

Energie

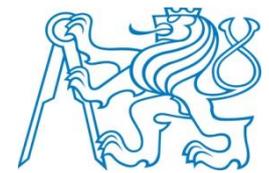
Hospodářství

Ekologický

Transaction Costs Case Study Czech Republic

Michaela Valentová
Czech Technical University in Prague

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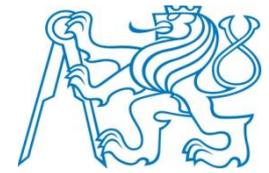
Content:

1. Introduction - theory and definitions of TC
2. Methods of measurement of TC
3. Case study Operational Programme Environment
 - Main results of the research
 - Some insights
4. Conclusions



Transaction costs - introduction

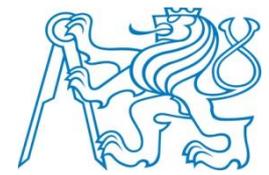
- When evaluating energy efficiency (or GHG emission reduction) policies, the analysis usually only analyses the resulting effects (CO₂ savings, energy savings, etc.).
- In line with transaction costs theory, such evaluation leads to **suboptimal decisions**



Transaction costs - introduction, cont.

- Imbedded in New Institutional Economics
 - All actors in economy make their decisions under **bounded rationality**
- All activities/contracts bring about transaction costs
- Sometimes, assimilated with **administrative costs**
- The costs cannot be minimized
- Zero transaction costs = „Robinson Crusoe Economy“
- Transaction costs can be compared to friction in physics





Transaction costs - introduction, cont.

Definition

- o Not one single, common

- o Broad

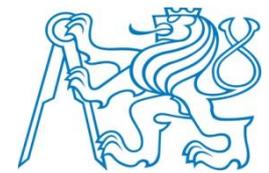
the costs of running the economic system (Arrow 1969)

the costs of creation and maintenance of institutions and organizations (Furubotn and Richter)

Costs connected with market transactions, costs connected with property rights (Allen 1999)

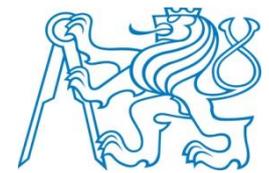
- o More specific

costs of arranging a contract ex ante and monitoring and enforcing it ex post, as opposed to production costs (Matthews, 1986)



Methods of measurement

- **Not a single one..**
 - Depends on and stems from the definition of TC
- „Top-down“
 - Two parts of economy: transformation/production and transaction sectors. (Wallis and North 1986)
- „Bottom-up“
 - Through interviews, surveys - direct time costs and costs related to the activity ([Standard Cost Model](#))(McCann et al. 2005)
- „Comparative“ methods
 - Measuring the marginal transaction costs - e.g. The difference in situation A and in situation B (Cheung 1998)



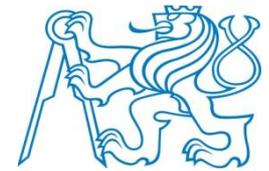
Method, cont.

- Bottom-up - SCM model
 - Standard cost model is a tool to measure administrative costs and thus the evaluate the regulatory impact
 - Analogous to the assessment of induced and administrative costs of energy efficiency measures
 - Process: identification of individual activities and their quantification
 - mostly through labour costs



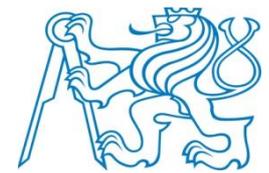
Case study Czech Republic

Operational programme Environment 2007 - 2013



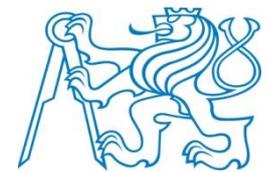
About the OP E

- In 2007 - 2013 4.92 billion EUR available (18 % of all OP in Czechia)
 - Additional 870 million EUR from national resources
- Priority axis 3 - Sustainable use of energy
 - Support of energy savings measures and heat and electricity from RES
 - Applicants: public entities (mostly municipalities, towns
 - Type of buildings: mostly schools and healthcare centres
 - ca 800 million EUR (14 % of total OP E Funds)



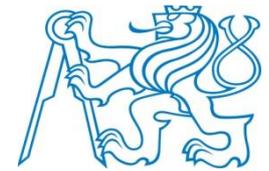
About OP E, cont.

- Expected outcomes:
 - Total number of supported projects: **3525**
 - 87 % of projects on insulation
 - The rest are RES projects and combination of energy savings and RES
 - yearly savings in final consumption **2 519 PJ**
 - increase in yearly heat production from RES by **326 TJ**
 - increase in yearly electricity production from RES by **64 TJ**

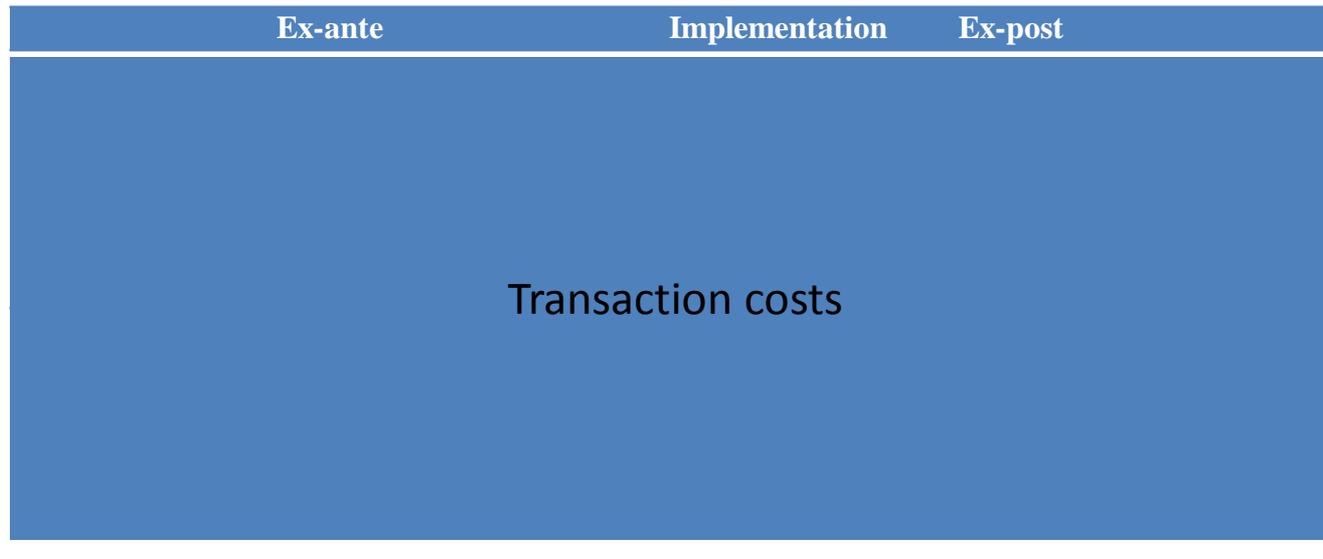


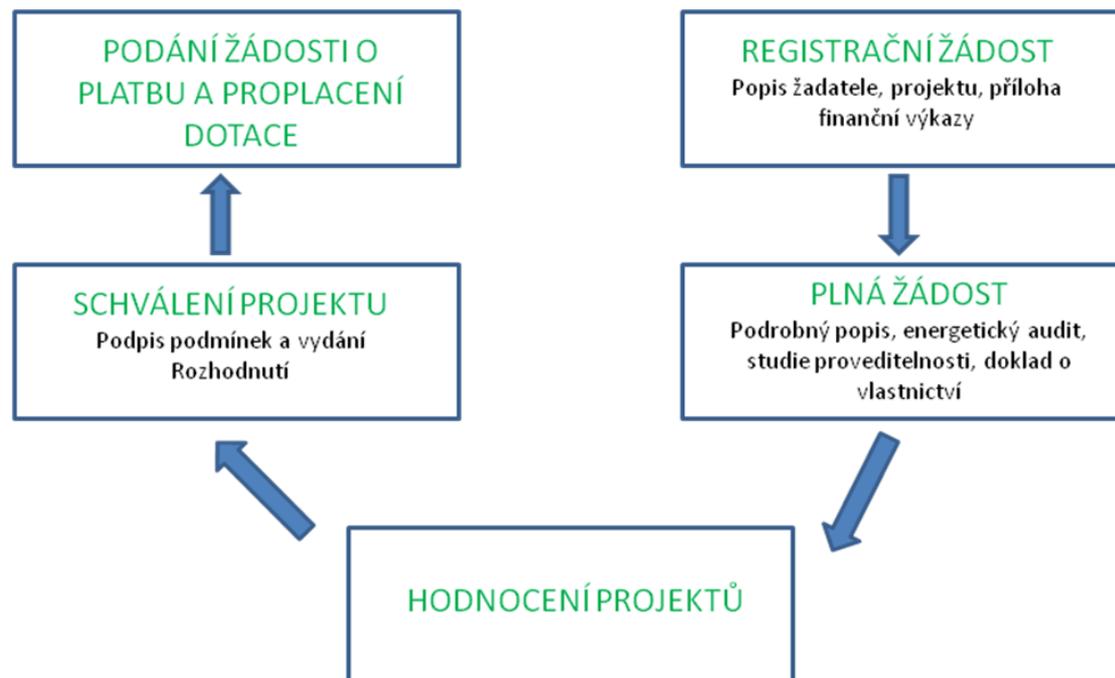
Method

- Three phases of the research
 - Analysis of existing programme documents and background materials
 - In-depth interviews with recipients and administrators
 - Questionnaire survey among subsidy recipients through online tool (over 300 sent out, over 80 returned, 55 used for analysis)
- Data on structure and level of the costs connected with administration of the subsidy scheme
 - both at recipients and the administration body (State Environmental Fund)

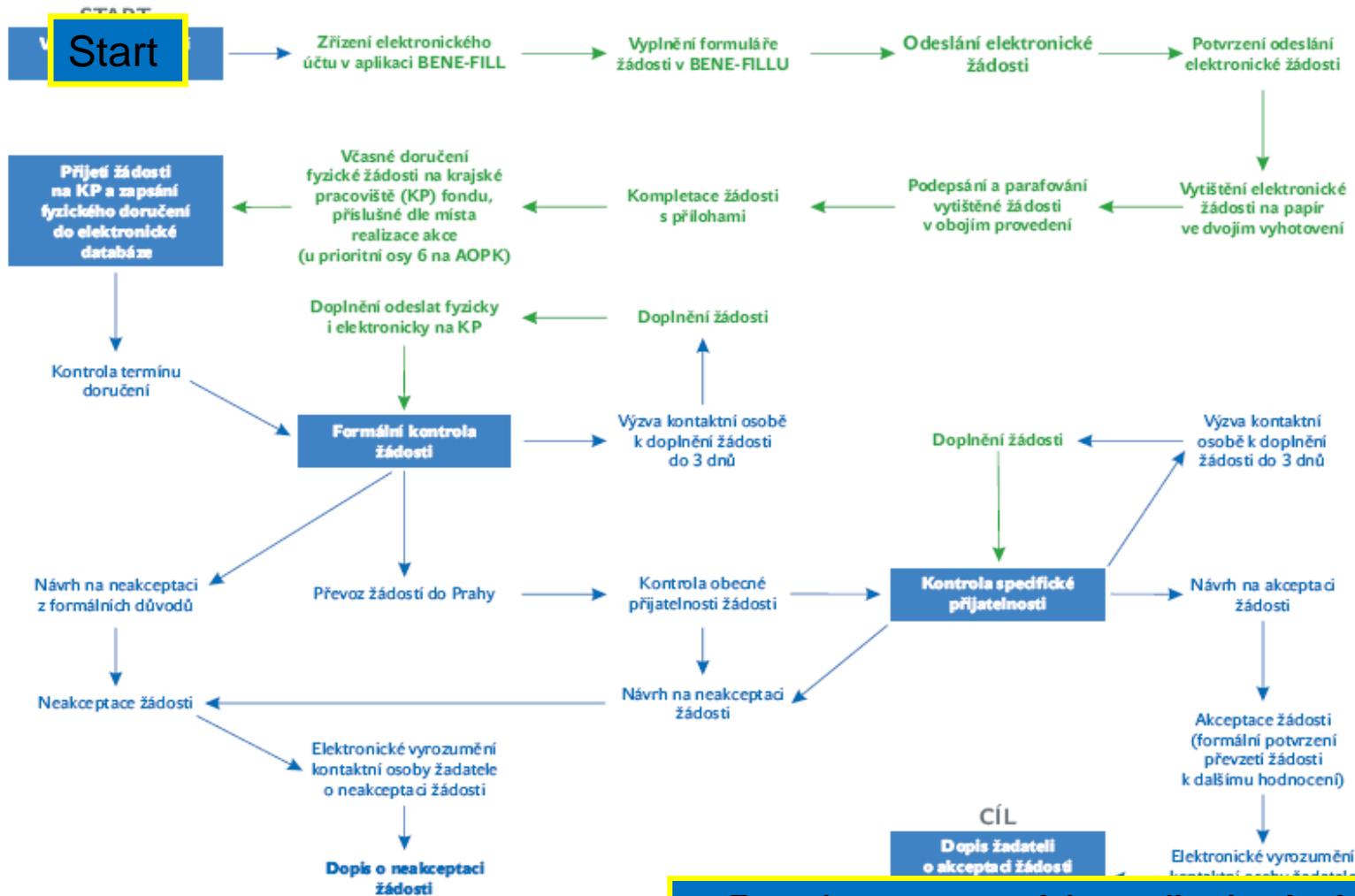
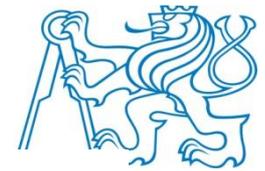


Transaction costs in OP E





Růžička 2011

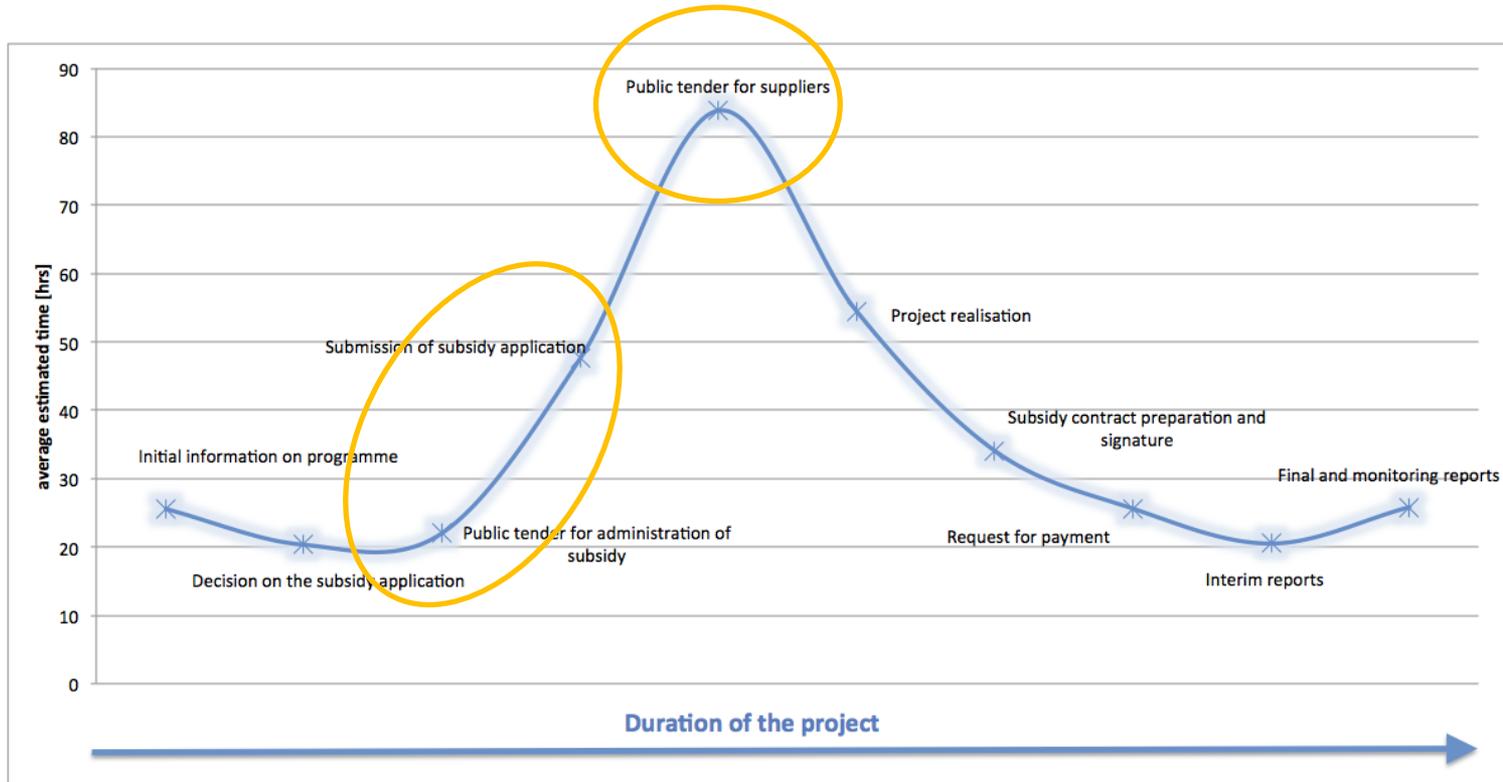


Source: State Environmental Fund

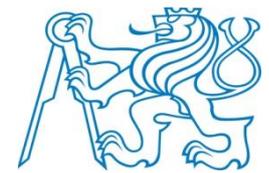
Formal acceptance of the application for further evaluation



Main results - transaction costs

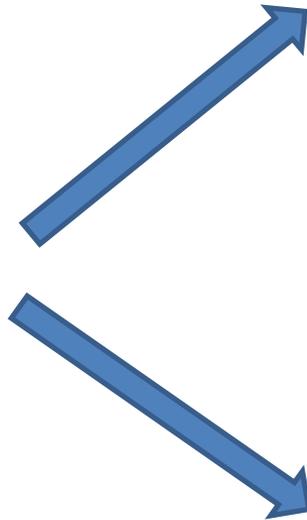


Time spent by respondents with different phases of project administration (in hours)



Main results - transaction costs, cont.

Total induced costs



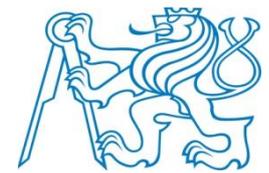
Time costs

- estimated by respondents
- in monetary terms through costs of labour
- Average 324 hrs = EUR 3520

Costs of external services

- Energy audit and energy label, project documentation, preparation of application, preparation and organization of tender
- Average EUR 12 200

Average 5.9 % of subsidy



Main results - transaction costs, cont.

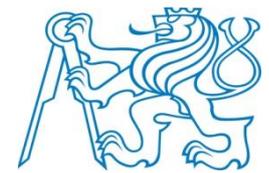
Administrative costs

- Derived from technical assistance
- 3 % of subsidy allocation

Unsuccessful applicants?!

- 53 % success rate. What about the rest?
- Roughly 2.7 % transaction costs

Programme	Induced costs as percentage of subsidy	Administrative costs as percentage of subsidy	Induced costs of unsuccessful applicants	Total transaction costs
OPE - Priority Axis 3	5.9 %	3 %	2.7 %	EUR 94 million

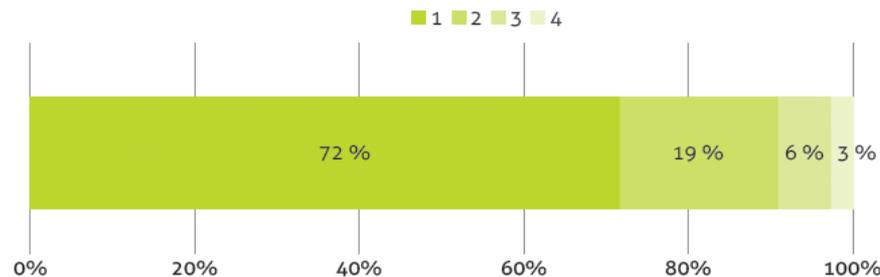


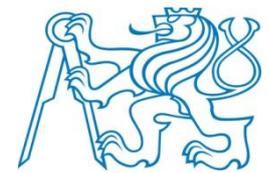
Some insights

Feedback from the respondents (successful applicants)

Advantages: better economics of the projects, energy and cost savings, emission reduction, need for reconstruction and tight public budgets.

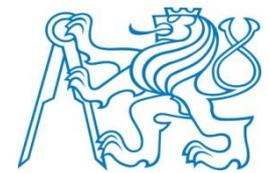
Problems: administrative intensity, complexity of tender procedures, changing conditions, time delays, contradictory information





Some insights, cont.

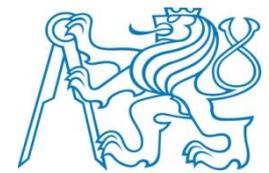
- Subjective perception of the time intensity
- Weak relation between the size of subsidy (project) and the induced costs
 - Probable explanation: the type of applicants
 - opposed to ECO-ENERGY, focused on private companies
- Low effect of „learning curve“



Some insights

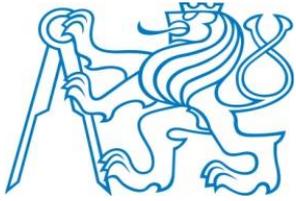
Limitation of the method

- Problem with data collection
 - Big time lag (change in responsible persons)
 - No track of the costs
 - Overhead costs not included - almost impossible to get data
- Boundaries of the system...?
 - Operational programmes - payment and certification body, ministries, external evaluators, EU level...



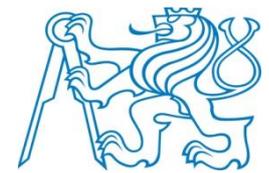
Conclusions

- When assessing the effectiveness of the programmes, transaction costs (induced costs and administrative costs) should be included
 - New programming period 2014 - 2020, new instruments
- In 2007 - 2013 - significant budget for energy efficiency improvements in the Czech Republic
 - Up to now results of the supported projects in OP E - energy savings of 2519 PJ/year
- Transaction costs of about 12 % in OP E - PA3 (i.e. additional 94 million EUR)
 - Likely to be underestimated
 - but can be easily over 30 % of the subsidy



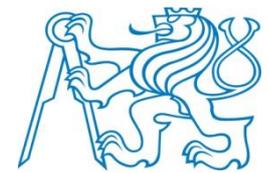
Thank you for your attention.

Michaela Valentová, michaela.valentova@fel.cvut.cz



References, further reading

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Activities for Summer School in Vienna

- What is the regulatory impact assessment framework and practice in CZ and AT?
- Select a policy instrument, piece of legislation, programme and analyse the administrative impact/transaction costs
 - Through primary documents, secondary literature, interview?