（二）大會資料

1.社會管制影響評估之步驟

2.就法規影響評估之成本與效益評估方法進行說明

3.介紹風險管制與相關方法

4.社會管制法規的統計方法理論

5.社會管制法規的影響評估方法

6.案例分析

社會管制影響評估之步驟

SE
SECRETARÍA DE ECONOMÍA

COFEMER
Comisión Federal de Mejora Regulatoria

The Importance of Evaluation for Regulatory Quality

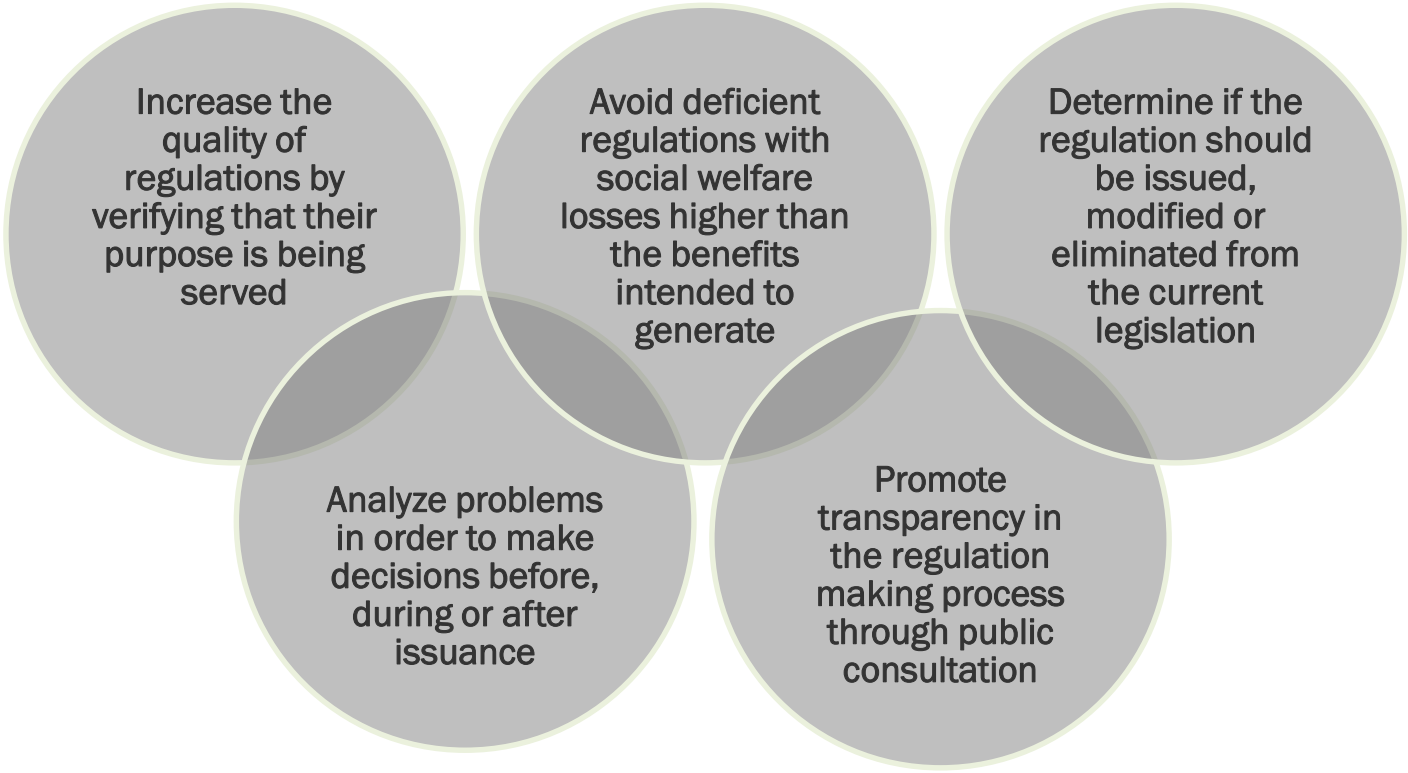
Eduardo Romero

General Coordinator of Regulatory Impact Assessments

Federal Commission for Regulatory Improvement

The importance of Impact Assessments of regulation for Public Policy

Regulation is defined as a set of rules seeking to influence and ensure people's welfare, safety and health; so *ex-ante*, *ex-dure* and *ex-post* regulatory impact assessment plays an important role in the design of regulatory policy to meet the following objectives:

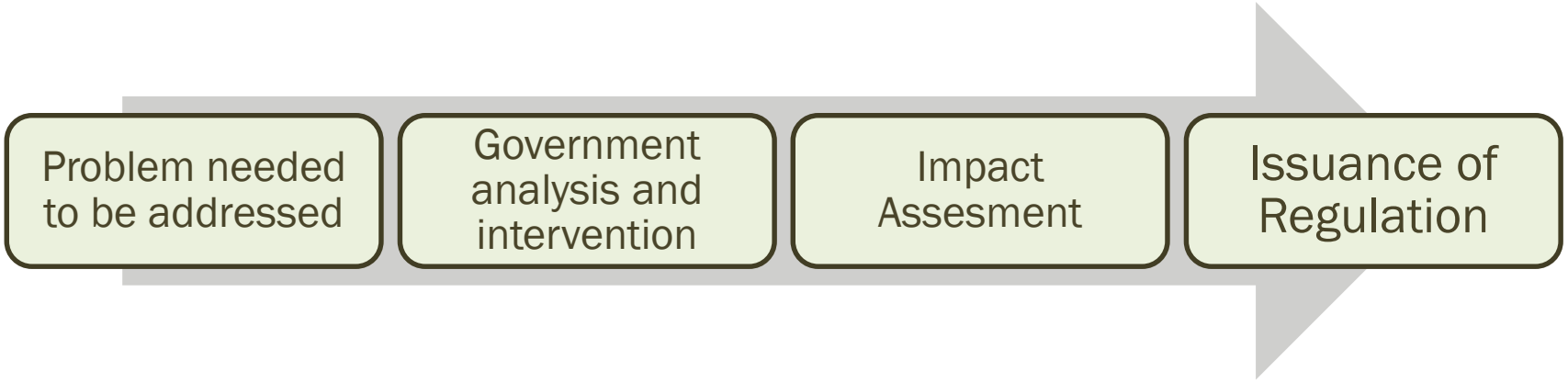


Regulatory Impact Assessment for Public Policies

- Every Economy has the duty to ensure safety, utilities, and welfare to its inhabitants and, in order to do this, it must implement public policies and planned actions seeking the public interest.

- Regulations issued by a government seek to influence people's behavior and guide it in such a way that the greatest possible welfare is generated within the society it represents.

- To issue regulations appropriately, the regulator must analyze and take into account the available alternatives, as well as identifying and quantifying their impacts



Steps to perform an analysis of regulatory impact

The quantification and evaluation of impacts, regardless of the system they are embedded on, stand as the main tool for regulators when making decisions and choosing among a set of regulatory options by following the next steps:

STEP 1. Identification and definition of the problem: (clearly identify the problem to be solved and its underlying causes)

STEP 2. Empirical evidence: (include a statistical analysis or empirical evidence that illustrates the extent of the problem)

STEP 3. Definition of regulatory objectives: (clarify and specify objectives directly related to the identification process)

STEP 4. Coherence between regulatory objectives and the problem to be solved: (identify relationships between the regulatory objectives and the problem to be solved)

STEP 5. Identification of performance indicators of the regulation performance: (identification and design of performance indicators)

Steps to perform an analysis of regulatory impact

STEP 6. Identification and building of regulatory alternatives: (options proposed by the parties involved in the problem)

STEP 7. Impact quantification of regulatory alternatives: (use of methodologies to quantify the impact of regulatory alternatives)

STEP 8. Choose the best alternative: (use certain criterion to choose the regulatory alternative)

STEP 9. Regulation's Implementation: (develop an implementation plan of the regulation uses)

STEP 10. Regulation's assessment: (evaluation through the indicators chosen in the design stage)

Regulatory Impact Assessment in Mexico

All general administrative acts that are issued by the departments, agencies and entities of federal government, except federal acts, proceedings and resolutions of the Navy Secretariat and National Defense Secretariat, are subject to the presentation of the RIA. The events related to fiscal matters, responsibilities of public servants, labor and agrarian justice, as well as those granted by the public prosecutor in exercising his constitutional duties are also exempt to the presentation of the RIA.

The RIA

It is a tool to systematically analyze the goals and potential impacts of regulations, to ensure that its benefits outweigh its costs.

Allows socialize justify public policy decisions and gives the public the opportunity to participate in its development.

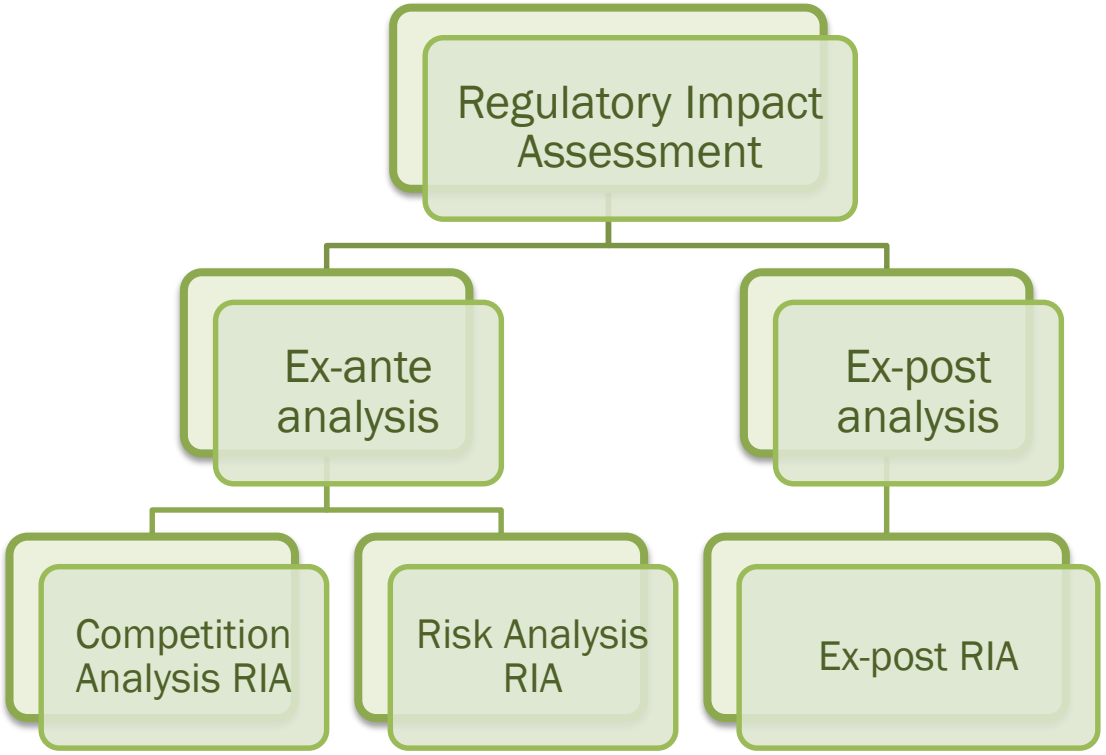
The RIA is used to federal regulations involving compliance costs for individuals

RIA elements

I. Identification of the problem and objectives
II. Identification of Regulatory Alternatives
III. Regulation impact
IV. Compliance and enforcement of regulation
V. Evaluation of the proposal
VI. Public consultation

Idenfitication of Main Impacts

RIA is a systemic approach to critically assess positive and negative effects of proposed and existing regulations and non-regulatory alternatives. In general, RIA frequently uses the **Cost-Benefit Analysis as the main tool**, but there are many other options.

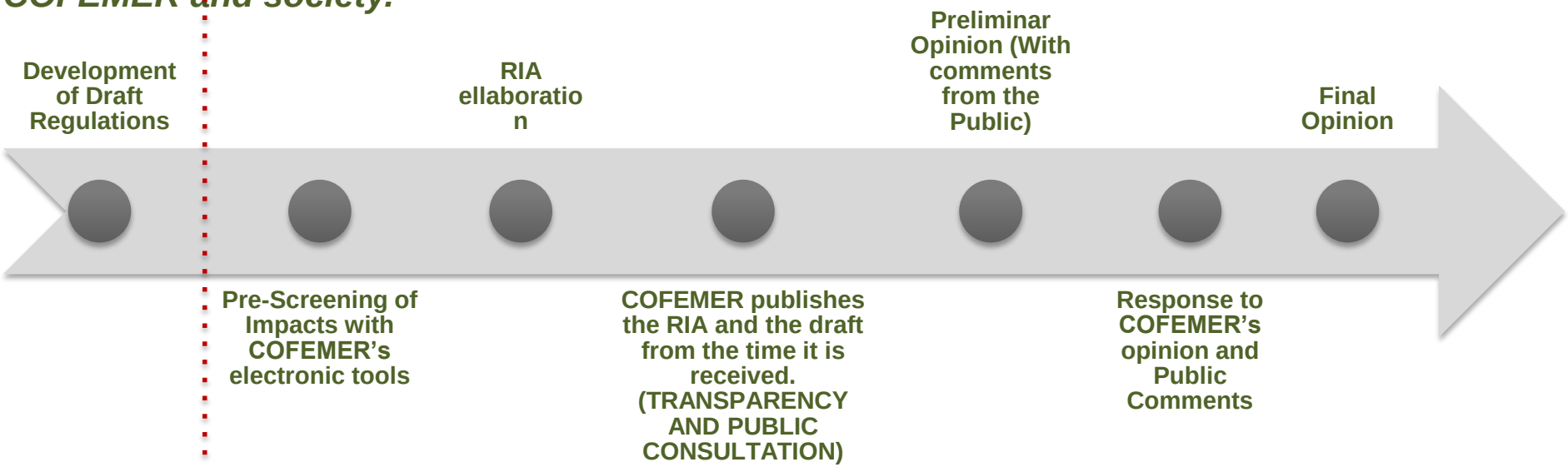


It is essential to consider possible impacts on stakeholders such as:

- Impacts on industry
- Impacts on employment
- Impacts on consumers and individuals
- Impacts on governments
- Impacts on environment

Regulatory Review Process

The regulatory improvement process is an interactive process between regulators, COFEMER and society.



- The federal agencies <u>do not have specific times</u> to submit drafts, neither to respond to comments of COFEMER.
- COFEMER at all times, has specific times to give their opinions, ranging from 5 to 30 working days.
- Transparency and public consultation are different: the main difference is, what you do with the opinions of the public?

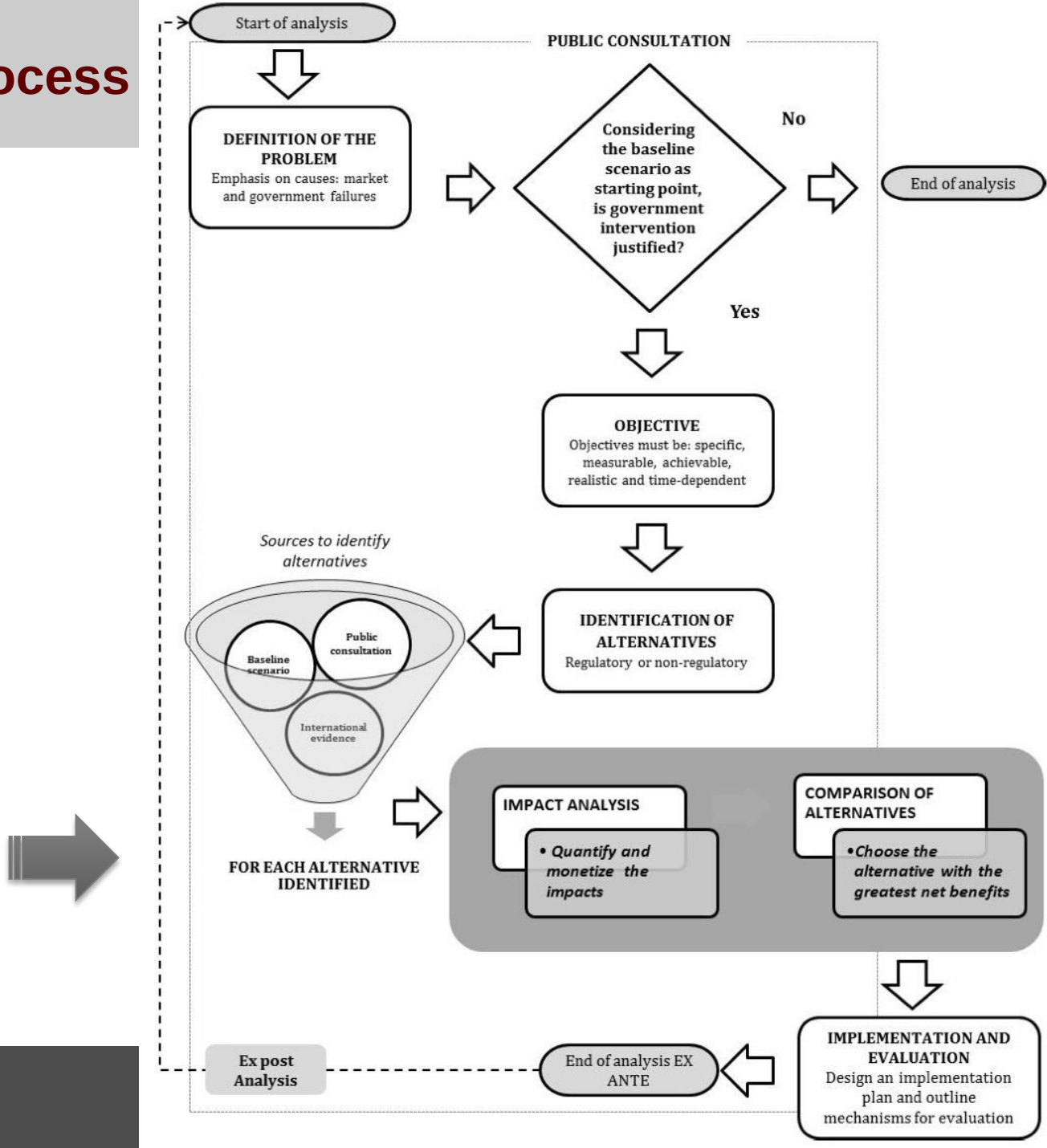
In México, it is an obligation to consider the opinions for the public for COFEMER resolutions

The Official Journal of the Federation (DOF) cannot publish a general act subject to regulatory improvement process, if the Commission has not issued a final opinion or the corresponding RIA exemption.

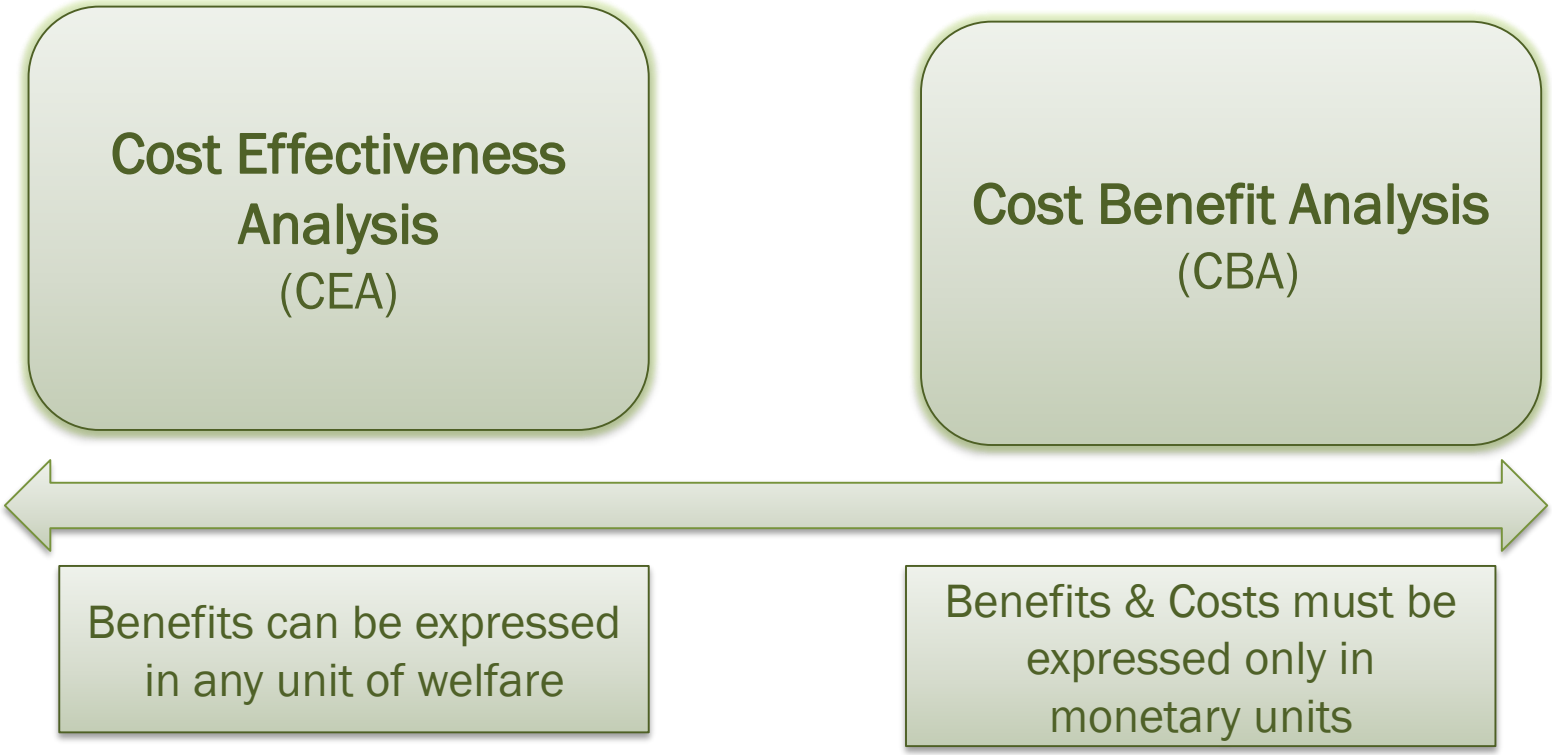
The DOF public servant to do these for 5 times can be disabled from the public administration at least for one year.

The Evaluation Process

How do we measure all impacts?



Common Methods for Impact Evaluation



The main difference between these two methods is that in CBA approach, the benefits and costs **must be expressed in monetary terms**, while in CEA approach, benefits are expressed in non-monetary terms.

Cost Effectiveness Analysis

The Cost-Effectiveness Analysis (CEA) is as an economic evaluation tool that compares the costs of several alternatives in monetary terms, with results measured in terms of benefits measures through the cost-effectiveness ratio (CER):

- CEA involves comparing the effectiveness of a regulatory project **in terms of its costs with regard to its welfare measure**.
- Its purpose is that the regulatory project chosen is the one that achieves the objectives set by the regulation at the minimum cost.
- In this sense, the CEA is used when it is not possible to express the benefits of the regulation to be implemented in monetary terms; when the effort to make a CBA is significant in terms of costs and time; or when results could be controversial.

Steps to perform a Cost Effectiveness Analysis

- In order to develop the CEA it is necessary to follow these steps:

1. Quantify the costs of each regulatory alternative:

The costs to be quantified in this analysis should only be the direct and tangible costs generated by regulatory alternatives.

2. Identify benefits derived from each regulatory alternative:

The regulator defines and chooses an indicator in order to measure benefits, that is, a measure by which performance can be evaluated in order to identify the best regulatory alternative that mitigates or reduces the problem.

3. Quantify the "effectiveness" of each option:

In this step, the Cost Effectiveness ratio (CER) is applied, obtained by dividing the present value of the regulatory project costs into the quantitative measure of the benefits.

4. Interpretation of the result:

After applying the CER formula, alternatives should be classified from the most effective to the least effective. The chosen alternative should be the one with the lowest CER.

Cost-Benefit Analysis

The Cost benefit Analysis (CBA) is an analytical tool aimed at quantifying all costs and benefits in monetary terms to identify the magnitude of each of them and translate them into the Cost-Benefit Ratio (CBR):

The idea behind the CBA implies a monetary quantification of costs and benefits regardless of the type of regulation involved (social, economic or administrative).

Before implementing the CBA, the regulatory agency must consider the following basic elements :

a) Assumptions: assume certain values for key variables [Discount rate (r), Inflation rate (i), Population growth rate (g), Assessment horizon].

b) Criteria: it is the group of points to be taken into account when making a decision.

c) Scope: it involves deciding the point of comparison with other analysis.

Steps to perform a Cost-Benefit Analysis

- In order to develop the CBA it is necessary to follow these steps:

Step 1: Identify the baseline scenario

Step 2: Identify and monetize direct costs and benefits of the regulation

Step 3: Identify all possible parties indirectly involved in the regulation through the transmission channel identification

Step 4: Deduct benefits and costs

Step 5: Introduce the concepts of risk and uncertainty through sensitivity analysis

Step 6: Identify the compliance costs of regulation

Step 7: Make a decision based on the criteria and choose the regulation option

Costs & Benefits

- **Direct benefits & costs of regulation**

Are those specifically and exclusively derived from the regulatory proposal implementation; they do not include the benefits of external factors, neither the impacts on other sectors (those outside the regulated activity).

- **Indirect benefits & costs of regulations**

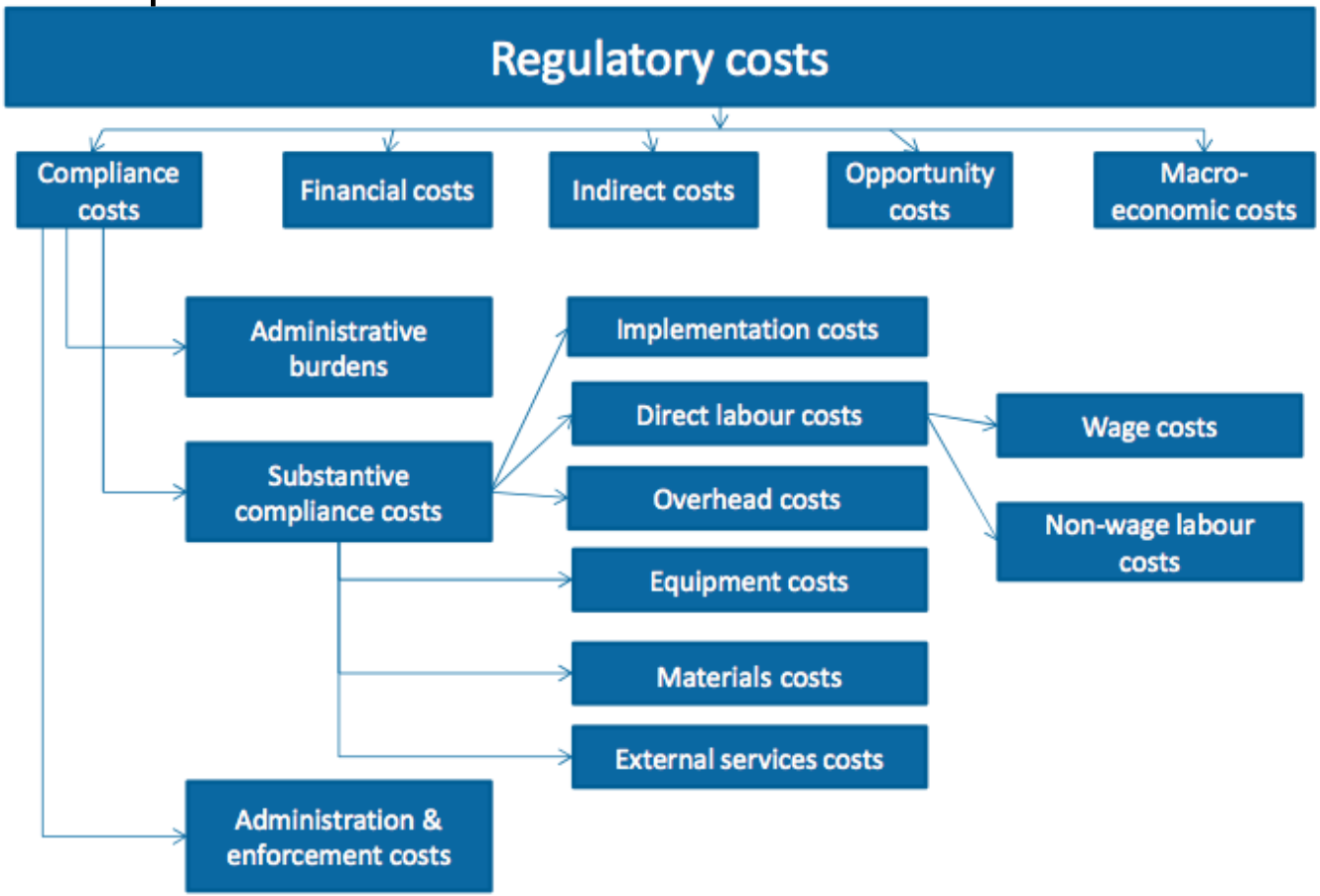
Are not directly related to the regulatory proposal implementation; they show up through externalities and other transmission channels. For this reason, the CBA must consider the impact on stakeholders or agents involved in order to identify all possible parties indirectly involved in the regulation.

- **Intangible Benefits & Cost of regulations**

Are all those characteristics that people value but do not monetize, for example, no fear of illness, visible wounds on the face, or sadness for deadly diseases on children.

Regulatory Costs vs. Business as Usual

When identifying and measuring costs, it is of high importance to make a clear differentiation between costs that arise from regulation and those that are part of the operation of a business.



Source: OECD (2014), *OECD Regulatory Compliance Cost Assessment Guidance*

Identification of Costs and Benefits

- Who is affected by regulation?
- Is it a possitive or a negative affectation?
- By how much are the subjects affected?
- For how long are they affected?

Discounting costs and benefits through NPV

Net Present value (NPV)

The **Present value** is the discounted value of one or more payments that would be received in the future in order to compare different amounts (income or expense) in the same period.

PV of an amount	PV of a cash flow

Net Present Value

$$NPV = [\text{PV of benefits}] - [\text{PV of costs}]$$

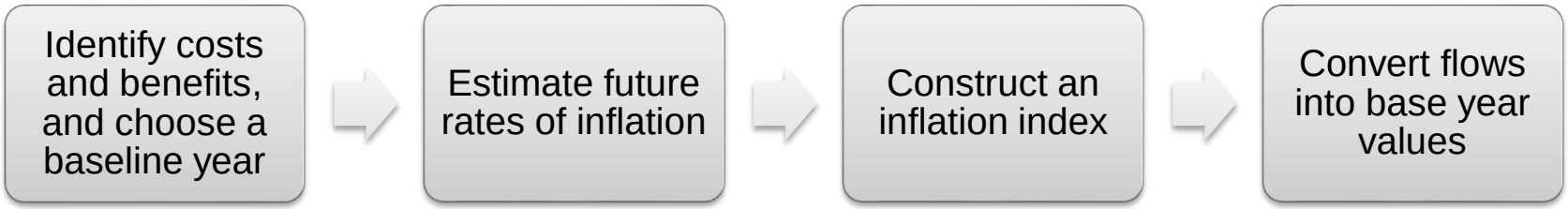
PV of a perpetuity	PV of a growing perpetuity

Elements needed for Net Present Value

Evaluation horizon: Is the period (parameter “t” in PV formula) within which the proposed regulation will impact on costs and benefits. As a general rule, the evaluation horizon is often extended during the period in which regulation will be applied.

- Standardization: choosing the longer timeframe (common denominator) to bring at present value both policies with the same evaluation horizon.
- Possible bias: shorter periods reduce the NPV or viceveresa.

Inflation: It represents the prices evolution over time. In real life, available flows are often presented at market prices of the current period; in order to take into account the inflationary effects on the flows, it is necessary to translate this flows to constant prices of a baseline period.



Elements needed for Net Present Value

Discount rate: Its exact definition depends on the policy in question and on the sector it intends to assess. Often, the interest rate should reflect the **opportunity cost** of receiving or postponing any benefit obtained from a public investment.

Social discount rate: defined as the **social opportunity cost** of capital where the **opportunity cost of public sector capital** is the best possible alternative that can be implemented in the private sector (Common, 1996).

Among the methods for calculating the social opportunity cost of capital, the Capital Asset Pricing Model (CAPM) is the most accepted.

$$r_i = R_f + \beta_i[r_{sector} - R_f]$$

Where

r_i: social discount rate
R_f: risk free rate
β_i: risk coefficient of the opportunity cost of social capital *i*
r_{sector}: rate of return of the sector
$r_{sector} - R_f$: risk premium or cost of risk

Why and when to conduct a CBA?

Why to conduct a CBA?

Since government faces economic resources constraints, regulatory policy choices should be based on the highest number of supporting tools, within which CBA is essential.

When to conduct a CBA?

Whenever necessary to demonstrate that a regulatory policy is desirable in economic terms, i.e., that benefits outweigh costs.

In addition, if the impact of regulatory policy is moderate and the CBA application involves high costs in time and money, it is better not to do it. However, if the policy in question has a highly significant impact on society, the CBA must always be carried out.

Advantages

- The appeal of CBA is that it is possible to compare and/or add many different categories of benefits with one another, and with the costs of the policy by monetizing the benefits of the policy.

- The CBA only needs a unit of measurement (monetary values).

- Its simplicity when presenting results allows us to understand the achievement of objectives and know the costs incurred to reach such objectives.

- The rule of decision on the implementation of a policy is simple:

  Implement the policy if benefits > costs, or, Cost-Benefit Ratio > 1

  Do not implement the policy if benefits < costs, or Cost-Benefit Ratio < 1

Disadvantages

- The CBA can be expensive and time−consuming because its development involves estimating inputs (discount rates, calculating the VSL, among other variables), and results are likely to be sensitive to many assumptions often required to complete the estimation of benefits and costs of the proposed policy and program.

- The lack of consensus on its implementation derives from its apparent theoretical flexibility (many methods with varying results).

- Another major problem lies in the agencies application of the CBA, as they may misunderstand the model and its theoretical basis, thus generating:

    a) Underestimation of costs, or overestimation of benefits
    b) Self-serving assumptions, i.e. discount rate
    c) Difficulty to estimate the impact on everyone involved
    d) Double counting
    e) Biases depending on the method for estimating the benefits, i.e. WTP vs WTA

CBA considerations

Quantitative analysis of the probable outcomes of alternative courses of action can diminish uncertainty and improve the decision-making process. At the same time, a good CBA requires the following:

Predefined criteria and assumptions	**Benefits and costs estimated in detail for every time period, without shortcuts**
The explanation of the method and the parameters used, so it is clear for any reader	**A technical analysis that avoids biases that could favor the outcome (in regard to discount rates, inflation adjustments, evaluation horizon, choice of decision rule, etcetera)**
Clear objectives and priorities	**Distribution effects set out clearly**
Alternatives defined in a way that enables fair comparison	**Uncertainty and risk considered carefully**

Savings in the implementation of CBA:

If regulatory agencies can have access to previously estimated values, the cost of CBA implementation would be lower.

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Thank you

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RIA in the Context of Regulatory Policy and Governance

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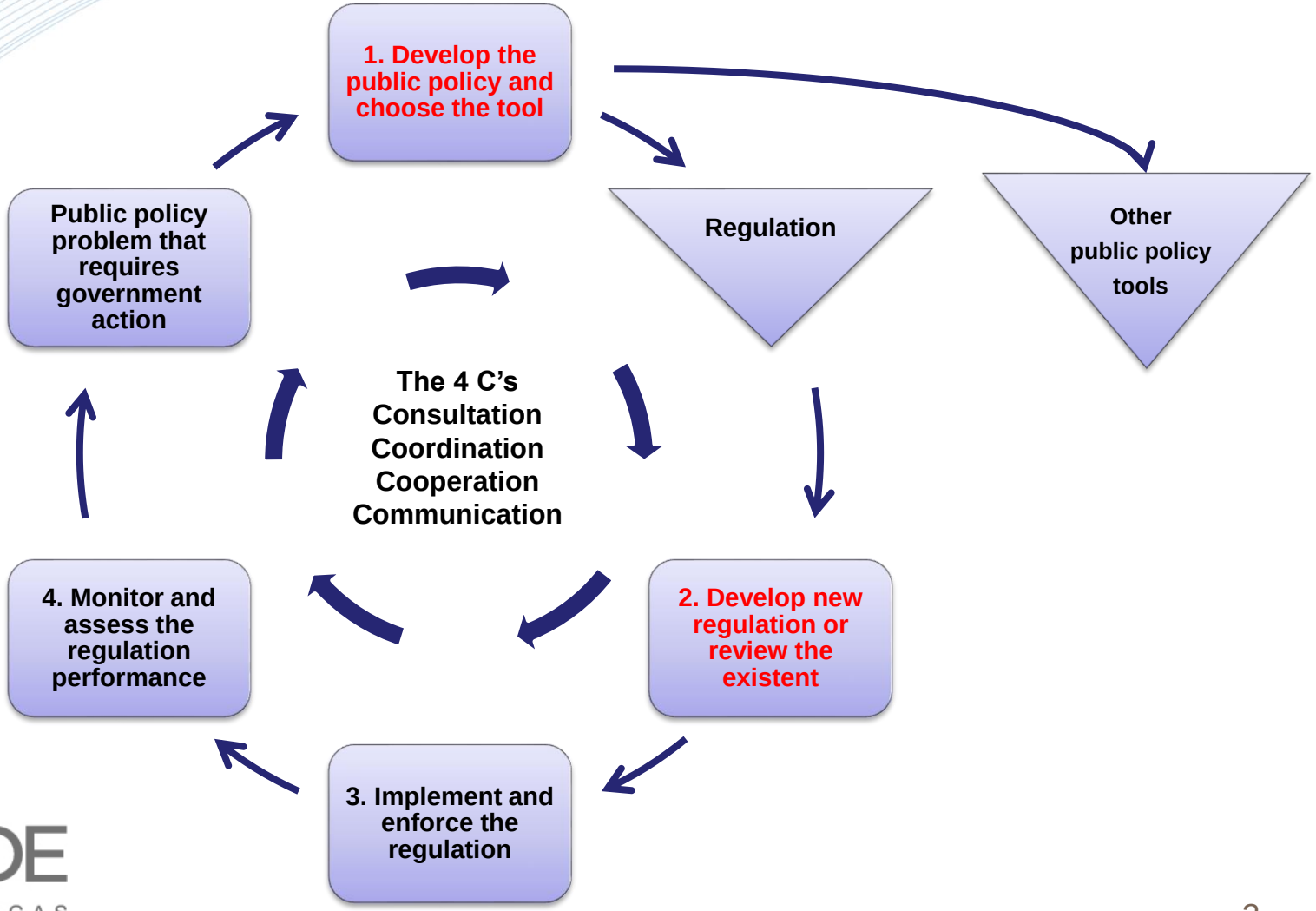
Mexico City, April, 2015

Regulatory Governance Cycle



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Development of New Regulations

- It must be evidence based - Is the new regulation the best approach to tackle the policy objective?
- Different options must be analysed
- Its costs and benefits must be analysed
- The benefits must always outweigh the costs
- The process must be transparent and open to stakeholders

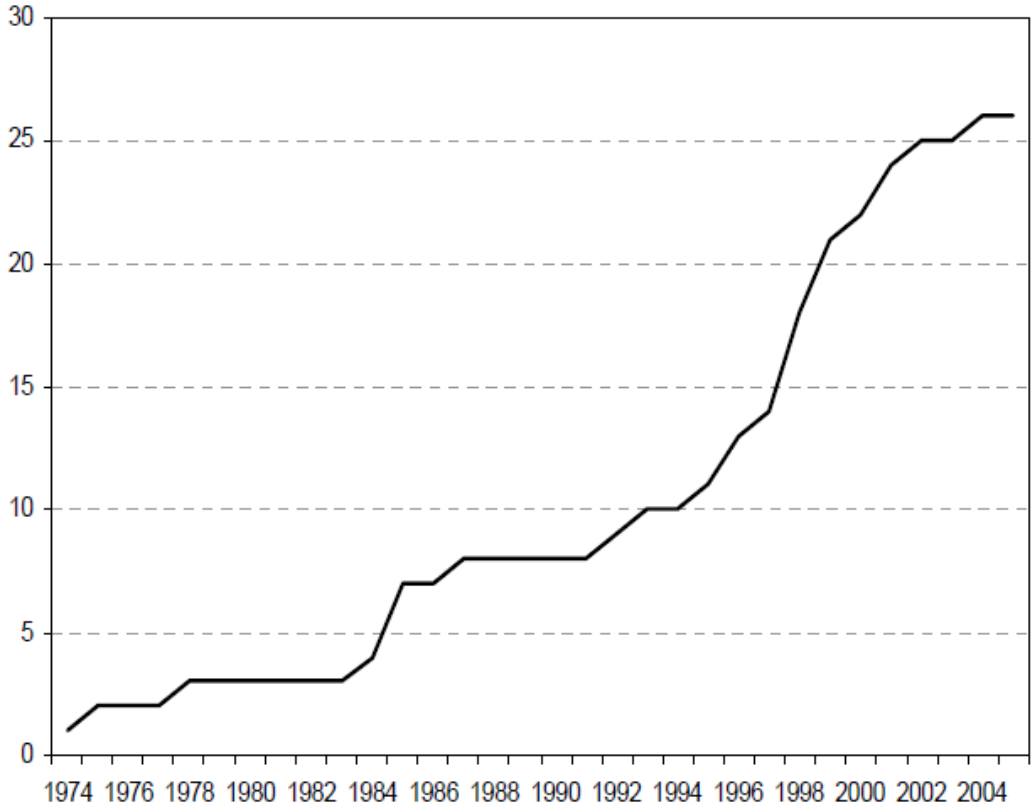
What is RIA?

- The Regulatory Impact Assessment is an ex ante systematic analysis of positive and negative effects of possible alternatives (regulatory and non regulatory) to achieve public policy objectives.
- Its main value is that it supports decision making based on evidence.
- It is a “policy Instrument” as well as formal and systematic “decision making process” to examine and measure the probable benefits, costs and effects of the new regulation.
- Improves transparency – it includes consultation within government and with the citizenship
- Tool to control the quality of regulation
- Mechanism to ensure accountability: rules for rule makers

OECD Countries and RIA

Figure 1. Trend in RIA adoption across OECD countries

1974-2005



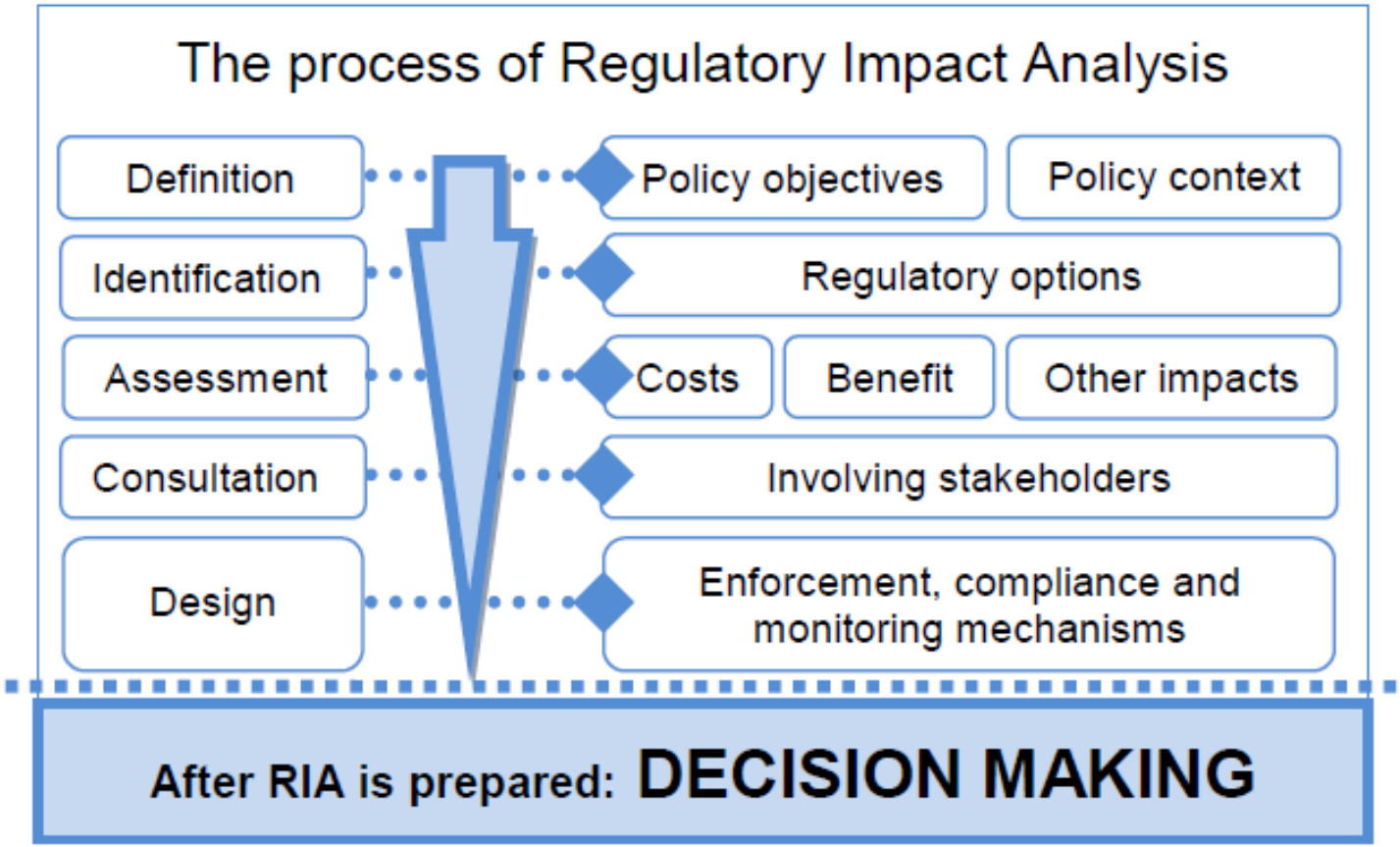
Source: OECD (2007d), *Indicators of Regulatory Management Systems*, OECD Working Papers on Public Governance, 2007/4, OECD.

RECOMMENDATION OF THE COUNCIL ON REGULATORY POLICY AND GOVERNANCE

4. Integrate Regulatory Impact Assessment (RIA) into the early stages of the policy process for the formulation of new regulatory proposals. Clearly identify policy goals, and evaluate if regulation is necessary and how it can be most effective and efficient in achieving those goals. Consider means other than regulation and identify the tradeoffs of the different approaches analysed to identify the best approach.

RIA Elements

Chart 1. Elements integrating RIA



Role of RIA

"...the RIA's most important contribution to the quality of decisions is not the precision of the calculations used, but the action of analyzing – questioning, understanding real-world impacts and exploring assumptions..."..."

Regulatory Policies in OECD Countries: From Interventionism to Regulatory Governance, OECD (2002), p47.

RIA in the Context of Regulatory Policy and Governance

¡THANK YOU!

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Mexico City, April, 2015

OFFICE OF INFORMATION AND REGULATORY AFFAIRS

Regulatory Impact Analysis

Improving the Efficiency and Effectiveness of Regulation

April 23, 2015

Any view expressed here are solely those of the presenter and do not necessarily reflect the position of the Office of Management and Budget or the Executive Office of the President

AGENDA

- What is Regulatory Impact Analysis?
- Why Does Regulatory Analysis Matter?
- What are the Key Elements of a Regulatory Analysis?
- Resources

What is RIA?

- Regulatory Impact Analysis (RIA) assesses the anticipated consequences a regulation and estimates associated benefits and costs.
  - Helps to organize and consolidate all the possible impacts and elements for decisions at various stages of policy development
  - Provides clear and transparent methodologies and criteria for new or existing regulations
- RIA is a flexible and adaptable tool
  - Its underlying analytical approach should always:
    - Be proportional to the situation
    - Follow consistent guidance for complexity and level of analysis

Why Does Regulatory Analysis Matter?

- Good analysis helps provide a reasonable basis for rulemaking.
- Good analysis is critical to inform:
  - Decision-makers (your bosses!)
  - Interested/Affected Parties
  - The Congress
  - The Public
- Good analysis also helps provide a reasonable basis for rulemaking under the Administrative Procedure Act.

History of Regulatory Analysis in the U.S.

- OMB has issued guidance on how to conduct regulatory impact analysis in place since the 1980s. Prior to OMB Circular A-4, the most recent guidelines were issued in 1996 and 2000.

- (2011) Executive Order 13563
- (1993) Executive Order 12866
- (1981) Executive Order 12291

- (2003) OMB Circular A-4
- (2000) Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statements
- (1996) “Best Practices”

OIRA's Role under Executive Order 12866

- Executive Order 12866 and 13563 on Regulatory Planning and Review governs OMB's oversight of agency rulemaking, requiring OMB review of "significant" agency regulatory actions.
- Agencies submit draft significant regulations (both proposed and final) to OIRA for a 90-day review before publishing them in the *Federal Register*.
- OIRA reviews 500-700 proposed and final regulations per year—those we determine to be significant—out of about 6,500 that are issued.
- About 70-100 of the regulations reviewed are "economically significant" (over $100 million per year in economic effects).
- During our review, we examine the RIA and the regulation and make suggestions to improve both the RIA and the rule's cost-effectiveness and to make sure that it comports with the Executive Order's principles and the President's priorities.
- If we are unable to resolve issues during the review process, or the agency needs more time to make changes, the agency can withdraw the rule or we can return the rule back to the agency for reconsideration.

Executive Order 13563

- Improving Regulation and Regulatory Review Executive Order 13563, issued January 18, 2011
  - Reaffirms the principles and structures of EO 12866
  - Calls for public participation to promote an open exchange with stakeholders
  - Directs agencies to harmonize, simplify, and coordinate rules to reduce costs and to promote simplicity
  - Considers flexible approaches that reduce burdens and maintain freedom of choice for the public (e.g., public warnings or provisional information)
  - Calls for scientific integrity
  - Direct agencies to conduct retrospective analysis of existing rules and produce preliminary plans for periodic review; these plans are due to OIRA within 120 days
- Presidential Memos, issued January 18, 2011:
  - Regulatory Compliance
  - Regulatory Flexibility, Small Business, and Job Creation

What is Circular A-4?

- Executive Order 12866 requires agencies to conduct a regulatory analysis for economically significant regulatory actions as defined by Section 3(f)(1).
- OMB has had regulatory analysis guidelines in place since the 1980s. Prior to A-4, the most recent guidelines were issued in 1996 and 2000.
- The "Regulatory Right to Know Act" requires OMB to "issue guidelines to agencies to standardize
  - (1) measures of costs and benefits; and
  - (2) the format of accounting statements."
- In developing this Circular, OMB first developed a draft that was subject to public comment, interagency review, and peer review.

What is Regulatory Impact Analysis (RIA)?

- Regulatory Impact Analysis (RIA) assesses the anticipated consequences a regulation and estimates associated benefits and costs.
- Executive Orders 12866 and 13563 require agencies to conduct a regulatory analysis for economically significant regulatory actions as defined by Section 3(f)(1).
- The “Regulatory Right to Know Act” requires OMB to “issue guidelines to agencies to standardize
  - (1) measures of benefits and costs; and
  - (2) the format of accounting statements.”

Regulatory Impact Analysis

- Basic Goals
  - Maximize net benefits to society—or at least ensure that benefits justify costs.
  - Promote economic efficiency by regulating only where markets fail, and when regulating, by using cost-effective and market-based approaches.
  - Increase the transparency of the regulatory system.
- Elements of a Regulatory Impact Analysis
  - Statement of need for the proposed rule that identifies the nature and significance of the problem (e.g., identification of the market failure).
  - Examination of alternative approaches to addressing the problem.
  - Analysis of the costs and benefits of each alternative.
  - OMB Circular A-4: Guidelines for the Conduct of Regulatory Analysis (September 2003)

What are the Key Elements of a Regulatory Analysis?

- For all Economically Significant Rules:
  - The Need for Federal Regulatory Action
  - Alternative Regulatory Approaches
  - Measuring Benefits and Costs of Alternatives
  - Accounting Statement

The Need for Federal Regulatory Action

- Market Failure or Other Social Purpose
- Showing That Regulation at the Federal Level Is the Best Way to Solve the Problem
- The Presumption Against Economic Regulation

Alternative Regulatory Approaches

- Informational Measures Rather than Regulation
- Market-Oriented Approaches Rather than Direct Controls
- Performance Standards Rather than Design Standards

- Different Degrees of Stringency
- Different Requirements for Different Sized Firms
- Different Choices Defined by Statute
- Different Compliance Dates
- Different Enforcement Methods
- Different Requirements for Different Geographic Regions

Measuring Benefits, Costs and Other Effects

- Scope of the analysis
- Timeline of the analysis
- Developing a baseline
- Estimating costs
- Estimating benefits
  - Using revealed preference data
  - Using stated preference data
  - Benefit transfer
- Qualitative Discussion

Baseline Characterization

- Evolution of the market
- Changes in external factors affecting expected benefits and costs
- Changes in regulations promulgated by the agency or other government entities
- The degree of compliance by regulated entities with other regulation
- Potential to develop more than one baseline

Discount Rates

- When benefits and costs are separated in time all future benefits and costs must be discounted.
- Circular A-4 specifies two separate discount rates to use for this purpose – 3 percent and 7 percent.
- Both rates are “real” net of expected inflation.
- The higher rate reflects the opportunity cost of displaced private capital investment. The lower rate reflects time-related tradeoffs in personal consumption.

Treatment of Uncertainty

- For all economically significant rules:
  - characterize probabilities of the relevant outcomes
    - qualitative discussion of main uncertainties
    - sensitivity analysis of assumptions, input data, etc.
  - assign economic value to the projected outcomes
- For all rules in excess of $1 billion:
  - formal quantitative analysis of the relevant uncertainties about benefits (e.g., simulation models, use of expert judgment elicitation)
- Where level of scientific uncertainty very high:
  - if probabilistic approach not possible, evaluate discrete alternative scenarios using a range of plausible scenarios
  - if uncertainty due to lack of data, evaluate additional research prior to rulemaking as an explicit regulatory alternative

Some Specific Suggestions

- Get economists and analysts involved early in the regulatory process. Analysis should drive decision making.
- Evaluate the regulatory analysis against the provisions in the draft rule. Do the costs and benefits adequately capture the effects of each provision? Are the assumptions surrounding the analysis correct?
- Language and organization of the RIA should be comprehensible to a relatively non-technical person.

Some Specific Suggestions

- The Preamble should have a clear “Problem Statement” – and possible alternatives should address the identified problem/s.
- A-4 requires analysis of at least one alternative that is more stringent and at least one alternative that is less stringent than the selected alternative.
- Requests for comment should be clear and well directed.
- Check for citation of sources for data and assumptions.

Accounting Statement

- Categories of Benefits and Costs
- Quantifying and Monetizing Benefits and Costs
- Qualitative Benefits and Costs
- Treatment of Benefits and Costs over Time
- Treatment of Risk and Uncertainty
- Precision of Estimates
- Separate Reporting of Transfers
- Effects on State, Local, and Tribal Governments, Small Business, Wages and Economic Growth

References

- OMB Circular A-4-- http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/a-4.pdf
- RIA checklist: http://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/RIA_Checklist.pdf
- A-4 FAQ: http://www.whitehouse.gov/sites/default/files/omb/assets/OMB/circulars/a004/a-4_FAQ.pdf
- Administrative Procedure Act (APA) -- http://www.archives.gov/federal-register/laws/administrative-procedure/
- Executive Order 12866 -- http://www.whitehouse.gov/OMB/inforeg/eo12866.pdf
- Executive Order 13563 -- http://www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866/eo13563_01182011.pdf
- Office of Information and Regulatory Affairs -- http://www.whitehouse.gov/omb/inforeg_default and http://www.whitehouse.gov/omb/inforeg_infopoltech
- RegInfo.gov, where to find Federal regulatory information. The public can use this site to search the the Unified Agenda of Regulatory and Deregulatory Actions and Regulatory Plan, as well as current and past OIRA regulatory reviews in accordance with EO 12866.
- Regulations.gov, your one-stop site to comment on Federal regulations. The public can use this site to send their comments electronically to agencies on Federal regulations published for comment in the Federal Register.
- FederalRegister.gov, the official daily publication for rules, proposed rules, and notices of Federal agencies and organizations, as well as executive orders and other presidential documents.
- The “Reg Map” -- http://www.reginfo.gov/public/reginfo/Regmap/index.jsp

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Australia's Deregulation Agenda and Regulatory Impact Analysis system

23-24 April 2015, Mexico City

Rob Reilly, OBPR

Outline of presentation

- Australia's Deregulation Agenda
- Australia's Regulatory Impact Analysis system
- Massive Open Online Course (MOOC)

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Australia's Deregulation Agenda

- Better regulation has been a major policy priority of the Australian Government in recent years
- Since September 2013, a major step up in regulatory scrutiny and an increased focus on red tape and its costs – much emphasis on cutting regulatory burden
- Commitment to reduce red tape by $1 billion per year

Productivity, Competitiveness and Growth

- The central idea – regulatory burden is a cost that affects productivity, competitiveness and growth
- Regulation as a policy instrument can deliver much benefit
- But it is not cost free for business or for people to comply
  - Regardless of the benefits of regulation, the cumulative burden has a significant impact on productivity, competitiveness, growth and well being
- The Australian Government's red tape agenda is based on the premise that the burden overall is higher than it needs to be and must be reduced by addressing both the stock and the flow
  - Hence the $1 billion net annual target, and
  - Requirement that all proposed increases in the burden of regulation - regardless of the merits of the proposal - must be offset by reductions elsewhere …. a tough policy designed to seek out and remove unnecessary or unnecessarily burdensome regulation

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Key components of Australia's Deregulation Agenda

Managing the stock of regulation

- $1 billion net target in reduced burden each year - with offsets for all increased regulation
- Twice-yearly repeal days in Parliament (Autumn/Spring)
- Portfolio stocktakes completed in 2014 to catalogue regulation and estimate the cost of compliance

Managing the flow of regulation

- Greater use of regulatory impact analysis – every cabinet submission
- All changes in regulatory burden to be costed and reported

Managing regulator behaviour

- Regulator Performance Framework (http://www.cuttingredtape.gov.au/resources/rpf)
- Letters of expectation sent to regulators

Better engagement with stakeholders

- Ministerial advisory bodies in each portfolio
- Greater emphasis on consultation in regulatory impact analysis

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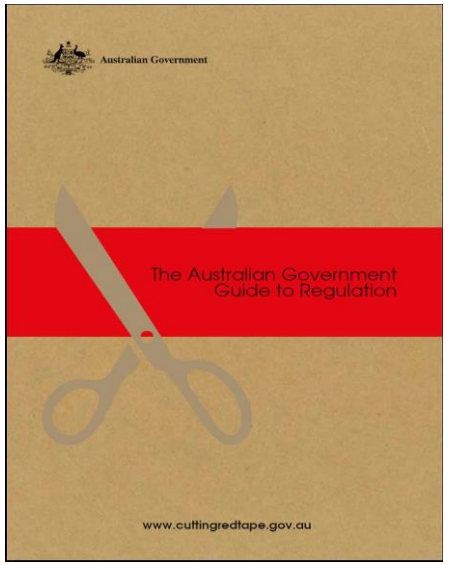
A new imperative for policy makers

- **Regulation must not be the first option for policy makers**
- **More rigorous processes for the assessment of the impact of regulation**
  - Including mandatory preparation of a Regulation Impact Statement for key decisions (and any Cabinet submission)



http://www.cuttingredtape.gov.au/handbook/australian-government-guide-regulation

- **No new regulatory burden - unless offset elsewhere**

OBPR's role

- OBPR's role under the new RIS system
  - Less of a gate-keeper role
  - Advise agencies of best practice in the RIS process
  - Assess regulatory costs and offsets
  - Comment to decision makers and/or public on the quality of RIS analyses and processes
  - Still ensures transparency of RISs

Principles for Australian Government policy makers

Ten principles for policy makers (from *The Australian Government Guide to Regulation*)

1. Regulation should not be the default option for policy makers: the policy option offering the greatest net benefit should always be the recommended option.
2. Regulation should be imposed only when it can be shown to offer an overall net benefit.
3. The cost burden of new regulation must be fully offset by reductions in existing regulatory burden.
4. Every substantive regulatory policy change must be the subject of a Regulation Impact Statement.
5. Policy makers should consult in a genuine and timely way with affected businesses, community organisations and individuals.

(continued)

Principles for Australian Government policy makers

Ten principles for policy makers (from the *Australian Government Guide to Regulation*) *continued*

6. Policy makers must consult with each other to avoid creating cumulative or overlapping regulatory burdens.
7. The information upon which policy makers base their decisions must be published at the earliest opportunity.
8. Regulators must implement regulation with common sense, empathy and respect.
9. All regulation must be periodically reviewed to test its continuing relevance.
10. Policy makers must work closely with their portfolio Deregulation Units throughout the policy making process.

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Regulation Impact Statement (RIS) process

Is a RIS required?

1. Agencies contact the OBPR for all Cabinet Submissions and non-Cabinet proposals with regulatory impacts.
2. OBPR advises whether a RIS is required and if so, the appropriate RIS type.

↓

Early Assessment

Agency provides OBPR with at least the first four RIS questions, regulatory costs and offsets, and consultation plan for assessment.

↓

Final Assessment

Agency provides OBPR with all seven RIS questions and regulatory costs and offsets for final assessment.

↓

Transparency

Following a final decision, RIS and OBPR assessment of the RIS published

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Australia's RIA System

- Agencies/Regulators draft RISs
- Three types of RISs: Short, Standard, Long

  (short form RISs only available for Cabinet Submissions)
- Content of the RIS will vary depending on the type of RIS
  - *Short Form RISs*
    a) Overview of the likely impacts
    b) Quantification of regulatory costs and offsets
  - *Standard and Long Form RISs*
    a) Detailed analysis of the proposal
    b) Quantification of regulatory costs and offsets

RIS process and assessment

How does the OBPR assess best practice

- was a Preliminary Assessment undertaken
- does the RIS simply and clearly explain the problem and your objective
- does the RIS justify that the problem is serious enough to warrant Government intervention
- does the RIS examine a range of viable, genuine policy options, including a non-regulatory option
- have the benefits and costs of all the proposed options on business, community organisations and individuals been quantified
- were the costs and offsets agreed by the OBPR
- does the RIS explain the purpose and objectives of consultation (prior to final decision)

RIS process and assessment

How does the OBPR assess best practice (continued)

- does the RIS demonstrate that the views of affected stakeholder groups have been considered
- does the RIS recommend the option with the highest net benefit
- does the RIS show how the impact of the preferred option would be distributed across the community
- does the preferred option reflect underlying uncertainties
- does the RIS have a clear implementation and evaluation plan
- was a RIS prepared, assessed by the OBPR and presented to the decision-maker before each major decision point
- was the RIS certified by the secretary, deputy secretary or chief executive before formal assessment by the OBPR
- was the RIS published at the earliest opportunity following an announcement of a decision.

RIS process and assessment

Consequences of less than adequate RISs

- OBPR has a range of options including:
  1. *writing to agencies outlining areas of concern and suggested remedies*
  2. *briefing the Prime Minister on areas of concern*
  3. *briefing Cabinet through our coordination comment on areas of concern*
  4. *publishing information on areas of concern in our assessment*
  5. *determining non-compliance with the RIS requirements and publishing this information, including the requirement to undertake a post-implementation review.*

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Summary of Australian Government progress

- ✓ Government fully compliant with the RIS system
- ✓ Met first year $1 billion target
  - **Total savings announced to date: $2.45 billion**
- ✓ 3 repeal days – next repeal day expected in September 2015
  - **To date: over 10,000 legislative instruments through bulk repeals process – and almost 2,700 Acts of Parliament**

Key challenges

- New way of thinking – culture change
- New requirements & methodologies
  - *'Best practice'*
  - *Short Form RISs*
  - *Targeting regulatory costs versus Net benefits*
  - *Perverse outcomes in regulatory costings*
- Skills and knowledge base
- Resource constraints and competing priorities

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Massive Open Online Course

- OBPR is developing a Massive Open Online Course (MOOC) on Regulatory Impact Analysis (RIA).
- The project is co-funded by APEC.
- Mexico and eight other countries (China, Indonesia, Malaysia, New Zealand, Philippines, Chinese Taipei, Thailand and Vietnam) support the proposal.

MOOC

Objective:

- Build capacity in regulatory best practice by emphasising the principles of good regulatory practices (GRP)

Features:

- Available on demand, free of charge, from anywhere in the world that has a broadband connection
- Compatible with laptops, tablets and smartphones.

Course format

- Modular form
  - *Phase 1: Develop core modules common for everyone but with a focus on Australia.*
    - Australian Govt RIA process
    - 7 RIS elements
    - Cost benefit analysis & regulatory costing tool
  - *Phase 2: Translated into different languages and with specific APEC modules.*
- Progress
  - *Final stages of selecting developer*
  - *Phase 1- expected mid year completion*
  - *Phase 2 – expected completion by year end*

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Input welcome!

- Your input to the course is welcome
  - *Logistics/contacts*
  - *Case studies*
  - *How best the course might work in your country?*

- Contact me on: rob.reilly@pmc.gov.au

Gracias!

Questions?

https://www.dpmc.gov.au/office-deregulation
https://www.dpmc.gov.au/office-best-practice-regulation
www.cuttingredtape.gov.au

就法規影響評估之成本與效益評估方法進行說明

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COFEMER
Comisión Federal de Mejora Regulatoria

The Importance of Evaluation for Regulatory Quality

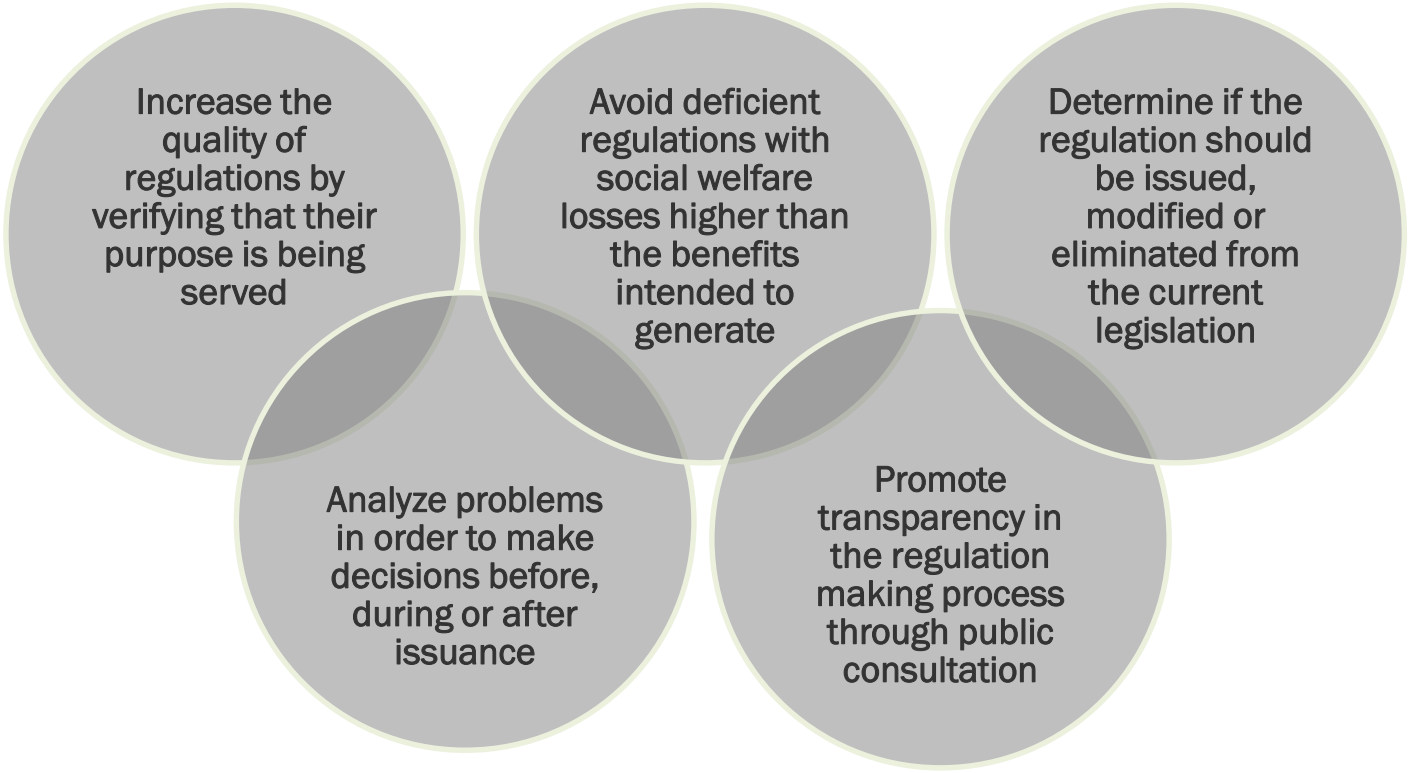
Eduardo Romero

General Coordinator of Regulatory Impact Assessments

Federal Commission for Regulatory Improvement

The importance of Impact Assessments of regulation for Public Policy

Regulation is defined as a set of rules seeking to influence and ensure people's welfare, safety and health; so *ex-ante*, *ex-dure* and *ex-post* regulatory impact assessment plays an important role in the design of regulatory policy to meet the following objectives:

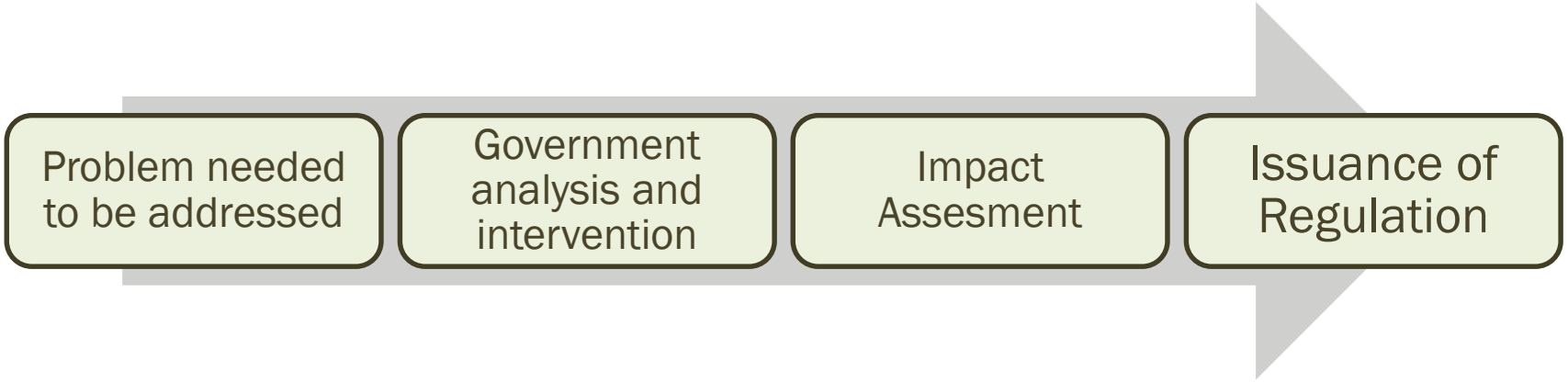


Regulatory Impact Assessment for Public Policies

- Every Economy has the duty to ensure safety, utilities, and welfare to its inhabitants and, in order to do this, it must implement public policies and planned actions seeking the public interest.

- Regulations issued by a government seek to influence people's behavior and guide it in such a way that the greatest possible welfare is generated within the society it represents.

- To issue regulations appropriately, the regulator must analyze and take into account the available alternatives, as well as identifying and quantifying their impacts



Steps to perform an analysis of regulatory impact

The quantification and evaluation of impacts, regardless of the system they are embedded on, stand as the main tool for regulators when making decisions and choosing among a set of regulatory options by following the next steps:

STEP 1. Identification and definition of the problem: (clearly identify the problem to be solved and its underlying causes)

STEP 2. Empirical evidence: (include a statistical analysis or empirical evidence that illustrates the extent of the problem)

STEP 3. Definition of regulatory objectives: (clarify and specify objectives directly related to the identification process)

STEP 4. Coherence between regulatory objectives and the problem to be solved: (identify relationships between the regulatory objectives and the problem to be solved)

STEP 5. Identification of performance indicators of the regulation performance: (identification and design of performance indicators)

Steps to perform an analysis of regulatory impact

STEP 6. Identification and building of regulatory alternatives: (options proposed by the parties involved in the problem)

STEP 7. Impact quantification of regulatory alternatives: (use of methodologies to quantify the impact of regulatory alternatives)

STEP 8. Choose the best alternative: (use certain criterion to choose the regulatory alternative)

STEP 9. Regulation's Implementation: (develop an implementation plan of the regulation uses)

STEP 10. Regulation's assessment: (evaluation through the indicators chosen in the design stage)

Regulatory Impact Assessment in Mexico

All general administrative acts that are issued by the departments, agencies and entities of federal government, except federal acts, proceedings and resolutions of the Navy Secretariat and National Defense Secretariat, are subject to the presentation of the RIA. The events related to fiscal matters, responsibilities of public servants, labor and agrarian justice, as well as those granted by the public prosecutor in exercising his constitutional duties are also exempt to the presentation of the RIA.

The RIA

It is a tool to systematically analyze the goals and potential impacts of regulations, to ensure that its benefits outweigh its costs.

Allows socialize justify public policy decisions and gives the public the opportunity to participate in its development.

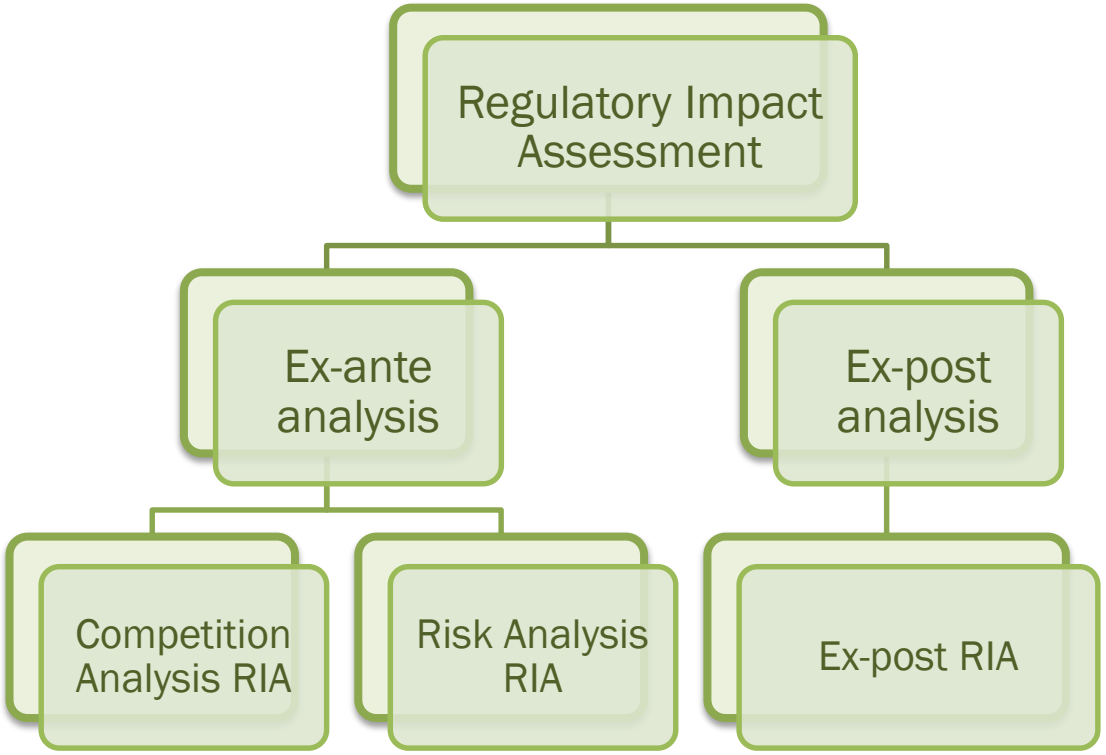
The RIA is used to federal regulations involving compliance costs for individuals

RIA elements

I. Identification of the problem and objectives
II. Identification of Regulatory Alternatives
III. Regulation impact
IV. Compliance and enforcement of regulation
V. Evaluation of the proposal
VI. Public consultation

Idenfitication of Main Impacts

RIA is a systemic approach to critically assess positive and negative effects of proposed and existing regulations and non-regulatory alternatives. In general, RIA frequently uses the **Cost-Benefit Analysis as the main tool**, but there are many other options.

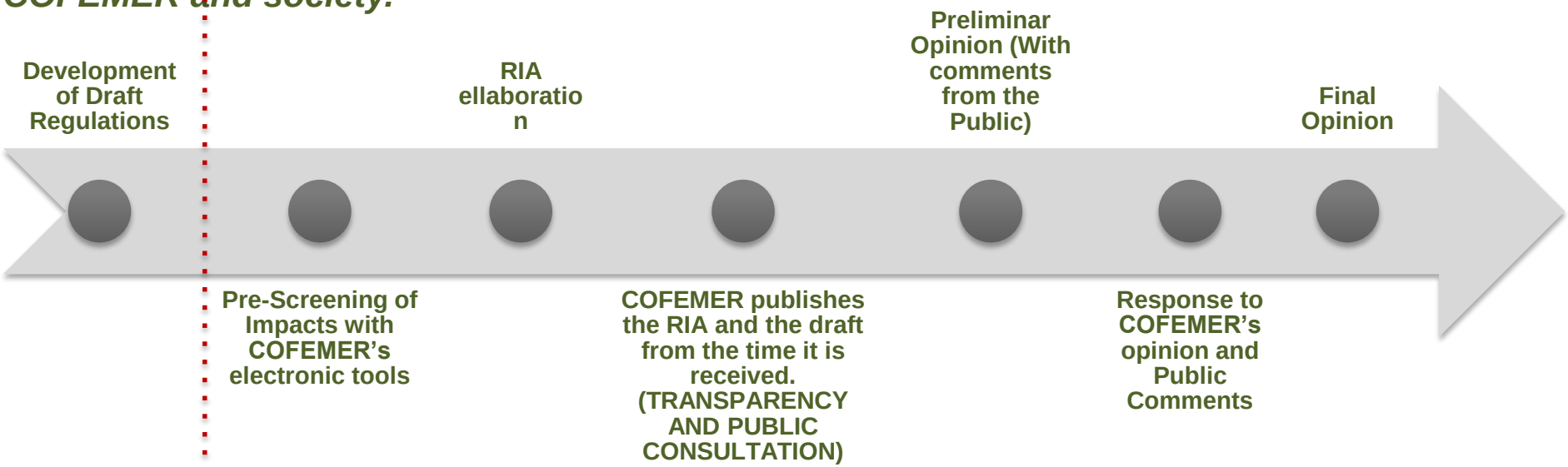


It is essential to consider possible impacts on stakeholders such as:

- Impacts on industry
- Impacts on employment
- Impacts on consumers and individuals
- Impacts on governments
- Impacts on environment

Regulatory Review Process

The regulatory improvement process is an interactive process between regulators, COFEMER and society.



- The federal agencies <u>do not have specific times</u> to submit drafts, neither to respond to comments of COFEMER.
- COFEMER at all times, has specific times to give their opinions, ranging from 5 to 30 working days.
- Transparency and public consultation are different: the main difference is, what you do with the opinions of the public?

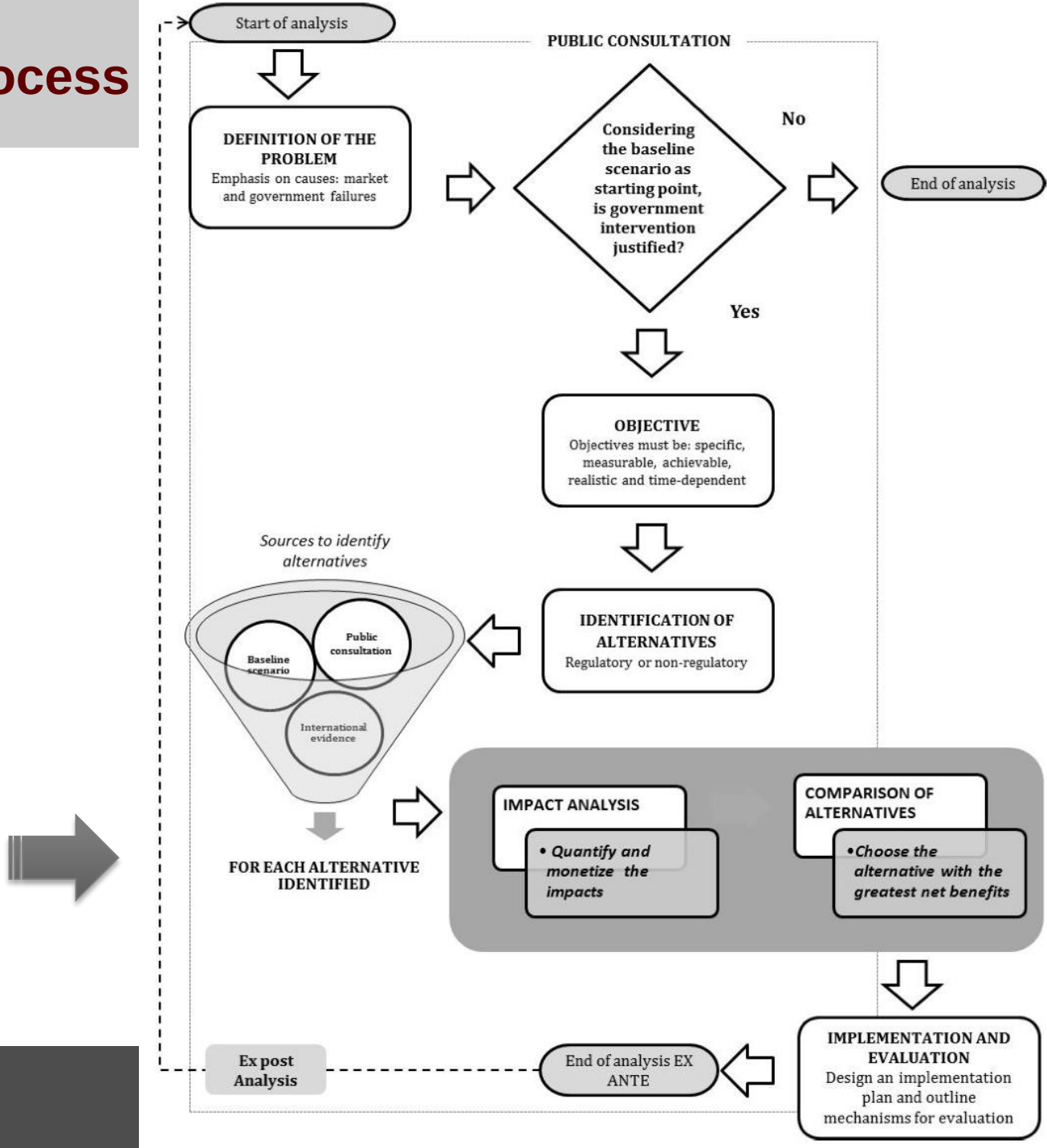
In México, it is an obligation to consider the opinions for the public for COFEMER resolutions

The Official Journal of the Federation (DOF) cannot publish a general act subject to regulatory improvement process, if the Commission has not issued a final opinion or the corresponding RIA exemption.

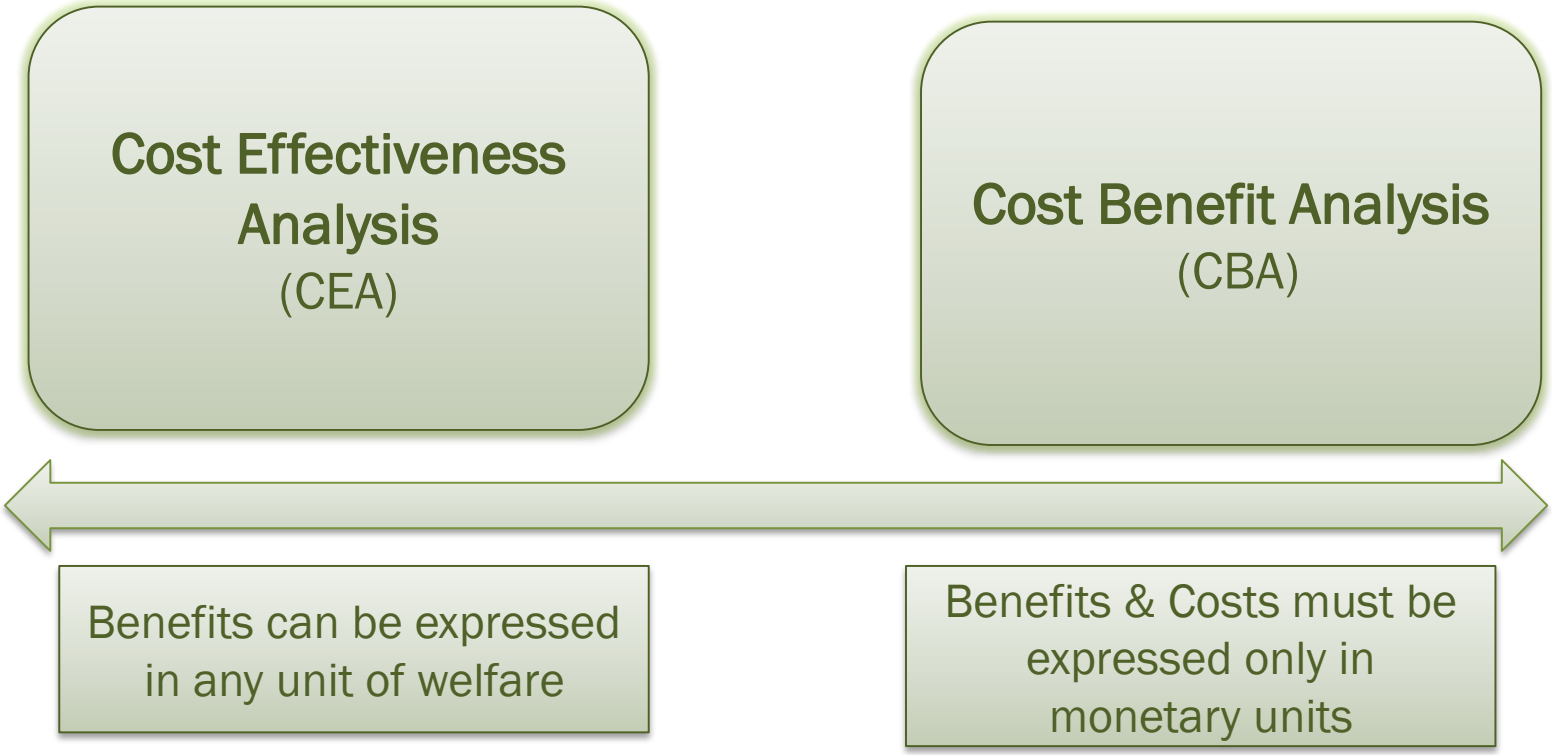
The DOF public servant to do these for 5 times can be disabled from the public administration at least for one year.

The Evaluation Process

How do we measure all impacts?



Common Methods for Impact Evaluation



The main difference between these two methods is that in CBA approach, the benefits and costs **must be expressed in monetary terms**, while in CEA approach, benefits are expressed in non-monetary terms.

Cost Effectiveness Analysis

The Cost-Effectiveness Analysis (CEA) is as an economic evaluation tool that compares the costs of several alternatives in monetary terms, with results measured in terms of benefits measures through the cost-effectiveness ratio (CER):

- CEA involves comparing the effectiveness of a regulatory project **in terms of its costs with regard to its welfare measure**.
- Its purpose is that the regulatory project chosen is the one that achieves the objectives set by the regulation at the minimum cost.
- In this sense, the CEA is used when it is not possible to express the benefits of the regulation to be implemented in monetary terms; when the effort to make a CBA is significant in terms of costs and time; or when results could be controversial.

Steps to perform a Cost Effectiveness Analysis

- In order to develop the CEA it is necessary to follow these steps:

1. Quantify the costs of each regulatory alternative:

The costs to be quantified in this analysis should only be the direct and tangible costs generated by regulatory alternatives.

2. Identify benefits derived from each regulatory alternative:

The regulator defines and chooses an indicator in order to measure benefits, that is, a measure by which performance can be evaluated in order to identify the best regulatory alternative that mitigates or reduces the problem.

3. Quantify the "effectiveness" of each option:

In this step, the Cost Effectiveness ratio (CER) is applied, obtained by dividing the present value of the regulatory project costs into the quantitative measure of the benefits.

4. Interpretation of the result:

After applying the CER formula, alternatives should be classified from the most effective to the least effective. The chosen alternative should be the one with the lowest CER.

Cost-Benefit Analysis

The Cost benefit Analysis (CBA) is an analytical tool aimed at quantifying all costs and benefits in monetary terms to identify the magnitude of each of them and translate them into the Cost-Benefit Ratio (CBR):

The idea behind the CBA implies a monetary quantification of costs and benefits regardless of the type of regulation involved (social, economic or administrative).

Before implementing the CBA, the regulatory agency must consider the following basic elements :

a) Assumptions: assume certain values for key variables [Discount rate (r), Inflation rate (i), Population growth rate (g), Assessment horizon].

b) Criteria: it is the group of points to be taken into account when making a decision.

c) Scope: it involves deciding the point of comparison with other analysis.

Steps to perform a Cost-Benefit Analysis

- In order to develop the CBA it is necessary to follow these steps:

Step 1: Identify the baseline scenario

Step 2: Identify and monetize direct costs and benefits of the regulation

Step 3: Identify all possible parties indirectly involved in the regulation through the transmission channel identification

Step 4: Deduct benefits and costs

Step 5: Introduce the concepts of risk and uncertainty through sensitivity analysis

Step 6: Identify the compliance costs of regulation

Step 7: Make a decision based on the criteria and choose the regulation option

Costs & Benefits

- **Direct benefits & costs of regulation**

Are those specifically and exclusively derived from the regulatory proposal implementation; they do not include the benefits of external factors, neither the impacts on other sectors (those outside the regulated activity).

- **Indirect benefits & costs of regulations**

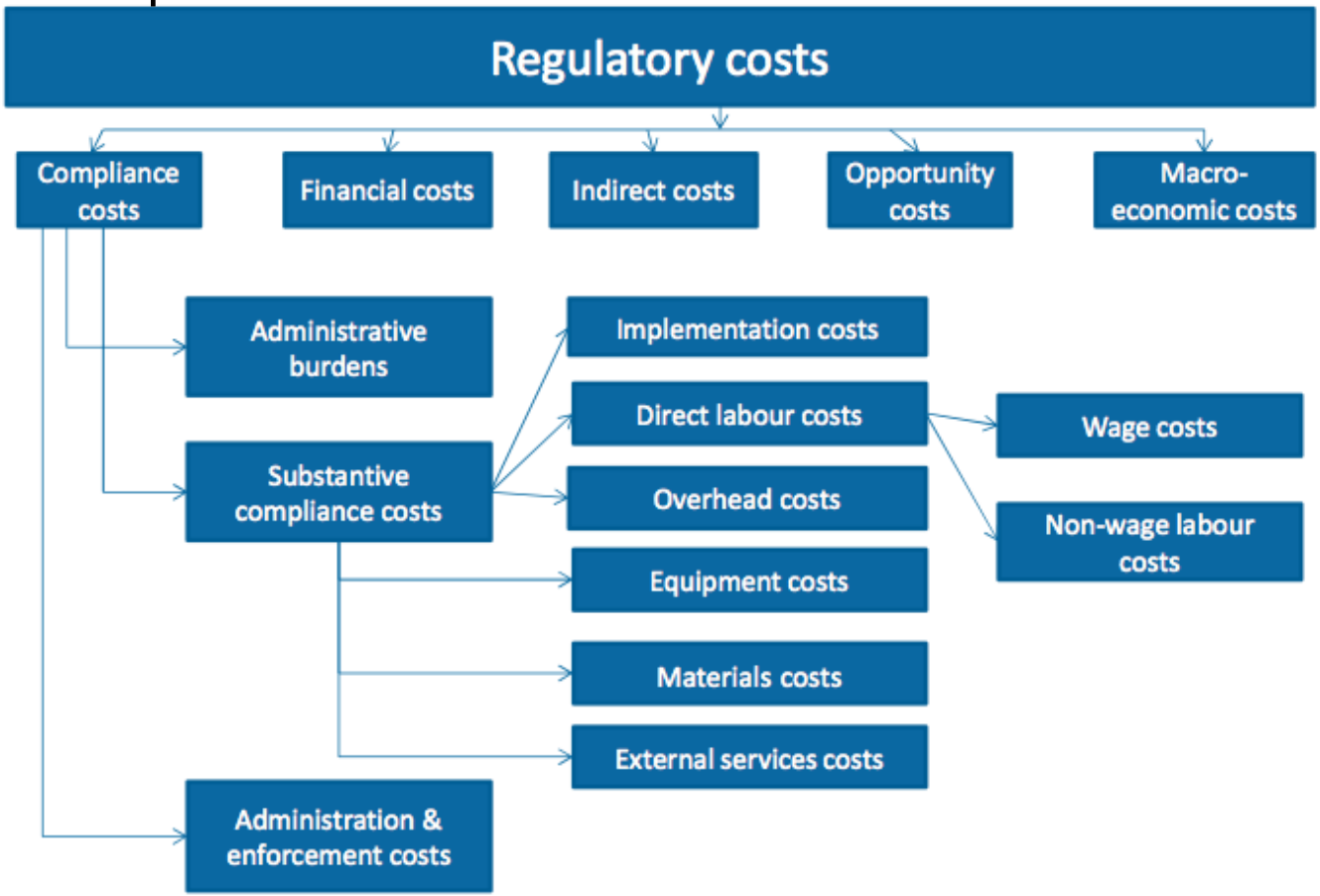
Are not directly related to the regulatory proposal implementation; they show up through externalities and other transmission channels. For this reason, the CBA must consider the impact on stakeholders or agents involved in order to identify all possible parties indirectly involved in the regulation.

- **Intangible Benefits & Cost of regulations**

Are all those characteristics that people value but do not monetize, for example, no fear of illness, visible wounds on the face, or sadness for deadly diseases on children.

Regulatory Costs vs. Business as Usual

When identifying and measuring costs, it is of high importance to make a clear differentiation between costs that arise from regulation and those that are part of the operation of a business.



Source: OECD (2014), *OECD Regulatory Compliance Cost Assessment Guidance*

Identification of Costs and Benefits

- Who is affected by regulation?
- Is it a possitive or a negative affectation?
- By how much are the subjects affected?
- For how long are they affected?

Discounting costs and benefits through NPV

Net Present value (NPV)

The **Present value** is the discounted value of one or more payments that would be received in the future in order to compare different amounts (income or expense) in the same period.

PV of an amount	PV of a cash flow

Net Present Value

$$NPV = [\text{PV of benefits}] - [\text{PV of costs}]$$

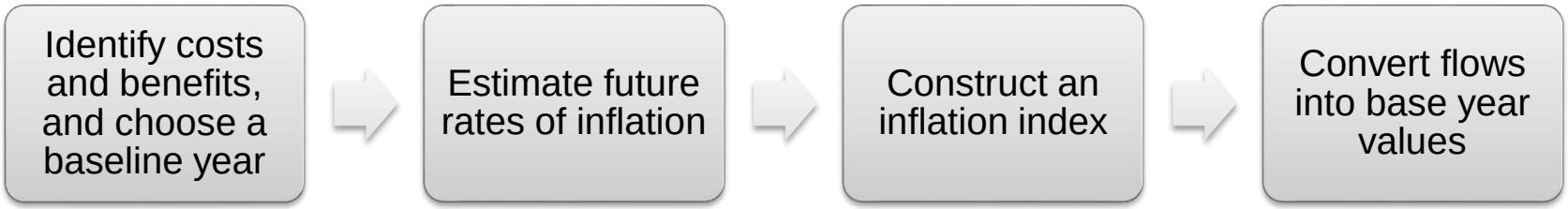
PV of a perpetuity	PV of a growing perpetuity

Elements needed for Net Present Value

Evaluation horizon: Is the period (parameter “t” in PV formula) within which the proposed regulation will impact on costs and benefits. As a general rule, the evaluation horizon is often extended during the period in which regulation will be applied.

- Standardization: choosing the longer timeframe (common denominator) to bring at present value both policies with the same evaluation horizon.
- Possible bias: shorter periods reduce the NPV or viceveresa.

Inflation: It represents the prices evolution over time. In real life, available flows are often presented at market prices of the current period; in order to take into account the inflationary effects on the flows, it is necessary to translate this flows to constant prices of a baseline period.



Elements needed for Net Present Value

Discount rate: Its exact definition depends on the policy in question and on the sector it intends to assess. Often, the interest rate should reflect the **opportunity cost** of receiving or postponing any benefit obtained from a public investment.

Social discount rate: defined as the **social opportunity cost** of capital where the **opportunity cost of public sector capital** is the best possible alternative that can be implemented in the private sector (Common, 1996).

Among the methods for calculating the social opportunity cost of capital, the Capital Asset Pricing Model (CAPM) is the most accepted.

$$r_i = R_f + \beta_i[r_{sector} - R_f]$$

Where

r_i: social discount rate
R_f: risk free rate
β_i: risk coefficient of the opportunity cost of social capital *i*
r_{sector}: rate of return of the sector
$r_{sector} - R_f$: risk premium or cost of risk

Why and when to conduct a CBA?

Why to conduct a CBA?

Since government faces economic resources constraints, regulatory policy choices should be based on the highest number of supporting tools, within which CBA is essential.

When to conduct a CBA?

Whenever necessary to demonstrate that a regulatory policy is desirable in economic terms, i.e., that benefits outweigh costs.

In addition, if the impact of regulatory policy is moderate and the CBA application involves high costs in time and money, it is better not to do it. However, if the policy in question has a highly significant impact on society, the CBA must always be carried out.

Advantages

- The appeal of CBA is that it is possible to compare and/or add many different categories of benefits with one another, and with the costs of the policy by monetizing the benefits of the policy.

- The CBA only needs a unit of measurement (monetary values).

- Its simplicity when presenting results allows us to understand the achievement of objectives and know the costs incurred to reach such objectives.

- The rule of decision on the implementation of a policy is simple:

  Implement the policy if benefits > costs, or, Cost-Benefit Ratio > 1

  Do not implement the policy if benefits < costs, or Cost-Benefit Ratio < 1

Disadvantages

- The CBA can be expensive and time−consuming because its development involves estimating inputs (discount rates, calculating the VSL, among other variables), and results are likely to be sensitive to many assumptions often required to complete the estimation of benefits and costs of the proposed policy and program.

- The lack of consensus on its implementation derives from its apparent theoretical flexibility (many methods with varying results).

- Another major problem lies in the agencies application of the CBA, as they may misunderstand the model and its theoretical basis, thus generating:

    a) Underestimation of costs, or overestimation of benefits
    b) Self-serving assumptions, i.e. discount rate
    c) Difficulty to estimate the impact on everyone involved
    d) Double counting
    e) Biases depending on the method for estimating the benefits, i.e. WTP vs WTA

CBA considerations

Quantitative analysis of the probable outcomes of alternative courses of action can diminish uncertainty and improve the decision-making process. At the same time, a good CBA requires the following:

Predefined criteria and assumptions	**Benefits and costs estimated in detail for every time period, without shortcuts**
The explanation of the method and the parameters used, so it is clear for any reader	**A technical analysis that avoids biases that could favor the outcome (in regard to discount rates, inflation adjustments, evaluation horizon, choice of decision rule, etcetera)**
Clear objectives and priorities	**Distribution effects set out clearly**
Alternatives defined in a way that enables fair comparison	**Uncertainty and risk considered carefully**

Savings in the implementation of CBA:

If regulatory agencies can have access to previously estimated values, the cost of CBA implementation would be lower.

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Thank you

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OFFICE OF INFORMATION AND REGULATORY AFFAIRS

Using RIA for Transparent and Effective Rulemaking

March 3, 2011

APEC Workshop
Washington, DC

AGENDA

- Why Regulate?
- What is Regulatory Impact Analysis (RIA) and Why Does Analysis Matter?
  - History
  - Key elements

The Need for Regulatory Intervention

- Market Failure or Other Social Purpose
- Showing That Regulation at the Federal Level Is the Best Way to Solve the Problem
- The Presumption Against Economic Regulation

What is Regulatory Impact Analysis (RIA)?

- Regulatory Impact Analysis (RIA) assesses the anticipated consequences a regulation and estimates associated benefits and costs.
- Executive Orders 12866 and 13563 require agencies to conduct a regulatory analysis for economically significant regulatory actions as defined by Section 3(f)(1).
- The “Regulatory Right to Know Act” requires OMB to “issue guidelines to agencies to standardize
  - (1) measures of benefits and costs; and
  - (2) the format of accounting statements.”

History of Regulatory Analysis in the U.S.

- OMB has issued guidance on how to conduct regulatory impact analysis in place since the 1980s. Prior to OMB Circular A-4, the most recent guidelines were issued in 1996 and 2000.

- (2011) Executive Order 13563
- (1993) Executive Order 12866
- (1981) Executive Order 12291

- (2003) OMB Circular A-4
- (2000) Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statements
- (1996) “Best Practices”

Why Does Regulatory Analysis Matter?

- Good analysis is critical to inform:
  - Decision-makers
  - Interested/Affected Parties (regulated entities and stakeholders)
  - The Congress
  - The Public
- Good analysis also helps provide a reasonable basis for rulemaking under the Administrative Procedure Act.

What are the Key Elements of a Regulatory Analysis?

- For all Economically Significant Rules:
  - The Need for Federal Regulatory Action
  - Alternative Regulatory Approaches
  - Measuring Benefits and Costs of Alternatives
  - Accounting Statement

Alternative Regulatory Approaches

- Informational Measures Rather than Regulation
- Market-Oriented Approaches Rather than Direct Controls
- Performance Standards Rather than Design Standards

- Different Degrees of Stringency
- Different Requirements for Different Sized Firms
- Different Choices Defined by Statute
- Different Compliance Dates
- Different Enforcement Methods
- Different Requirements for Different Geographic Regions

Measuring Benefits, Costs and Other Effects

- Scope of the analysis
- Timeline of the analysis
- Developing a baseline
- Estimating costs
- Estimating benefits
  - Using revealed preference data
  - Using stated preference data
  - Benefit transfer
- Qualitative Discussion

Baseline Characterization

- Evolution of the market
- Changes in external factors affecting expected benefits and costs
- Changes in regulations promulgated by the agency or other government entities
- The degree of compliance by regulated entities with other regulation

- Potential to develop more than one baseline

Discount Rates

- When benefits and costs are separated in time all future benefits and costs must be discounted.
- Circular A-4 specifies two separate discount rates to use for this purpose – 3 percent and 7 percent.
- Both rates are “real” net of expected inflation.
- The higher rate reflects the opportunity cost of displaced private capital investment. The lower rate reflects time-related tradeoffs in personal consumption.

Cost-Effectiveness Analysis

- Cost-effectiveness analysis (CEA) is encouraged whenever possible, but required for all major rulemakings for which primary benefits are improved public health and safety where valid effectiveness measures can be developed.
- Steps in CEA:
  - quantification of costs for each option
  - quantification of “effectiveness” for each option
  - ranking of options in order of stringency (i.e., effectiveness)
  - incremental cost effectiveness ratio compared to successively more stringent option
- Effectiveness metric for public health and safety rulemakings:
  - integrated measures (e.g., equivalent lives, QALY, DALY)
  - no requirement for specific measure

Treatment of Uncertainty

- For all economically significant rules:
  - characterize probabilities of the relevant outcomes
    - qualitative discussion of main uncertainties
    - sensitivity analysis of assumptions, input data, etc.
  - assign economic value to the projected outcomes
- For all rules in excess of $1 billion:
  - formal quantitative analysis of the relevant uncertainties about benefits (e.g., simulation models, use of expert judgment elicitation)
- Where level of scientific uncertainty very high:
  - if probabilistic approach not possible, evaluate discrete alternative scenarios using a range of plausible scenarios
  - if uncertainty due to lack of data, evaluate additional research prior to rulemaking as an explicit regulatory alternative

Distributional Effects

- How both benefits and costs are distributed unevenly across population and time
- Sub-populations of particular concern
- Intertemporal distributional consequences

Accounting Statement

- Categories of Benefits and Costs
- Quantifying and Monetizing Benefits and Costs
- Qualitative Benefits and Costs
- Treatment of Benefits and Costs over Time
- Treatment of Risk and Uncertainty
- Precision of Estimates
- Separate Reporting of Transfers
- Effects on State, Local, and Tribal Governments, Small Business, Wages and Economic Growth

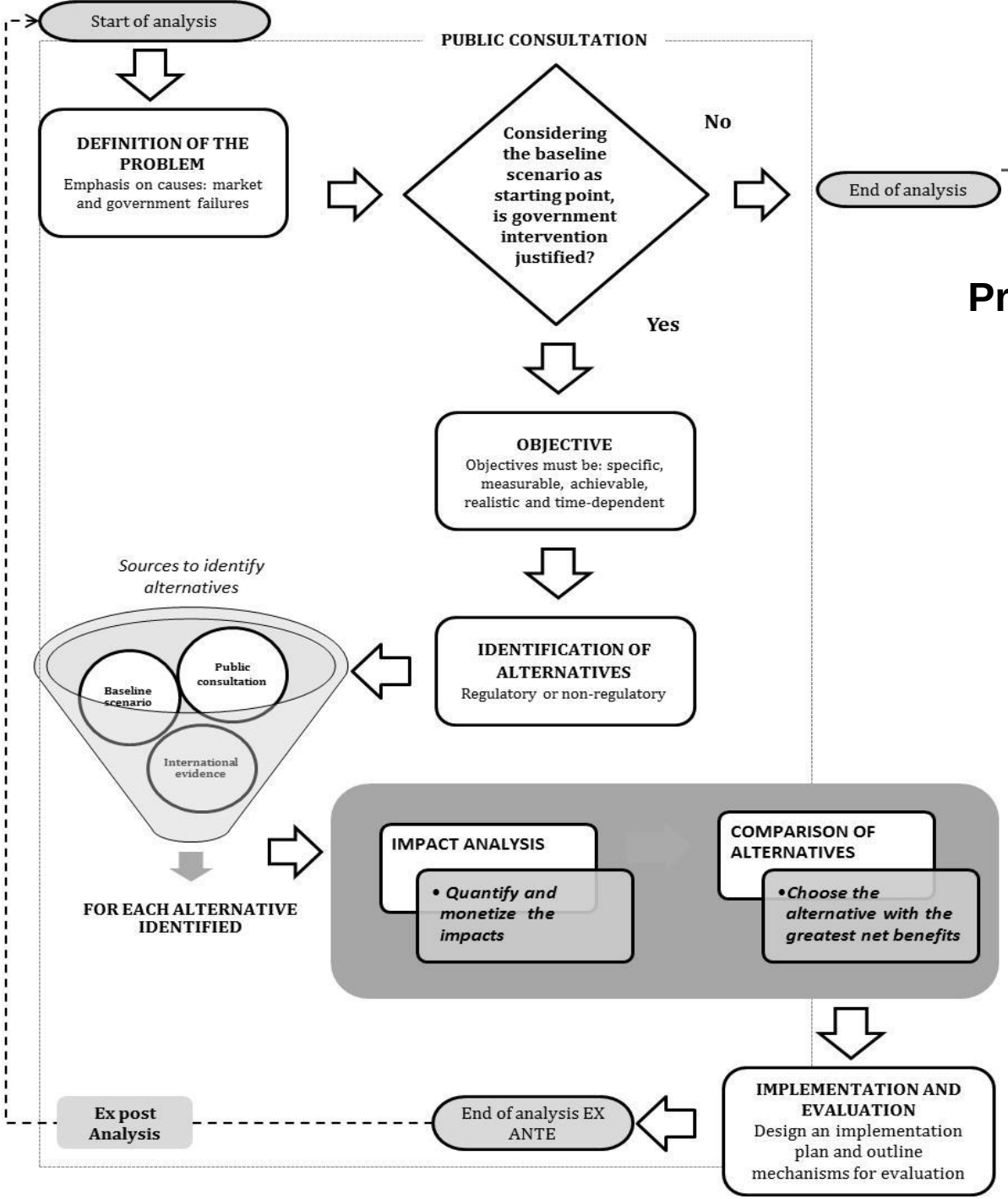
THE MEXICAN EXPERIENCE ON ANALYSIS AND EVALUATION OF IMPACT

MPP FABIOLA PERALES

Director of International Affairs and Regulatory Governance

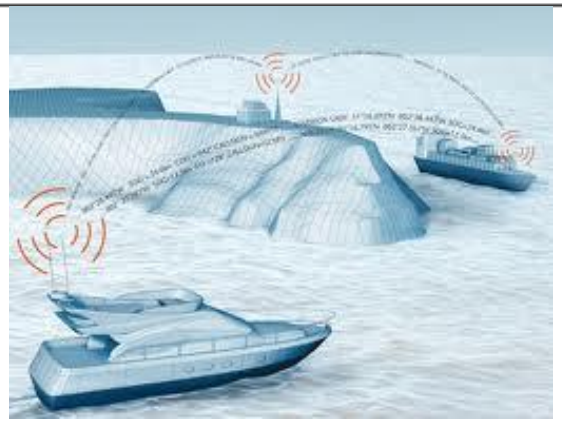
COFEMER

Process of the regulatory Impact evaluation



Example: Location devices in vessels over 7 meters length and less than 300 unit of GT

Identification of the problem



- Vessels face major risks that put in danger the lives of crew members.
- In the last years was identified a considerable increase in the number of dead people in accidents and maritime accidents (see evidence).
- From 2009 to 2011, the SCT informed an increase of 78% (from 104 to 185) in the number of dead people and/or disappeared on maritime accidents or in maritime incidents of vessels less than 300 units of GT and over 7 meters length. In 2012 this number decreased to 122; nonetheless the number remained above the figure obtained in 2009.
- The SCT noted that out of the total of human casualties, **at least 78% of the cases, would have been relevant know the exact location of the vessel** with the purpose to provide help timely and thereby prevent human casualties.

Objectives of the intervention

Safeguard human life at sea and decrease the number of people and/or vessels disappeared at the sea.

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Empirical Evidence

The number of vessels less than 300 units of GT and over 7 meters of length is approximately 25,502 in the Pacific and 26,004 on the Gulf of Mexico and Mayan Riviera, making a total of 51,506, representing third of the total of vessels which comprising the merchant marine fleet, whose figure is 162,300 (December 31, 2012)

Considerable increase in the number of human casualties on accidents and maritime incidents in the last years.

Year	People who died	Missing persons	Human Casualties
2009	24	80	104
2010	22	102	124
2011	61	124	185
2012	22	100	122

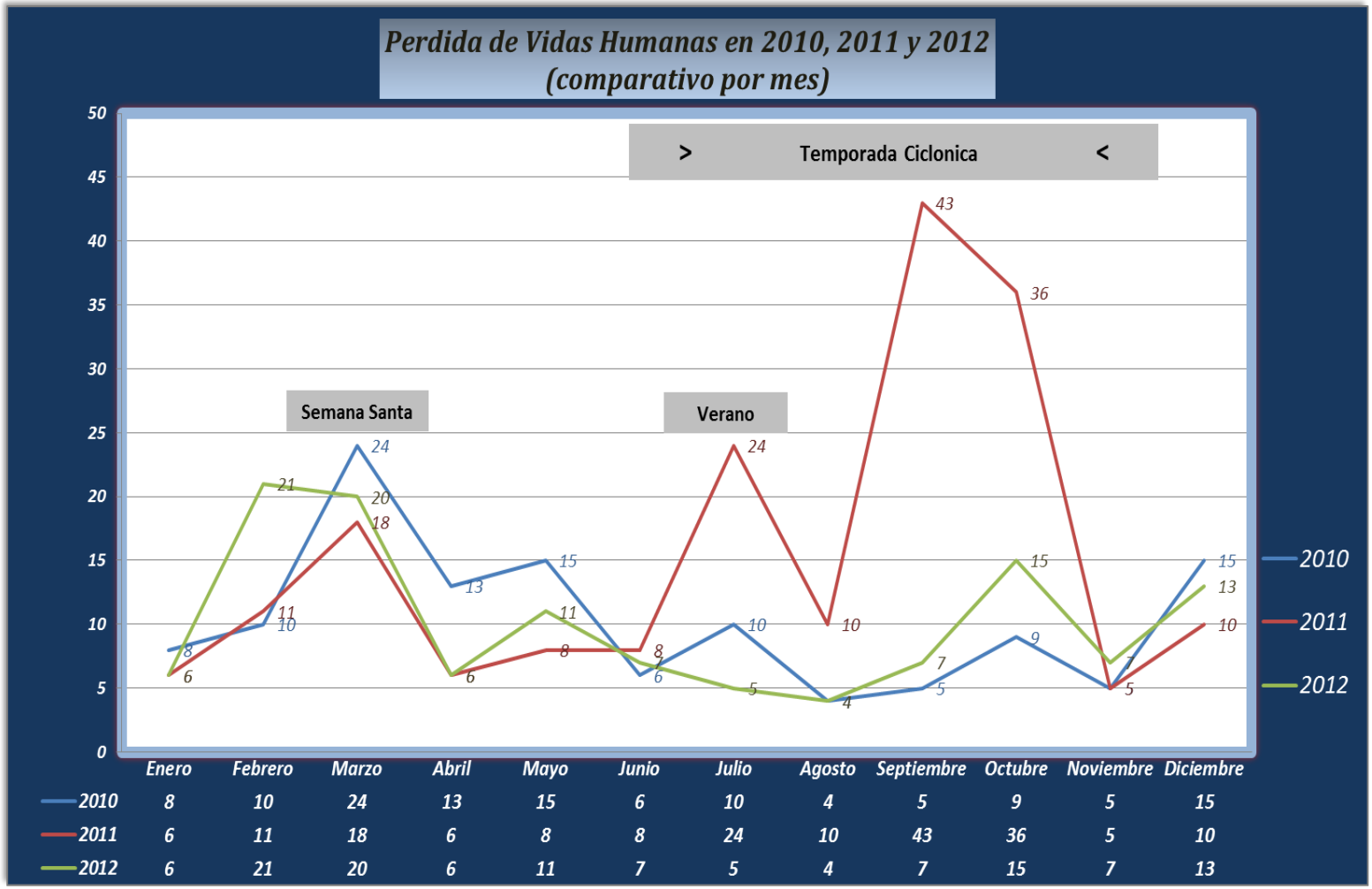
SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Empirical Evidence

HUMAN TOTAL LOSS IN THE LAST THREE YEARS (2010-2012)	431
HUMAN LOSS IN WHICH WOULD HAVE BEEN SIGNIFICANT TO KNOW THE EXACT LOCATION OF THE VESSEL (Collision, heel via water, sinking, fire, stranding, mechanical failure, drifting, unaware of their fate or for several days, etc.)	**335**
Percentage of loss of human life in which would have been relevant know the location of the vessel for their rescue.	**78%**
78% losses of human life would had been avoided, using location devices.	

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Empirical Evidence



	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre
2010	8	10	24	13	15	6	10	4	5	9	5	15
2011	6	11	18	6	8	8	24	10	43	36	5	10
2012	6	21	20	6	11	7	5	4	7	15	7	13

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Alternatives analysis

1. ***Do not issue a regulation (status quo).*** The continuation of the status quo would keep a situation in which do not exist the adequate mechanisms to attend the accidents occurred on the general maritime communication pathways, namely, would be kept the lost of material goods and human casualties.

2. ***Patrols in the navigation areas.*** In the time of increase of the influx of these activities have been implemented "vacation operatives", nonetheless, the problem has not decreased, since it is important to take into account that to cover the Mexican coasts the extension is considerable.

3. ***Cyclone season operatives***: These are operatives to keep a permanent vigilance on the sea and in the inland waters in order to keep the maritime and port community informed about the cyclone development that could put into risk the security of the vessels and their passengers and crew.

4. "*Issuance of the agreement who establish the criteria to the assignation and installation of a transmitting device in the minor boats of less to 300 units of GT and over seven meters length*". With this disposition, all the vessels with the specified characteristics, are required to have a transmitting device which will be delivered to all ship-owners or legitimate owners of the vessels without the generation of significant cost to the particulars. And the agreement has the objective to establishment of conditions by which will be assigned the devices and the installations of them which are subject to this regulation, the transmitting device that allow the identification and location of vessel to navigate, such a way with this location, in case of accident, could allow the prompt response of the competent authorities to search and rescue, mitigating the risk of human casualties.

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Alternatives Analysis

Don't issue any regulation

			Total losses	Losses in which would have been relevant the location of the vessel to allow the search and rescue of people
YEAR 1	month 1	Proyection of human causlties in maritime accidents during 12 months without regulation	12	9
	month 2		24	18
	month 3		36	27
	month 4		48	36
	month 5		60	45
	month 6		72	54
	month 7		84	63
	month 8		96	72
	month 9		108	81
	month 10		120	90
	month 11		132	99
	month 12		144	108

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Not issuing regulation

The statistical assessment of life (SAL) is determined by the following estimated equation by the International Road Assessment (iRAP):

Ln (SAL)=2.519+1.125 * LN (GNP per capita) + 0.496*(Method)

GNP per capita Mexico (dollars)	Log (GNP per capita)	Log (SAL)	SAL
$9,133.00	**9.12**	**12.779**	**$354,550.37**

Monetized estimation of cost without regulation
It estimates that, the non-issuance of regulation, could provoke the lost of **144 human casualties** in 12 projected months, in accordance with to the trend projected the last 36 months or 3 years. The unitary statistical assessment of life would be of $354,550.37 dollars (US), so, with the exchange rate published in the official Mexican diary at January 24 2013 ($12.66), this amount corresponds to $4,488,607.68 (four million four hundred and eighty eight pesos).
So, considering the statistical assessment of life for each human casualty, the figure ascends to $**4,488,607.68** pesos, and the referred forecast gives a figure of **144 human casualties** per year, it generates a cost without regulation which ascend to: **$646,359,505.92**

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Regulatory Impact Assessment of issuing Regulation

A. **Analysis of administrative burdens (red tape).** It identifies that the regulatory proposal creates the following information obligations that generates costs for the particulars:

- **Request for the assignation and installation of transmitting device**
- **Report of failure or malfunction of transmitting**

B. **Analysis of regulatory actions.** Provisions, obligations and/or accidents different to the formalities of the regulatory proposal, same as those listed below:

1. **Obligation** that the transmitting device must be a permanent component of the vessel
2. **Obligation** to install the transmitting device in the interior of the vessel in a place that do not allow the passage of water, an easy visibility and Access, but protected.
3. **Obligation** to permit the installation and verification of the transmitting device assigned by the personnel of SCT.
4. **Sanction:** The denial of the vessel dispatch by not allowing the installation of the device.
5. **Obligation** to ask for the installation of the transmitting device in a maximum term of 3 months from the date of its entry into force, for all of the matriculated vessels.

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

B. Analysis of regulatory actions. Provisions, obligations and/or accidents different to the formalities of the regulatory proposal, same as those listed below:

6. **Obligation** to keep activated the Transmitting device every moment.

7. **Sanction:** the denial of the dispatch of the vessel when , derived form a verification visit, it identifies that the transmitting device is not found on and functioning.

8. **Obligation** to maintain in good condition the Transmitting device.

9. **Obligation** to replace the transmitting device in case of failure or lost of the Transmitting device that would be attributed to the ownership of the

10. **Sanction:** The denial of the dispatch of the navy in case of the proprietary of the vessel do not make the replacement of the Transmitting device.

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Cost benefit analysis

Concept
Costos without regulation (without project)
(-) Costs with regulation (with project)
Gross benefits
(+) Savings from the purchase of transmitting devices
Total gross benefits
(-) Regulatory costs (Administrative burdens + cost of carry + opportunity cost)
Net benefits of the regulation

Monetized estimation of cost with regulation

With the emission of the regulation, It estimates that could be lost **36 human casualties** in the 12 projected months, in accordance with to the trend projected the last 36 months or 3 years.

The unitary VALUE FOR STATISTICAL LIFE would be of $354,550.37 dollars (US), so, with the exchange rate published in the official Mexican diary at January 24 2013 ($12.66), this amount corresponds to $4,488,607.68 (four million four hundred and eighty eight pesos).

So, considering the VALUE FOR STATISTICAL LIFE for each human casualty, the referred forecast with regulation gives a figure of 36 human casualties per year, it generates a cost which ascend to:

$161,589,879.48

(one hundred sixty one million five hundred eighty thousand eight hundred and seventy nine pesos).

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Purchase of the transmitting device (free to the particulars), so considering that considering the unitary value, gives a rough estimation of $6,000.00 (SIX THOUSAND PESOS), the placing of this 51,506 devices imply that not will be necesary the purchase by them , so the owners of vessels will benefit generally, with a total cost of **$306,036,000.00**

51,506 X $6,000 = $309,036,000.00

The Cost of the transmitting devices is not borne by the ship owner or proprietary, neither of the Mexican maritime Authority

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Example: Location devices in vessels

C.1 Costs without regulation

- The no emission of the regulation, in a calendar year in base of the tendency registered, could provoke 144 human casualties in the vessel subject to the regulatory proposal.
- The SCT has estimated a unitary VALUE FOR STATISTICAL LIFE (VSL) of $ 354,550.37 dollars, equivalent to $ 4’488,607.68 pesos.
- So, it obtains the result that the costs without regulation ascend to **$ 646.36 million of pesos.**

C.2 Costs with regulation

- The SCT has estimated that the placingof the Transmitting device could reduce up to 78% the human casualties, ocurring only in a calendar year 36 human casualties.
- Considering an VSL equivalent to $ 4’488,607.68 pesos, it was found that the costs of the application of regulation would be:**$ 161.59 million of pesos.**

C.3 Of the gross benefits of regulation

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

Example: Location devices in vessels

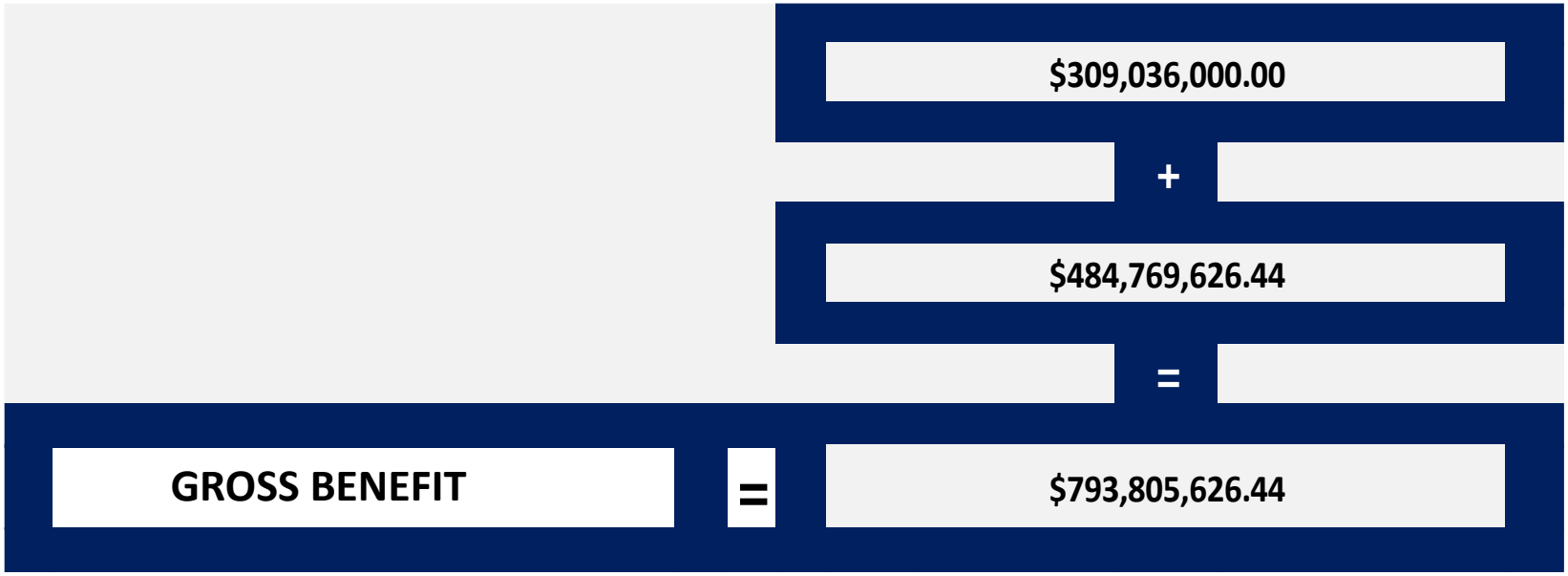
Forecast	Human casualties	Avoidable human casualties	Cost of human casualties (mexican currency)
Forecast of the cost without regulation	144	0	$646,359,505.92
Forecast of the cost with regulation	36	108	$161,589,879.48

Difference	$484,769,626.44

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM:
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

C.3 Of the gross benefits of regulation

- The SCT has concluded that the gross benefits of appliying the regulation ascend to **$484.77 million of pesos.**
- Also, the SCT estimated that 51,506 vessels will be benefit with the Transmitting device with a unitary value of $6,000 pesos, this amount not be borne by the owner of the vessel or propietary, neither the the Mexican maritim authority. This benefit will ascend to **$309.04 million of pesos. (Donation)**
- So, the gross total benefits of the regulation will be **$793.81 million of pesos**.



SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM: **http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313**

C.4 Of the net benefits of regulation

Regulatory costs (compliance costs)

million of pesos

The SCT estimated that the regulatory proposal creates tree types of regulatory costs:

1.	Administrative burdens derived from the procedure/formalitie of request to assigantion and installation of the Transmitting device;	**$6.93**
2.	Costs of carry of the vessel to the correspondent harbour authority, for the installation for the Transmitting device; and	**$96.58**
3.	Opportunity cost of the vessels to stop doing economic activities during the time of installation of the Transmitting device.	**$44.04**
		147.54

SOURCE: Electronic expedient of the Regulatory Impact Statement (RIS) files with COFEMER_SCT_DGMM: **http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313**

- On the above, the SCT provided the following information:

  ✓Was estimated that the request formalitie could generate costs to the particulars which amount $134.50 pesos, and that figure multiplied by 51,506 vessels, results in a final number of **agregate administrative burden of $6.93 million of pesos**.

  ✓Regarding to the costs of carry, was estimated that the particulars could generate an approximate figure of $1,875.10 pesos, which multiplied by the 51,506 vessels that are subjet to the regulation, **generates a final figure of $96.58 million of pesos**.

  ✓The SCT calculated an average cost of opportunity of $855 pesos per vessel, which multiplied by the 51,506 vessels subject to the regulation, it generates an agregate cost of opportunity of **$44.04 million of pesos**.

- In this sense, the sum of the regulatory costs was estimated at **147.54** million of pesos.

From the difference of the gross benefits and the regulatory costs, was estimated that the implementation of the regulation will generate net benefits by 646.26 million of pesos.

Ejemplo. Dispositivos de localización en embarcaciones

The aboive information can be summarized as shown below:

Concepto	Monto (mdp)
Costs withour regulation (without project)	$ 646.36
Costs with regulation (with the project)	$ 161.59
Gross benefits	$ 484.77
(+) Savings from the purchase of transmitting devices	$ 309.04
Total gross benefits	$ 793.81
(-) Regulatory costs (administrative burdens + cost of carry + opportunity cost)	$ 147.54
Net benefits of the regulation	$ 646.26

Electronic expedient of the Regulatory Impact Statement (RIS) files with :
http://207.248.177.30/regulaciones/scd_expediente_3.asp?ID=10/0639/050313

METHODS

- COST BENEFIT ANALYSIS
- VALUE FOR STATISTICAL LIFE
- ANALYSIS OF ADMINISTRATIVE BURDENS

Empirical Evidence

Annex II of RIA

DRAFT PROJECT of the Agreement establishing the criteria for the allocation and installation of a transmitting device on vessels less than three hundred units of gross tonnage and over seven meters in lenght

Mexican vessels under three hundred units of gross tonnage and over seven meters in lenght

State	Passengers	Charge	Fishing	Recreation and sports	Specials	Naval craft	Mixed	Dredging	Extraordinary specialization	TOTAL/STATE
CAMPECHE	45	90	4,356	69	187	0	24	1	13	**4,785**
QUINTANA ROO	284	11	1,077	2,821	65	5	37	2	0	**4,302**
TABASCO	102	153	1,457	70	52	6	7	28	21	**1,896**
TAMAULIPAS	87	134	3,296	194	68	2	5	6	1	**3,793**
VERACRUZ	607	183	2,881	495	240	3	22	12	3	**4,446**
YUCATAN	15	10	6,032	683	39	2	0	1	0	**6,782**
GULF OF MEXICO	**1,140**	**581**	**19,099**	**4,332**	**651**	**18**	**95**	**50**	**38**	**26,004**
BAJA CALIFORNIA	251	92	1,973	221	57	0	4	2	2	**2,602**
BAJA CALIFORNIA SUR	368	23	1,819	1,234	35	2	4	1	3	**3,489**
CHIAPAS	469	92	1,215	65	6	0	6	0	2	**1,855**
COLIMA	96	21	526	111	30	0	0	2	9	**795**
GUERRERO	107	3	912	785	7	0	0	0	0	**1,814**
JALISCO	193	4	654	799	10	0	0	0	0	**1,660**
MICHOACAN	154	58	514	87	13	0	0	0	0	**826**
NAYARIT	191	5	1,019	242	17	2	1	0	3	**1,480**
OAXACA	166	178	1,269	334	11	1	3	0	0	**1,962**
SINALOA	138	23	4,343	434	39	7	4	5	0	**4,993**
SONORA	145	1	3,691	152	29	3	3	1	1	**4,026**
PACIFIC	**2,278**	**500**	**17,935**	**4,464**	**254**	**15**	**25**	**11**	**20**	**25,502**

介紹風險管制與相關方法

Risk based regulation:
OECD Best Practice Principles

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Mexico City, April, 2015

No such thing as “zero risk”

- “Risk” = combination of probability and impact: p(*I*)
- We face many risks, e.g.:
  - Accidents
  - Air pollution
  - Chemicals
  - Climate change
  - Disease
  - Disasters
  - Food
  - Finance
  - Tsunamis
  - Terrorism

Declining risks, but rising concern

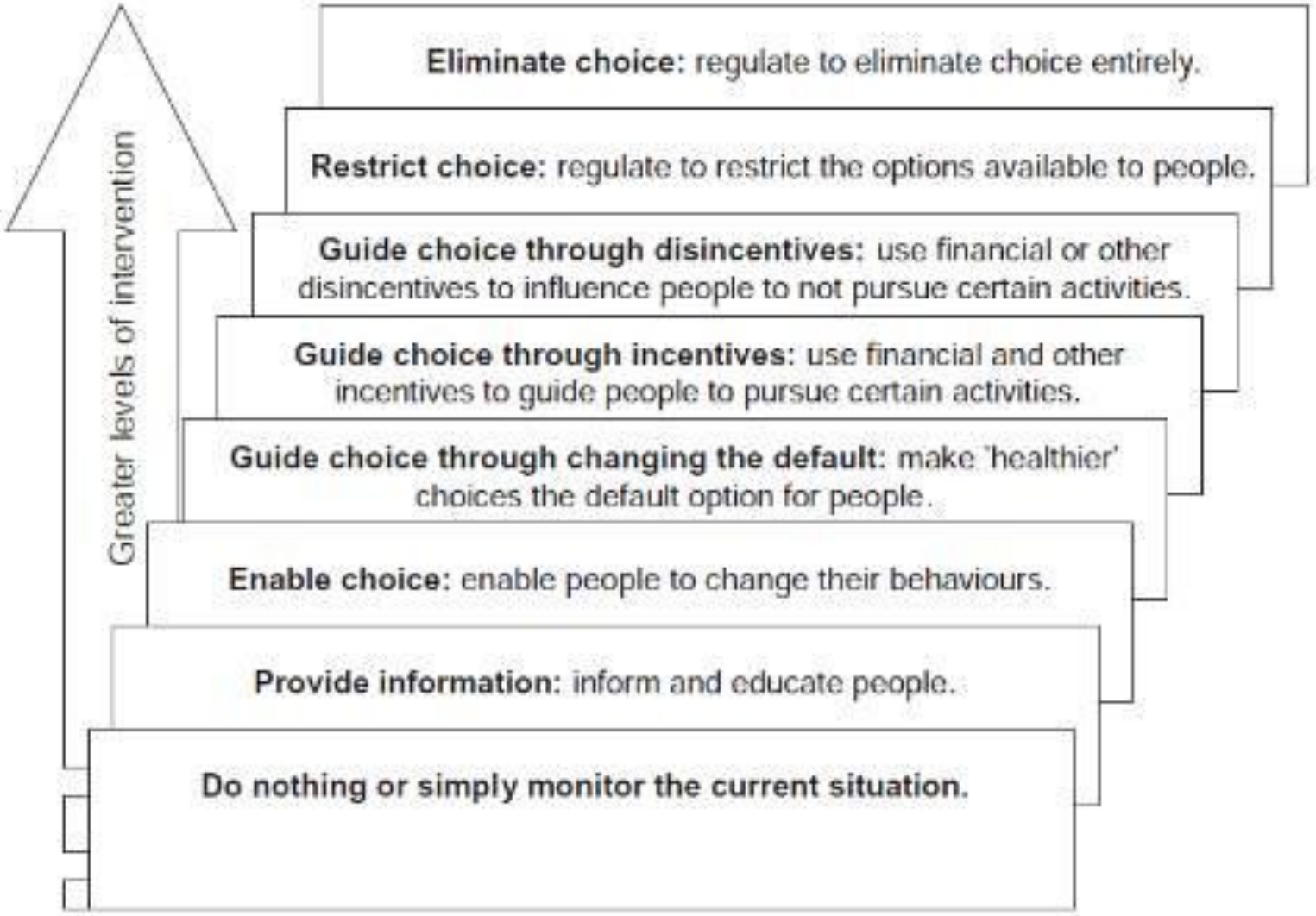
- The world appears to be getting generally safer over centuries
  - Rising human longevity (life expectancy)
- Why?
  - Increasing wealth = demand for safety (e.g. EKC)
  - Advancing science = better detection of risk
  - Better regulation = reduce risks

- But: public concern about risks continues to grow
  - Especially longer-term, lower-probability risks
- Why?
  - Increasing wealth
  - Advancing science
  - Greater awareness – news, internet, “availability”
  - Greater safety and longevity itself, so rare risks become more salient
  - Emerging risks

Why governments care about risk

- Public well-being: goal to increase net benefits to society
  - Market failures: externalities, public goods ("tragedy of the commons")
  - Government failures: costs, new risks created, hasty response to crisis
  - Responsibility to think through decisions
  - Thinking ahead -- crucial for prosperity, survival
- Political accountability: governments held responsible for:
  - Costs of regulation to prevent risks
    - Burden on businesses, consumers, innovation, competitiveness
  - Costs of failure to prevent risks
    - Terrorist attacks, e.g. Madrid train bombings
    - Natural disasters, e.g. Haiti earthquake, Hurricane Katrina
    - Systemic failures, e.g. 2008 Financial crisis
    - Diseases, e.g. H1N1, HIV/AIDS, BSE (Mad cow)
- Legal accountability: civil or criminal liability

Designing regulation to manage risk



Challenges for Risk Policy

Triage: selecting risks to address – setting priorities

Risk assessment

- Science: biology, chemistry, climate, engineering
- Social science: economics, psychology, decision science
- Uncertainty
- Errors – false negatives, false positives

Joint effects - multiple simultaneous risks may not be simply the sum of the individual risks

- Pollution
- Disease
- Terrorism
- Financial crisis

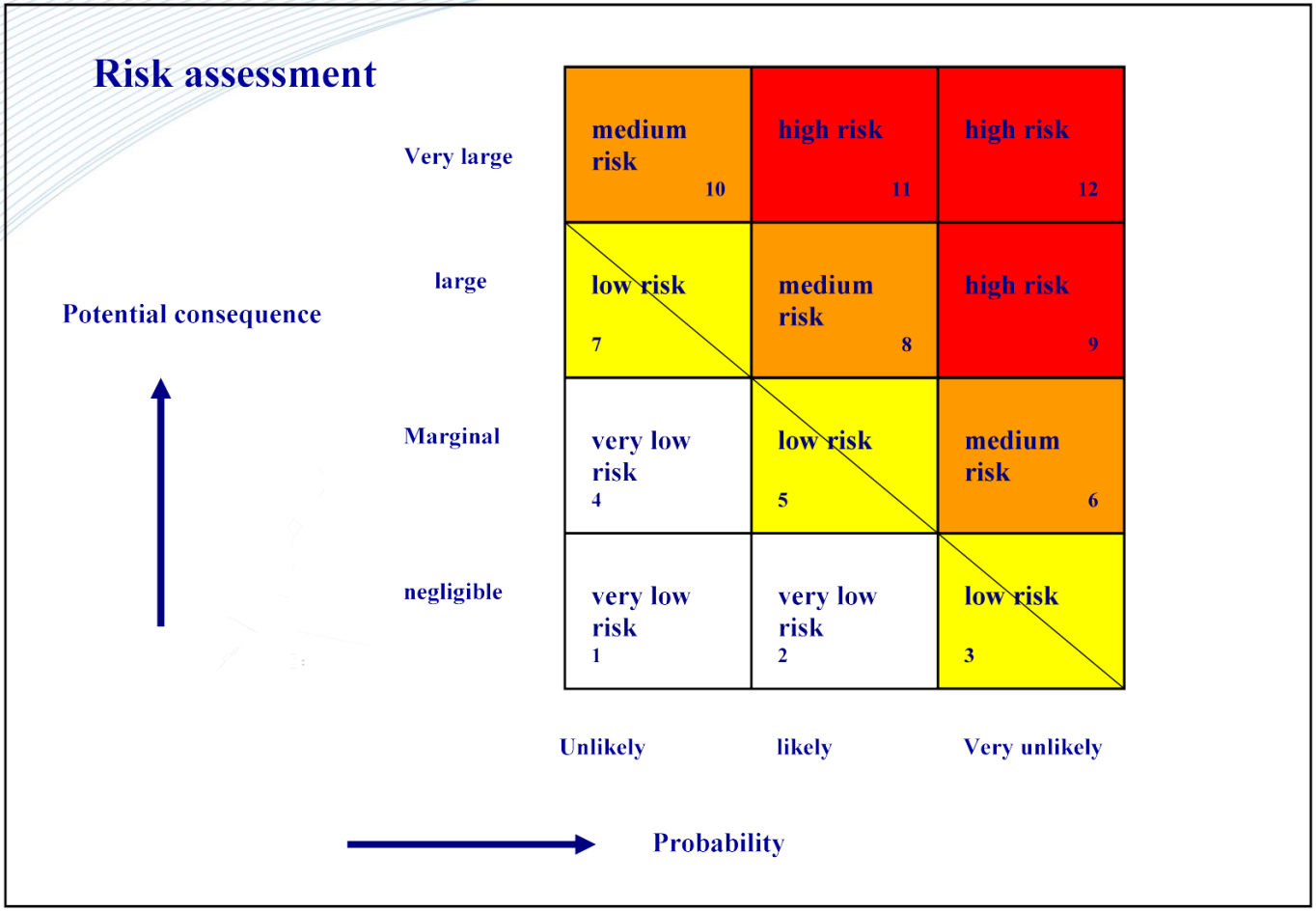
Risk-risk tradeoffs: policies also face interconnectedness

Challenges for Risk Policy in an Interconnected World

- Spread: risks move rapidly across networks and borders
  - Pollution
  - Disease
  - Terrorism
  - Financial crisis
- Risk-risk tradeoffs: policies also face interconnectedness
  - Confront the tradeoff
  - Weigh the tradeoff
  - See “risk-superior” policy options that reduce multiple risks in concert
- Learning: borrowing and testing ideas
  - Over time: *ex post* impact assessment
  - Across countries: “hybridization”
  - Toward a global policy laboratory

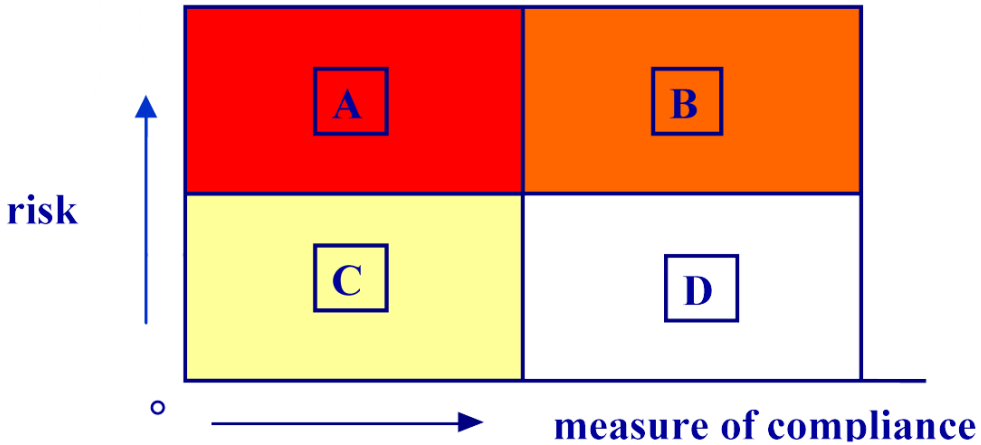
An example of risk-based matrix

Netherlands - State Supervision of Mines (1)



Netherlands - State Supervision of Mines (2)

Setting priorities : risk-forced enforcement



A	High risk	–	bad compliance - high priority, high pressure inspection
B	High risk	–	good compliance - priority, involve branch association
C	Small risk	–	bad compliance - incidental supervision, focus on contraveners
D	Smal risk	–	good compliance - no supervision, except in case of complaints

Risk-focus in practice – some figures

Risk focus can allow to inspect far less in quantity – but not necessarily less in quality…

- Mexico 2000 onwards: System for Rapid Business Opening (SARE), ex-post inspections for new business for low risk activities – no noticeable negative impact on accidents
- Georgia 2003-2005 went from 75% of SMEs inspected each year, to 30% - no noticeable negative impact from the decrease
- Lithuania 2011-2012: latest data suggests reduction by around 40% of inspections burden – again no noticeable negative impact
- Some countries inspect much more than others – generally not with better outcomes (e.g. 75% of SMEs inspected each year in Ukraine, vs. around 35% in Italy, maybe 20-25% in UK etc.)
- Gradual decrease of occupational safety inspections in UK in the 2000s (-50% at least overall) – no increase in accidents, fatalities etc. (on the contrary, in fact) – similar trend with England/Wales Environment Agency (reduced low-risk controls by 60-70%, improved outcomes)
- Evidence suggests that having “no inspections at all” or “too few” (less than 1% or so) may perform less well for safety than having “some, well targeted and professional inspections” – but there is no evidence that inspecting *many* is useful

Risk based regulation:
OECD Best Practice Principles

¡THANK YOU!

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Mexico City, April, 2015

社會管制法規的統計方法理論