the legislator's intervention should be proved, **hence the importance of establishing a baseline scenario.**



5. 1 Establishing the baseline scenario



To identify the baseline, two scenarios must be differentiated:

1

When we have a problem that needs legislative remedy **and there is no** policy in place that addresses it, **in this case** the baseline means that the continuation of the current legislative policy with no changed.

2

If **there is** a problem with a legislative policy in place, **the baseline here** is the adopted policy in place.



To prepare the baseline scenario, a number of questions must be answered such as:

Is there a solution that is close to the problem or is it getting more serious? when? And how?

What are the possibilities of the scenario?

Are there unavoidable consequences that increase the significance of the problem?

What are the factors that affect the evolution of the problem?

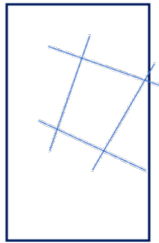
What are the risks of non-intervention?

Has the legislator ever tried to solve this problem? What was the result? And what can be learned from experience?

5. 1 Establishing the baseline scenario

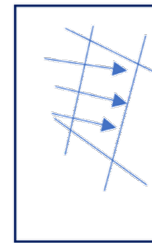
Scenario development methodology:

The scenario development process usually consists of **four stages**:



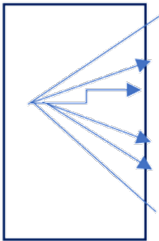
Phase one:
Identification of the scenario field

The first step is to determine precisely the field of the scenario of the intended situation evolving, and the field can be identified by answering a number of questions, such as: What problem should be dealt with specifically? What is it about? How is the field of scenario defined? What should be integrated into it?



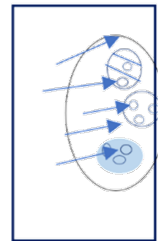
Phase two:
Determination of the underlying factor

This phase involves developing a description of the scenario of the field that overlaps with its main factor's "specifications", which are the central factors that constitute a description of the scenario field, also influencing the field itself and acting as a means for the field to have an impact in the surrounding world.



Phase three:
Analysis of the underlying factor

This phase leads to the scenario of broadening the path in which separate key factors are to be analyzed; to find possible future prominent characteristics that are conceivable in each case, this step is necessary to visualize the different future developments of any major factor.



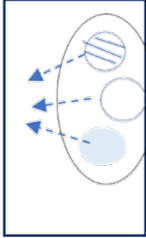
Phase four:
Establishment of scenarios

Where basic characteristics are defined: scope, quality standards, scenarios are developed by identifying and limiting them through the "cross-cutting" of the scenario path from the present point to the selected projection point in the future, where consistent packages of factors selected and acted upon in the scenarios are collected.



5. 1 Establishing the baseline scenario

Scenario development methodology:



Phase five: (optional) Converting the scenario

Phase five applied when determining scenarios and basically refers to tracking critical events from the foreseeable future to the present. This phase helps to conceptualize possible legislative policy procedures to achieve the goals. This phase includes a description of additional application and treatment of the scenarios developed, but is only included as part of the appropriate scenario process in a few cases. **A detailed explanation of phase five is provided**

Step 5 (scenario conversion) is used when needed:

- Achieving the goal is to be divided into several separate steps and intermediate goals.
- The time frames within which specific tasks will be carried out shall be specified.

Identifying the stages through which the scenario is drawn, which include:

1. Defining the future target status, for example: "Scenario: 2030 requirements".
2. Dividing the alternative pathways into purpose, by looking back from the future to the present "review of past events".
3. Identifying individual steps by answering: Where should we be in the next three years in order to reach our goal in 2030? "Road maps".
4. Developing different detailed options for work "end product".

Scenarios are usually determined by observing the evolution of the existing trend, based on the induction of fixed data, and there are different methods by which trends can be extrapolated such as:

Using the historical data, and assuming that the circumstances of the existing framework will not be different in the future

Analogy process: taking position data or similar circumstances

Simulation process: through data generation (e.g. in "field tests", or control experiments)

Assessing performance against emergencies: identifying critical uncertainties, creating the best and worst case scenario



5. 1 Establishing the baseline scenario

Scenario Quality Criteria:

Credibility

Credibility means that the presented probabilities of development must at least be possible developments. This does not mean that these developments are likely or desirable (the approach varies depending on the goal and the technique). Therefore, the paths to the future and the described scenarios must be implicitly possible.

Consistency

Consistency means that the paths to the future and the concepts in a scenario must be consistent with each other, meaning that their aspects are not contradictory. It is worth noting that consistency and credibility are the crucial two conditions for evaluating scenarios as credible.

Comprehensibility and Traceability

Comprehensibility means that the presented future developments and concepts must be traceable, which in turn means that they should be detailed enough to be understood, without combining too many dimensions and key factors; because this leads to incomprehensibility due to their complexity.

Distinctiveness

Distinctiveness means that the scenario is characterized by clarity, meaning that the selected and alternative scenarios are clearly and sufficiently different from each other, consequently could be interpreted and compared as separate and distinct schematic drawings of the future.



5. 1 Establishing the baseline scenario

Scenario Quality Criteria:

Time and Effort Expended

Scenario processes are intensive and consume long time; i.e. they require time, money, and human resources. Setting up scenarios may take several days, if not months. The time and effort expended in the scenario process increase proportionally with the degree of comprehensiveness and integration. This, in turn, relates to the number of developments and key factors under study, the geographical scope, the time horizon, and the number of participants.

Degree of Integration

Given that scenarios, generally, do not focus on detailed issues because they study the causal relationships between different dimensions and factors, an additional criterion for a good scenario is how well it integrates the interactions of developments across various levels.

Transparency

During the development process, scenarios go through a complete series of assumptions and selection decisions. For example, to answer the central question regarding the key factors that should be studied, how to identify and count potential prominent features in the future, and consider them as a means to increase the degree of verification and legitimacy. Therefore, the assumptions and processes through which decisions are reached must be established. The transparency criterion is particularly important for the quality standards of science, as such processes are not repeatable and cannot be forged. Reflecting the process can ensure a high degree of verifiability.



5.2 Analytical Approaches for the Proposed Alternatives

Cost-benefit analysis is not a one-size measure to fit all options, **as there are various models** that suit different and diverse scenarios. **Therefore, it is essential to understand and discuss** these models to select the most appropriate one for analyzing the proposed options.

◀ 5.2.1 Cost Benefit Analysis (BCA)

Cost-benefit analysis is a lawatic and statistical process that allows for the calculation and comparison of the benefits and costs of a decision or legislative policy. **This analysis is a fundamental tool** used in legislative analysis, allowing all benefits and costs to be measured and expressed in monetary units, **because it evaluates and compares** the positive and negative impacts of proposed legislative policy options, **and also addresses** whether the benefits gained from implementing the proposed legislation outweigh the incurred costs or not. Furthermore, **this analysis provides** decision-makers with a clear and significant indicator of the most efficient alternative, whether economically, environmentally, or health-wise, namely the option that generates the greatest net benefits for society.

There are two objectives for cost-benefit analysis:

1 To determine if the taken legislative decision is sound and economically viable: In the cost-benefit analysis term, benefits and costs are expressed in monetary terms, and adjusted to the present value of money. Accordingly, all benefit and cost flows of a project over time are expressed on a common basis in terms of their net present value.

2 To provide a reliable basis for comparison between proposed decisions or policies: This process is built on the basis of comparing the total expected benefits and costs of each option to determine whether the benefits outweigh the costs, and the quantity.

▶ 5.2 Analytical Approaches for the Proposed Alternatives

◀ 5.2.1 Cost Benefit Analysis (BCA)

Governments and other institutions, including private and public sector companies, often use cost-benefit analysis to evaluate the desirability of adopting a particular policy. It is an analysis to measure the expected balance between profits and costs, including assessment of alternative scenarios and the existing situation. Cost-benefit analysis also **helps to predicting** whether the benefits of adopting a legislative policy will outweigh its costs, and the outweigh ratio compared to other alternatives (*for example, one could rank alternative policies based on their cost-benefit ratio*).

Generally, cost-benefit analysis identifies options that contribute to increasing welfare from a utilitarian perspective. **Analysts using cost-benefit analysis should recognize** that achieving a perfect assessment of all current and future costs and benefits is challenging; although it can provide a good estimate of the best alternative, it does not guarantee perfection regarding economic efficiency and social welfare.

Cost-benefit analysis can encompass both quantitative and qualitative factors. **For example,** an anti-pollution regulations might include a quantitative analysis of the value of lives that have been saved, days of school that have not been missed, or the value of improved visibility.

While quantitative factors should certainly form a significant part of any decision, other issues must also be considered. **For instance,** a decision to develop certain areas or ban specific activities could impact the local community's lifestyle. Reducing licensing requirements might affect the cultural and historical aspects of a particular neighborhood. Some of these impacts may lack reliable methods for conversion into quantitative monetary terms, **making qualitative assessment and comparison essential to ensure they are not completely overlooked.**

In summary, calculating the net benefits helps to ensure the economic efficiency of legislation; this analysis is designed to answer whether the benefits are sufficient to compensate for the expected losses from the decision, leaving everyone—at least—in a good position as they were before the legislative policy.

▶ 5.2 Analytical Approaches for the Proposed Alternatives

◀ 5.2.2 Cost-Effectiveness Analysis (CEA):

When many benefits and costs of legislative decisions are qualitative and not easily quantifiable in monetary terms (Quantity), **the Cost-Effectiveness Analysis (CEA) can provide** a precise method for determining which options achieve the most effective use of available resources. Generally, CEA is designed to compare a set of legislative actions with the same primary outcome (e.g., **reducing pollution**) or multiple outcomes that can be combined into a single numeric indicator (e.g., **health improvement units**).

Cost-Effectiveness Analysis is a form of economic analysis based on comparing the costs and effectiveness of each proposed options.

The definition of CEA differs from cost-benefit analysis, which focuses on monetary value according to the used scale of impact. CEA is commonly used in healthcare services, particularly in cases where it is challenging to quantify health status impacts. Generally, CEA is expressed in terms of health gains from the assessment, (for **example: life years, avoiding cases of premature birth, years of improved vision, or the number of avoided accidents**)

When alternative options for solving a problem are identified, it is necessary to study and evaluate the cost-effectiveness of each option and compare it to the baseline (previously defined as the option that involves no solution to the problem, essentially ignoring it as if it does not exist).

Ideally, the cost-effectiveness analysis (CEA) method should be able to provide approximate cost estimates for each option, enabling a comparison of the cost-effectiveness of each option, which result in determining the most suitable choice.

In establishing a CEA, it is preferable to use final outcomes—such as lives saved or life years preserved—over intermediate output measures, **such as reducing tons of pollution, avoiding accidents, or preventing cases of illness**. It is important to note the quality consistency of the measured unit (for **example, areas of wetlands vary significantly in their environmental benefits**). **It is crucial** that the chosen measure can capture the variance in the value of the selected outcome measure. Additionally, providing a rationale and justification for the choice of the effectiveness measure is also essential.

5.2 Analytical Approaches for the Proposed Alternatives

5.2.2 Cost-Effectiveness Analysis (CEA):

One of the main challenges and difficulties in implementing Cost-Effectiveness Analysis (CEA) is when a legislative impact may result from multiple positive outcomes (benefits), potentially leading to various measures without a single metric that aggregates the total impact of all benefits. To overcome this challenge, it is recommended to assign a specific weight to each benefit and combine them into a single measure; to determine the comprehensive impact of the evaluated legislation.

When CEA is applied to public health and safety rules, one or more effectiveness measures should be selected that allow for the comparison of legislative alternatives. Some measures account for the number of saved lives, cases of cancer reduction, and protection from paralysis. Occasionally, these measures consider only mortality information, **such as the number of saved lives and the increase in the average number of life years achieved, by God's will.**

There are also more comprehensive and integrated effectiveness measures, such as the quality-adjusted life year (QALYs), a non-monetary statistical measure that evaluates the duration and severity of health impacts following the implementation of proposed legislation.

Cost-effectiveness analysis (CEA) differs from the purely qualitative analysis and cost-benefit analysis (CBA), because after identifying the impacts and selecting potential assessment indicators, the analyst proceeds to:

Assigning a monetary value to all costs	Discounting costs to obtain the present value
Calculating the cost-effectiveness of all alternative options	Analyzing the sensitivity of the options

Cost-effectiveness analysis compares alternatives that may exclude each other in terms of cost-effectiveness or the ratio of effectiveness to cost in order to identify the most effective alternative. Costs and effectiveness are always measured incrementally, for example, in relation to the current situation:

$$CE_{is} = \frac{C_i - C_s}{E_i - E_s}$$

In this example, cost-effectiveness (i) is evaluated against option (s) which represent the existing situation, and compare the difference in costs with the difference in effectiveness. If we compare the alternative options with the existing situation, the option with the lowest cost-effectiveness should be chosen. While the first challenge to overcome during a cost-effectiveness analysis is selecting the relevant costs that will be monetized. Usually, legislative bodies typically focus on budgetary costs, however, in terms of the efficiency perspective, the cost calculation should include compliance and enforcement costs of the legislation. For both categories of costs, proper pricing should reflect the real opportunity costs.

5.2 Analytical Approaches for the Proposed Alternatives

5.2.3 Break Even Analysis (BEA):

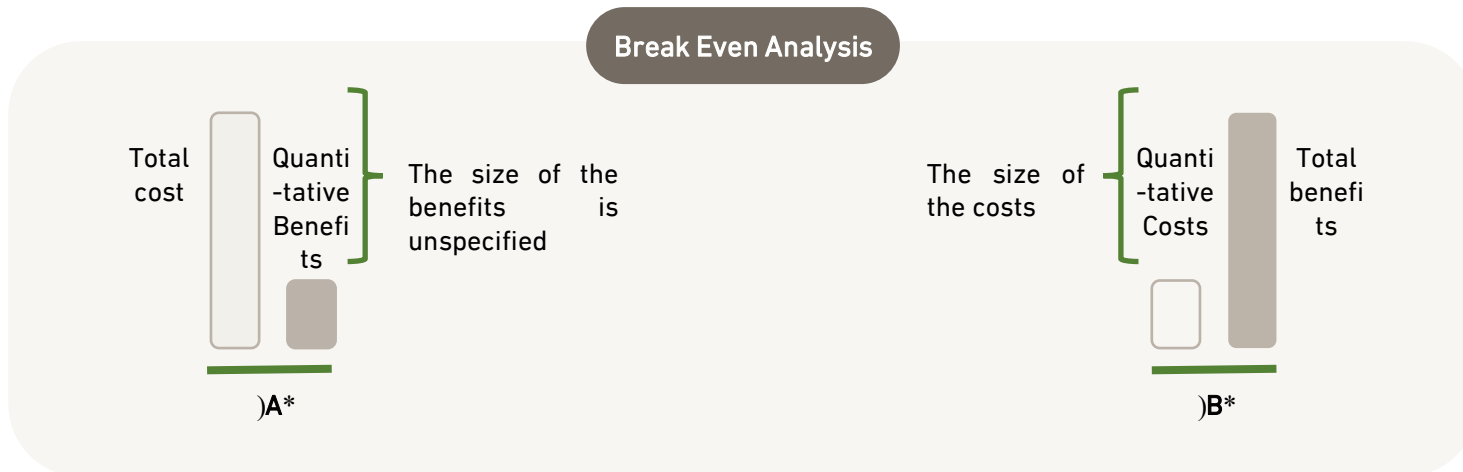
In normal circumstances, profit-seeking projects initially lose when they invest in their capital and launch their operations. Usually, successful projects compensate for these losses over time as revenues grow and costs recede. At the moment when costs align with revenues, we may say that we reached the Break Even Point (BEP), **which means that the project no longer incurs losses** due to its ongoing expenses and is expected to generate profits thereafter, assuming that other surrounding determinants remain unchanged.

Consequently, **Break Even Analysis (BEA) is a viable alternative** that can be used when there is a lack of risk or evaluation data. **BEA aims to** identify an unknown or uncertain value where benefits and costs equalize, indicating the level that this value must reach to bridge the gap between quantified benefits and costs. The concept of Break Even Analysis is **illustrated below in a graphical form:**

- Graph (A) demonstrates the extent of unaccounted or unexpressed benefits needed to match the quantified costs.

- Graph (B) shows the extent of unaccounted or unexpressed costs required to equalize with the accounted benefits.

Break Even Analysis proves most useful when some information about the potential size of the impact is available, providing a basis to judge whether the unquantified impacts could reasonably exceed the break-even amount.





5.2 Analytical Approaches for the Proposed Alternatives

5.2.4 Multi-criteria analysis (MCA)

Multicriteria analysis can be considered a final step that combines various criteria (cost analysis, cost-effectiveness analysis, and qualitative analysis) and compares all selected legislative alternatives in terms of the objectives. **Multicriteria analysis is based on** a performance matrix where the performance of options is measured according to different criteria. **This type of analysis is used to** identify a preferred option to rank the options, determine a limited number of options for subsequent detailed evaluation, or simply to distinguish between acceptable and unacceptable potentials.

Advantages of using multicriteria analysis:

Multicriteria analysis can be an effective technique because it allows for the application of the cost/benefit concept in cases where there is a need to present impacts which are based on a mixture of qualitative, quantitative, and monetary data. When there are varying degrees of certainty, **multicriteria analysis is particularly useful. This is especially true when** it is possible to monetize the costs and benefits (consequently conducting the proper cost-benefit analysis). Furthermore, it is beneficial in highlighting trade-offs based on the pursuit of efficiency (a dimension captured by cost-benefit analysis) when some competing objectives go beyond merely striving for efficiency.



Multicriteria analysis offers additional advantages, such as:

Clear articulation of the objectives and the criteria used to measure the options explicitly.

If all options are correctly constrained, all the assumptions underlying the analysis can be traced and reshaped.

It is relatively easy to make the scoring and weighting process specific, auditable, and comparable to other sources.

External sources can be utilized for multicriteria analysis, provided that bias is controlled.

An easy communication tool for both stakeholders and policymakers.

5.2 Analytical Approaches for the Proposed Alternatives

5.2.4 Multi-criteria analysis (MCA)

Limitations of Using Multicriteria Analysis:

One of the limitations of multicriteria analysis is that in the absence of a proper cost-benefit analysis, it does not reveal whether the intervention adds to or detracts from overall welfare. Therefore, multicriteria analysis—similar to cost-effectiveness analysis—may be the best inconsistent option with community welfare enhancement. This, itself, may be insufficient to justify legislative intervention at all (i.e., doing nothing may remain the preferred scenario).

Another drawback of multicriteria analysis is its excessive subjectivity. Several features of this analysis appear to be at the discretion of the analyst, which may result in weighting and steering the performance matrix of multicriteria analysis towards the solution that the analyst prefers. **For this reason**, it is crucial that the analysis process be structured and reported with high transparency and as participatively as possible in all its steps.

The performance matrix is a key feature of multicriteria analysis. Each row represents an option, and each column represents the performance of the option against each criterion. **The matrix, in its basic form, is produced through the following steps:**

Identifying Performance Criteria:

Criteria are the performance measures by which the options identified in the legislative impact assessment process will be judged. A significant portion of the added value of the multicriteria analysis process comes from forming a sound set of operational criteria. **These criteria should be** Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) and should align with government commitments and strategic priorities to achieve Vision 2030.

Prioritizing Performance Criteria:

This step is called "weighting," where a numerical value is assigned to each criterion to determine its relative importance.

Evaluating the Performance of Each Option:

This step is called "scoring," where the expected outcomes for each option are assigned a numerical grade based on the strength of preference for each option. The preferred options score higher on the scale, while the less preferred options score lower.

Constructing the Performance Matrix (Comparing Options):

The matrix visually combines the performance evaluation of each option with the weight of each criterion in numerical terms. **It is recommended to choose the option that achieves** the best performance (through summing up all the relevant points to the criterion).

▶ 5.2 Analytical Approaches for the Proposed Alternatives

◀ 5.2.4 Multi-criteria analysis (MCA)

Increasing references in this field point out that there are many multi-criteria analysis techniques, and their number continues to grow. The matrix (table) describes a possible and standard approach that broadly applies to the governmental decision-making process, based on an illustrative (hypothetical) example. **However, it is not necessary** to perfect all multi-criteria analysis techniques in detail. **The process of choosing one criterion over another should be based on** ensuring internal and logical consistency in various regulatory impact assessment processes, and on ensuring transparency and ease of use, **taking into account** the availability of information, the realistic availability of time, and the human competencies for the analysis process.

critierion options	Criterion (A) Value (w)	Criterion (B) Value (X)	Criterion (C) Value (V)	The result
)2*option	)A1*w result*	)x*1B result*	)y*1C result*	2total
)3*option	)A2*w result*	)x*2B result*	)y*2C result*	3total
)n*option	)nA*w result*	)x*nB result*	)y*nC result*	n total

Multi-Criteria Analysis Performance Matrix



5.2 Analytical Approaches for the Proposed Alternatives

◀ 5.2.5 Net Present Value (NPV)

The net present value (NPV) is obtained by subtracting the present value of costs from the present value of benefits. The fundamental rule based on NPV, when alternatives to the existing situation exist, is to choose the option with the highest NPV. If the NPV is greater than zero, it means that the costs associated with implementing an option are less than the benefits to society. Similarly, selecting the highest NPV leads to greater surplus and social gains.

After all these additional steps, the analyst can provide the recommendations. The main selection rule that distinguishes cost-benefit analysis is to recommend implementing the option with the highest NPV to maximize the intended goal.

◀ 5.2.6 Uncertainty Analysis

Every analysis must address the uncertainties arising from the choices made by the analyst. **For example, many economic analyses involve assessments of the expected economic impacts for decades into the future.** Consequently, estimates of future costs and benefits of Regulations will be sensitive to assumptions about population growth rates, resource categories, economic activity, technological change, and many other factors.

Therefore, sensitivity analyses regarding the key variables in the baseline scenario should be conducted and reported whenever possible. This allows for the evaluation and analysis of the significance of the assumptions made.

▶ 5.2 Analytical Approaches for Proposed Alternatives


◀ 5.2.7 Sensitivity analysis ▶

Uncertainty and sensitivity analyses investigate the robustness of a study when it includes some forms of mathematical, statistical, and economic modeling. Although uncertainty analysis examines the complete uncertainty in the study's conclusions, sensitivity analysis attempts to identify which source of uncertainty could have the greatest impact on the study's conclusions. **For example, many guidelines for modeling or impact assessment describe sensitivity analysis as a tool to ensure the quality and realism of the evaluation.**

Therefore, the sensitivity analysis is used to evaluate how the final results or other aspects of the analysis change as the information being entered changes. So, regulatory impact analysis benefits from knowing how the cost-effectiveness of a particular technology changes as fuel prices change, or how the net benefits of a BCA change as estimates or scenarios being assumed change.



5.3 Cost-Benefit Analysis and Comparison


As previously mentioned, the main purpose of Regulatory Impact Analysis (RIA) is to provide a prior estimate of the consequences of the legislative decision, to support decision-makers in their evaluation of legislative alternatives. When time, resources, and data are available, a comprehensive calculation of the costs and benefits of different alternatives is the most complete and thorough approach in the decision-making process. **It is important to note that legislation can have a wide range of financial, economic, social, health, and environmental impacts, which can be detailed as follows:**

◀ 5.3.1 Financial and Non-Financial Impacts:

Some impacts of legislative decisions are tangible and lead to direct financial effects. For example, financial impacts include direct expenses incurred by regulatory bodies to acquire pollution control technology. Similarly, price increases paid by consumers due to new legislation have a financial impact that can be calculated. Non-financial impacts include public health effects, **such as reducing the risk of deaths and accidents.**

Financial impacts are relatively easy to be evaluated, because they are primarily expressed in monetary terms. However, non-financial impacts require additional analysis to convert them into a common monetary measure for cost-benefit analysis. **There are several tools to measure non-financial impacts** based on concepts such as willingness to pay (WTP) or willingness to accept the compensation (WTA). WTP represents the maximum amount of money an individual is willing to pay for a benefit (e.g., **reducing the risk of death in the current year**), while WTA represents the amount of compensation an individual is willing to accept to give up a certain privilege. **It is important to** determine whether WTP or WTA will be used for evaluating a particular impact.

An important reference point for this determination is the distribution of the status quo of rights, responsibilities, and privileges. **For example, for a regulatory rule aimed at improving workplace safety, a worker might choose WTP for receiving protection, as it may be the most suitable option compared to the baseline (when no regulatory rule exists).** On the other hand, the legislative rule might provide the option for the worker to choose WTA to remove current protections and receive compensation.



5.4 Important Considerations in Estimating Benefits and Costs

◀ 5.3.2 Direct and Indirect Costs and Benefits:

A regulatory impact study should look beyond direct costs and benefits when setting rules and enacting laws by considering any indirect costs and benefits. **Indirect costs include** compensatory risks, which occur when reducing one risk leads to an increase in another risk. Indirect benefits are sometimes described as co-benefits or ancillary benefits, **referring to the positive effects** of a regulations that are not related to its primary purpose. **For example, in a regulations aiming to improve vehicle fuel economy, compensatory risks might negatively affect vehicle safety, while an ancillary benefit would be the reduction of harmful pollution.**



There are several considerations that analysts should take into account when estimating both costs and benefits, including:

◀ 5.4.1 Technological Advancements

Future developments in production or pollution control technologies can impact both the baseline and the costs and benefits of legislative alternatives. However, estimating future technological change is extremely difficult and often controversial. Technological advancement can be viewed as having at least two components: **technological innovation, such as a new method for pollution control, and learning effects**, where experience leads to cost savings through improved processes, expertise, or similar factors. Therefore, it is not recommended to assume a general fixed rate of technological progress, even if the rate is small, as the ongoing complexity of this rate over time can lead to unreasonable rates of technological innovation. However, in some cases, learning effects may be included in the analyses.

Often, undiscovered technological innovation is a reason for overestimating legislative costs, due to the difficulty and controversy associated with estimating technological change in economic analysis. Therefore, analysts should be careful to avoid perceived bias when presenting it. If technological development is included in cost analysis, it should also be included in the benefits analysis.



5.4 Important Considerations in Estimating Benefits and Costs

5.4.2 Discount

The basic concept behind this process is that the value of money today is less than its value tomorrow. Therefore, **future costs and benefits** need to be discounted or balanced. Thus, generally, costs and benefits do not occur immediately but can actually occur over many years. Therefore, to account for the timing of costs and benefits, future costs and benefits are discounted to their present value. **The main reasons for discounting future impacts are:**

A

Resources invested typically yield a positive return; therefore, current consumption is more expensive than future consumption because you waive this expected return on investment when you consume today.

B

Postponed benefits also have a cost because people generally prefer current consumption over future consumption.

C

Moreover, if consumption continues to increase over time, the incremental value of consumption will be less in the future than it is today.

Once an appropriate Social Discount Rate (SDR) is chosen, the formula for calculating the present value becomes straightforward. The value of a cost or benefit in a given year (t) is converted to its present value (PV) by dividing it by the Social Discount Rate (s), **as shown below:**

$$\text{Social Discount Rate} = \frac{1}{(1+s)^t}$$

Selecting an appropriate Social Discount Rate (SDR) is one of the most challenging issues for cost-benefit analysts. In many countries, governments provide a reference discount rate that must be used when assessing the SDR for projects and programs, while other countries permit analysts the freedom to choose, provided they adhere to best practices. In all cases, transparency about the reasons for selecting a particular SDR and about the sensitivity of the results to this rate is crucial. This is because choosing a different discount rate can lead to a significant change in the outcomes.



5.4 Important Considerations in Estimating Benefits and Costs

◀ 5.2.7 Sensitivity analysis ▶

In addition to estimating the net benefits of legislative policy options, it is sometimes useful to address how benefits and costs are distributed separately. **The objective of distributional analysis is** to provide information on how benefits and costs impact different groups, making trade-offs between economic efficiency more transparent.

The key step in this analysis is identifying the population groups that should be considered. In some cases, the groups of interest may be identified by law, while in other cases, important groups may emerge during the analysis. **For example,** analysts might find that the impacts of a legislative policy are likely to be concentrated in specific geographical areas or among groups with particular characteristics, such as individuals with HIV or those with specific dietary habits. When describing these impacts, one option is to provide a table or chart showing the percentage, value of costs and benefits, and net benefits that accrue to individuals or households at different points in the distribution.

► Chapter Six
Presentation of Results and
Recommendations

Chapter six: Presentation of Results and Recommendations



This chapter addresses some practical recommendations that should be followed when presenting the study's content and the obtained results, to supporting sound decision-making. For that reason, legislative analyses should be documented and summarized clearly and comprehensively. Since the Regulatory Impact Analysis (RIA) should describe the rationale for the legislation, the options considered, the analytical approach, the results, and the implications of potential future challenges and changes. For legislation with significant or complex impacts, it may be necessary to provide additional information in technical appendices to complete the main analysis.



6.1 Summarized Information

The main text of the study should provide a concise and clear summary of the analysis, in addition to presenting technical details in the appendices or supporting documents. The main text should include the following:

Executive Summary

Statement of the Need for Legislation

Description of the Baseline (i.e., without any legislative action)

Description of Legislative Alternatives

Calculation of Benefits for the Proposed Legislative Alternatives and the Baseline

Calculation of Costs for the Proposed Legislative Alternatives and the Baseline

Comparison of Benefits and Costs between the Proposed Legislative Alternatives and the Baseline

The regional impact assessment should include tables and figures that clearly convey the results of the analysis and the essential information which could be summarized in the following:

Annual Benefits and Costs (undiscounted)

Present Value and Annual Value of Costs

Present Value and Annual Value of Benefits

Net Benefits (i.e., benefits minus costs) presented on an annual basis

Therefore, these quantitatively specified results should be accompanied by information on significant qualitative (non-quantified) impacts, in addition to "average" "best," and "worst" estimates. Information regarding the uncertainty of assumptions and results should also be provided. When reporting annual or present value impacts, analysts should indicate the time period over which the impacts are estimated. These results should be presented with discount rates ranging from three to seven percent.





6.1 Summarized Information

Depending on the complexity of the analysis and the number of types of costs and benefits, the results can be summarized in separate or multiple tables or figures, with indications to the sources of information and documenting the main assumptions. **Such information is essential** for focusing attention on the key results. Consequently, **analysts should** keep in mind that some readers will skip the more detailed technical information in the text, therefore, clearly labeling and referencing is necessary to ensure that the contents of the tables and figures are not misinterpreted. The written text of the study should explain the tables or figures to the reader.

It is important to complement the result tables with charts and graphs, linking them to summarize and highlight the key steps in the analysis as well as the main conclusions and their implications, **as illustrated in the table.**

Accounting Statement Template							
Responsible Agency or Program Office							
day				date			
Economic Data: Cost-Benefit Statement							
units							
Category	Initial Estimate	Low Estimate	High Estimate	Annual Value	Discount Rate	Duration	Notes
Benefits							
Annual Income Calculated in millions /annually					7%		
					3%		
Annual Quantitative					7%		
					3%		
Qualitative							
Costs							
Annual Income Calculated in millions /annually					7%		
					3%		
Annual Quantitative					7%		
					3%		
Qualitative							



6.2 Providing a Checklist for Cost-Benefit Analysis

The following checklist describes the essential elements of a cost-benefit analysis:

1

Identifying the problem: Is the problem that the legislative policy aims to address clearly defined, including the characteristics of harms that are to be mitigated and the target population?

2

Identifying legislative policy options: Does the analysis address a reasonable number of possible options to address the problem? Are these policy alternatives clearly defined?

3

Identifying elements to be studied: Does the analysis clearly specify the costs and benefits to be accounted for? If the impacts on certain individuals or groups that might be affected are excluded, is the rationale for exclusion clearly stated and well-justified? Are the results reported in an aggregated and accurately categorized manner?

4

Forecasting the baseline scenario: Are the expected circumstances without the legislative policy clearly defined? For prospective analyses, have anticipated changes that might affect the population, economy, or available technology been considered? For retrospective analyses, are the analyses and resulting impacts separated from other changes that occurred during the same time period? If an alternative comparison tool is used, is the rationale clearly defined and the compared well-specified?

5

Forecasting legislative policy responses: Are the impacts of the policy on individual and legislative behavior clearly defined and different from changes attributed to other factors? Are these impacts based on strong evidence that establishes a causal relationship between the policy and behavioral changes? If the evidence and information are weak or inconsistent, have the associated uncertainties been clearly identified and assessed?



6.2 Providing a Checklist for Cost-Benefit Analysis

6

Estimating Costs and Benefits: Does the analysis include a list of all significant and potential impacts? Does it discuss the rationale for focusing of the quantitative analysis on a particular subcategory? Is the approach to estimating costs and benefits, including data sources and methods used, clearly articulated? Do the costs reasonably include a comprehensive list of inputs or investments necessary to implement and operate the legislative policy, including real resource expenditures such as labor and materials? Do the benefits reasonably include a comprehensive list of outputs or outcomes of the policy, i.e. changes in welfare such as : reducing risks of death, illness, or injury? Are both improvements and any indirect damages included in these benefits?

7

Comparing Benefits to Costs: Are summarized measures, such as net benefits for each option, reported, including quantitative and qualitative analysis of uncertainty? If cost-benefit ratios are reported, are the included effects clearly defined and consistent with the classification of costs and benefits? Are the implications for decision-making clearly stated, including the likelihood that each policy will result in net benefits and the relative hierarchy of legislative policy options?

8

Estimating Distribution: Has the analysis identified groups of interest defined by income or other relevant characteristics? Does the analysis describe the distribution of both costs and benefits across these groups?



6.3 Recommendations

- Clear and comprehensive documentation of the analysis is essential** for enriching the decision-making process and allowing for comparison of the results with those of other analyses. A single analysis cannot address all possible legislative policy options or explore the effects of all possible analytical approaches and assumptions. **Therefore, these guidelines aim to** promote the usefulness and optimal use of these analyses by clarifying the concepts related to the study and recommending application methods. However, if the approach and results are not well-documented, the analysis will not achieve its intended purpose, regardless of its intrinsic quality.
- Therefore, presenting the Regulatory Impact Analysis (RIA)** in a way that is easily understood by decision-makers and stakeholders, and comparing it with other analyses, **requires significant effort**, and without this effort, the analysis may not play its intended role in the decision-making process and may be misunderstood in ways that lead to suboptimal decisions, because avoiding technical terms and utilization of tables and graphs to clarify key points will help **to ensuring that the analysis is useful and used in decision-making.**



6.3 Recommendations

Several important questions have been listed and will contribute to the success of the study:

- 1 Are all data sources and studies used to develop each assumption and estimate each value clearly mentioned?
- 2 Are all monetary values—whether inflated or deflated—standardized to a common currency for easy comparison? And has the approach used to estimate inflation been clearly identified?
- 3 Are monetary values were reported in the local currency and in an internationally comparable scale? And is the approach used for currency conversion clearly specified?
- 4 Is the year used in calculating the existing values of benefits and costs clearly specified? Is the discount rate reported? Has the justification for alternative discount rates been discussed? Are the costs and benefits that accumulate each year without discounting also reported?
- 5 Are the uncertainties affecting the results clearly described both qualitatively and quantitatively, including those identified qualitatively but not quantified?
- 6 Are the results and their implications articulated in concise terms that the general public can understand?

Ensuring that these issues are addressed in the main text of the Regulatory Impact Analysis, or in supplementary materials as necessary, **will help** readers, audiences targeted by the decision-makers and stakeholders, **to interpret and use the results appropriately.**

Note: Refer to the Legislative Drafting Guide on pages 83-133 for methods to reflect the adopted legislative policy in the legislative text to achieve the intended impact.

► Chapter Seven
Review and Evaluation of Legislation
(Post-Implementation Assessment)

Chapter Seven: Review and Evaluation of Legislation (Post-Evaluation)



This chapter addresses the importance of post-evaluation of legislative intervention, how to plan for this evaluation, the steps to carry it out effectively, and the resulting implications. Consistent with the latest approaches and best practices, legislative impact assessment should not be limited to prior evaluation but should be conducted again after the legislation has been enacted and implemented to assess both existing and newly issued legislations.

This post-implementation assessment aims to achieve two objectives:

First

Evaluating the extent to which the legislation has succeeded in achieving its objectives

Second

Determining the need for amendments or the complete termination of any existing legislation

Additionally, if the post-assessment is conducted for legislation that was issued following previous evaluation studies, it will help verify the accuracy and appropriateness of the prior evaluation and its tools, whether in identifying and assessing risks or in evaluating and comparing available options. **The purpose of the post-assessment is to develop and improve the legislative process and the prior studies. Below is an overview of two distinct phases of the assessment:**

1

Designing the Post-Assessment Plan:

This design can originally be done at the legislative drafting stage, thereby helping to set measurable objectives for the forthcoming legislation.

2

Post-Assessment phase:

Recommendations are made, and actions are taken based on the study's findings.

7.1 Designing a Plan to study the Legislative Intervention

1 Plan Timing:

As mentioned earlier, the best time to design the review plan is **during the pre-evaluation process**, or if that opportunity is missed, the plan can certainly be designed later as a prelude to the review process.

However, the benefits of early planning and design are numerous. The experts involved in drafting the legislation are available, and discussions and efforts are already underway. This makes it relatively easier to discuss how to conduct the review and post-assessment and to design its plans. **Since those conducting the post-assessment are involved in planning the implementation**, there is unity in purpose, direction, approach, and the analytical tools used.

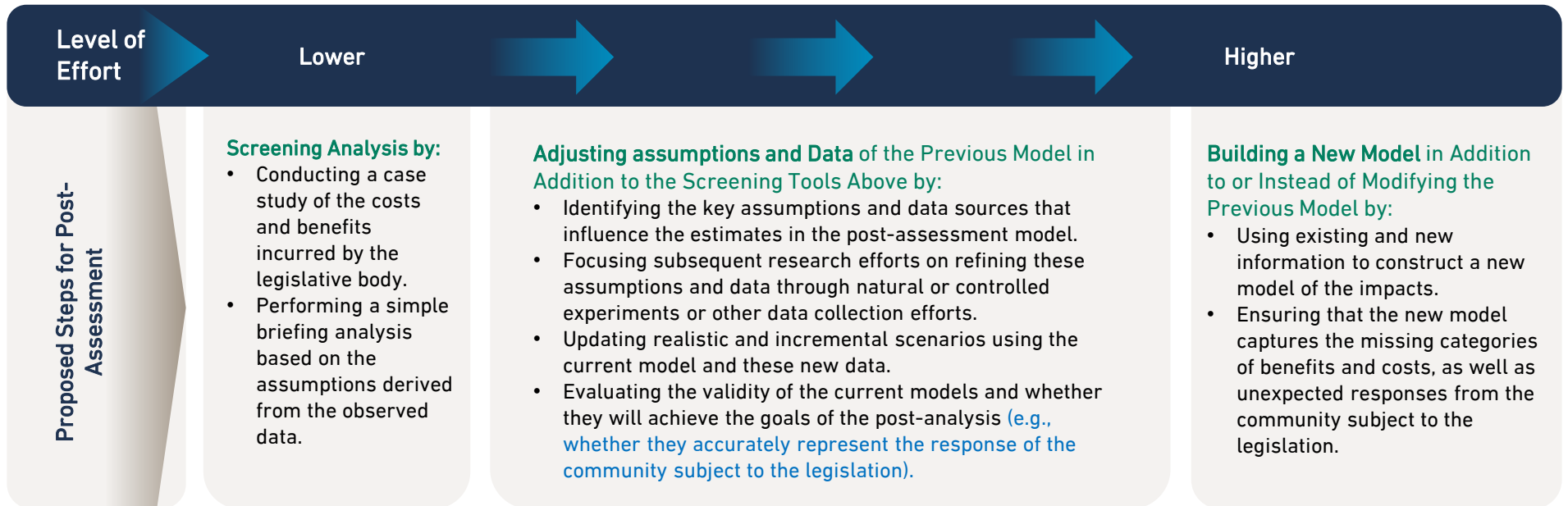
Nevertheless, this early planning faces challenges, such as budget and time constraints related to the pre-evaluation, which may not allow for planning the post-assessment as well. Moreover, the review plan design may be negatively influenced by the biases of the legislators, who may be convinced of the legislation's success or the accuracy of their analysis and predictions. These factors might make it preferable to give post-evaluators the opportunity to independently develop the assessment plans.

7.1 Designing a Plan to study the Legislative Intervention

2 Content of the Post-Assessment Plan:

Before starting to develop a post-assessment plan, analysts must consider the purpose of the evaluation, as it undoubtedly influences the content of the plan. Accordingly, the plan should include general guidelines and key checkpoints to define the scope of the study, focusing on answering the posed questions while avoiding excessive costs in collecting potentially irrelevant data.

Researchers should follow a step-by-step approach to the study, which begins with: A) An initial exploratory analysis. Then: B) Reviews of existing models that were originally used for the prior legislative impact analysis. Then: C) The development of an entirely new model for the post-assessment. This step-by-step planning is illustrated in the following diagram:





7.1 Designing a Plan to study the Legislative Intervention

For example, if the purpose of the study is to evaluate whether the benefits of the legislation outweigh its costs, a simple exploratory analysis might be sufficient without anymore in-depth studies.

But if the goal is more wide, and the researchers seek to verify the accuracy and reliability of previous estimates used in prior evaluations, **it may be necessary to design new studies** focused on achieving this methodological objective. This includes, first, reviewing the assumptions of the previous study and the used data sources, especially if there are doubts about the suitability of these data for the analysis in question and if the data significantly impacted the previous study's results.

In such case, researchers should focus on redefining and updating these critical factors in the study and may resort to using modified versions of the pre-evaluation studies. **This assumes that the original model** accurately described the legislative intervention and its relationship to the anticipated costs and benefits.

Finally, analysts may find that the model used in the pre-assessment was not sound in its conclusions. This may be detected through consultation with stakeholders and parties affected by the legislation, by gathering new data, or through some experiments.

For example, it might be discovered that the cost of compliance with new Regulations is lower than the used estimations if those subject to the Regulations develop new methods to meet the requirements, or if productivity improvements reduce overall costs, including compliance costs. **Significant changes in market conditions might also affect** the costs and benefits associated with adhering to the new Regulations. **Finally,** there may be certain types of costs and benefits that were not considered in the original study. In all these cases, it may be necessary to develop new models for post-analysis.

In general, conducting a post-assessment requires a clear thoughtful of its objectives to ensure that the design and efforts made are appropriate to achieve these goals.



7.1 Designing a Plan to study the Legislative Intervention

3 Identifying the Data Needs for the Study:

In light of the measurable objectives previously defined by the pre-evaluation of the legislative intervention, the post-assessment plan should be designed, particularly identifying the necessary data and information to evaluate the extent to which these objectives have been achieved. **If the legislation objective is** to reduce pollution levels, then data on pollution levels should be collected. However, it is also important to collect data over an extended period to ensure a causal relationship between the enactment of the legislation, the legislative intervention, and the actual reduction in pollution. It is also crucial to collect data on the actual compliance with the new Regulations.

In other words, it is not enough to verify that there is a reduction in pollution levels; it is also necessary to confirm the existence and extent of a relationship between the reduction in pollution and the legislative intervention. The post-assessment aims not only to prove that the new legislation is effective but to study whether it is effective and to what degree.

4 Designing Experimental Studies to Confirm Causal Links:

The previous step sometimes encounters difficulties in confirming the causal link between the regulations and the actual impact and its extent, especially if this confirmation needs a long period or data collection at the national level that is hard to be actually achieved.

These difficulties can be overcome by designing small-scale, focused experimental studies aimed at confirming this link. **Several models are possible** for such experiments, taking into consideration that these models may be unsuitable due to either their complexity or high cost. These models are:

A) Using the experimental group and control group method.

B) Quasi-experiment.

C) Pilot implementation.



7.1 Designing a Plan to study the Legislative Intervention : It has three models:

A) Experimental Group and Control Group Method:

It is, obviously, a traditional scientific method, where the new legislation is applied to a specific group or category, with another similar-conditions group that is not subject to the legislation. The effect of the legislation is then monitored in both groups **to ensure that the desired objectives are achieved only in the experimental group**. The desired causal link will be confirmed only if there is a clear difference in the achievement of objectives between the two groups, beyond the expected margin of error for the study.

However, this method may not always be available either due to time constraints, cost, or the subject nature itself. For example, it might be difficult to use this method to determine the effect of a specific tax on economic activity.

B) Quasi-Experiment:

The studies that attempt to extract conclusions from data not obtained by means of a random method specifically aiming to testing causal relationships. **For example, data from two similar groups can be selected, with one group having been subject to the legislation or its implementation while the other has not.** This method closely resembles the control group method.

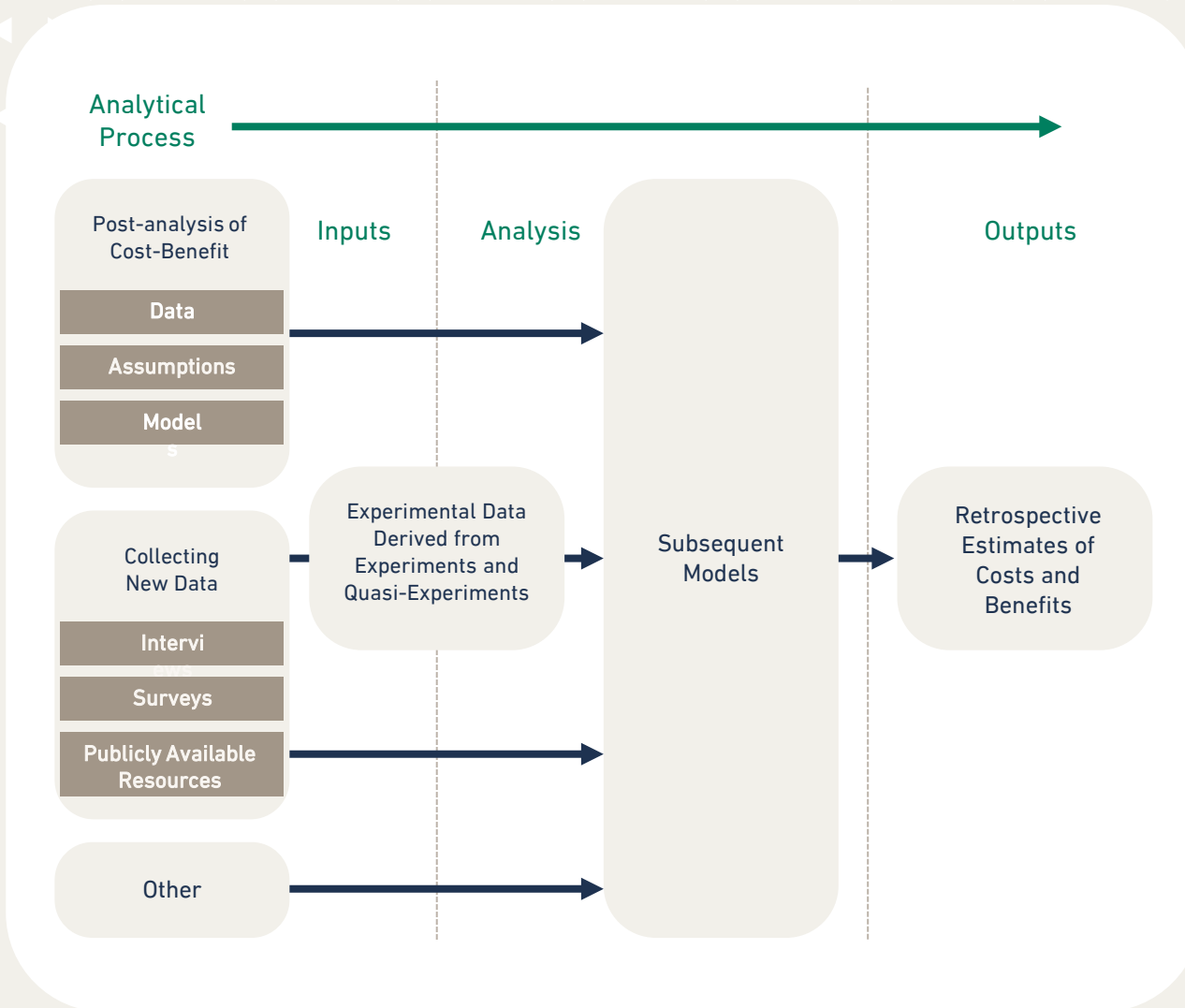
C) Pilot Implementation:

Close to the previous method, this approach begins with a pilot implementation on a specific group, category, or geographical area before the full application of the legislation at all levels. **This method is easier to apply** and is often used as a preliminary step before the full application of the legislation.

Accordingly, when the limited pilot implementation starts, evaluators begin studying the anticipated behavioral changes or objective goals, while collecting data on the response of other sectors of society. The study plan should **consider any behavioral adjustments** that other sectors, not subject to the legislation, might make as a response to the legislation's application to others, due to the expectation of applying the legislation to them later.

This can be observed in setting Regulations for building requirements or health conditions. Awareness campaigns in certain areas or changes in licensing requirements in specific regions may lead to responses outside the geographical scope of the pilot program.

7.2 Presentation of the Post-Assessment and Its Results



Whether the post-implementation assessment of the legislation is planned in advance or conducted later, the post-assessment elements are the same as those of the pre-evaluation, which have been explained previously. The diagram illustrates the process used in evaluating legislations, it highlights the differences in the data and information that are likely to be available for retrospective cost-benefit analysis. The process begins with assessing the available information and collecting new data. Relevant information can be obtained from various sources, including the prior analysis developed to support the legislation, newly available public information, surveys, or other sources. However, the initial step is to determine the study's time horizon as detailed in the following chapter. After collecting the data, they are to be analyzed, and the total benefits and costs for each option are calculated. The process concludes with evaluating and monitoring the calculated results, as shown in the following diagram:



7.2 Presentation of the Post-Assessment and Its Results

1

Determining the Study Timeframe:

Several factors impact the study's timeframe, especially the period during which the legislation is expected to yield measurable results. **The evaluation should not be conducted too early, as this might lead to inaccurate results.** Conversely, conducting it too late could make it difficult to distinguish between changes arising from the new legislation and those from other changes. Furthermore, it may be important to conduct the evaluation in stages or periodically to account for gradual changes in society and environment. **Consequently, it is preferred to determine the study timeframe as follows:**

A) Determining the Start of the Evaluation Period: The post-evaluation should begin in the same year that the effects of the new legislation became evident, even if this date precedes the enforcement of the final Regulations. Often, concerned parties incur preparatory expenses before the actual implementation, and these costs must be taken into account.

B) Determining the End of the Evaluation Period: This is the date when the study begins, as it is based on information from the preceding period, or the date when the last available data for evaluation is obtained. Since the study may also attempt to predict the future trends for change, based on the preceding period evaluation, **it is crucial to completely separate the post-evaluated period information any new information.** Because the pre-evaluation of the upcoming period requires different mechanisms than post-evaluation, particularly regarding the determination of the "baseline" and the "cumulative impact."

Sometimes, the effects of legislation do not occur regularly or evenly over time, as they might be influenced by natural seasons or periods of activity and recession. **In such case, a "complete" period** that includes all relevant seasons should be studied, not only a selective period that may not represent the rest of the year. For example, when the results take time to fully materialize **(such as improvements in citizens' health due to new environmental conditions)**, the study duration needs to be long enough to wait for these effects occurrence. Conversely, if the expected benefits are anticipated to occur regularly, irrespective of time, it is sufficient to evaluate any time period and then generalize the results to other periods.

Finally, if the post-assessment aims to verify the assumptions and methodology of the pre-evaluation, **the two evaluations should align in terms of the timeframe, whenever possible.** For instance, if the old legislative policies were in place for a very long period, **conducting the post-assessment after a similar duration might be challenging.** Thus, the study should be designed to account for the time difference between the previous and subsequent evaluations.



7.2 Presentation of the Post-Assessment and Its Results

2

Components of the Post-Assessment:

A) Data Collection:

Based on the previous discussion, the collected data should include information that can be used to evaluate both the negative and positive impacts of the legislation. **The goal is to conduct the study**, not to reach a predetermined conclusion that supports what has already been done.

B) Estimating the Legislation Impact :

After collecting the data, the impact of the legislation is to be assessed, **i.e.** :

Estimating the extent to which the intended objective of the legislation has been achieved.

Estimating the level of compliance with the new Regulations by the addressees, and any factors that may have influenced the implementation.

Confirming the existence and extent of the causal relationship between the implementation and the outcome.

Examining the presence of any other impacts of the legislation.

On the whole, a combination of quantitative and qualitative approaches is often used, requiring both types of data. **As mentioned herein before**, data for these analyses may come from two types of experiments that are available for these analyses: **controlled or quasi-controlled experiments**. In best cases, when conducting a post-impact study of proposed legislation, the concerned agency should design a rigorous experiment that specifies the hypotheses, determines sample size and sampling method and the target audience, and chooses the timing for sample collection to ensure the validity of the results. This enables analysts to estimate the regulatory impact experimentally and with high confidence by comparing the sample group (i.e., those subject to the regulations) with the control group (i.e., those not subject to the regulations). This information can inform actual effects in cost-benefit models.

However, conducting a rigorous experiment often conflicts with regulatory designs that target populations needing intervention. For fairness, the experiment should apply equally to everyone. As an alternative, under certain conditions, more effective designs might be available, where samples are chosen randomly and then studied.

For example, analysts may be able to identify unregulated comparison groups if: (1) The legislation is implemented gradually over time (new products are subject to Regulations while similar older products are exempt). (2) The legislation is not applied uniformly across all geographical areas (implementation may vary by region, for example).



7.2 Presentation of the Post-Assessment and Its Results

As a result, such controlled or quasi-controlled experiments may provide the best assessment of the actual effects of existing legislation because they are based on observed outcomes and data. **However, in practice**, the amount of information may be too small for induction on the national level, or the necessary conditions for successful experiments may not be available. **In many cases, for example**, the legislation is applied broadly to the general population, leaving no comparable control groups. In such instances, comparing populations over different time periods may be more feasible. Additionally, changes in underlying economic or health conditions can complicate these comparisons. **Some of these challenges can be addressed using simple regression analysis or more complex standard economic modeling techniques.** Furthermore, legislation should be designed to ensure the availability of monitoring data or other relevant data for future retrospective evaluations.

The input data and analytical results for the proposed legislation are then used to update previous models or create new subsequent models. At the conclusion of the legislative evaluation process, decision-makers use the results of these data to assess and develop the legislation, **noting that the process may be iterative to update and monitor data continuously.**

3

Reassessing Costs and Benefits:

Once the impact level of the legislation is confirmed, attention should be given to reassessing the associated costs and benefits in light of actual implementation. This specifically includes:

Benefits and Effectiveness: To what extent have the Regulations succeeded in achieving their intended objectives?

Costs: What costs have the new Regulations imposed? Are they high? Can they be reduced without negatively affecting the outcomes?

Are there any positive or negative side effects of the new legislation?

Did the Regulations achieve their objectives at the lowest cost?

To what extent have the objectives been achieved equally across the relevant groups? Was the distribution of burdens or benefits fair? Is there any possibility to improve this distribution?

To what extent has the new legislation succeeded in increasing net benefits (benefits minus costs, including incidental costs)? Can this be increased further?



7.2 Presentation of the Post-Assessment and Its Results

One of the important elements in the analysis is the comparison between the cost and return of the previous expected estimate and the subsequent actual evaluation. **This particularly concerns the resources allocated for compliance in previous years,** which could have been used for other purposes. The funds spent or due today have a higher value in the future. For a proper comparison, the benefits and costs should be reported in terms of present value using the same base year (or starting point), which is the year the legislation was enforced or the first year in which the costs were incurred or benefits accrued. Alternatively, the impacts can be reported on an annual basis.

In both cases, the flow of benefits and costs should also be reported by year in fixed, undiscounted amounts for those years. **Therefore, it is important to review the cost-benefit analysis and ensure that the steps mentioned in the diagram are applied.**

Subsequent uses of cost-benefit analysis include:

Evaluating whether current Regulations remain economically viable (i.e. producing a positive net benefit)

Supporting the identification of changes to existing Regulations that could reduce costs or increase benefits.

Providing a deep insight into the accuracy of subsequent estimates of benefits and costs of legislation, especially whether they tend to overestimate or underestimate benefits and costs.

Identifying ways to improve the accuracy of future cost-benefit analyses.



7.2 Presentation of the Post-Assessment and Its Results

4

Lessons Learned:

The subsequent evaluation includes quantitative and qualitative results, but figures must be interpreted to draw lessons learned. These lessons may relate to the legislation effectiveness, such as reasons for ineffectiveness, obstacles during implementation, ways to increase effectiveness, the need to expand the scope of implementation, or means to improve implementation. This also includes any undesirable side effects. Additionally, gaining new information about some fundamental assumptions may present an opportunity to improve the legislations itself.

Similarly, lessons may relate to the legislative process itself, such as incorrect analysis or assumptions about the behavior of the addressees, the impact of incentives on them, or incorrect estimates of benefits and costs. **These lessons are crucial** as they help improve the legislative process and its future outcomes.

After the concerned entity accomplishes its subsequent evaluation of several Regulations, it will be able to identify some recurring issues it faces; for instance, it might recognize a tendency to overestimate costs or benefits, the extent and reasons for these exaggerations. From this, it could conclude the need to rely more on uncertainty analysis or to otherwise develop its analysis, and even decide the extent to which it can depend on cost-benefit calculations in evaluating the activities of the organization in the first place.

Indeed, this information will help in developing and improving the accuracy of the pre-assessment. For example, it may show that the administration consistently underestimates the ability of the addressees by the legislation to reduce the cost of compliance. On the other hand, the legislation might lead these entities to comply more than necessary, achieving benefits that exceed the initially expected benefits. It is crucial to understand how the addressees respond to the legislation's provisions, as it ultimately leads to a better pre- evaluation.

In the end, there is no doubt that there should be a balance between the benefits and costs of these studies. Limited studies may be easier and faster, but their benefit might be less significant, whereas more in-depth studies based on a broad database and significant effort in data collection undoubtedly yield more beneficial results. **However, the ultimate benefit of such studies must be subject to a feasibility study.**

5

Need for Review or Correction:

Finally, by reaching this point and deducting the lessons learned, we return once again to the beginning of the legislative cycle, then we identify problems that need resolution, describing and determining if they require further intervention, the extent of such intervention, and the options available for intervention, and so on, which forms a continuous, integrated cycle of ongoing development and improvement.

► Chapter Eight
Governance of Legislative Impact
Assessment

Chapter Eight: Governance of Legislative Impact Assessment



This chapter reviews a governance model for the legislative impact assessment process by establishing basic and clear principles that govern the management of the assessment and evaluate its outcomes. It then suggests an organizational model for the bodies responsible for conducting the legislative impact assessment and the relationships between them. The creation of an integrated system for sustainable legal development is not only based on following the correct methodological steps for estimating legislative impact but also requires the establishment of a suitable governance system. This, in turn, necessitates adherence to certain governance principles and the existence of an appropriate administrative structure.



8.1 Governance Principles

To ensure that the methodology of legislative impact assessment yields its intended results, it must adhere to recognized principles of good governance. The key principles include:

1 Internal Consistency:

It is essential that all legislations work in coherence and harmony to achieve the same vision and goals. This cannot be accomplished unless the methods and methodologies for both prior and subsequent evaluations of legislation are aligned, or at least operate on the same foundations and in light of the same guidelines. Although the required analysis may differ in type and degree depending on the nature and level of the proposed legislation, **all legislations must follow a minimum common standard of analytical requirements to ensure the alignment of objectives.**

2 Balance Between Centralization and Decentralization:

Consistency and coordination do not mean that the analysis and estimation of all proposed legislations should be conducted through a unified central agency. Such centralization could hinder and delay the process due to significant pressures on the agency, and it is impossible for this body to possess all the expertise across all possible areas, which would negatively affect the legislator's ability to respond timely to various legislative needs. **Although some degree of centralization may be desirable**, at least in terms of unifying norms, monitoring, tracking, and subsequent evaluation, it is crucial to empower regional, specialized, and local administrations with the means and discretionary authority to conduct legislative impact assessment and make decisions that reflect the expertise and specialization of these entities.

3 Transparency:

Transparency means having available and sufficient information to review and evaluate the role of the bodies responsible for legislative impact studies. **This includes** information about the agencies conducting the analysis, the analysts within these agencies, as well as the methods and methodologies used in the analysis, and the results that the analysis achieves. This transparency serves as a guarantee of adopting the proper methodology and is also an important step towards ensuring accountability.

The level of transparency depends on the surrounding circumstances; it is not necessary to disclose every consideration of legislative policy to the public, particularly with respect to safety considerations such as security, culture, and other significant factors. However, stakeholders involved in the assessment and consultation process regarding legislation must be provided with clear and sufficient information that enables them to offer informed opinions based on sound principles.



8.1 Governance Principles

f) Continuous Building and Development of Capacities:

Adopting a legislative impact assessment methodology becomes a routine practice at all levels, **making it essential** to train and develop the capabilities of those involved in proposing, enacting, and implementing various legislations. Undoubtedly, the level and type of training vary depending on the level of involvement in the assessment and implementation processes; since training and qualification increase with the increase of individual responsibilities. The higher the level of qualification, the greater the individual's ability to detect problems early, report them, and propose appropriate solutions.

It is significant to emphasize the training and qualification of individuals at lower and middle levels who are responsible for implementing and executing policies, even if they do not participate in their development. **The awareness generated by this qualification helps in two main ways:**

Firstly, it leads to better and more effective application and execution; a trained employee might make minor adjustments in his implementation approach and response to real-world facts without prejudice to the legislative goals.

Secondly, it allows for quicker and better evaluation of the legislation's success, based on the implementer's awareness of signs of success and failure. This leads to a complete cycle of continuous development to reach the intended purpose.

g) Gradual Implementation:

Despite the importance of legislative impact assessment for achieving sustainable legal development, it is also crucial to recognize the limits of its immediate and comprehensive application at all levels. Not all public institutions possess the necessary capabilities to perform such assessments at all levels, making the immediate imposition of such a requirement impossible and potentially counterproductive. **Therefore, the implementation must be gradual, based on several factors that need to be considered, including:**

- 1) **Level of Legislation** (general legislation, regulatory Regulations, rules applicable to the entire kingdom, or local rules).
- 2) **Subject of Legislation** (some subjects may be easier to analyze and collect data about scientifically or economically, such as health and environment).
- 3) **The availability and accessibility** of accurate data and information.
- 4) **The availability of the necessary expertise and competencies** for conducting the analysis and assessment.



8.1 Governance Principles

h) Responsibility:

There is no doubt that it is crucial that those conducting legislative impact studies be held accountable for failing to conduct these studies properly before proposing new legislation and Regulations. **It must be clear that this requirement is not merely a formality; the study must actually be conducted based on the established principles and foundations.** However, it is also important to assure that there are limits to such evaluations, and those conducting the studies do not guarantee the actual success of the legislation in achieving its goals, which may be influenced by other considerations. The failure of the legislation does not necessarily mean that the pre-analysis was flawed due to the analyst's negligence, provided that the analysts exercised the required and necessary diligence to arrive at accurate results.

i) Principle of Independence in Evaluation:

While we have highlighted the importance of the role of relevant stakeholders (the concerned) in various stages of legislative impact assessment, it is equally crucial for the analysts and evaluators to maintain their independence and neutrality from all parties involved in the proposed legislation. Lack of independence can lead to biases, even with the best good will, which might affect the outcomes of the evaluation. Therefore, it may be vital to resort to independent external reviewers after the completion of the original study, especially in case of significant or somewhat complex legislation.

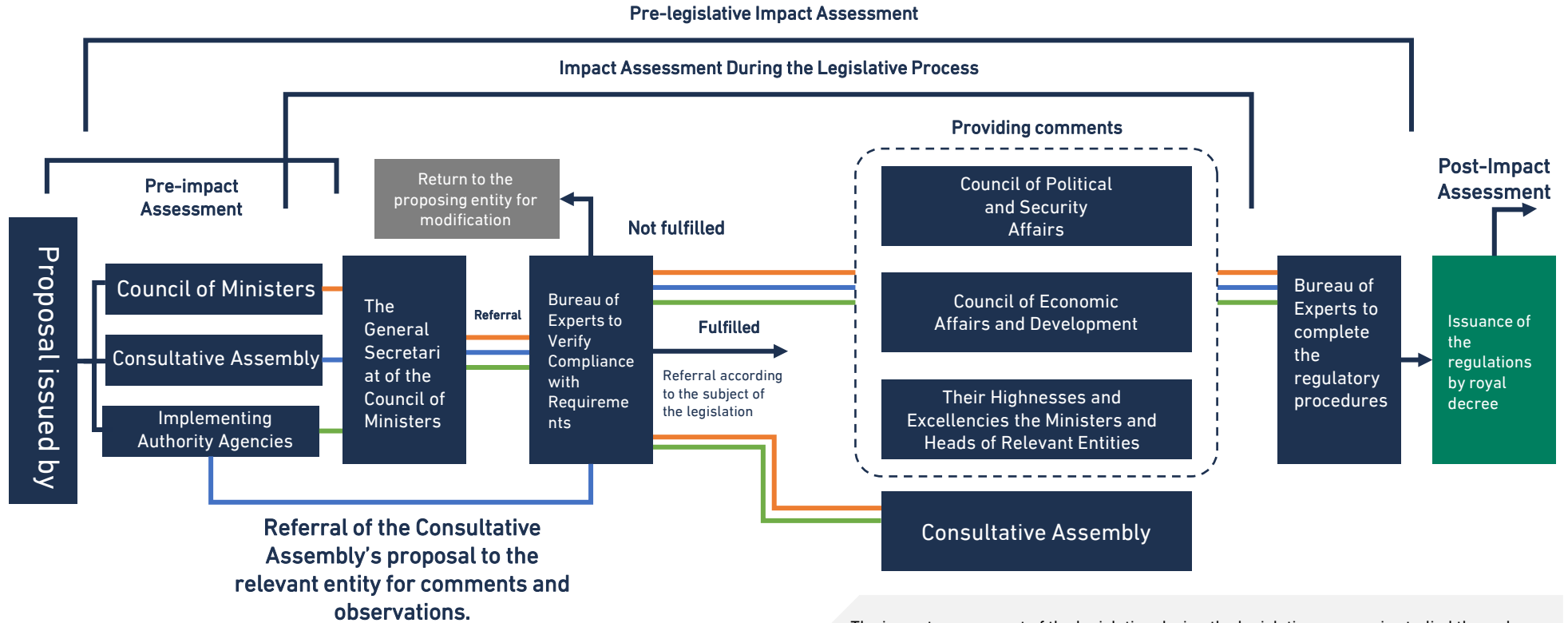


8.2 Governance Structure

- A) **Legislation in the Kingdom:** The legislative process in the Kingdom goes through **several consecutive procedural stages**, and legislative impact analysis can be applied at any of these stages. It can also be conducted at more than one stage if necessary, provided that this is done in cooperation with the various relevant entities. The analysis of the current situation must be conducted before proposing the new legislation and outlining its initial broad lines.
- B) **At this stage, the concerned entity analyzes** the existing situation and identifies and describes any existing problems, confirming the need for legislative intervention, as previously mentioned. **The analysis should also include** defining the objectives sought from the legislation. In cases where there is an existing legislation on the subject, it is essential to evaluate the impact of the previous legislation on the problem. **The diagram below represents** the stages of the legislative process in the Kingdom, and shows the steps through which legislative impact analysis can be conducted, **which are:** 1) **Pre-legislative impact assessment.** 2) **Impact assessment during the legislative process.** 3) **Post-legislative impact assessment.**

8.2 Governance Structure

Legislative Process Pathway and Stages of Legislative Impact Assessment



- Council of Ministers Pathway
- Consultative Assembly (Shura Council) Pathway
- Implementing Authority Entities Pathway

The impact assessment of the legislation during the legislative process is studied through:

Firstly: The inclusion in the explanatory memorandum of:

- A statement of the expected financial, economic, and operational impacts that may result from the implementation of the proposal.
- A statement of the social impacts that may result from the implementation of the proposal, and coordination with the concerned entities in this regard.

Secondly: The stage of studying the proposal by the Bureau of Experts, and during its discussion in the concerned entities.

Thirdly: The stage after the issuance of the regulations.



8.3 Different Levels of Legislative Intervention

Legislation is gradual based on its importance and the authority issuing it. At the top is the Constitution or its equivalent (the Basic Law of Governance), followed by ordinary legislation (law/Nizam), and then by Regulations.

In the Kingdom, a law (Nizam) is issued by a royal decree based on decisions from both the Council of Ministers and the Consultative Assembly. It concerns the regulations of fundamental social and economic interests, except for some laws that are issued by royal orders. **Regulations, in general, are issued by the implementing authority and are divided into two types:**

Implementing Regulations:

Aiming to putting the law into effect. They may be issued by the Council of Ministers, the competent minister, or any other authority specified by the law. Typically, the law itself stipulates which entity is responsible for issuing the Implementing Regulations.

Regulatory Regulations:

Regulatory Regulations (independent subordinate legislation) are issued with the intent to control public order. They are issued by the Council of Ministers, and often, the authority responsible for the subject of the regulations is delegated the power to issue it.

► Chapter Nine
Conclusion



Chapter Nine: Conclusion



Hope that this guide will be a useful reference for those involved in the creation and implementation of legal rules in the Kingdom, in all their types and at all stages of legislation and implementation. The ultimate goal of this guide is for legislative bodies to reflect on the intended purpose of their intervention in regulating society and all areas related to the lives of citizens and residents, ensuring during their intervention that it is necessary and desired, and that its approach and scope are appropriate for achieving these objectives.

9.1 Conclusion

This guide starts from and is based on the idea that the leadership of the Kingdom and the achievement of its Vision 2030 require the concerted efforts of all, whether the governmental efforts or the individuals initiatives This guide also aims to ensure that these efforts are unified and directed towards a common goal, which necessitates that state institutions, their agencies and staff follow methodical and logical steps, each according to his position and responsibilities. These steps can be outlined as follows:

- 1 **Exerting effort** to understand the problem, its various dimensions, and its immediate and underlying causes.
- 2 **Detecting all available** options for addressing the problem, and avoiding quick decision-making before exploring all aspects.
- 3 **Staying as far as possible** from limiting individual initiatives, restricting their rights and freedoms, and interfering with the workings of the free market mechanisms.
- 4 **If regulatory intervention becomes necessary**, care should be taken to choose the most efficient and effective form of this intervention, with the aim of achieving the greatest benefit and utility for the community at the lowest cost.
- 5 **Sustainability of development and improvement** through continuous evaluation and re-evaluation.
- 6 **Consistently relying** on disciplined scientific foundations and the latest studies, and focusing on collecting accurate data and information that aid in making correct decisions.



9.1 Conclusion

This is a guidance guide, it shouldn't be considered as an official or regulatory document or a statement of the regulatory authority's opinions in the Kingdom of Saudi Arabia. The Guide contents are guidance and supportive for specialists and those concerned with legislative projects in the Kingdom.

This guide aspires to be a reference for outlining the considerations and different steps required for legislative intervention. It is written in a simple and straightforward language, providing examples whenever possible. However, since the entities responsible for legislation, regulations, and implementation vary in terms of their scope, subject of jurisdiction, and the roles assigned to them, the usefulness of this guide will also vary in degree and manner according to the conditions and nature of each entity's role.

Despite the varying degrees of benefit from the guide and the possibility of following all its steps—especially those related to the collection of precise data and disciplined quantitative analysis as mentioned in Chapter Five—all legislative and administrative entities must adhere to the principles presented in the initial chapters. These include following a logical and methodical approach in the preliminary study prior to intervening in regulating individual behavior and market mechanisms, and also committing to the provisions of Chapter Eight concerning the governance and management of these studies.

The minimum benefit from this guide is to inform every relevant authority and individual, ensuring more effective, higher quality, and greater efficiency. Each concerned entity must then work to establish an organizational structure that fits its responsibilities and capabilities to perform what the guide requires to achieve its objectives, all within the framework of governance discussed in Chapter Eight.

Finally, this guide is a pioneer in its field and the beginning of a path. Implementing it in a way that contributes to achieving its goals will only be possible through the concerted efforts of all relevant entities and individuals, aiming for the upliftment of our nation and the realization of its ambitions and aspirations.

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This guide has been prepared by the Preparatory Committee for Preparing the Judicial Legislation and has been reviewed by the Legal Committee of the laws and by-laws Support Unit at the National Competitiveness Center.

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Legislations Impacts Assessment

First Edition (Guide)
Rajab 1445 AH / January 2024

End of the Guide

