This project is co-financed by the
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Technical Assistance for Capacity Building on European Pollutant Release and Transfer Register (E-PRTR) in Turkey

What is Regulatory Impact Assessment?

RIA in the Context of Environment Protection

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Workshop: 5-9 March, 2018

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European Union and the Republic of Turkey

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TR2013/0327.06-01-02/001

RIAs prepared in / on behalf of MoEU about expected impacts of transposing EU Regulations

- Seveso II Directive
- Waste Electrical & Electronic Equipment (WEEE) Directive
- IPPC / IED Directive
- Persistent Organic Pollutants Regulation
- Export and Import of Hazardous Chemicals Regulation
- Environmental Liability Directive

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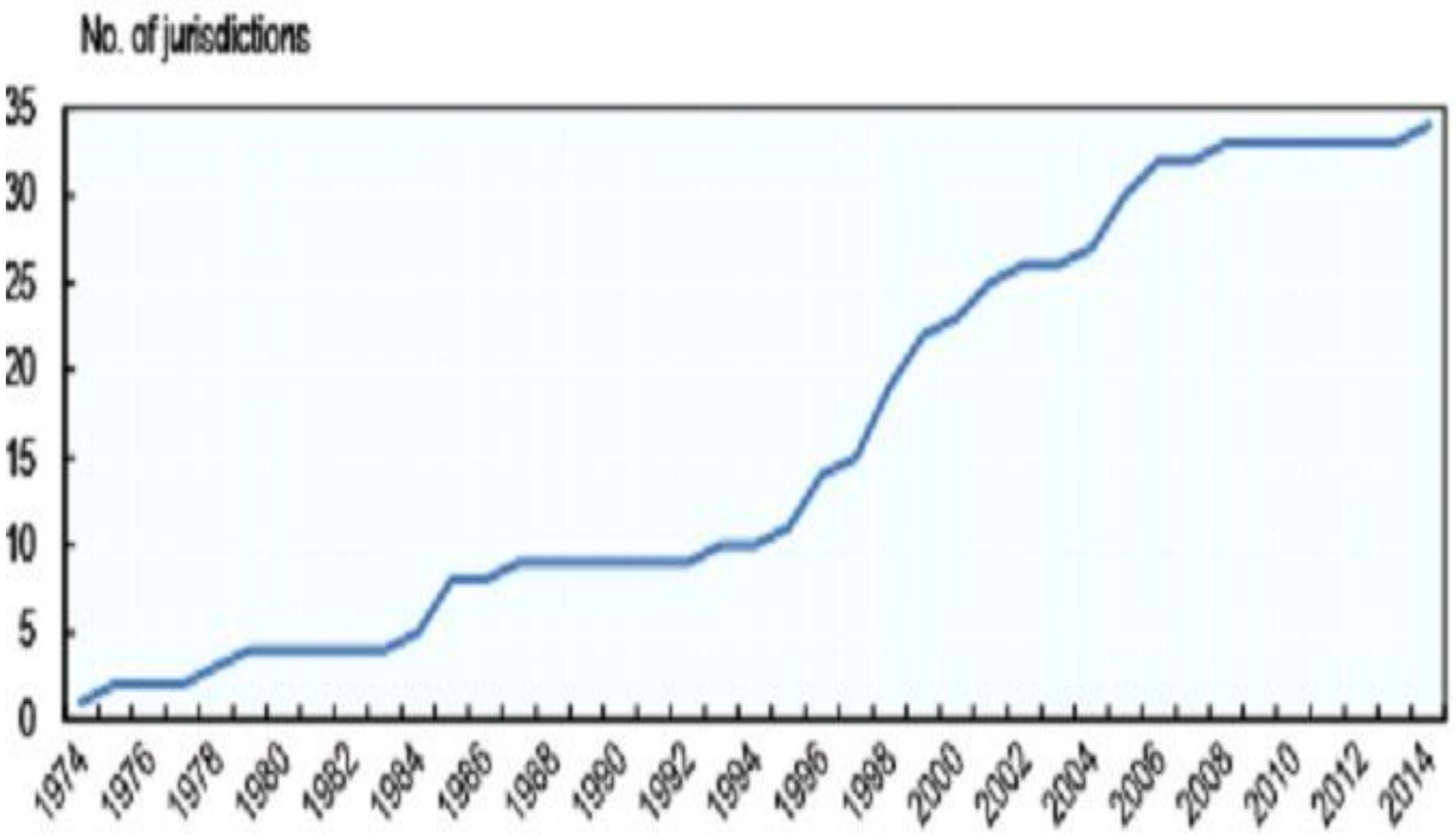
RIA as a policy tool in the EU and in other international organizations

Number of countries having adopted RIA as a tool of regulatory policy



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Contents

- ✓ Basic concepts of Regulatory Impact Assessment.
- ✓ Institutionalising RIA systems in public administrations
- ✓ Aims and research questions of RIA studies
- ✓ Data collection for RIA purposes
- ✓ Analytical methods of RIA studies

OECD: Definition

What is Regulatory Impact Assessment (RIA)?

RIA is a fact based analysis which is used as a systematic decision tool in public administrations in order to examine and measure the likely;

- ✓ Benefits,
- ✓ Costs,
- ✓ Risks,
- ✓ Competition effects,
- ✓ Distributional effects

of new or existing regulation.

OECD:
What is Regulatory Quality?

Aims of Better Regulation Policy

- ✓ Transparent rule-making process, consultation and communication with the public
- ✓ Both compliance and enforcement should be feasible
- ✓ Benefits of regulations should justify costs
- ✓ Regulations should improve business environment, should enhance “ease of doing business” (measured by World Bank)
- ✓ Decrease of administrative burdens
- ✓ Support SMEs

RIA in the framework of regulatory management

Uses of RIA

- ✓ supports the process of policy making by empirical data
- ✓ considers potential economic impacts of regulatory proposals
- ✓ assists governments to make their policies more efficient
- ✓ improves regulatory quality

Application areas of RIA:

- ✓ Supporting ongoing regulatory policy
- ✓ Facilitating deregulation campaigns, (“Regulatory Guillotine”)
- ✓ Supporting legal harmonisation with the European Union.

The contents of a full/final RIA: First half

Page 36 of Better Policy Making: A Guide to Regulatory Impact Assessment. UK Government, London 2003.

- ✓ Identify the policy objectives;
- ✓ Identify and quantify the risks that the proposal is addressing;
- ✓ Describe the remaining options, explain how each option would fit with existing requirements
- ✓ Describe the key risks associated with the options, and how these can be mitigated;
- ✓ Identify the business sectors affected;
- ✓ Set out any issues of equity and fairness;
- ✓ Compare the benefits and costs for each option.
- ✓ Also consider 'other' costs and benefits – ie not just those to firms, charities and the voluntary sector but also to consumers/individuals, the public sector and to the economy at large, taking in the economic, social and environmental effects.

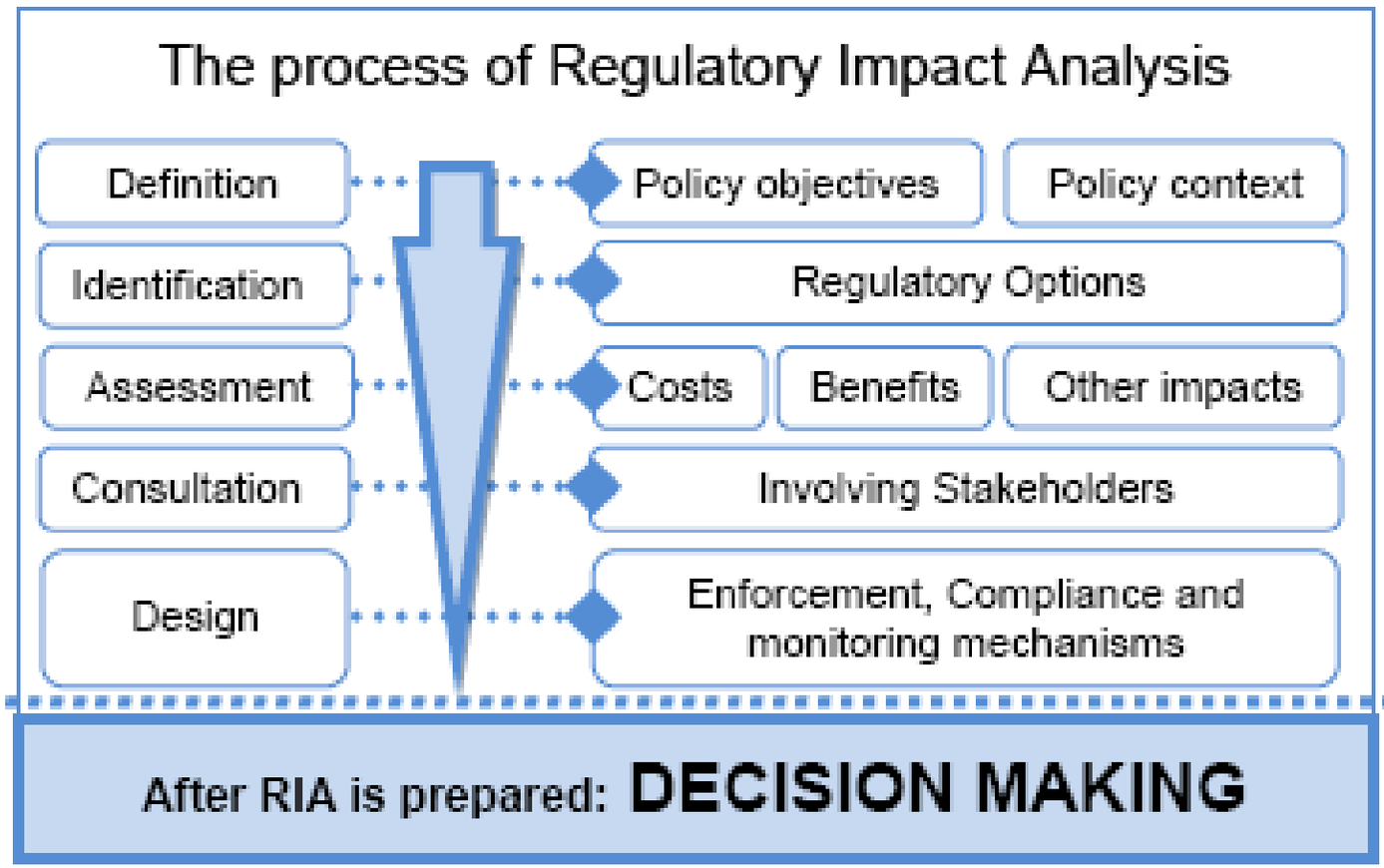
The contents of a full/final RIA: Second half

Page 36 of Better Policy Making: A Guide to Regulatory Impact Assessment. UK Government, London 2003.

- ✓ Consider any distributional impacts, clearly identifying both the positive and negative aspects of any transfers of income or redistribution of opportunities;
- ✓ Summarise who or what sectors bear the costs and benefits of each option;
- ✓ Address any unintended consequences and indirect costs;
- ✓ Include a Competition Assessment;
- ✓ Include details of the Small Firms' Impact Test;
- ✓ Set out the enforcement arrangements for securing compliance with each of the proposed options,
- ✓ Say how the policy will be monitored and evaluated/reviewed, eg set an appropriate point at which to look back at what the actual costs and benefits were;
- ✓ Provide a summary of the results of the consultation exercise.

Preparing an individual RIA (Source: OECD)

Chart 1. Elements integrating RIA



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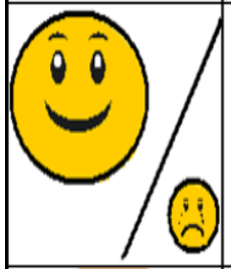
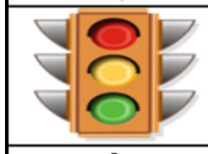
Template used for RIA studies on EU legal harmonization of environmental regulations

	**Step 1: The problem to be addressed** ▪Policy objectives ▪Identification of various regulatory and non-regulatory alternative options
	**Step 2: Gap analysis** ▪Regulatory arrangement: EU vs. Turkey (Directives, regulations, rulebooks, bylaws) ▪Institutional arrangement: EU vs. Turkey (E.g. environmental and health inspectorates)
	**Step 3: Identification of the stakeholders** ▪Who is affected? Who will be under the impact of the regulative changes? ▪Overview of markets, business sectors, non-profit stakeholders, consumers, populatin groups.
	**Step 4: The Impacts** ▪Comparing costs and benefits (for public and private stakeholders, compliance costs: one-off costs and yearly recurring costs) ▪Risk assessment (environment, consumer or worker safety, health, political risks) ▪Competition and distributional issues (monopoly, impacts on innovative firms, changing market structure, issues of equity and fairness, Small Firms' Impact Test, Winners and losers)
	**Step 5: Implementation - Conclusions - Recommendations** •Institution development •Enforcement and monitoring
Annexes: Information sources of RIA •Consultation - Case studies – Statistics	

Main concepts of RIA

- ✓ Policy objectives and alternatives
- ✓ Regulatory scenarios / options, cause and effect paradigm, counterfactual scenario
- ✓ Regulatory and non-regulatory responses to existing challenges /problems
- ✓ Regulatory and institutional gaps, gap analysis
- ✓ Stakeholders, stakeholder consultation, winners and losers
- ✓ Compliance and enforcement
- ✓ Monitoring and evaluation
- ✓ A basic typology of regulatory impacts:
  - costs,
  - benefits
  - risks,
  - competition issues
  - distributional issues

Policy-area-specific types of impacts

Assessing economic, social and environmental impacts.

- ✓ Impacts on international trade and cross-border investments.
- ✓ Impacts on firms in terms of investment, operating costs, products and services.
- ✓ Impacts on technological development and innovation.
- ✓ Impacts on the number and the quality of jobs.
- ✓ Impacts on SME's.
- ✓ Impacts on public authorities.
- ✓ Macroeconomic impacts.
- ✓ Impacts on consumers.

Comparing impacts under various regulatory options or "scenarios"

How does RIA identify the impacts of regulations?

By comparing the implications of various options, the so-called "**scenarios**".

- ✓ Baseline option: the scenario of "doing nothing" i.e. abstaining from the regulation
- ✓ Other possible options:
  1. introducing the regulation (a) partially or (b) fully
  2. introducing the regulation (a) immediately or (b) later
  3. Substituting the regulation by non-regulatory tools, e.g. (a) through self-regulation of companies through chambers of commerce or (b) through subsidies

RIA identifies impacts of the regulation by comparing the impacts of all regulatory options with the impacts of the baseline scenario ("Doing nothing").

From initial to full RIA

Decision makers need quick information at the early stage of the policy process.

In various governments and international organizations a need for early version of RIA has emerged.

Methodologies have been elaborated for initial and preliminary RIA

- ✓ in the UK Government
- ✓ in the EU Commission.

Features of simplified RIA (if compared to Final / Full / Deep RIA)

- ✓ Reaches lower levels of Government
- ✓ RIA report is shorter than full RIA
- ✓ Relies only on readily available information, contains less statistical and less exact information,
- ✓ Impacts are not as deeply elaborated as in full RIA
- ✓ Justification of findings may be less convincing than in full RIA
- ✓ Contains more RIA management information (timing, dissemination, co-operation needs, consultation efforts, further information to be collected, etc.)

But timely: simplified RIA arrives in good time to all concerned parties.

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Data collection for RIA purposes

Documents as data sources of RIA studies

- ✓ Laws, regulations
- ✓ Description of activity of Turkey and of EU and other international institutions. (E.g. standardisation offices, Notified Bodies, etc.)
- ✓ Official Statistics (production, trade, consumption, accidents, etc.)
- ✓ RIAs made on the same directive for other countries (for EU MSs and for the whole EU)
- ✓ Relevant project and programme documents.
- ✓ Description of activity of companies, sectoral organisations, chambers and associations.

Official statistics

How to obtain data of official statistics
(production, trade, consumption, accidents, etc.).

- ✓ Relevance to research question
- ✓ Level of aggregation
- ✓ Timeliness

Fieldwork as data source of RIA studies

- ✓ **Interviews** made with institutional stakeholders on the **enforcement** aspects of the regulation (e.g. with Government agencies responsible for regulation and market surveillance, moreover with various bodies responsible for standardisation, accreditation and conformity assessment)

- ✓ **Interviews** made with institutional stakeholders on the **compliance** aspects of the regulation (e.g. with companies producing, exporting and importing the particular products that are covered by New Approach technical regulations)

- ✓ **Questionnaire based surveys** collecting responses from affected companies on their adaptation to change of regulatory environment

- ✓ **Consultations** (Round Tables) made with companies and other stakeholders affected by the planned regulation.

Questionnaire based business surveys

Collect responses from many (several hundreds) companies

- ✓ Sampling issues (sample size and sampling strategy)
- ✓ Access to respondents (on-line, telephone, personal)
- ✓ Questionnaire design

Consultation of interested parties during the RIA

(Source: EU Impact Assessment Guidelines)

The EU Commission has a set of minimum standards on public consultation

A. Provide consultation documents that are clear, concise and include all necessary information
B. Consult all relevant target groups
C. Ensure sufficient publicity and choose tools adapted to the target group(s)
D. Leave sufficient time for participation
E. Provide – collective or individual – acknowledgement of responses and feedback

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Analytical methods of RIA studies

We have the raw data – and what next?
We must

- ✓ **compare,**
- ✓ **summarise,**
- ✓ **calculate,**
- ✓ **sort,**
- ✓ **generalise**
- ✓ **and forecast**

in order to arrive to conclusions.

Selected methods of inference

1. Cost-benefit analysis and Cost-effectiveness analysis
2. Methods of competition Assessment, in particular: assessment of regulatory impacts on Small Businesses
3. Method of Risk Assessment
4. Cost assessment by analogy, based on a RIA made in another country for the same European regulation.
5. Assessing administrative burdens: The Standard Cost Model
6. Econometric methods of impact assessment
7. Statistical analysis of responses to business survey questionnaire

Method 1: Cost-Benefit and Cost-Effectiveness Analysis

Cost-benefit analysis:

- Applicable if both costs and benefits are quantifyable AND monetisable for the foreseeable future.
- The method compares the total expected costs with the total expected benefits of one or more actions in order to choose the best or most profitable option.

Method 1: Cost-Benefit and Cost-Effectiveness Analysis

Cost effectiveness analysis

- ✓ Applicable if only costs are quantifyable for the foreseeable future, but benefits cannot be calculated. Easy quantifiability of costs, while most benefits cannot be monetised. (Intangible benefits).
- ✓ Quantitative assessment of costs and ranking of benefits across scenarios.
- ✓ Research question: can the same benefits be reached cheaper?
- ✓ Alternative research question: can more benefits be reached for the same costs?

- Question: What is more efficient:
- - to spend money on reducing air pollution in order to improve health
- - or to finance improvements in health care?

Assessing non-market impacts in particular on environment and health

Source: European Commission: IMPACT ASSESSMENT GUIDELINE. PART III: ANNEXES. 15 January 2009

Impacts of policy measures, legislations may include certain non-market impacts, such as

- - on health
- - on safety (at work, in traffic, at home, etc.)
- - on consumer protection
- - or on environment.

Qualitative or quantitative analysis?

Widespread approach

- Use quantitative approaches only where it is feasible and allows for a more transparent comparison of costs and benefits.
- Otherwise use qualitative methods.

Main qualitative method:

- identification
- and classification of costs and benefits
- followed by and attribution of costs and benefits to the investigated measure.

Placing quantitative and monetary figures on these types of impacts can be difficult.

In most cases the magnitude of the costs can be determined, but an exact estimation of the costs is rarely possible.

It is much easier to quantify the costs, than the benefits.

Sometimes

- it is not feasible to measure all the costs and benefits in monetary terms,
- while it is still possible to quantify the impacts of different options, e.g. in terms of "number of lives saved"

In such cases nonmonetary approaches can be used to allow policy makers to make an informed choice among different alternatives.

Value of impacts if impact can be linked to market prices

- Example: air pollution damage to crops might reduce crop yields.
- Method: Based on market research of prices and volumes of crops.

Value of impacts if impact cannot be linked to market prices.

To be applied in cases, such as: Determination of values for environmental outcomes, of e.g. establishment of Nature Reserve Areas, the use of public parks or historic buildings.

Methods: "Willingness to pay„, "Willingness to accept„, "Stated preference" (e.g. choice experiments), "Revealed preferences" (e.g. hedonistic pricing). These are based on evidence from real market transactions.

Examples: Correlation between

- noise disturbance and house prices,
- E-PRTR data accessibility and house prices,
- accident risks and insurance prices.

Methods of the Non-monetary approach

(1) Quality Adjusted Life Years (QALY).

- Survey based.
- Relates objective improvements in health / life quality with the duration of that improvement.
- A year of life in perfect health is counted as 1.0 whereas years spent in less than perfect health are given values of less than 1.0.

(2) Disability Adjusted Life Years (DALY)

- Measures the number of quality adjusted years lost in comparison to the benchmark scenario.

(3) Healthy Life Years (HLY)

- Measures the number of quality adjusted remaining life years per person.

The Monetary approach

The aim of monetising health impacts is not to place a monetary figure on someone's life.

Rather, the aim is to compare
- the benefits of the reduction in risk
- with the associated costs.

In some EU sponsored studies the monetary value of a QUALY = 50.000 – 80.000 Euros for one QALY.

Methods of the Monetary Approach

(1) 'Accounting style' approaches

- (1.1) Cost of Illness (COI). Summarises medical expenses related to the incidence of an illness. Does not include other indirect costs to society such as loss of hours worked, or how people value their own health.
- (1.2) Human Capital Method. Measures the loss of future earnings in case of disability or premature death. Problem: moral controversies.

(2) Preference Based methods use the following indicators:

- (2.1) Value of Statistical Life (VOSL): It puts a monetary value on the willingness to accept slightly higher or lower levels of risk.
- (2.2) Value of Statistical Life Year (VOLY): Measures the WTP for an increase of one additional year of life expectancy.

Indicators used:

"Willingness To Pay (WTP) for improvement of health„ or

"Willingness To Accept (WTA) compensation„ for deterioration of health

Valuing the improvements in Air Quality (2004)

Context: EU's Air Thematic Strategy.

Aims: Research identified

- environmental impacts, e.g. release of carbon dioxide (or other greenhouse gases).
- greenhouse gas emissions valued by using the social cost of carbon (SCC).
- monetarised health impacts of improvements in air quality.

Method: Health benefit of different options was estimated in both quantified form (mortality, morbidity) and monetary form.

Information sources:

- Survey based.
- Used tables of morbidity statistics, medical costs, costs of losss of productivity, VSL and VOLY numbers, .

Life cycle assessment approach

A class of tools for assessing environmental impacts.

Evaluates the effects that a product or a basic material has on the environment over the entire period of its life.

Commonly referred to as a ‘cradle-to-grave’ analysis.

Used for

- basic materials (e.g. aluminium, plastics)
- and products (e.g. electrical goods)

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Other Analytical Methods

Method 2: Competition Assessment

Research questions:

- ✓ Does / did the regulation enhance / bias the competition among companies?
- ✓ What were / will be the distribution effects of the regulation?
- ✓ What were / will be the impacts of the regulation on Small Businesses?
- ✓ What were / will be the impacts of the regulation on innovative businesses?

Method 3: Risk Assessment

A risk assessment will be necessary when:

1. There is a non-zero probability that a certain adverse event or development will occur AND
2. It is not predictable who will be (worst) affected AND
3. The negative consequences for certain parties (individuals, businesses, regions, sectors) will be very serious (fatalities, invalidity) and irreversible.

How to carry out risk assessment in a RIA?

Three steps are necessary for risk analysis:

1. The first step is to identify relevant risks.
2. The next step is to determine the probability that a negative consequence can occur and the extent of the harm that would materialise. You should quantify these two parameters as far as possible.
3. Finally, you need to describe alternative ways to reduce the identified risks in the options section of the RIA reports.

Method 4: Cost assessment by analogy

Some results of cost assessment are transferable to other countries by applying the method of analogy, based on a RIA made in an other country for the same European regulation.

Example:

Costs of adaptation to integrated permitting in Spain used to forecast expected costs in Turkey.

Method 5: Assessing administrative costs

The Standard Cost Model

Administrative costs are defined as the costs incurred by enterprises, the voluntary sector, public authorities and citizens in meeting legal obligations to provide information on their action or production, either to public authorities or to private parties.

- ✓ Information is to be construed in a broad sense, i.e. including
- ✓ costs of labeling,
- ✓ reporting,
- ✓ monitoring
- ✓ registration
- ✓ asking for permits/licenses

Method 6: Econometric methods of impact assessment

- ✓ Econometric model building is feasible only if sectoral / country-level time series data is available.
- ✓ Models used predominantly for revealing trade and development effects of regulations.
- ✓ Used predominantly in case of trade policy and environmental policy measures.
- ✓ Sensitivity analysis necessary for validating the model.

Method 7: Statistical analysis of responses to business survey questionnaire

Sampling: target group and control group of affected companies.

Impact assessment questions to be inserted in the Questionnaire:

- ✓ What would have happened, if the regulation would not have been introduced?
- ✓ What are your expectations for the case that the regulation will be introduced?
- ✓ Do you welcome the regulation? Why?
- ✓ Are you satisfied with the regulation? Why?

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Example: RIA method applied in the „REFIT" Evaluation of E-PRTR

Purpose of the evaluation

- To assess the effectiveness, efficiency, relevance, coherence and EU-added value of the Regulation
- To assess the actual performance to the Regulation compared to initial expectations
- To detecti and assess regulatory burden and identify opportunities for simplification
- To provide aid for the continued implementation of the current legal acts and for further planning, including to inform any future modifications
- It covered all aspects of the Regulation since it entered into force and covers the whole European Union.

Methods of the evaluation

- Literature review
  - academic publications
  - E-PRTR data quality reviews
  - the EEA informal analysis
  - and industry guidance for emission reporting
- Website review
  - To understand how it performs against the criteria of the Regulation and also how data is accessed and used
  - The website usage indicates that the E-PRTR has a well-established following (with 73% of visitors returning). Previously it was reported that peak activity on the E-PRTR website was linked to the publication of data (i.e. in May).

Methods of the evaluation

- Public consultation
  - It fulfilled the obligation included in Article 13 of the Kiev Protocol to provide public participation in the development of PRTRs
  - Electronic survey
  - Themes
    - the scope of the E-PRTR;
    - providing data to the register;
    - checking and forwarding data;
    - understanding the register website; and
    - the usefulness of the register.

Methods of the evaluation

- Targeted (stakeholder) consultation
  - Electronic survey
  - to gauge opinion and understand how the E-PRTR is used within the EU, and to contribute to the analysis of information required under both the review of the implementation and the evaluation of the Regulation
  - Large number of interested stakeholders → representative sample

Stakeholder	Role
Member State competent authorities	Gathering data from national sites to provide to E-PRTR
Industry operators	Data providers
European Environment Agency	Gathering, QA checking and maintenance of E-PRTR website
European Commission Directorates-Generals	Likely a heavy data user
Non-governmental organisations	Likely a heavy data user
Private researchers and consultancies	Likely a heavy data user
Academia	Data user
International organisations (UNECE, WHO, OECD, UNEP)	Data user
Broader public	Data user

  - Follow-up consultation
    - Phone interviews with selected respondents
    - Aim: to gain deeper understanding of some specific topics

Methods of the evaluation

- Workshop
  - Participants: Member States stakeholders
  - To discuss and validate the findings of the Commission's REFIT evaluation
    - discuss the E-PRTR and its value at the European and wider international levels.
    - help identify issues and areas for improvement against the intervention logic and the five REFIT themes.
    - provide feedback to the delegates on the finalised set of issues identified to seek opinions on those in greatest need of prioritization
    - share views on the register's contribution to capacity building, public awareness and support in decision-making.

Limitations of data and methods

- Quantitative analysis as a challenge
    - Nature of E-PRTR objectives (i.e. maximising access to information, encouraging public participation, contributing to prevention and reduction of environmental pollution, creating consistency between EU countries)
      →evaluation is largely based on qualitative analysis
- Individual contribution is diffucult to distinguish
    - E-PRTR is one of a group of EU measures that work together to reduce the impact of industrial emissions (such as IED, industrial accidents directive and VOC directive
- Kiev Protocol or E-PRTR?
    - the largest costs and benefits are attributable to the Kiev Protocol because it is the underlying driver for the majority of E-PRTR obligations
- Limited number of responses from the general public
    - Due to the specialized nature of the Regulation
    - The general public is a primary audience of E-PRTR