

# Methodologies for impact assessment in the ex ante evaluation of European rural development programmes

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## Abstract

The ex ante quantification of impacts is compulsory when establishing a Rural Development Program (RDP) in the European Union. Thus, the purpose of this paper is to learn how to perform it better. In order to this all of the European 2007-2013 RDPs (a total of 88) and all of their corresponding available ex ante evaluations were analyzed. Results show that less than 50% of all RDPs quantify all the impact indicators and that the most used methodology that allows the quantification of all impact indicators is Input-Output. There are two main difficulties cited for not accomplishing the impact quantification: the heterogeneity of actors and factors involved in the program impacts and the lack of needed information. These difficulties should be addressed by using new methods that allow approaching the complexity of the programs and by implementing a better planning that facilitates gathering the needed information.

**Keywords:** Programme evaluation, impact assessment, rural development programmes, European Union

## Introduction

The European Commission is increasingly promoting the development of a culture and practice of evaluation in general (Díaz-Puente et al., 2008; Vidueira et al., 2013) and ex ante evaluation in particular (EC, 2000). Moreover, Council Regulation (CE) No 1698/2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) states that the ex ante evaluation is the first step of any rural development programme. It is intended to analyse each programme's strategy and main objectives, the initial situations, and the quantifiable objectives levels. These analyses help to assure that the objectives of the programmes will be met in their totality; that the measures used are profitable; and that it will be possible to accomplish a midterm and ex-post evaluation of the programme that demonstrates its success or failure (EC, 2004). To achieve this, the Common Monitoring and Evaluation Framework (CMEF) provides Member States with a list of common indicators which should be determined and quantified, especially in terms of impact compared with the initial situation (EC, 2006a), in order to measure the long term effects of the interventions (EC, 2006c).

There are a limited number of common indicators that should be applied to each programme and that should be quantified in the ex ante evaluation (EC, 2006b): (1) economic growth; (2) employment creation; (3) labour productivity; (4) reversing biodiversity decline; (5) maintenance of high nature value farming and forestry areas; (6) improvement in water quality; (7) contribution to combating climate change. This list of common impact indicators can be found in annex J of the CEMF (EC, 2006b). The first three indicators – on which this research is focused – concern socio economic impacts; the other four indicators concern environmental impacts. These common impact indicators must be complemented by more programme specific impact indicators that are chosen by each Member State.

Some impacts will only be measurable after a certain time of programme implementation and only the impacts found ex-post will allow a final judgment of a programme (EC, 2006b). However, according to the European Commission setting up the quantified targets is important because otherwise the extent to which the original objectives are being met cannot be measured. In spite of this, the European Commission also recognizes the difficulty of ex ante impact quantification concerning impact definitions, data availability and performance of explanatory models holding the quantification. In the Synthesis Report of ex ante evaluations for the programming period 2007-2013 (EC, 2008), evaluators also expressed their concern about the many difficulties, such as the lack of data or the external effects faced when having to quantify impact indicators.

The purpose of this paper is to learn how to perform the ex ante quantification of impacts better through analysing how it is being carried out in European rural development programmes. These analyses are focused on the methodologies being used to quantify socio economic impact indicators and the difficulties found in these cases. Analyses were carried out by reviewing all European Union's RDPs with their corresponding available ex ante evaluations. The main results of this research show that only 46.6% of the regions used purely quantitative methods for impact estimations, most of the cases through the Input-Output model; 42% highlighted the difficulty of the task; and 30% expressed concern on the reliability of the results that were achieved. That arise concerns about how impact assessment is being carried out in the European Rural Development Programmes, so methodologies in order to accomplish the goal of quantification should be analysed.

## Methodology

The European Network for Rural Development website was used to obtain the rural development programmes and the corresponding ex ante evaluations for the 27 Member States in the European Union. In total 88 RDPs and 70 ex ante evaluations belonging to the 27 Member States of the EU were analysed for this case study.

Table 1 shows the documents analysed for this research. All European Union' RDPs were found and analysed (88 in total). However this was not the case for ex ante evaluations – 70 were found (which represents an 80%)—. The ex ante evaluation documents were not available because the link provided by the managing authorities was broken or documents were not accessible.

Table 1. Total No. of documents analysed from each EU Member State

Countries	Ex ante Evaluations	RDPs
Austria	1	1
Belgium	2	2
Bulgaria	1	1
Cyprus	1	1
Czech Republic	1	1
Denmark	0	1
Estonia	1	1
Finland	2	2
France	4	6
Germany	12	14
Greece	1	1
Holland	1	1
Hungary	1	1
Ireland	1	1
Italy	18	21
Latvia	1	1
Lithuania	1	1
Luxembourg	0	1
Malta	0	1
Poland	1	1
Portugal	3	3
Romania	1	1
Slovakia	0	1
Slovenia	1	1
Spain	11	17
Sweden	0	1
United Kingdom	4	4
<b>TOTAL</b>	<b>70</b>	<b>88</b>

Source: Own elaboration with data obtained from RDPs and ex ante evaluations from EU.

Main information obtained from ex ante evaluations was the methodology used to estimate impact indicators. When the ex ante document did not indicate the methodology used for the estimation of impacts, the RDP was examined. Regrettably, the RDPs never contained the specific information about how the quantification was carried out or what methodology was followed.

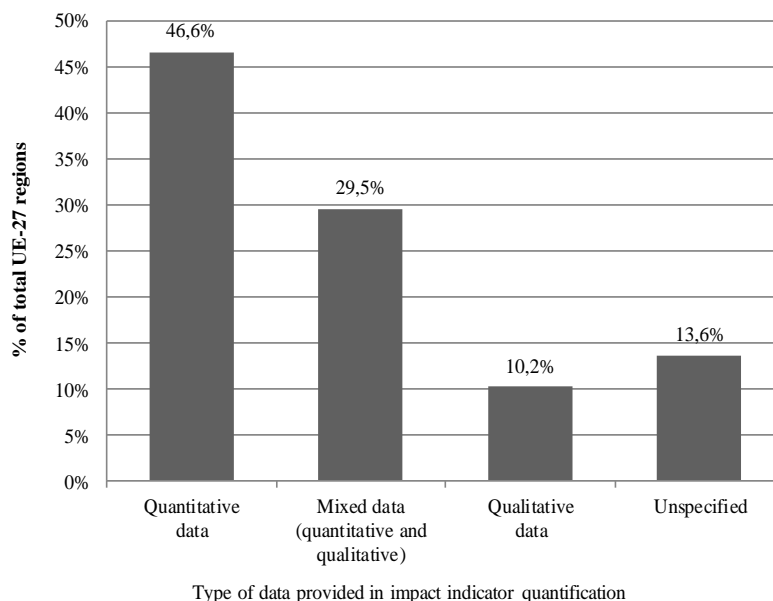
Data obtained from the RDPs were: the quantitative or qualitative data provided for of impact indicators and the limitations found when quantifying these indicators. RDPs format, 90% of the RDPs in the case study followed the standard document structure provided by the CMEF. Consequently, the information was easy to find.

## Results

Results include the type of data provided for impact estimations by regions; the difficulties found by evaluators; and the quantitative methodologies used.

### *Type of data provided for impact estimations*

Since explanations on the methodology followed to accomplish the estimation of impact indicators in each region is available only when the ex ante evaluation is accessible (in 70 out of 88 regions), the type of approach —quantitative, qualitative, or mixed— used to carry out the estimation of impact indicators was extracted from the type of data provided in RDPs as the result of the estimation of impact indicators. This let us to know how estimation is being carried out in the whole UE-27.



**Figure 1. Type of data provided for the estimation of impact indicators by each of UE-27 regions (%)**  
 Source: Own elaboration with data obtained from RDP and ex ante evaluations from EU.

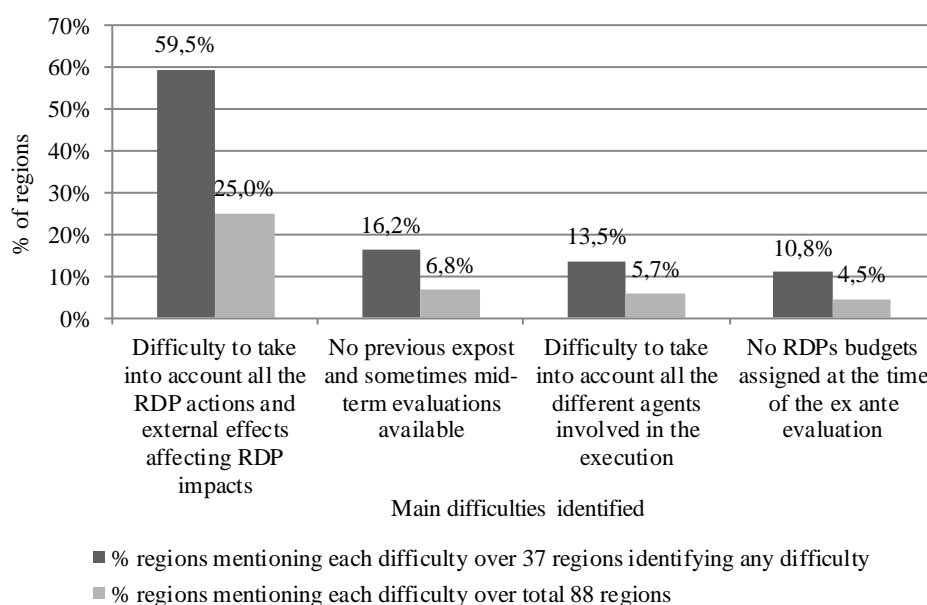
Figure 1 presents the type of data provided—and the type of approach applied—for the quantification of impact indicators in the 88 RDPs of UE-27. Only 46.6% of the regions accomplished the impact indicators estimation providing quantitative data. The use of mixed methods to approach the task is the second most used option by evaluators—29.6%—, but not intending the complementarity between quantitative and qualitative methods, but using qualitative approaches when quantitative ones cannot be used. Only qualitative data is provided by 10.2% of the regions. The remaining 13.6% do not provide any data on impact indicators.

In summary, 53.4% of the regions were not able to completely provide quantified impact indicators as the EU demands (EC, 2006a). This is due to different factors that set hurdles on the process and that are represented in the following subsection.

#### **Difficulties found in RDPs.**

Out of all the regions examined, 42% recorded difficulties when having to quantify impact indicators and are very critical about the work they have had to perform to achieve this quantification. Difficulties identified by this 42% of regions are presented in figure 2.

Beyond these difficulties, 30% of regions also believe that the results they are presenting to the Commission are vague, unrealistic and subjective.



**Figure 2. Main difficulties identified by ex ante evaluators and % of regions mentioning each one**

Source: Own elaboration with data obtained from RDP from EU.

Out of 42% of regions identifying difficulties, the least common difficulty for 10.8% of the regions (4.5% of the total), is that the RDPs budgets had not yet been assigned nor agreed upon when the ex ante evaluation had to be done. Therefore, it was not possible to quantify because the impact would depend on the synergies and interactions between measurements and the budget assigned to each measure.

Another limitation stressed by 13.5% of the regions (5.7% of the total) is that the information needed to study the impact of an intervention should take into account the different agents involved in the execution of the RDP (Regional Governments, Central Administration, City Councils, Local Action Groups, construction companies etc.) which makes the recollection process very complicated. However, even if this recollection of data could be done, the process would take very long and be very costly in order for it to be effective, specific and realistic. Also, the final results would be conditioned by the reliability of the responses. For that reason, evaluators would have to perform extra work to verify the accuracy of the data before ending the evaluation process.

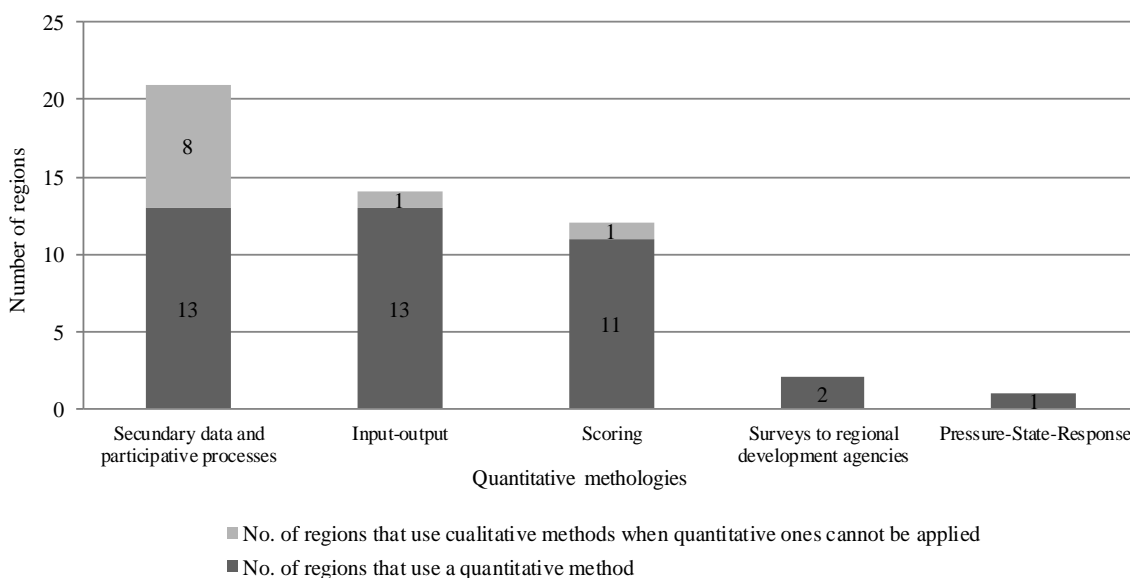
For 16.2% of the regions (6.8% of the total), the ex-post evaluation of the previous evaluation period 2000-2006 was not available when carrying out the ex ante evaluation. In those instances, the previous quantified data could not be considered when estimating impacts. At times the previous mid-term evaluation is not even accessible.

Finally, the most common difficulty found by 59.5% of the regions (25% of the total) is that RDPs are heterogeneous programmes with very diverse actions. Moreover, dividing sectors into subsectors makes the quantification difficult, if not impossible, since certain measures do not try to enhance concrete sectors of the economy; their effects spread through many different sectors; and their impact is extremely complicated to estimate. This means that lines of causation are hard to draw, and, thus, less useful when drawing general conclusions (George & Bennett, 2005; Green & Kohl, 2007; Moehler, 2010). Leeuw and Vaessen (2009) believe that the full scope of an intervention’s effects cannot be known in advance. This makes accurate estimating of impacts a highly difficult task that, for many of the indicators set by the Commission, may not even be possible.

**Quantitative Methodologies**

Out of these 70 regions providing the ex ante evaluation, 10 regions did not give information on the methodology followed in either the RDP or the ex ante evaluation. Two regions opted to entrust the job of quantifying impact indicators to an external agency different from the evaluation institution. However, the ex ante did not contain any information on the method followed to quantify impacts. Finally, 8 regions only provided qualitative data for the corresponding impact indicators. None of these 3 groups presented methodologies on how they arrived at the estimations of impacts they presented to the Commission. For that reason they are not included in the following graph, which represents the combination of methodologies used for calculating impacts, through a quantitative analysis.

In figure 3, two types of approaches can be observed: quantitative approaches, providing data in quantified terms only, and mixed method approaches, which provide qualitative data when quantitative data can not be provided. Figure 3 shows the number of regions following each quantitative methodology in both approaches.



**Figure 3. Quantitative methodologies used in the quantitative and mixed methods impact estimations (number of regions)**

Source: Own elaboration with data obtained from ex ante evaluations from EU.

It has been possible to identify 5 methods for impact indicators calculations. 21 regions chose the option of estimating impacts based on secondary data and participative processes which imply taking into account past experiences from

previous evaluation periods and the knowledge of the experts involved in the programme. They are the managing authorities, local governments, evaluators, regional development agencies, local action groups etc.

The macroeconomic method used is the Input-Output model. This method was found to be the second most commonly used methodology. However Input-Output can only be applied when statistical economic data and demographic data about the region are available. The Input-Output uses the Leontief matrix demand model through which it determines total increments, both direct and indirect, over every productive sector of the region during a determined time period. This methodology allows for a macro analysis of the regions and it is recommended by the Commission (EC, 2010).

Scoring is a method that manages to quantify impacts. However, data provided is not the exact impact estimation, but the intensity of the programme influence in that impact. As can be seen, 12 regions used this approach to estimate impacts.

The next method involves circulating a spreadsheet document through all the regional development agencies of the country asking them to provide data on impacts that the particular intervention will have on their respective region. This is not a very common method. It was only used by 2 regions.

The last method has been used by only one region. It is called Pressure-State-Response and it analyses the interactions between environmental pressures, the state of the environment, and environmental responses. It is based on the concept of causality, meaning that human activities exert pressures on the environment and change the quality and quantity of natural resources. Typically, it is a method used to calculate environmental impacts. In this case, however, it has been used to calculate the impact of socioeconomic indicators.

## Conclusions

Even though both, the ex ante evaluation and the quantification of objectives are considered crucial issues, after analysing 88 European RDPs and their corresponding available ex ante evaluations, collected data shows that most regions within the EU (53.6%) do not translate their impact indicators into quantified target levels, as indicated by the Commission. Among them, 29.6% provide a mix of qualitative and quantitative data, 10.2% provide qualitative data only, and finally 13.6% do not provide any data. The remaining 46.6% of regions provide quantified estimations of expected impacts.

Input-Output is the most used model-based quantitative approach. This methodology allows for a macro analysis of the regions. However it can only be applied when economic and demographic data about the region are available.

The lack of data seems to be one of the factors that make it impossible to quantify impacts. However, none of the 37 RDPs that argued the difficulties found mentioned this aspect. Qualitative information gathered during this research shows these difficulties. They are shown in figure 2, but can be summarized around two main reasons.

The first reason is related to the complexity of the impacts generated by the PDRs, and the difficulty of the methodologies recommended by the European Commission to overcome these. The complexity of these impacts lies in the heterogeneity of factors and actors involved in them. A total of 27 PDRs (30.7% over total RDPs) argued this difficulty: 22 in relation to the factors affecting the impacts, and 5 in relation to the agents.

The second reason is related to the delays that occur in the temporal development of programming and evaluation activities. These delays do not allow the information needed for quantifying impacts to be available at the time of appraisal. 10 RDPs (11.3% of total RDPs) identified these difficulties: the absence of evaluation results of the previous period (6 cases); and the absence of a defined budget for the RDP (4 cases).

The most urgent difficulties were the ones related to planning activities. The lack of information derived from the temporal overlap between the activities affects the estimation of impacts at its base, whatever methodology is used. Overcoming these challenges depends largely on planning of activities proposed by the European Commission for implementation of Rural Development Programmes. This research highlights the inability to quantify the programme impacts at the ex ante evaluation when the RDP budget is not defined or when the results of previous evaluations are not available. It is for the Commission to decide whether it is worth delaying the time of ex ante evaluation in these cases or whether, on the contrary, it is preferable to opt for a cursory analysis of the expected impacts.

Complexity of actors and factors involved in program impacts is a difficulty also argued in the RDPs. At this respect, methodological innovations can lead to an increase in the value of the ex ante evaluations

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