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EVALUATION OF PROJECTS FROM RURAL DEVELOPMENT PROGRAMME IN CZECH REPUBLIC 2014 - 2020

Chaloupka, O., Pechrová, M., Doucha, T.

INTRODUCTION

- Based on European Parliament regulation the granting of more than 3.1 billion EUR was approved for Rural Development Programme in the Czech Republic for 2014-2020 (RDP).
- Requirement - Select quality projects for support
- Solution – Cost Benefit Analysis (CBA)



PATH TO COST BENEFIT ANALYSIS

- CBA – the most appropriate method for the evaluation of projects under the RDP (projects – investments in tangible assets (M4), development holdings and business activities (M6), cooperation (M16)).
- It does not take into account the impacts to overall balance of national economy, but analyzes the impacts of investment on all affected stakeholders and transform it to the financial form.
- The method compares the benefits that express any positive effects and detriments of the project.

Currently Ministry of Agriculture (MoA) uses RDP Model Calculator (simplified version of Cost benefit analysis). It evaluates primarily the economics of the projects.



DATA SOURCES

- First step - creating a database of inputs for cost benefit analysis:
 - Commodity prices
 - Intensity of production / yield
 - Shadow prices of commodity
 - Expenditures on commodities (fertilizers, plant health, labor costs, feed costs, seed prices)
 - Subsidies on commodities
 - Other expenditures (costs of energy, water, gas...) – not used in RDP calculator model yet



COMMODITY PRICES AND INTENSITY OF PRODUCTION

Two types:

1. Prediction of the most common commodities

(cereals, maize, rapeseed, potatoes, apples, sugar beet, onion, hop, cabbage, milk, beef, pork, poultry, eggs)

2. Averages prices of other commodities



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COMMODITY PRICES AND INTENSITY OF PRODUCTION

1. Prediction for 10 years, updated annually

- For the prediction IAEI uses models based on following methods:
 - Deriving from the European and world prices through price indices growths
 - Ordinary Least Squares Method
 - Winter's Method
 - ARIMA models
 - Combination of above stated methods

MP6



Slajd 6

MP6

Klidně bych to nechala takto, ať je to přehlednější

Marie Pechrová ; 2016-06-01

COMMODITY PRICES AND INTENSITY OF PRODUCTION

2. Average prices of the other commodities: for the last 5 years

- Production intensity: standards are the averages over the last 5 years, user can choose own production intensity within interval (min < > max) from cost survey NAKL by IAEI

RDP Model Calculator can use both types of data



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MP4



Slajd 7

MP4

Klidně bych to nechala takto, ať je to přehlednější

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SHADOW PRICES OF COMMODITIES (SPR SUB-MODEL)

- Two types of calculation:
 - 1. Ratio of price to import/export price
 - The simplest method. Weighted by export/import volume balance. The best possible method that can be used from the available data.
 - 2. SPR index calculation
 - Methodologically correct variant based on perfect quantification of transmission and distribution costs of individual commodities. At this time it is not possible to fill the SPR sub-model with necessary data for this calculation.

RDP Model calculator can use both types of data (connected to SPR Sub-MODEL)



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EXPENDITURES AND SUBSIDIES ON COMMODITIES

- Two ways:
- 1. For the most common commodities
 - Prediction of costs for 10 years, annually updated
 - **Plant Production:** Costs of fertilizers, plant health, seed prices, labor costs
 - **Animal Production:** Costs of own/purchased feed, labor costs
 - Predictions are made by seasonal trend forecast model in GAMS
- 2. For all commodities
 - used average production cost (5 last years) per unit of production from Cost survey NAKL by IAEI.
 - Subsidies – used average subsidies costs (5 last years) per unit of production from Cost survey NAKL by IAEI

RDP Model calculator can use only averages of costs per unit of production (2nd way) yet and Subsidies.



RDP MODEL CALCULATOR

- Fully automatic calculator
- The user fill only basic inputs:
 - The amount of subsidy requested
 - Type of project (commodities, that project passes)*
 - Scale of production (harvested area or number of animals)
 - Intensity/yield (Optional)
- User can combine 10 commodities in one project
- Everything else calculated by RDP Model Calculator



RDP MODEL CALCULATOR

- Evaluation criteria:

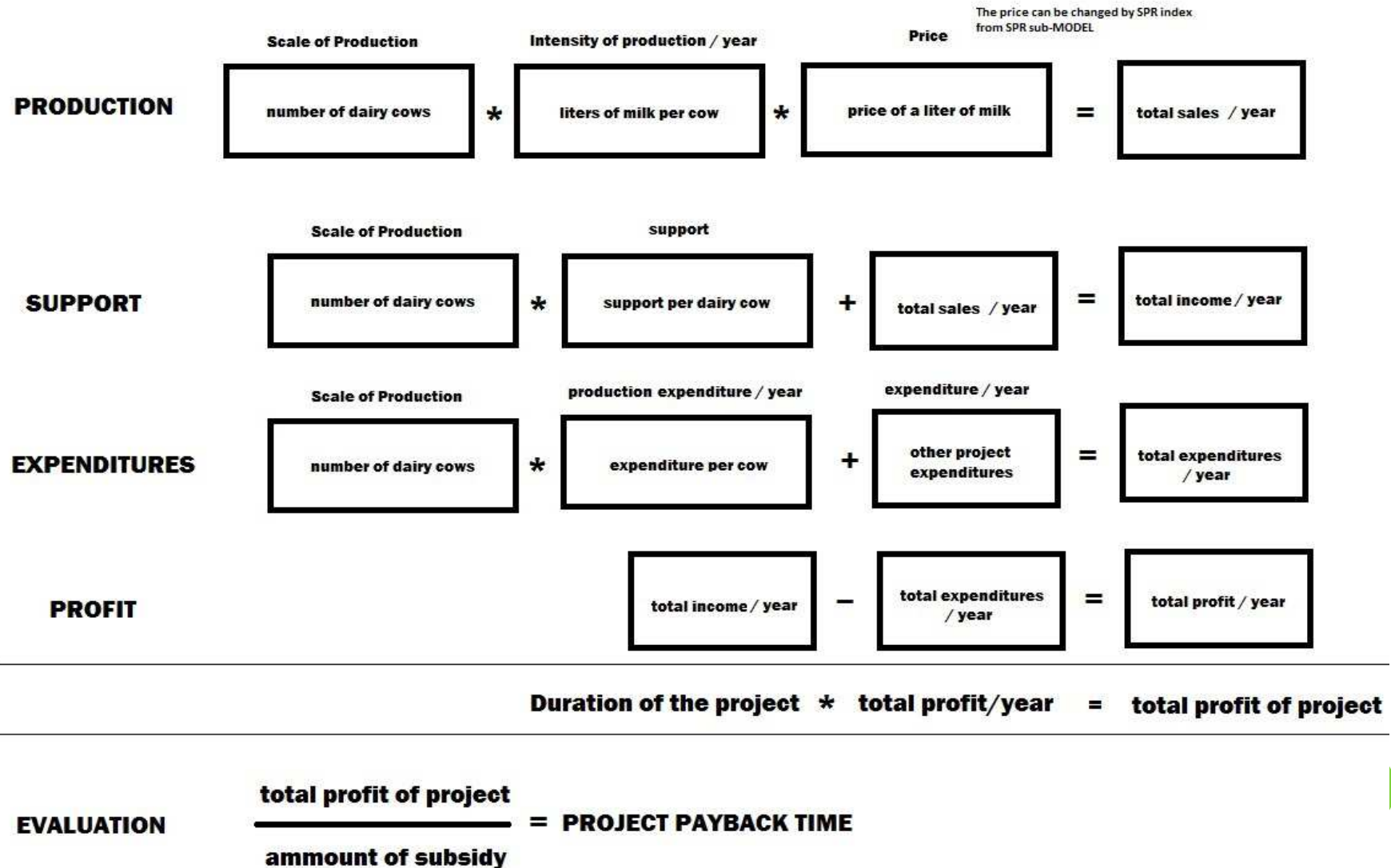
- 1. Project payback time - Total profit for the payment of non-investment costs CZK / amount of subsidy
- 2. Time depreciation of purchased property (depreciation of fixed assets are determined by law in CR).

The payback period of the project must be lower than the depreciation period for the assets purchased (equipment).

* example: Innovation parlors cow's milk – commodity: Milk



RDP CALCULATOR SCHEME



CONCLUSIONS

- Currently, at this stage, RDP calculator is used by State Agriculture Intervention Fund (payment agency of MoA) to evaluate projects in RDP.
- Data sources are constantly updated using IAEI prediction models and cost survey NAKL.
- For the next round of applications is being developed the improved versions of RDP Model Calculator, which will fully work with predictions of prices, intensity/yields and expenditures.
- Furthermore, the model will be ready for evaluate the impact of externalities in projects.





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