



INTERACTIVE DECISION TOOL

DATA FOR THE ASSESSMENT OF RDP ACHIEVEMENTS AND IMPACTS

IMPACT INDICATORS:

I.14 RURAL EMPLOYMENT RATE

I.15 DEGREE OF RURAL POVERTY

I.16 RURAL GDP PER CAPITA

JANUARY 2019

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The Evaluation Helpdesk is responsible for the evaluation function within the European Network for Rural Development (ENRD) by providing guidance on the evaluation of RDPs and policies falling under the remit and guidance of DG AGRI’s Unit C.4 'Monitoring and evaluation' of the European Commission (EC). In order to improve the evaluation of EU rural development policy the Evaluation Helpdesk supports all evaluation stakeholders, in particular DG AGRI, national authorities, RDP managing authorities and evaluators, through the development and dissemination of appropriate methodologies and tools; the collection and exchange of good practices; capacity building, and communicating with network members on evaluation related topics.

Additional information about the activities of European Evaluation Helpdesk for Rural Development is available on the Internet through the Europa server (<http://enrd.ec.europa.eu>).





ACKNOWLEDGEMENTS

*The interactive **decision tool**, ‘**Data for the assessment of RDP achievements and impacts**’, has been developed by an international team of rural development evaluation experts including Jerzy Michalek, Demetrios Psaltopoulos, Dimitris Skuras, Jela Tvrdonova, Darko Znaor. The related thematic working group has been coordinated by the Evaluation Helpdesk under the guidance of Valdis Kudiņš and Hannes Wimmer. Giulia Bekk, Valérie Dumont, Matteo Metta and Myles Stiffler supported the development work and ensured the quality and visual appearance of the final interactive tool. Various experts have provided valuable input as peer reviewers (Juris Hāzners, Jaroslav Pražan, Gerald Schwarz). Representatives of DG Agriculture and Rural Development have ensured the coherence of the tool with the EU’s policy framework.*

The interactive **decision tool**, ‘**Data for the assessment of RDP achievements and impacts**’, is based on the logic model approach which was originally developed by the EU collaborative project ENVIEVAL (Grant Agreement No. 31207 in the EU’s 7th Framework Programme for research, technological development and demonstration). The Evaluation Helpdesk has applied this approach for its thematic working group, which serves to support Member States in their assessment of RDP impacts in 2019 and the ex-post.





INTRODUCTION

The choice of a suitable evaluation approach is a critical step in the evaluation process. The wish to carry out a robust assessment of the policy's effects needs to be matched with those aspects which factor into conducting an evaluation (data and information availability, budget and resources, and the skills of the evaluators).

In the non-binding Guidelines, 'Assessment of RDP impacts and achievements in 2019', published in August 2018, logic models have been presented for the 13 Common CAP impact indicators covering Pillar II. These logic models support Member States in discussing different criteria for the choice of evaluation approaches for assessing the RDP's impacts during the evaluation activities in 2019 and the ex-post (2024).

The decision tool, 'Data for the assessment of RDP achievements and impacts', transports the logic models developed in the above Guidelines into an interactive format, while providing further detailed and practical information. The decision tool has been specifically **designed for RDP** evaluators who may wish to gain further insights into the criteria for each step of the decision making process when choosing an evaluation approach. This tool also provides practical recommendations on what to do in case of data gaps both in the short and long term, when solutions are needed.





OBJECTIVES

The **interactive decision tool** consists of a set of 7 logic models covering the 13 Pillar 2 CAP Impact Indicators. The 7 logic models can be read separately and aim to:

- **Assist evaluation stakeholders** in their decision on which evaluation approaches they can use for the assessment of the common RDP impact indicators, as well as providing the necessary data and information sources at the EU level for these approaches.
- **Provide recommendations on possible solutions for overcoming data-gaps at the national and regional levels** (e.g. by providing guiding questions, practical hints and links to external information sources).

The tool focuses on data and information sources pertinent for the assessment of RDP achievements and impacts in 2019 and the ex-post. The decision tool is based on the Guidelines '*Assessment of RDP impacts and achievements in 2019*'. Additionally, the tool provides:

- Explanations on data needs for proposed evaluation approaches including availability and suitability of data for RDP evaluations (frequency, delays, time series).
- Important questions to consider.
- Links to existing data sources and good practices.
- Complementary information on evaluation methods and their data needs.





HOW TO USE THE TOOL

This interactive decision tool contains a set of **7 logic models**:

Sector-related impacts



I.01 Agricultural entrepreneurial income



I.02 Agricultural factor income



I.03 Total factor productivity in agriculture

Socio-economic impacts



I.14 Rural employment rate



I.15 Degree of rural poverty



I.16 Rural GDP per capita

Environmental impacts



I.07 Emissions from agriculture

I.07 – 1 GHG emission from agriculture

I.07 – 2 Ammonia emissions from agriculture



I.08 Farmland Bird Index (FBI)



I.09 High Nature Value (HNV) farming



I.10 Water Abstraction in Agriculture



I.11 Water Quality:

I.11-1 Gross Nutrient Balance (GNB) (*Gross Nitrogen Balance (GNB-N) and Gross Phosphorus Balance (GNB-P)*)
I.11-2 Nitrates in freshwater



I.12 Soil organic matter in arable land



I.13 Soil erosion by water

I.13-1 Estimated rate of soil loss by water erosion;
I.13-2 Estimated agricultural area affected by a certain rate of soil erosion by water





HOW TO USE THE TOOL

Navigation within the clickable logic model:



Brings the user back to the starting page of the **logic model**

Are variables explaining participation known?

Takes the user to that specific **decision question** of the logic model



Starting decision question of the logic model

Hyperlinked text

Takes the user to an external source or to another slide



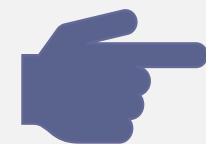
Examples



Additional notes



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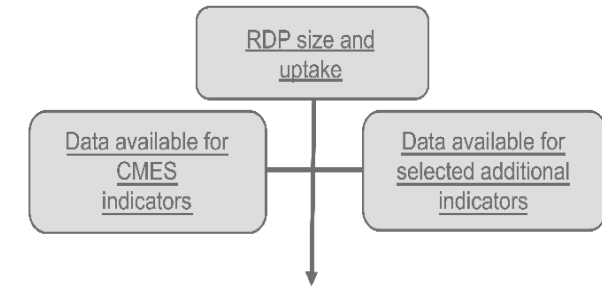


HOW TO USE THE TOOL

Structure:

Each logic model begins with a description of the:

- **RDP size, uptake** and other aspects that have to be considered for the selection of the evaluation approach.
- **Data availability for CMES indicators** needed to assess net impacts at the micro and macro levels, as well as, the specificities in the data availability for regionalised RDPs.
- **Data availability for selected additional indicators.**



Each **decision question** is organised in a way that facilitates the answers to the following **sub-questions**:

- Why is this question important?
- What are the conditions in order to answer the question with YES?
- Are there any specificities to be considered for regionalised RDPs?
- What can be done to improve the data situation (In the short term (for AIR 2019) and long-term (for ex-post)?

Each sub-question can be explored by clicking on its link.

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

[Why is this question important?](#)

[What are the conditions in order to answer the question with YES?](#)

[Are there any specificities to be considered for regionalised RDPs?](#)

[What can be done to improve the data situation?](#)

[Short-term solutions \(for AIR 2019\)](#)

[Long-term solutions \(for ex-post\)](#)

By answering each decision question in the tool with either a **'YES'** or a **'NO'** one will be taken to the next question, which will ultimately lead one to all possible evaluation approaches that can be applied given the specific criteria they have selected.





HOW TO USE THE TOOL

The tool will suggest various applicable approaches based on the data and other information:

- **Approach A (an evaluation approach in an optimal data situation).**
It can be used in 2019 and/or can be planned for the ex post evaluation.
- **Approach B (an alternative evaluation approach in case of data gaps).**
In several cases, approach B contains a qualitative component.

Approach A (optimal)



Approach B (alternative)



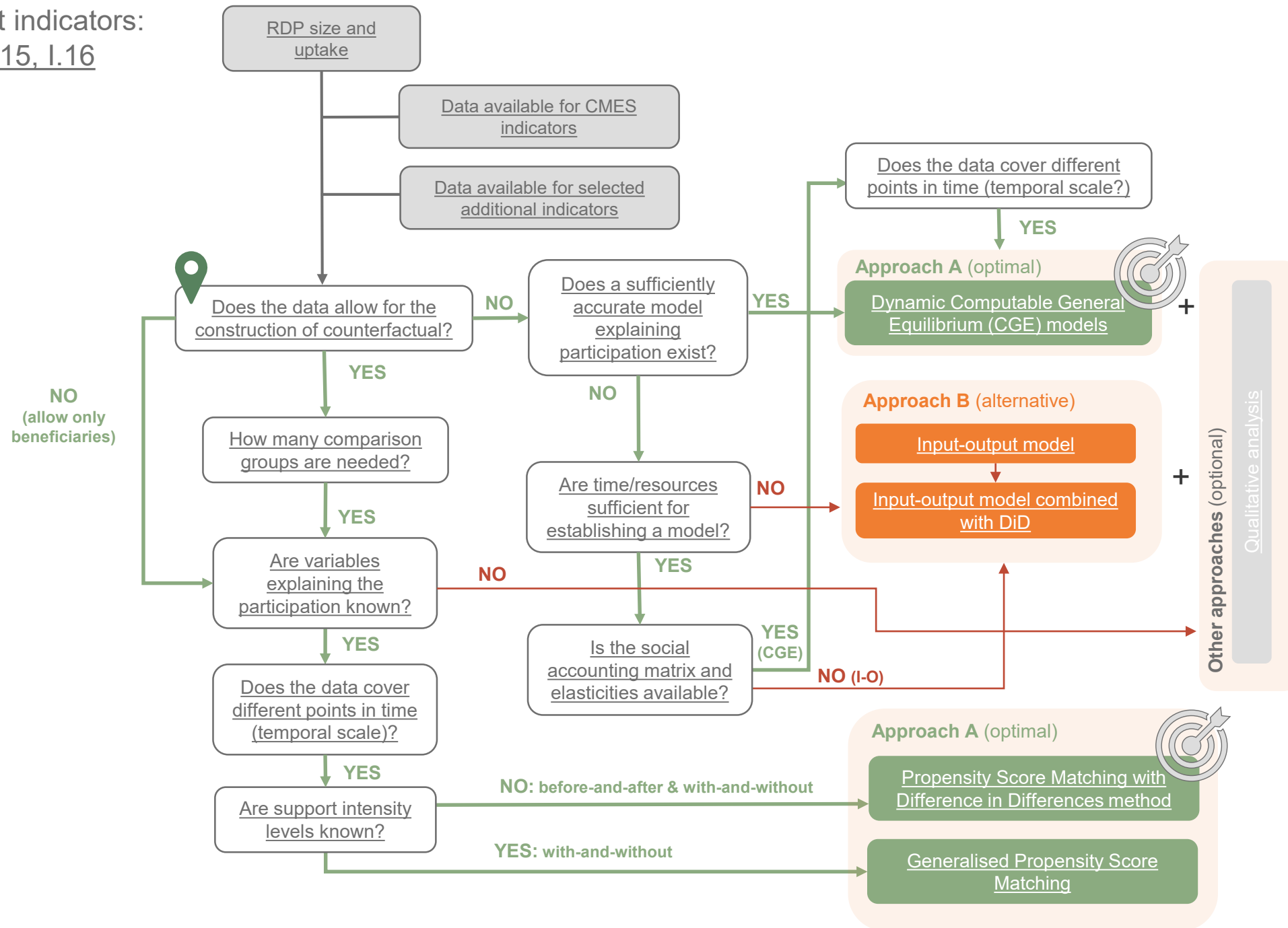
In case of questions or any technical difficulties in accessing the files, please contact the European Evaluation Helpdesk for Rural Development:

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Impact indicators:
I.14, I.15, I.16





Impact indicators

- I.14 Rural employment rate
- I.15 Degree of rural poverty
- I.16 Rural GDP per capita

Impact indicators fiches



Guidelines *Assessing RDP achievements and impacts in 2019*, PART II, Chapter 2.9.1, Section: 'Intervention logic'

Related Common Evaluation Question:

CEQ 29: 'To what extent has the RDP contributed to the CAP objective of achieving a balanced territorial development of rural economies and communities including the creation and maintenance of employment?'



Guidelines *Assessing RDP achievements and impacts in 2019*, PART III, Chapter 3.8, Section: 'Clarification of general intervention logic linked to the CEQ'





RDP size and uptake

The size, uptake and the structure of the RDP are important factors in the selection of the evaluation approach. If only a few units are supported through measures under the rural development priorities and focus areas which affect all three socio-economic impact indicators, then few significant RDP effects are expected. In this case, the evaluator might choose less robust evaluation approaches (e.g. qualitative analysis). If there is sufficient uptake, the evaluator can apply advanced evaluation approaches (e.g. dynamic computable general equilibrium model or PSM-DiD).





Data availability for CMES indicators

What is the unit of analysis and data available (EU-level)?

- At the micro level, the unit of analysis is NUTS 4 (LAU 1) or NUTS 5 (LAU 2).
- At the macro level, the unit of analysis is NUTS 3 or an aggregate for rural areas at a country level.
- Specificities in the data availability for regionalised RDPs.





Data available for matching techniques:

- Analysis of RDP net impacts using CMES socio-economic impact indicators should be carried out on the bases of data collected for NUTS 4 regions (LAU 1) or wherever possible for NUTS 5 (LAU 2) regions. Furthermore, those NUTS 4 (or NUTS 5) regions which are considered as 'urban' should be dropped from the subsequent analysis.
- Data sources available from Eurostat:
 - labour force survey (employment rate),
 - degree of urbanisation (LAU),
 - national and regional economic accounts (GDP per capita),
 - rural development statistics,
 - survey on income and living conditions,
 - national and regional statistics.



More detailed information on data necessary for calculation of I.14, I.15 and I.16 can be found in the Guidelines Assessing RDP achievements and impact in 2019, PART II, Chapter 2.9 and PART IV, Chapter 4.7.





Data available for modelling techniques:

- According to the Guidelines *Assessing RDP achievements and impact in 2019*, if the evaluation approach chosen is the Recursive-Dynamic CGE Model or the Input-Output Model, then the unit of analysis should be rural NUTS 3 regions as defined Eurostat Urban-Rural typology. This is because the construction of these models depends on access to regional (rural) accounts data.

As indicated in the following sections, data required for model construction is available at the NUTS 3 level and/or as an aggregate for rural areas at a country level for years which coincide with the baseline of the model (e.g. in case of dynamic model the period of 2013 – 2017). Eurostat data for GDP per capita (national and regional economic accounts), provides data at the NUTS 2 or NUTS 3 level, rural development statistics, provides data for rural areas. Data on policy shocks associated with RDP measures is also available from the relevant national/regional authorities for each year of RDP implementation.





Data available for matching techniques:

- Analysis of RDP net impacts using CMES socio-economic impact indicators should be carried out on the basis of data collected for NUTS 4 regions (LAU 1) or wherever possible for NUTS 5 (LAU 2) regions. Furthermore, those NUTS 4 (or NUTS 5) regions which are considered as 'urban' should be dropped from the subsequent analysis.
- Data sources from Eurostat (national and regional statistics).



More detailed information on data necessary for calculation of I.14, I.15 and I.16 can be found in the Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.9 and PART IV, Chapter 4.7.

Data available for modelling techniques:

- For regional RDPs, certain data on model construction should be directly obtained from Statistical Offices (e.g. employment data by industry (NACE 2)) or generated through processing the relevant databases (e.g. household incomes and expenditure surveys).





Data availability for selected additional indicators

There are no additional impact indicators proposed in the Guidelines *Assessing RDP achievements and impact in 2019*.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

YES

NO
(allow only beneficiaries)

NO

Does the data allow for the construction of counterfactual?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.16, 2.17 and 2.18.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

YES

NO
(allow only beneficiaries)

NO

Does the data allow for the construction of counterfactual?

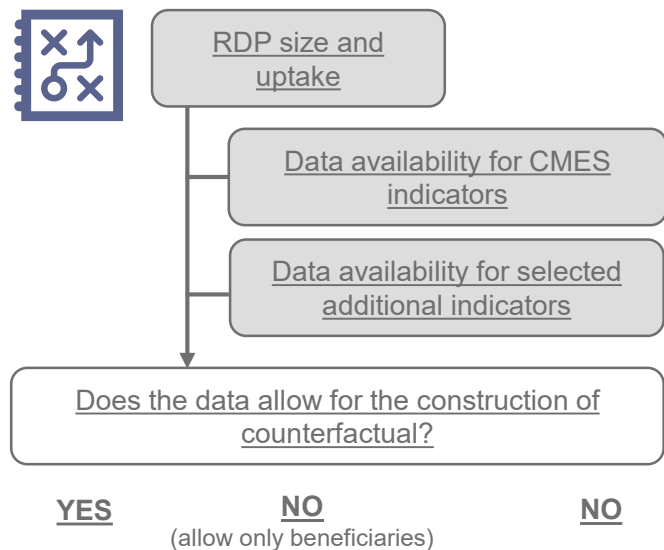
Why is this question important?

From a methodological point of view, the analysis of RDP net impacts requires the use of a counterfactual approach to show what would have happened in the programme area if the RDP had not been implemented.

When the evaluation approach is based on the matching techniques the appropriate counterfactuals require construction of comparison group(s) of RDP beneficiaries and non-beneficiaries.

When the evaluation approach is based on modelling techniques (e.g. CGE model), the counterfactual situation has to be established as a 'baseline policy scenario'.





YES

NO
(allow only beneficiaries)

NO

Does the data allow for the construction of counterfactual?

What are the conditions in order to answer the question with YES?

- ✓ Access to the statistical data aggregated at the required level (NUTS 3, NUTS 4 / LAU 1, NUTS 5 / LAU 2) for setting up the comparisons groups.
- ✓ Availability of indicators describing various socio-economic/infrastructural/environmental and other conditions characterising the above regional units (NUTS 4 areas) and calculated prior to the beginning of the RDP programme (e.g. 2013).
- ✓ Information about the RDP's level of support provided to individual regional units (NUTS 4 areas) during the period 2014-2020 (until the last available year).
- ✓ Information about the intensity of other support besides that coming from the RDP (e.g. from structural funds, Pillar 1) provided to the above regional units in the years 2014-2020.
- ✓ Samples of units included in the comparison groups (e.g. supported from RDP and non-supported or all units supported from the RDP at various levels of intensity) should include a sufficient number of observations enabling further econometric net impact analysis.
- ✓ In the case of the Recursive-Dynamic CGE model a counterfactual analysis is embodied in the model properties (More details can be found in the Guidelines *Assessing RDP achievements and impact in 2019, PART II, Section 2.9.3 and PART IV, Section 4.7.1*)
- ✓ In the case of the static Input-Output (IO) model, the counterfactual is rather simple and takes the form of IO coefficients computed for a base-period only (i.e. prior to RDP programme).





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

YES

NO
(allow only beneficiaries)

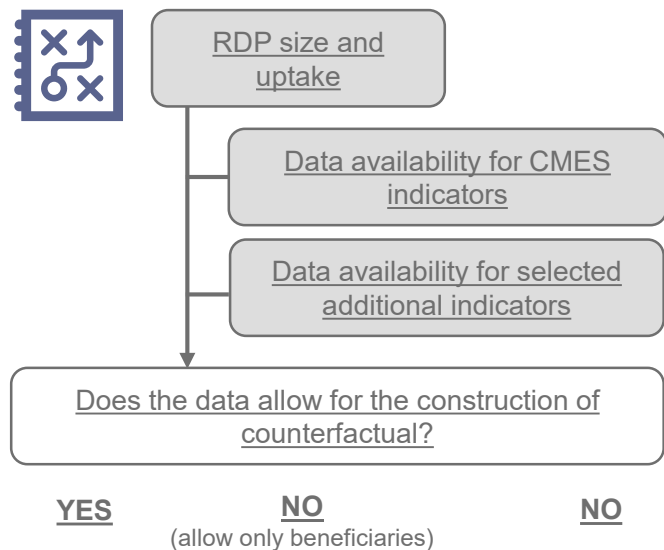
NO

Does the data allow for the construction of counterfactual?

Are there any specificities to be considered for regionalised RDPs?

If data is available at LAU 1 and LAU 2 levels for the construction of comparison groups, there should not be a problem for the evaluation of regional RDPs. If data only at the NUTS 3 level is available, econometric requirements necessary for construction of counterfactuals might not be met.





Does the data allow for the construction of counterfactual?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

If data is insufficient, but various RDPs within a country are designed in a similar manner (e.g. similar intervention logic or target group) it is possible to increase the overall sample by combining different units of analysis (e.g. NUTS 4) across several regionalised RDPs in the same country. This can serve to improve the data situation and may enable the construction of counterfactual in the regional RDPs. To do this, it is important to identify a set of common control variables among different administrative units (e.g. LAU 1, or LAU 2) as well as to add to the list of model covariates specific additional variables (e.g. dummy variables) enabling the localisation of a given unit in the respective RDP territory within the country. Inclusion of dummy variables will enable the separation of effects of RDP programmes implemented in various areas under consideration.

Long-term solutions (for ex-post)

Negotiate with the national/regional statistics offices concerning the necessary data collection for the construction of comparison groups at LAU 1 or LAU 2 levels.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

YES

How many comparison groups are needed?

Next

How many comparison groups are needed?

Why is this question important?

What are the conditions in order to answer the question?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

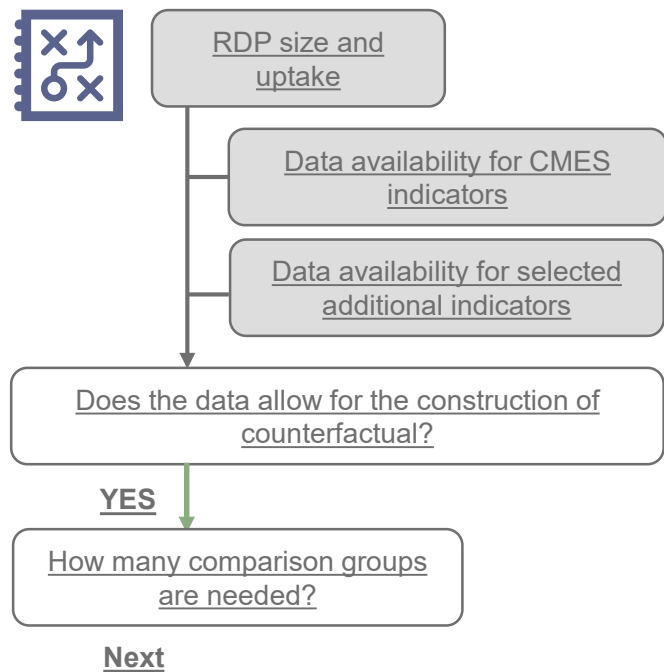
Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.16, 2.17 and 2.18.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



Next

How many comparison groups are needed?

Why is this question important?

The creation of appropriate control groups is essential for the evaluation of programme impacts. This will depend on:

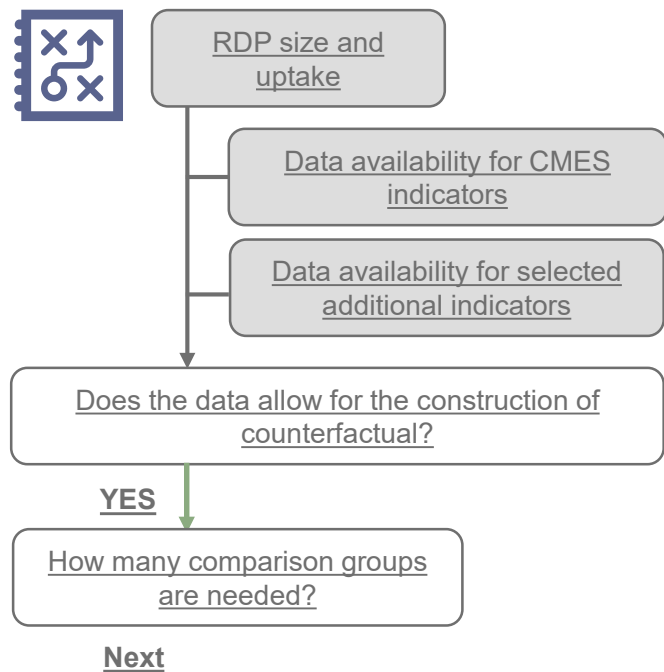
- The structure of the available data, and
- The level of detail of the net impact analysis to be carried out.

When an impact analysis is planned in order to calculate the Average Treatment Effects on Treated (supported units) (ATT) only (e.g. in a framework of a binary PSM-DiD method) statistical data collected from two comparison groups (i.e. units supported from RDP 2014-2020 and non-supported) is sufficient.

However, when all units in the sample are identified as those which were supported from the RDP 2014-2020 programme (non-supported NUTS 4 regions cannot be found) and/or an evaluator is interested in the estimation of Marginal Treatment Effects for various RDP support intensity levels, an application of other quasi-experimental techniques (e.g. Generalised Propensity Score Matching (GPSM)) is necessary.

In the case of CGE and IO model analysis, the comparison groups are generated by the model and require the construction of the so called 'baseline scenario or benchmark equilibrium' and 'the policy scenario' (i.e. by shocking the CGE or IO model).





Next

How many comparison groups are needed?

What are the conditions in order to answer the question?

- ✓ Ability of the existing data-structure to distinguish regions supported and non-supported by the RDP 2014-2020.
- ✓ Control groups prior to the RDP 2014-2020 should be almost identical to each other (except that one received programme support and the other did not).
- ✓ Matching techniques should be used to establish similarities between control groups.
- ✓ The use of statistics data should allow for the construction of at least two control groups consisting of those which received support and those which did not receive support. However, in order to carry out a subsequent econometric net impact analysis the set of criteria as mentioned in the Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.9 and PART IV, Chapter 4.7 have to be met.
- ✓ With regard to the CGE, the existence of a model ensures the availability of comparison groups. However, this is not applicable in the case of an IO analysis where results from a separate PSM-DiD analysis are required in order to construct each policy scenario.
- ✓ As rural (regional) models are very scarce, specific steps are proposed in order to construct a model which portrays 'no-policy' (CGE) and base line (IO) conditions. More details can be found in Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.9 and PART IV, Chapter 4.7.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

YES

How many comparison groups are needed?

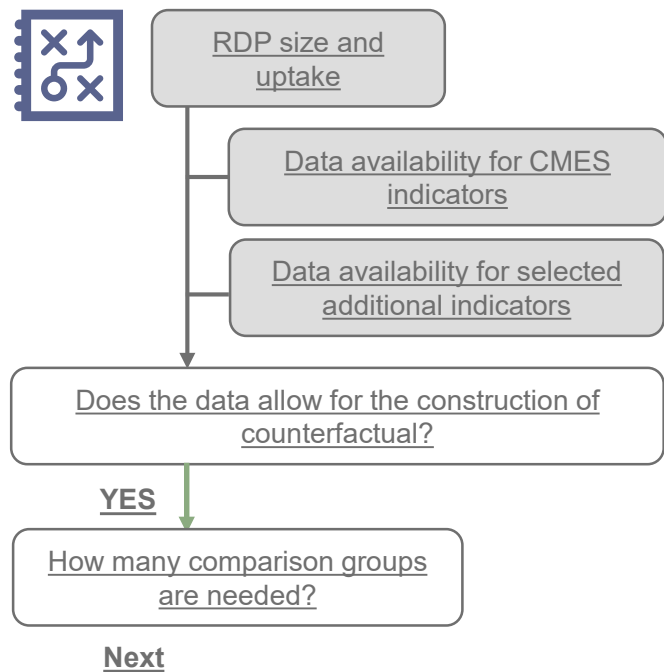
Next

How many comparison groups are needed?

Are there any specificities to be considered for regionalised RDPs?

If sufficient data for the construction of comparison groups is available at the LAU 1 and LAU 2 levels, then there should not be any problem for the evaluation of regional RDPs. If only data at the NUTS 3 are available, then econometric requirements necessary for the construction of counterfactuals might not be met.





Next

How many comparison groups are needed?

What can be done to improve the data situation?

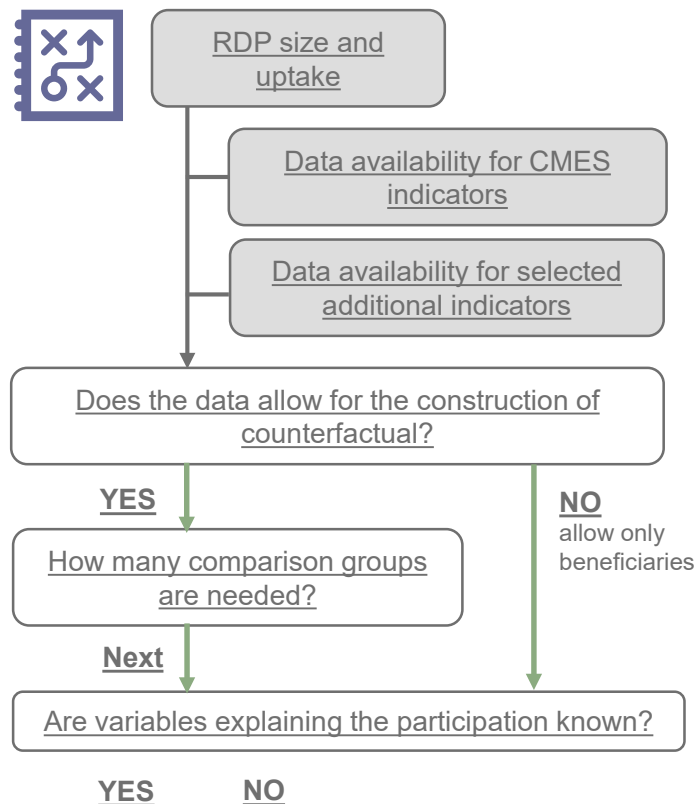
Short-term solutions (for AIR 2019)

In case the statistical information is insufficient, but various RDPs within a country are designed in a similar manner (e.g. similar intervention logic or target group) it is possible to increase the overall sample by combining units of analysis (e.g. NUTS 4) across several regionalised RDPs in the same country. This can improve the data situation and may enable the construction of counterfactuals in the regional RDPs. To do so, it is important to identify a set of common control variables among different administrative units (e.g. LAU 1, or LAU 2) as well as to add to the list of model covariates specific additional variables (e.g. dummy variables) enabling the localisation of a given unit within each respective RDP territory in a country. Inclusion of dummies will also enable the separation of the effects of RDPs implemented in various areas under consideration.

Long-term solutions (for ex-post)

Negotiate with the national/regional statistics offices concerning the necessary data collection for the construction of comparison groups at LAU 1 or LAU 2 levels.





Are variables explaining the participation known?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

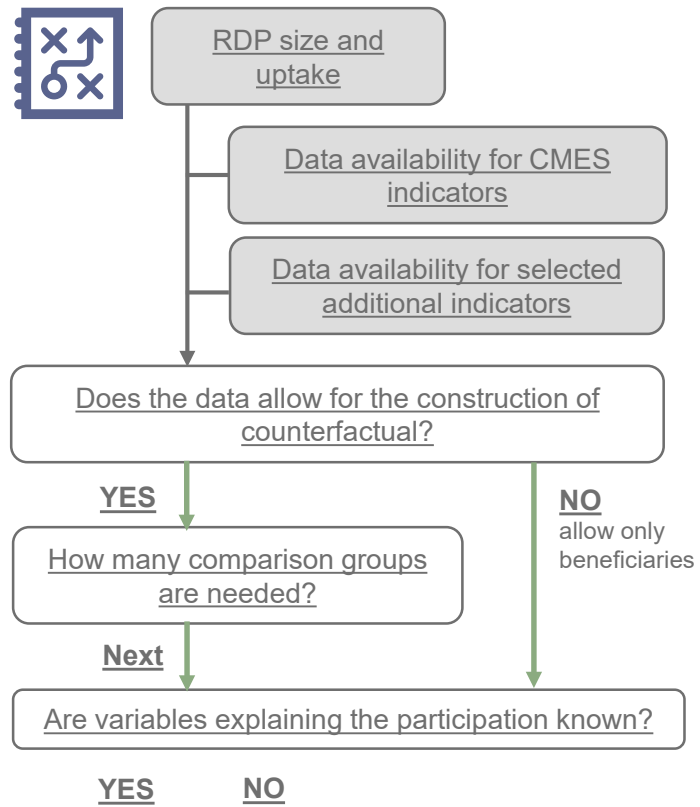
Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.4.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.16, 2.17 and 2.18.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3

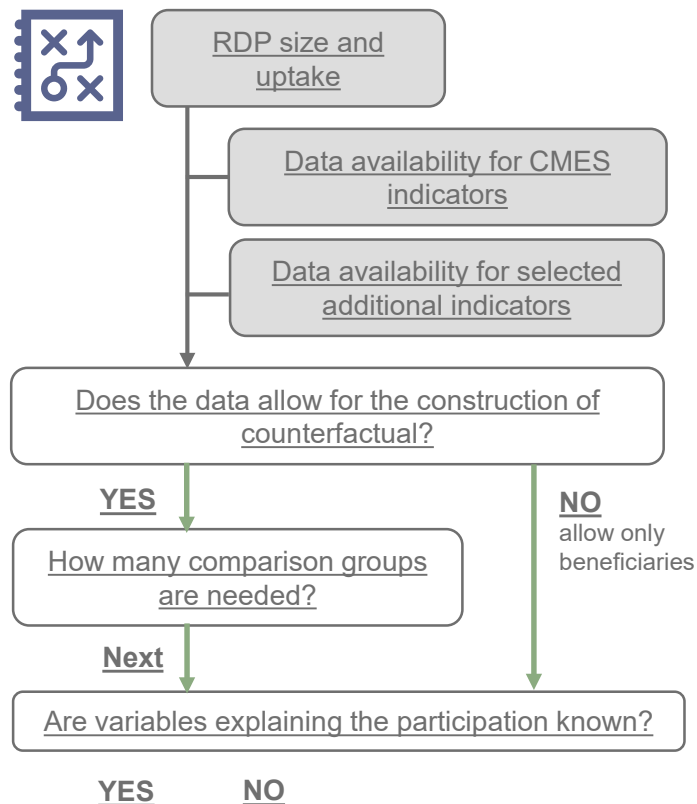


Are variables explaining the participation known?

Why is this question important?

In order to establish similarities between those areas, which received and those which did not receive support from the RDP 2014-2020, a model which controls for the effects of other important confounding factors has to be constructed (e.g. PSM-DiD). In practice, an evaluator has to input into this model those control variables (model covariates) which determine both the unit's participation in the RDP as well as the programme outcomes.





Are variables explaining the participation known?

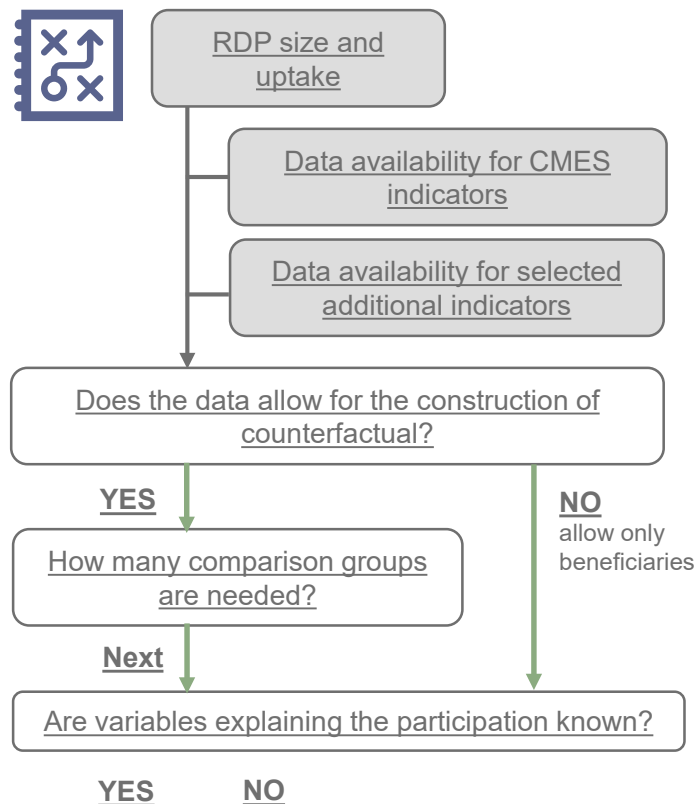
What are the conditions in order to answer the question with YES?

- ✓ Access to a comprehensive source of statistical data and information about characteristics of administrative regions (NUTS 4 / LAU 1, NUTS 5 / LAU 2) prior to the RDP 2014-2020 (this applies to all variables which can be used as controls in the PSM-DiD and/or GPSM models).
- ✓ For the construction of a counterfactual only those variables which are unaffected by the RDP programme 2014-2020 should be included (i.e. variables which are fixed over time or which are measured prior to the participation in programme).

Are there any specificities to be considered for regionalised RDPs?

For regionalised RDP programmes, if the number of analysed units is low (comparison groups cannot be built), the selection of variables explaining programme participation does not make sense. In this case, specific activities should be carried out to improve the basic data situation ([see below](#)).





Are variables explaining the participation known?

What can be done to improve the data situation?

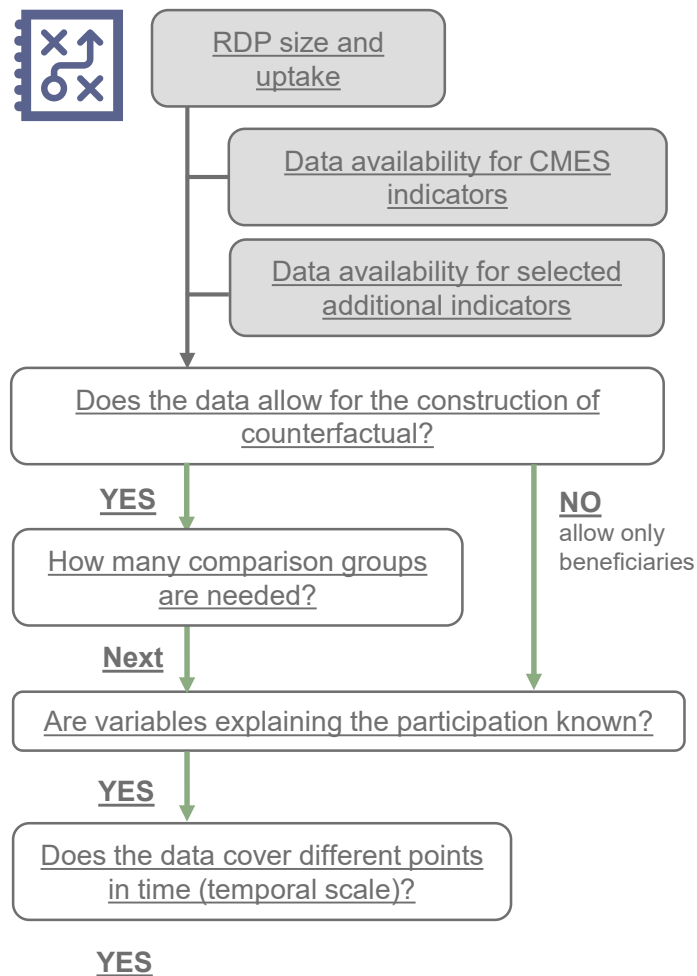
Short-term solutions (for AIR 2019)

If statistical information is insufficient, but various RDPs within a country are designed in a similar manner (e.g. similar intervention logic or target group) it is possible to increase the overall sample by combining units of analysis (e.g. NUTS 4) across several regionalised RDPs in the same country. This can improve the data situation and may enable the construction of a counterfactual for the regional RDPs. To do this, it is important to identify a set of common control variables among different administrative units (e.g. LAU 1, or LAU 2) as well as to add to the list of model covariates specific additional variables (e.g. dummy variables) enabling the localisation of a given unit in each respective RDP territory within the country. Inclusion of dummy variables will also enable the separation of effects of RDP programmes implemented in various areas under consideration.

Long-term solutions (for ex-post)

Negotiate with the national/regional statistics offices concerning the necessary data collection for the construction of comparison groups at LAU 1 or LAU 2 levels.





Does the data cover different points in time (temporal scale)?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

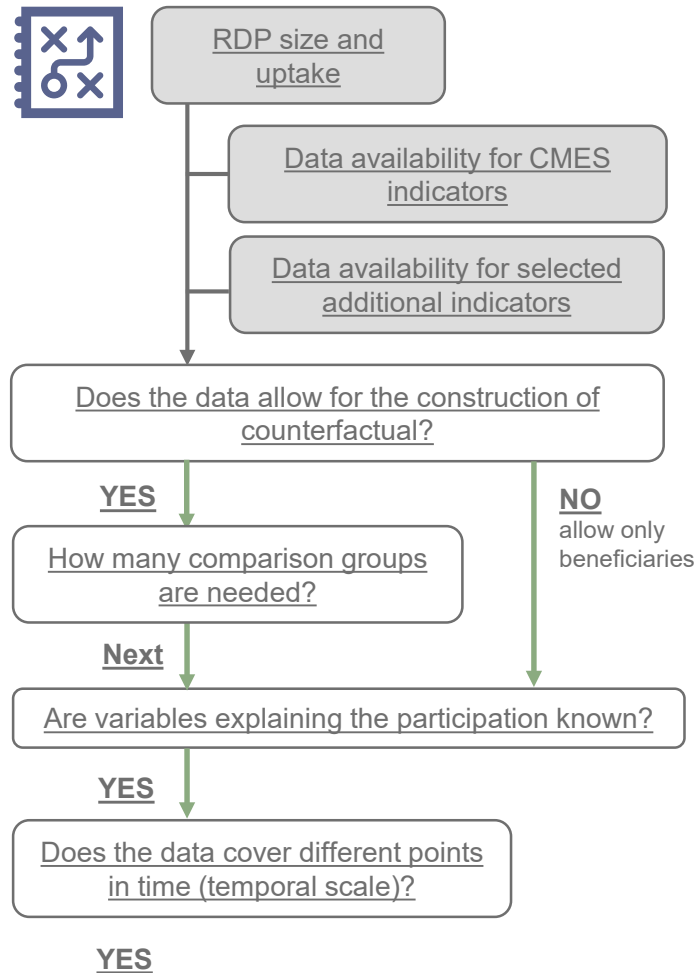
Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.16, 2.17 and 2.18.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3 and in more concrete 4.3.3.2.



Does the data cover different points in time (temporal scale)?

Why is this question important?

Data should be collected at the administrative level (e.g. NUTS 4) and be able to be used to show the development of individual impact indicators over time. The data should be collected at least before (baseline situation), during and after the programming period. This should ideally be done each year of the programme's implementation.

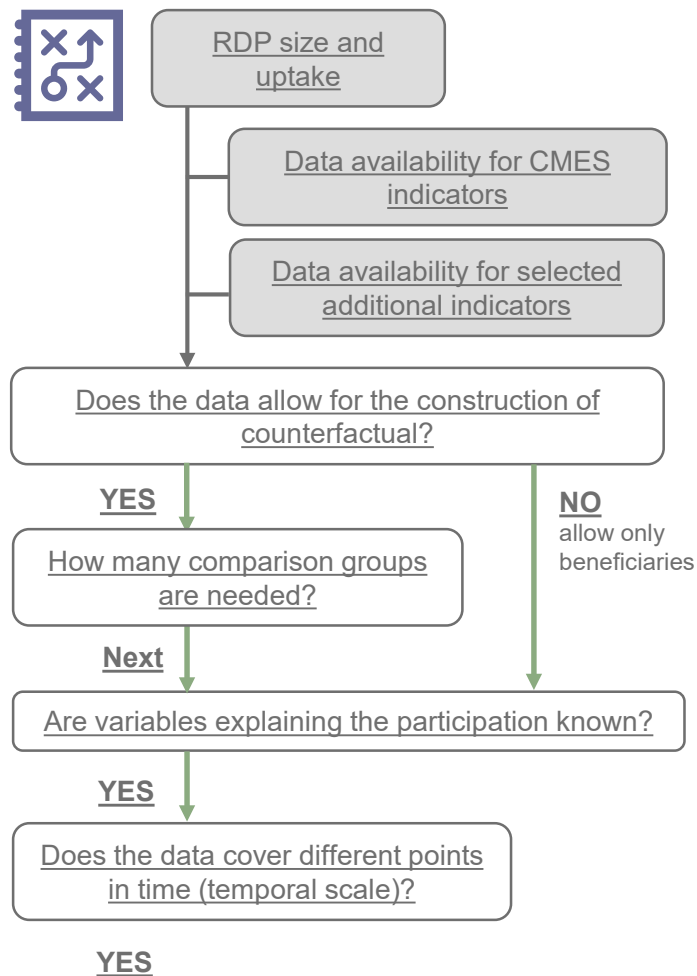
What are the conditions in order to answer the question with YES?

Statistical data for NUTS 4, LAU 1 or NUTS 5 / LAU 2 needs to be available in panel format (i.e. provides detailed information on selected variables/indicators collected for all administrative units in the RDP area in each year over a certain time period).

Are there any specificities to be considered for regionalised RDPs?

For regionalised RDPs the data situation may be more difficult (i.e. the number of observations can be low, and time series coverage may be more restrictive). Yet, some activities can be carried out in order to improve the data situation (see next slide).





Does the data cover different points in time (temporal scale)?

What can be done to improve the data situation?

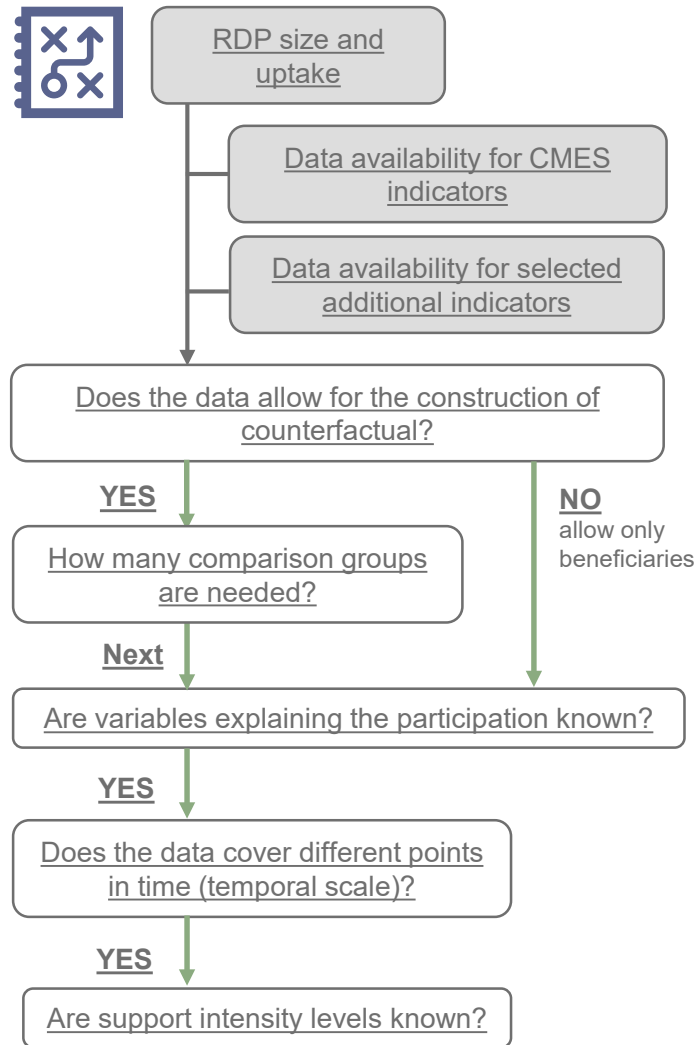
Short-term solutions (for AIR 2019)

If statistical information is insufficient, but various RDPs within a country are designed in a similar manner (e.g. similar intervention logic or target group) it is possible to increase the overall sample by combining units of analysis (e.g. NUTS 4) across several regionalised RDPs in the same country. This can improve the data situation and may enable the construction of counterfactuals in the regional RDPs. To do this, it is important to identify a set of common control variables among different administrative units (e.g. LAU 1, or LAU 2) as well as to add to the list of model covariates specific additional variables (e.g. dummy variables) enabling the localisation of a given unit in each respective RDP territory within the country. Inclusion of dummy variables will also enable the separation of effects of RDPs implemented in various areas under consideration.

Long-term solutions (for ex-post)

Negotiate with the national/regional statistical offices concerning the necessary data collection for the construction of comparison groups at LAU 1 or LAU 2 levels.





YES:
with-and-
without

NO:
before-and-
after & with-
and-without

Are support intensity levels known?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

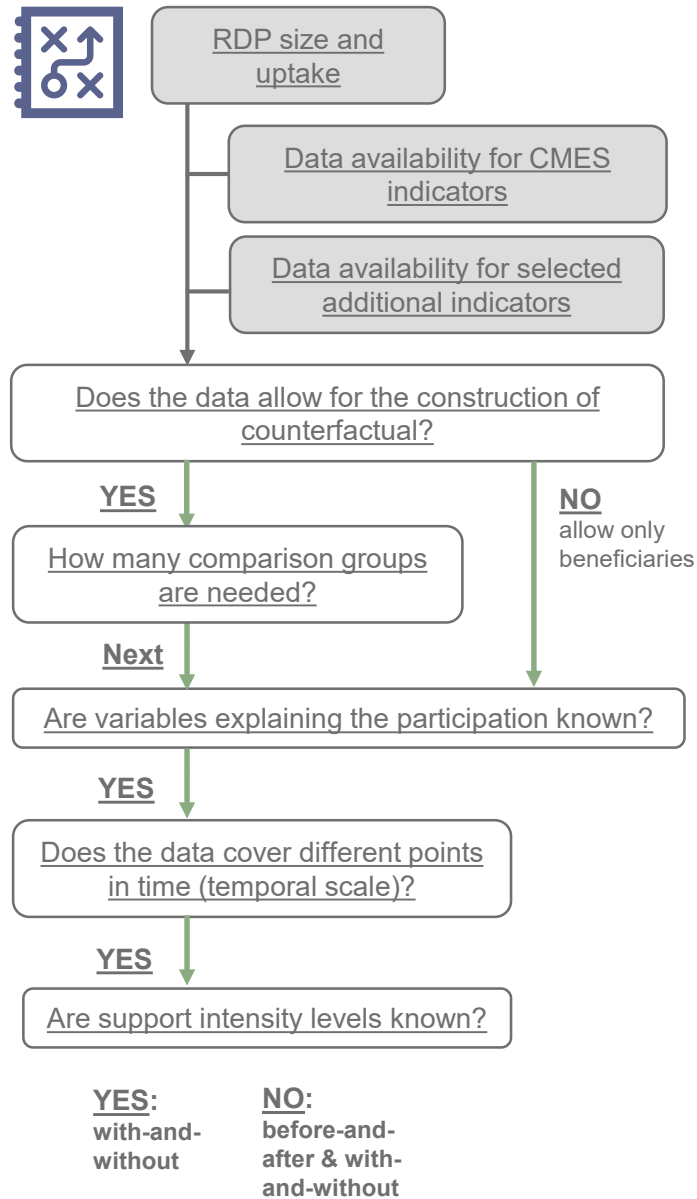
Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.16, 2.17 and 2.18.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



Are support intensity levels known?

Why is this question important?

Information regarding the level of intensity of programme support is essential for choosing an evaluation approach of the RDP's effects. In a situation where all units are classified as programme beneficiaries and/or an evaluator is interested in the marginal effectiveness of RDP funds provided to the agricultural sector, information about obtained levels of support (support intensity) is crucial.

If information on the intensity of the RDP's support (e.g. financial flows going to individual administrative units (e.g. NUTS 4) from each of the RDP's measures in period 2014-2020) is known, programme impacts can be analysed by means of a Generalised Propensity Score Matching (GPSM) that enables calculation of dose-response function and derivative dose-response functions.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

YES

NO

allow only beneficiaries

How many comparison groups are needed?

Next

Are variables explaining the participation known?

YES

Does the data cover different points in time (temporal scale)?

YES

Are support intensity levels known?

YES:
with-and-without

NO:
before-and-after & with-and-without

Are support intensity levels known?

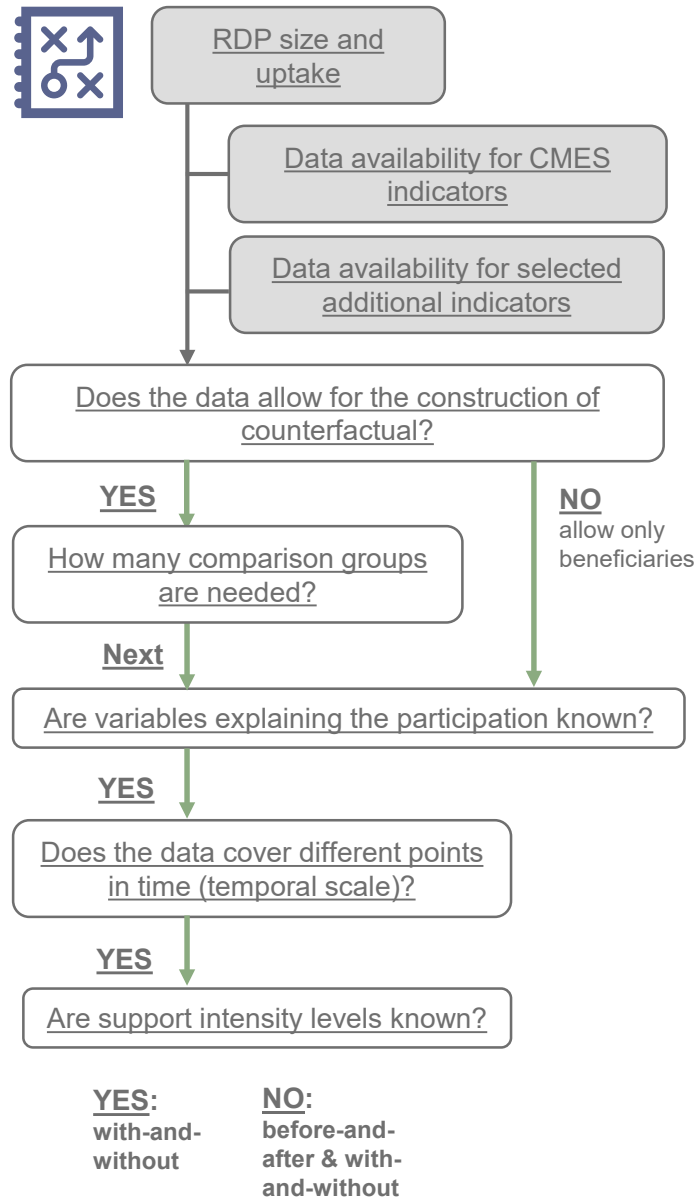
What are the conditions in order to answer the question with YES?

Information on the support intensity is the most important factor. The data concerning the level of RDP support for each administrative unit (e.g. NUTS 4 region) supported by the RDP 2014-2020 must be delivered to the evaluators from each respective Paying Agency. Data concerning the intensity of programme support for each administrative unit, which was an RDP beneficiary in the years 2014-2020 is not always available from regular regional statistics.

Are there any specificities to be considered for regionalised RDPs?

There are no specificities for regionalised RDPs.





Are support intensity levels known?

What can be done to improve the data situation?

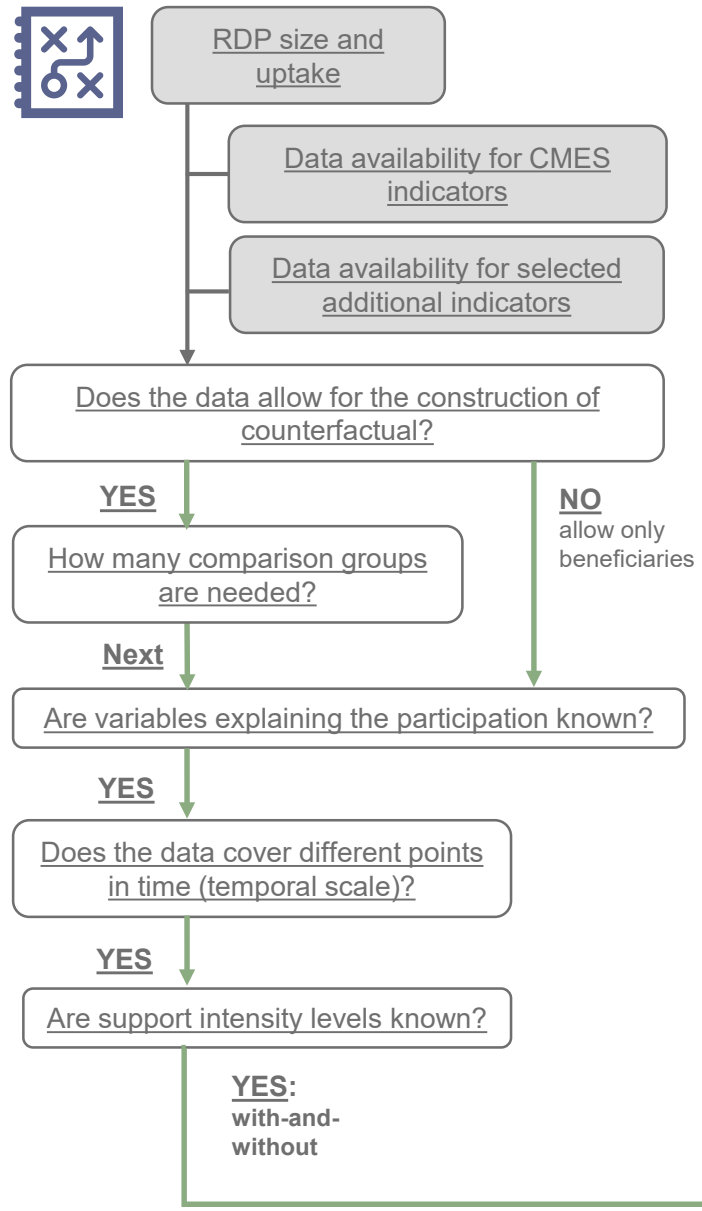
Short-term solutions (for AIR 2019)

In order to improve the data situation the Managing Authority and evaluator should inform and involve the respective Paying Agency into evaluation activities already at an early stage of programme evaluation.

Long-term solutions (for ex-post)

- Closer cooperation between evaluators and Paying Agencies should be pursued from the beginning of the programme evaluation.
- Ensure that statistical data is available at LAU 1 and LAU 2 regions. This data should be easily retrievable from national authorities.





Generalised Propensity Score Matching (GPSM)

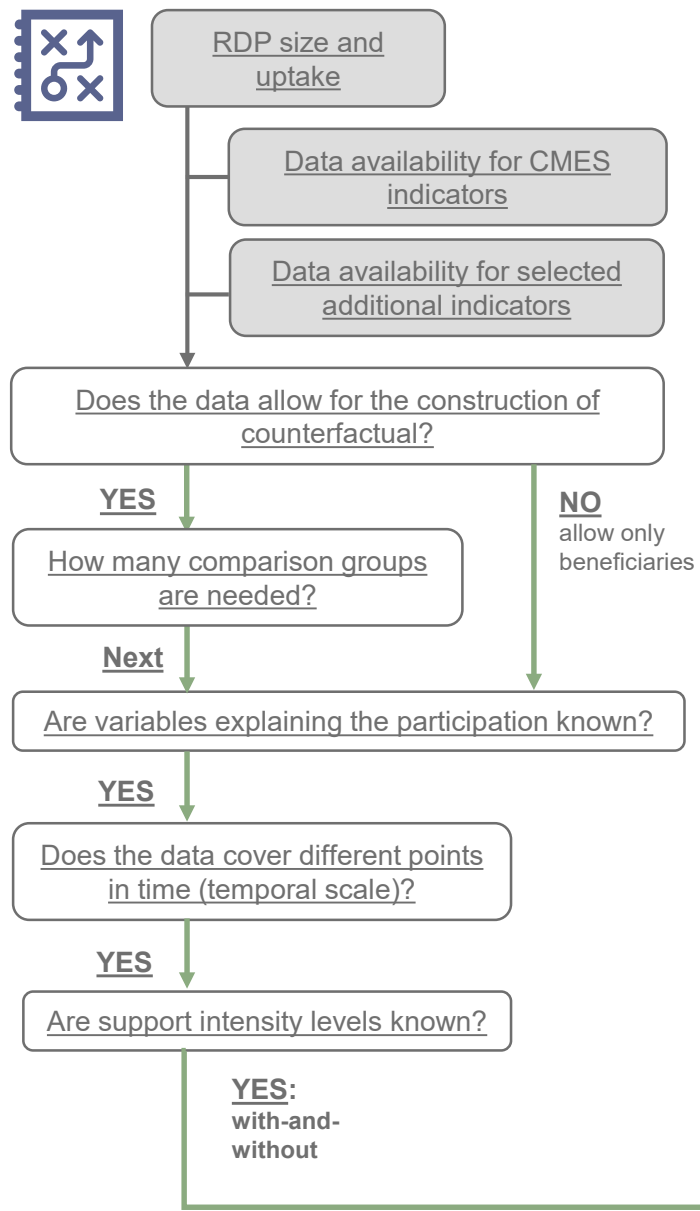


The GPSM method is used when all units are programme beneficiaries. If the evaluator has explicit information on the intensity of the programme support (e.g. financial flows from a given programme per farm) and programme effects (results/impacts) then the data can be analysed by means of a dose-response function and derivative dose-response function.

The GPSM allows one to estimate the average effect of public investment support on the selected result/impact indicator, as well as assess the marginal effects of the programmes or measures depending on the intensity of support. Such disaggregated programme evaluation results cannot be obtained by employing traditional techniques (e.g. the binary propensity score matching methodology, regression discontinuity design, or any other techniques utilised in standard evaluation studies). GPSM can also be used as an extension of a binary PSM method and can be used to eliminate any bias associated with differences in the covariates included in the evaluation model.



Examples



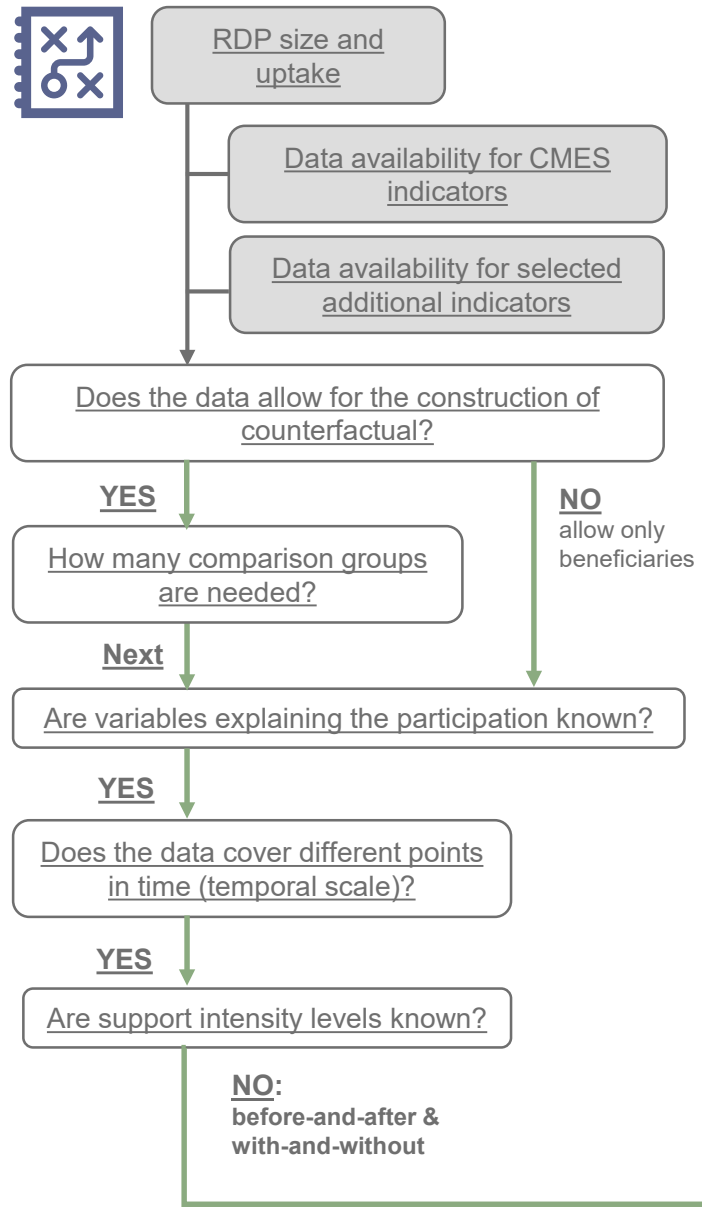
GPSM

Example(s)



- Hirano, K. and Imbens, G., (2004) The Propensity score with continuous treatment, *Missing data and Bayesian Method in Practice: Contributions by Donald Rubin Statistical Family*;
- Imai, K. and van Dyk, D.A. (2004), "Causal inference with general treatment regimes: Generalising the propensity score" au *Journal of the American Statistical Association*, 2004, 99, pp. 854-866;
- Bia, M. and Mattei, A. (2007), "Application of the Generalised Propensity Score. Evaluation of public contributions to Piedmont enterprises, al *P.O.L.I.S. department's Working Papers 80*, Department of Public Policy and Public Choice - POLIS, 2007;
- Michalek J., Ciaian P. and Kancs, d'A. (2014), "Capitalisation of CAP Single Payment Scheme into Land Value: Generalised Propensity Score Evidence from the EU", *Land Economics*, May 2014, 90:260-289.;
- Kluve, J. et.al., (2012), "Evaluating continuous training programs using the generalised propensity score, *Journal of the Royal Statistical Society: Series A (Statistics in Society)* Volume 175, Issue 2, pages 587–617, April 2012;
- Michalek J. (2012), "Counterfactual impact evaluation of EU Rural Development Programmes - Propensity Score Matching methodology applied to selected EU Member States", *Volume 2 – A regional approach*", European Commission, JRC Scientific and Policy Reports, pp 1-83





Propensity Score Matching with Difference in Differences method (PSM – DiD)

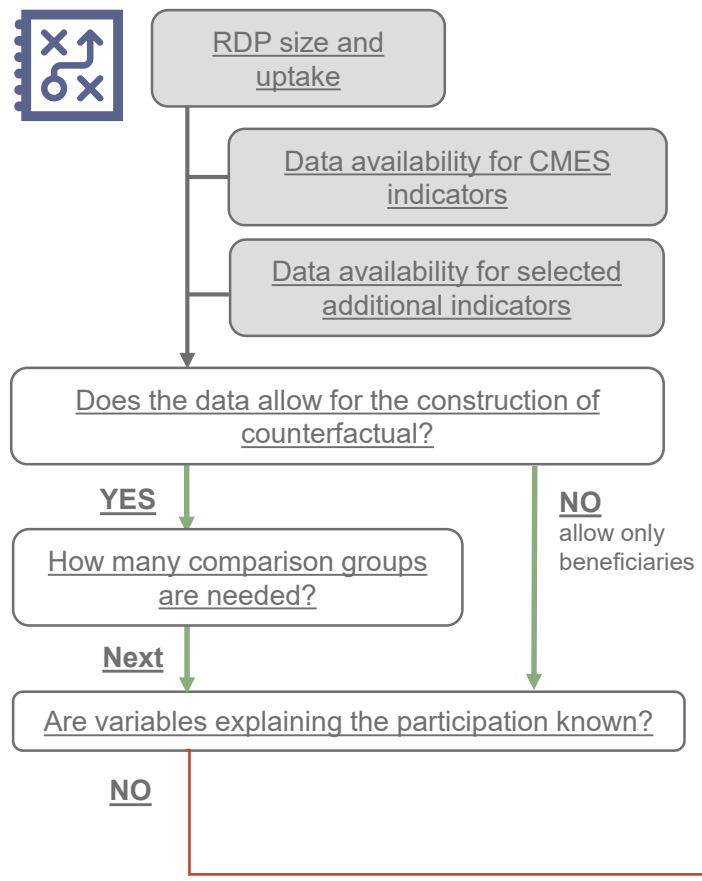
At the micro level, the assessment approach in case of good data availability at the level of the agricultural holding is based on the comparison of established similar control groups (beneficiaries and non-beneficiaries) prior to the beginning of the programme and at the time of the evaluation. The main objective is to net out the RDP's effects on the competitiveness of the agricultural sector, through the use of advanced econometric methods (e.g. PSM combined with DiD).

PSM-DiD is a highly applicable estimator when the outcome data of programme participants and non-beneficiaries is available for both the 'before' and 'after' periods. PSM-DiD measures the effect of the RDP by using the differences between comparable programme beneficiaries and non-beneficiaries in the before/after periods. Observed changes overtime for the matched (using PSM) programme non-beneficiaries are assumed to be appropriate counterfactuals for programme beneficiaries. A decisive advantage of the PSM-DiD estimator, compared to a conventional DiD estimator, is that this method allows for the better control of selection bias in both observables and unobservables.

At the macro level, the net effects of the RDP on the competitiveness of the agricultural sector are obtained by up-scaling the results from the micro-level assessment to the RDP area (macro-level).



Read more in guidelines [Assessing RDP achievements and impact in 2019](#), PART II, Chapter 2.2.3 and PART IV, Chapter 4.1.2.



Other approaches:
Qualitative analysis



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

YES

NO

Does a sufficiently accurate model explaining participation exist?

Why is this question important?

What are the conditions in order to answer the question?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3.3.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

YES

NO

Does a sufficiently accurate model explaining participation exist?

Why is this question important?

The existence of a sufficiently accurate model is important, because it will enable the assessment of RDP impacts in a much faster and cost-efficient manner.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

YES

NO

Does a sufficiently accurate model explaining participation exist?

What are the conditions in order to answer the question?

The model should exist for the Member State or region, which is however very rare across Europe.



Examples:

- Greece
- Spain
- Finland
- Poland

Are there any specificities to be considered for regionalised RDPs?

There are no specificities for regionalised RDPs. Models can be constructed for regional (rural) areas.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

YES

NO

Does a sufficiently accurate model explaining participation exist?

What can be done to improve the data situation?

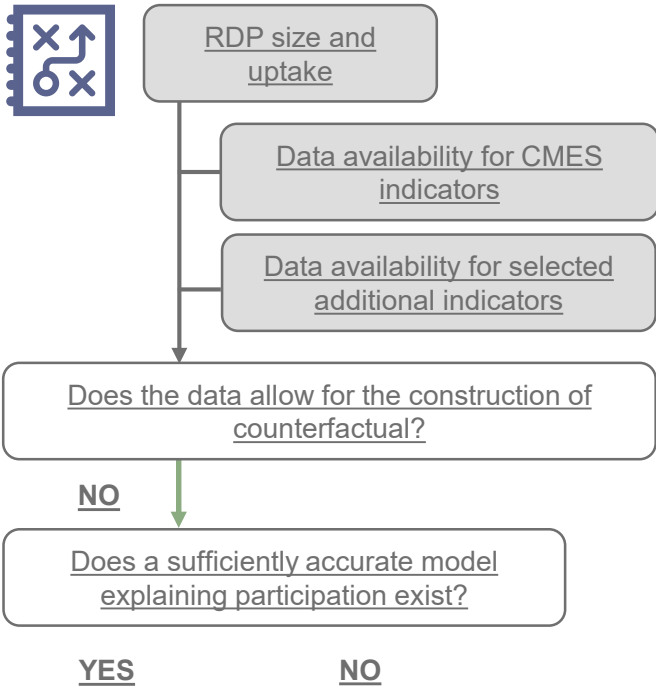
Short-term solutions (for AIR 2019)

The construction of a Recursive-Dynamic CGE model to be used for AIR 2019 is not considered as a feasible option. The availability of very experienced (on CGE analysis) evaluators can lead to an exception to this rule.

Long-term solutions (for ex-post)

A Recursive-Dynamic CGE model at the national (rural) and/or regional (rural) levels should be constructed.





Does a sufficiently accurate model explaining participation exist?

What are the conditions in order to answer the question?

Example(s)



Greece: Rural-Urban Model

Spain: JRC (2013), 'The rural-urban spillovers of EU structural policies in Cordoba'

JRC:.

- JRC (2012), 'Ex-ante Spatial Policy Impact Analysis of the Rural Development policy in European Rural Areas (RURAL ECMOD)'. Rural-Urban CGE models are available at the NUTS 3 level
- JRC (2015), 'Rural-Urban social accounting matrixes for modelling the impact of rural development policies in the EU'. This publication covers 12 EU NUTS 3 regions and their respective SAMs. These can be used as a basis for the construction of Rural-Urban CGE models.

Finland: Hyytiä (2011), 'Allocation of CAP modulation funds to rural development measures at the regional level in Finland' (multi-regional CGE with a focus on CAP Pillar 1 & 2).

Poland: Zawalinska, at al. (2013), 'The consequences of the Less Favoured Area support: a multi-regional CGE analysis for Poland' (multi-regional CGE tailored for rural and agriculture analysis).





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

YES

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES (CGE)

Does the data cover different points in time (temporal scale?)

YES

Dynamic Computable General Equilibrium (CGE) model



The CGE model is effectively a set of simultaneous (non-linear) equations which capture inter-relationships between actors in the economy at a certain point in time (static CGE). This can be used in the assessment of the RDP's net effects at the macro level (e.g. LAU 1). The CGE model is based on an area-specific Social Accounting Matrix (SAM) and accounts for all flows in a national/regional rural economy covering (e.g. production activities, commodity balances, households). In addition to capturing policy-specific direct, indirect and induced effects, the CGE can also account for displacement effects in factor and product markets, deadweight effects, primary/secondary and intended/unintended effects while estimated impacts also take into account gains/losses in allocative efficiency. The Dynamic CGE in contrast to a static CGE, also includes updates of its key parameters over time.



Read more in guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.9.4 and PART IV, Chapter 4.7.1.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

NO

Are time/resources sufficient for establishing a model?

Why is this question important?

What are the conditions in order to answer the question?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term (for AIR 2019) and long-term (for ex-post) solutions



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3.3.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

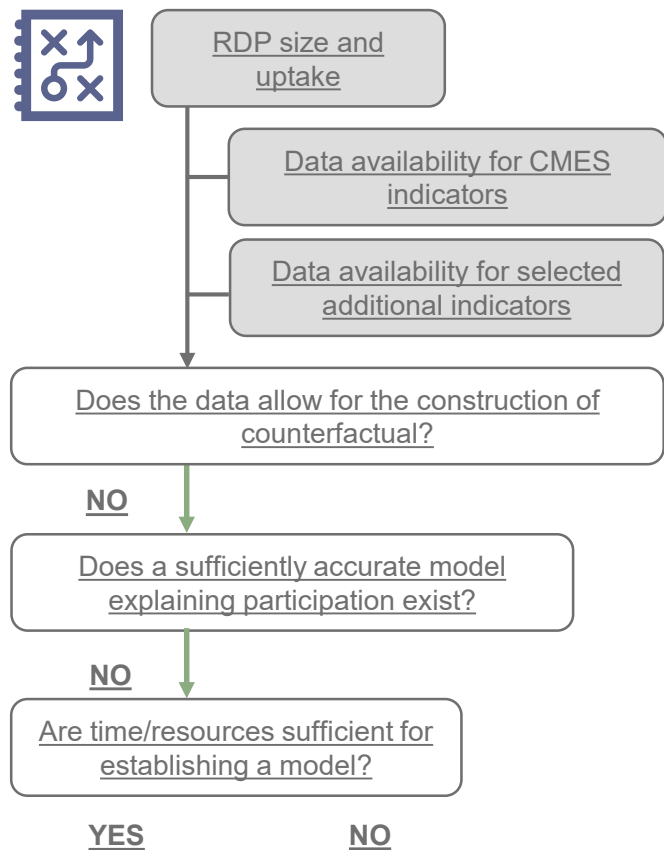
NO

Are time/resources sufficient for establishing a model?

Why is this question important?

Knowing if there is sufficient time/resources is very important if the decision has been taken to establish a model as the evaluation approach.



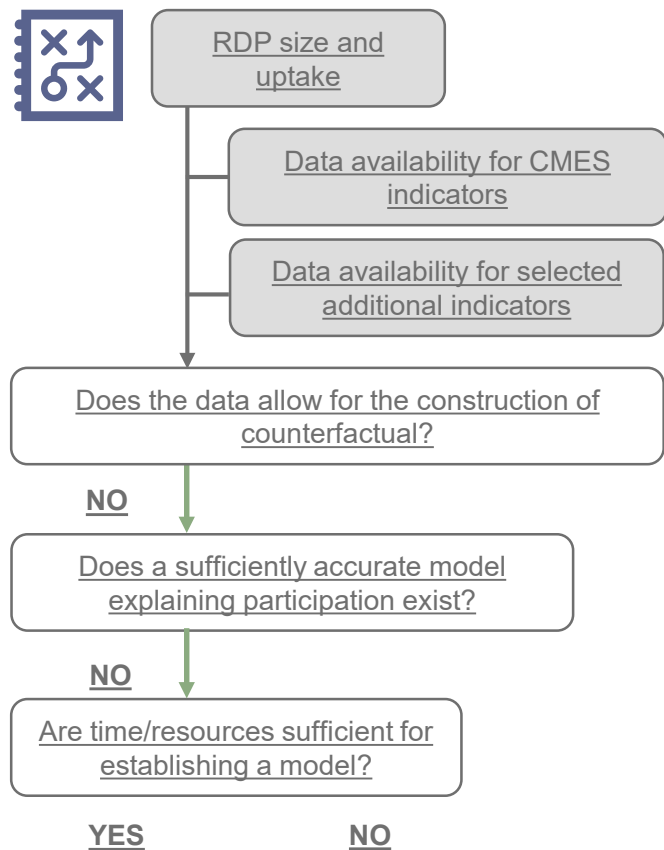


Are time/resources sufficient for establishing a model?

What are the conditions in order to answer the question?

- ✓ In the case of the Recursive-Dynamic CGE model approach, the databases as presented in detail in this tool under the sections 'Is the social accounting matrix and elasticities available?' and 'Does data cover different points in time (temporal scale)?'.
- ✓ The construction and application of a CGE model is a demanding task in both terms of time and skills. Therefore, at least 10 person-months of experts in the field of CGE modelling should be planned.
- ✓ Skills for constructing and utilising such a model are demanding. Therefore, evaluators need to have advanced understanding of micro-economics, macro-economics, CGE model analysis, as well as on the analysis of RDP impacts.
- ✓ If time/resources are scarce, evaluators can opt for the utilisation of the Input-Output (IO approach) which is not as demanding in terms of both skills and time/resources.
- ✓ The starting point of the IO model application is the existence of an IO model at the national level. This can be obtained from Eurostat for every EU country or from the WIOD database. Both databases contain National IO models specific to years which are suitable for the RDP evaluation.
- ✓ IO models at the national level should be converted into national or regional IO models in accordance to the RDP under evaluation.
- ✓ Employment data by industry at the industry level (NACE 2) must be obtained from Eurostat at the national and rural-national levels.





Are time/resources sufficient for establishing a model?

What are the conditions in order to answer the question?

- ✓ The availability of sectoral employment data enables the regionalisation (at the rural level) of IO tables through the application of a mechanical regionalisation technique such as GRIT (see Guidelines *Assessing RDP achievements and impact in 2019* PART IV, Chapter 4.7). According to the discretion of the evaluator, mechanically-generated estimates on agricultural sub-sectors can be improved through the utilisation of the FADN public database.
- ✓ Data on policy shocks (i.e. annual expenditure data per measure disaggregated by type of expenditure (e.g. construction, machinery, etc.)) should be provided by the RDP Managing Authorities and Paying Agencies.

i Note

- ✓ In the framework of the CGE or IO modelling, gathering reliable information on net effects of policy shocks computed at the level of individual farms (e.g. effects of RDP investment support on variables like employment, GVA or fixed assets) is crucial for the estimation of the RDP's indirect effects (e.g. spillover effects) at macro-economic (or RDP area) levels.

i Note

- ✓ While information about the net micro effects of a given RDP programme calculated at the farm level should be used as a policy shock in the framework of an IO or CGE analysis, evaluators who estimate various types of programme effects at the micro and macro levels should closely cooperate with each other.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

NO

Are time/resources sufficient for establishing a model?

Are there any specificities to be considered for regionalised RDPs?

There are no specificities to be considered for regionalised RDPs.

What can be done to improve the data situation?

Short-term (for AIR 2019) and long-term (for ex-post) solutions

Data requirements for constructing the IO model are very simple and hence, no action can be envisaged for improving the data situation.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

NO

Are time/resources sufficient for establishing a model?

What are the conditions in order to answer the question?

Note(s)



Information on measure specific adjustments of productive capacity targeted by each measure is good for the ex ante analysis only.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

NO

Are time/resources sufficient for establishing a model?

What are the conditions in order to answer the question?

Note(s)



Information concerning the net programme effects calculated at the farm level cannot be obtained from the Managing Authority, Paying Agency or other institutions involved in monitoring of the RDP, but can only be obtained from evaluators who may estimate it by applying advanced evaluation techniques (e.g. based on matching).





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES
(CGE)

NO
(I-O)

Is the social accounting matrix and elasticities available?

Why is this question important?

What are the conditions in order to answer the question?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3.3.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES
(CGE)

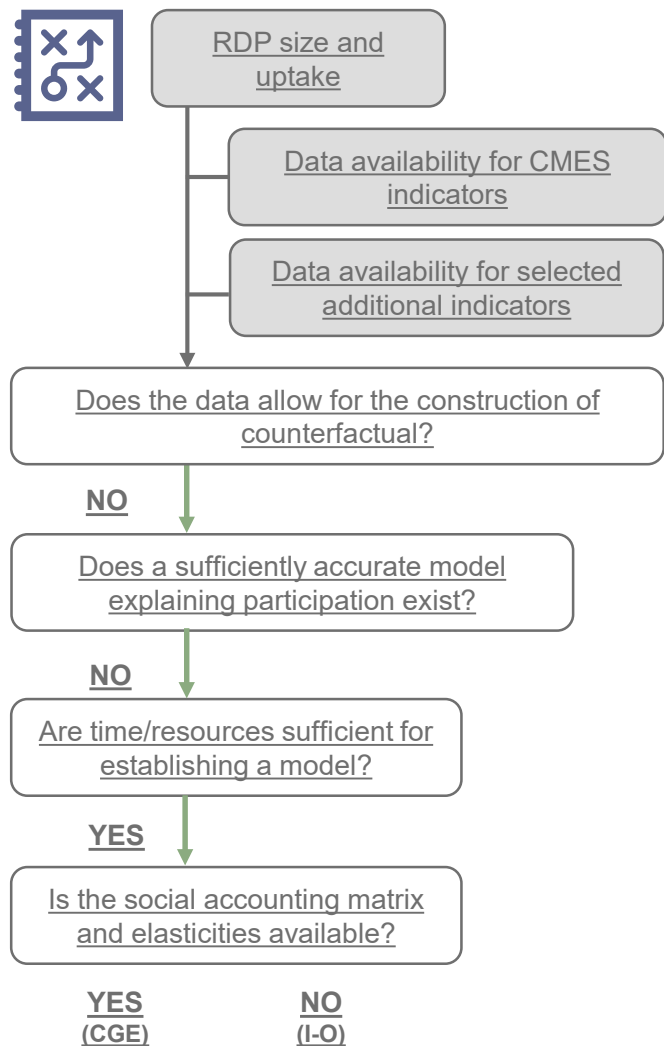
NO
(I-O)

Is the social accounting matrix and elasticities available?

Why is this question important?

The availability of a Social Accounting Matrix or of a CGE model and elasticity parameters is an important condition for the application of the Recursive-Dynamic CGE model approach to the AIR 2019 and the ex post evaluation.





Is the social accounting matrix and elasticities available?

What are the conditions in order to answer the question?

Ready-made Rural-Urban CGE models are very scarce. Hence, in most cases, an alternative route to model construction and application is proposed. The application of the Recursive-Dynamic CGE involves one to comply with the following conditions:

- ✓ The existence of a SAM/CGE model at the national level. This can be obtained from the GTAP 9 database for every EU country and for a significant number of sectors, which include a detailed disaggregation of both agriculture and food processing. GTAP CGE models are specific to the year 2011 and it is in the discretion of the evaluator to update them to the year 2013 through the application of the RAS Method.
- ✓ Conversion of the CGE models at the national level into rural-national or rural-regional CGE models in accordance to the RDP under evaluation.
- ✓ Collection of employment data by industry at the industry level (NACE 2) from Eurostat at the national and rural-national level.
 - i** Note
- ✓ To finish the model construction process, elasticity data can be obtained from the GTAP database or other external sources while carefully applying calibration procedures. Data on the specification of dynamic trajectories (e.g. annual % change in labour supply and population) can be retrieved from Eurostat (Degree of urbanisation – DEGURBA database). Data on changes in labour productivity and government consumption at the national level can be obtained from either the OECD database or Eurostat database.
- ✓ The above-mentioned databases are available on an annual basis. The closest year available for the SILC databases is 2015. **i** Note





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES
(CGE)

NO
(I-O)

Is the social accounting matrix and elasticities available?

What are the conditions in order to answer the question?

Note(s)



The availability of sectoral employment data enables the regionalisation (at the rural level) of SAM/CGE tables through the application of a mechanical regionalisation technique such as GRIT (see Guidelines *Assessing RDP achievements and impact in 2019*, PART IV, Chapters 4.7.1 and 4.7.2). According to the discretion of the evaluator, mechanically generated estimates of agricultural sub-sectors can be improved through the utilisation of the FADN public database. In parallel, rural households can be disaggregated into various categories and their expenditure patterns can be recorded through the utilisation of the 2015 Eurostat SILC data on expenditure patterns at the rural level.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES
(CGE)

NO
(I-O)

Is the social accounting matrix and elasticities available?

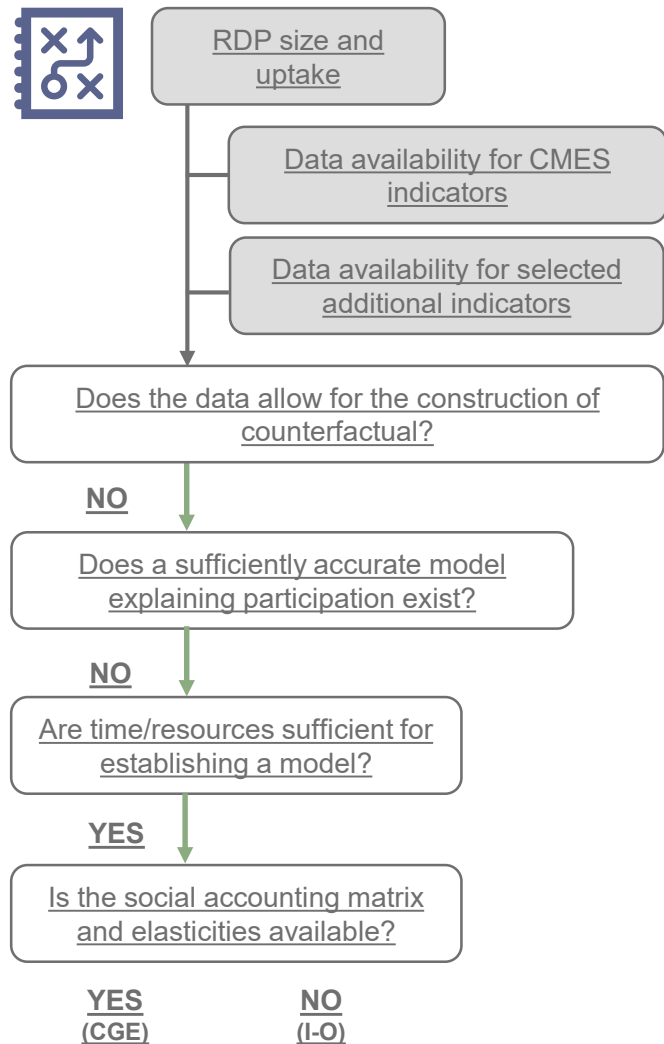
What are the conditions in order to answer the question?

Note(s)



Public availability of the databases ensures no delay in data provision. However, a possible delay could occur in terms of data released by Managing Authorities and Paying Agencies. Therefore, evaluators should request this data in a timely manner.





Is the social accounting matrix and elasticities available?

Are there any specificities to be considered for regionalised RDPs?

- For regionalised RDPs the same procedure is proposed to downscale the GTAP SAM/CGE at the regional-rural level.
- The only specificity regarding data is on household consumption data. In this case, the option is to process raw data of Household Budget Surveys.



Examples:

- Greece
 - Italy
 - Finland
- More data is needed if the regional IO tables are not available. For example, in the FLQ a regionalising technique (Flegg and Webber 2000; Tohmo 2004; Bonfiglio and Chelli, 2008) is used as a hybrid method. For this one needs additional variables from regional statistics (e.g. total intermediate use, wages and salaries, value added, investments and total output). See: case study of Finland.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES
(CGE)

NO
(I-O)

Is the social accounting matrix and elasticities available?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

The construction of Recursive-Dynamic CGE models to be used for the AIR 2019 is not considered a feasible option. The availability of very experienced (on CGE analysis) evaluators can lead to an exception to this rule.

Long-term solutions (for ex-post)

Construct a Recursive-Dynamic CGE model at the national/rural or/and regional/rural levels for future evaluations.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES (CGE)

Does the data cover different points in time (temporal scale?)

YES

Does the data cover different points in time (temporal scale?)

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term (for AIR 2019) and long-term (for ex-post) solutions



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.9 and PART IV, Chapter 4.7.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.16, 2.17 and 2.18.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES (CGE)

Does the data cover different points in time (temporal scale?)

YES

Does the data cover different points in time (temporal scale?)

Why is this question important?

Knowing if data covers different points in time is important so that the CGE baseline model is specific to a year which is close to the start of the RDP start and hence does not take into account changes in the economy attributed to the programme. Data availability in different points in time facilitates the specification of dynamic trajectories for the CGE model and of model policy shocks.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES (CGE)

Does the data cover different points in time (temporal scale?)

YES

Does the data cover different points in time (temporal scale?)

What are the conditions in order to answer the question with YES?

- ✓ The GTAP database provides access to national CGE models, which can be used as a starting point for the construction of a Rural-Urban CGE model that can be utilised for the assessment of RDP impacts.
- ✓ Data on policy shocks per measure (annual expenditure) should be provided by the RDP Managing Authorities and Paying Agencies.
- ✓ Information about net micro effects of a given RDP calculated at the farm level should be used as a policy shock in the framework of the IO or CGE analysis.
- ✓ Evaluators who estimate various types of programme effects at the micro and macro levels should closely cooperate with each other.
- ✓ Public availability of the databases ensures no delay in data provision. However, a possible delay could occur in terms of data released by Managing Authorities and Paying Agencies, therefore evaluators should request this data in a timely manner.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

YES

Is the social accounting matrix and elasticities available?

YES (CGE)

Does the data cover different points in time (temporal scale)?

YES

Does the data cover different points in time (temporal scale?)

Are there any specificities to be considered for regionalised RDPs?

For regionalised RDPs there might be an additional scarcity of data. In particular, more data is needed if the regional IO tables are not available. For example, in the FLQ a regionalising technique (Flegg and Webber 2000; Tohmo 2004; Bonfiglio and Chelli, 2008) is used as a hybrid method. For this one needs additional variables from regional statistics (e.g. total intermediate use, wages and salaries, value added, investments and total output). See: [case study of Finland](#).

What can be done to improve the data situation?

Short-term (for AIR 2019) and long-term (for ex-post) solutions

Data generated for the application of the Recursive-Dynamic CGE model is publicly available and its collection and processing are both built into systematic and well-defined procedures. Within this context, no action can be envisaged to improve the data situation for both the AIR 2019 or the ex post evaluation.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of counterfactual?

NO

Does a sufficiently accurate model explaining participation exist?

NO

Are time/resources sufficient for establishing a model?

NO

YES

Is the social accounting matrix and elasticities available?

NO
(I-O)

Input-Output model, Input-Output model combined with Difference in Differences

The Input-Output (IO) analysis is a quantitative technique for studying the interdependence of the producing and consuming units within an economy. The assessment of the RDP's net effects at the macro level is based on linear relationships, which can lead to an overestimation of policy impacts. An IO table identifies the major industries in an economy and the financial flows between them over a stated time. It indicates on one side of each sector's inputs, which are purchased, imported, or earned by labour and on the other side each sector's output (sales to other industries and to final demand (households)). The interdependence between the individual sectors of a given economy is normally described by a set of linear equations, representing fixed shares of input in the production of each output.

IO does not embody counterfactual analysis and a separate exercise is needed to capture the net effects of the RDP's investments.



Read more in guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.9.5 and PART IV, Chapter 4.7.2.



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