



Monitoring the impact of R&D&I funding: A look into the black box...

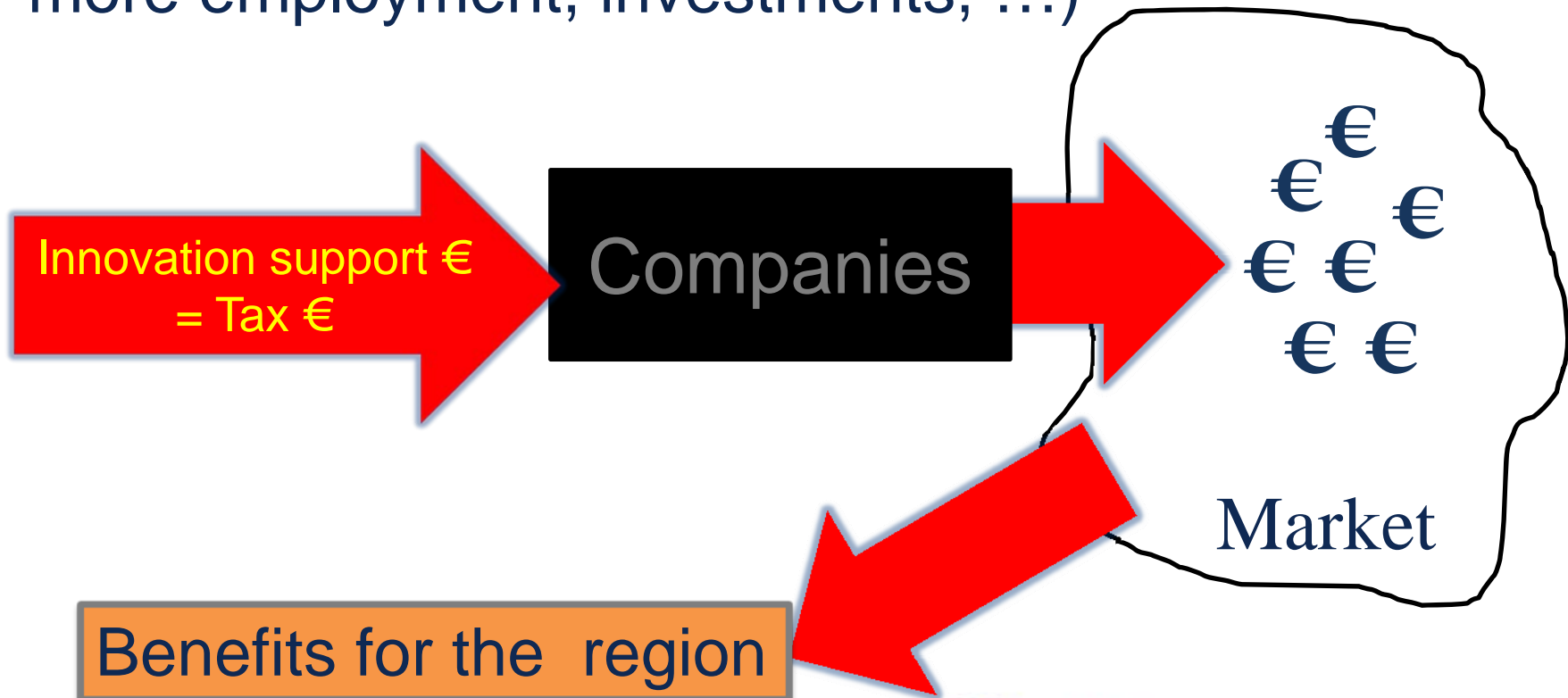


SCINNOPOLI Final Conference
8th November 2011

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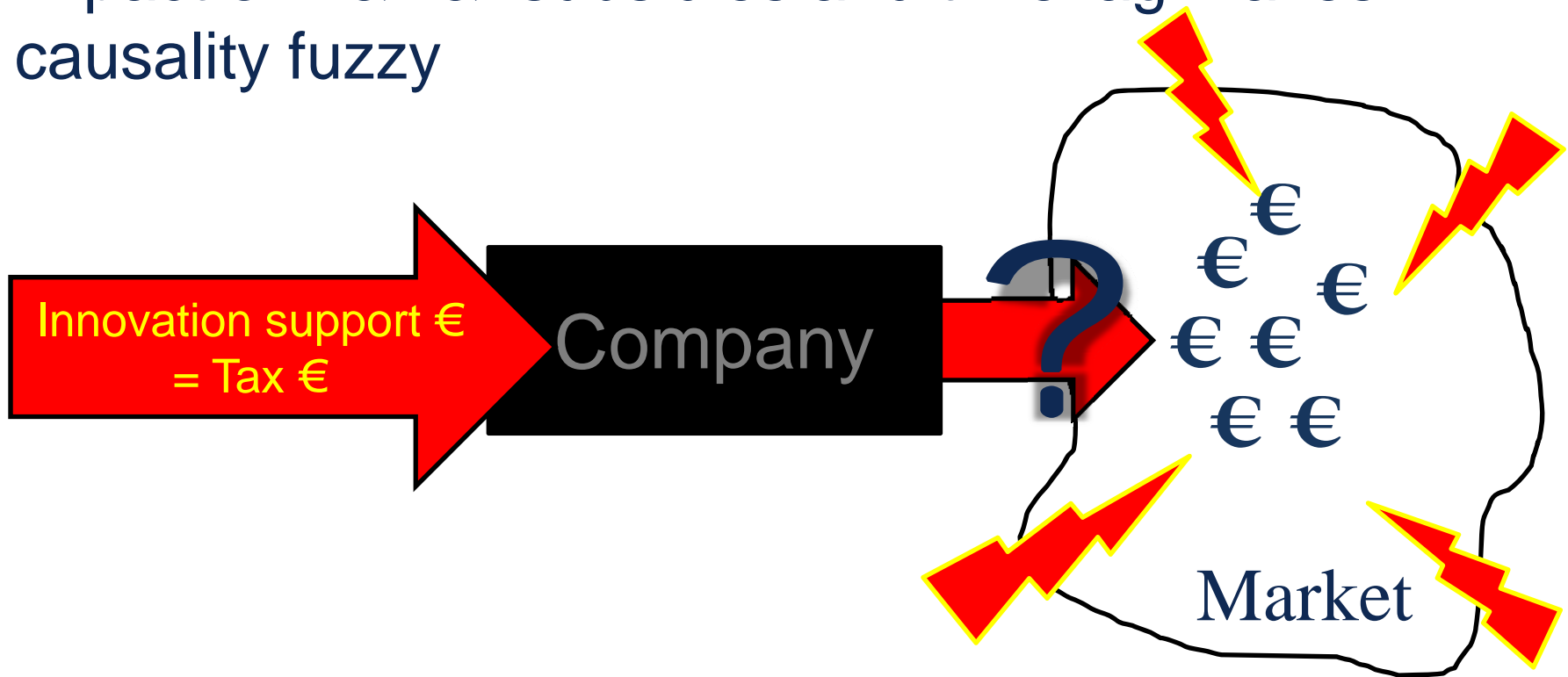
The problem

Policy makers want solid proof that R&D&I subsidies lead to benefits for the region (eg. more employment, investments, ...)



The problem

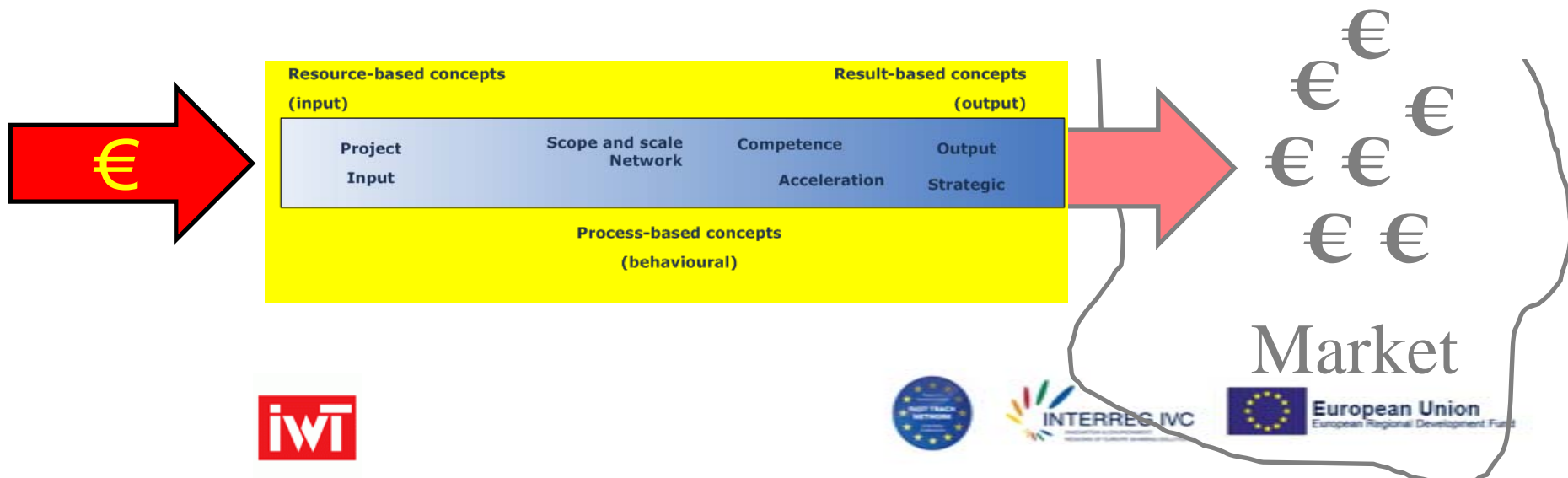
Too many external factors influence the final impact of R&D&I subsidies and time lag makes causality fuzzy



Solution:

Look inside the company for Behaviour Additionality

Do R&D&I subsidies have a positive effect on the companies innovation behaviour and hence improve its innovation performance



BA concepts

**Resource-based concepts
(input)**

**Result-based concepts
(output)**

Project Input	Scope and scale Network	Competence Acceleration	Output Strategic
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Process-based concepts

(behavioural)

Positive influence of R&D&I subsidies on Scale, Scope, Intelligence, Speed, Output & Impact, Cooperation, Strategy, ...of innovation activities

→ Strong 'believe' BA → Better economic performance

Case Study IWT BA-Methodology

- Question: Assess Behaviour Additionality of R&D company support
- Setup:
 - Direct R&D support by IWT approx. 100 mio € subsidies/year to 500 SME's & 80 BE each year
 - Pilot to test questionnaire (40 companies)
 - Full study: Telephone survey with project leaders (50) and e-Survey (300) to verify conclusions (**external consultant!**)
 - Duration (without pilot) 6 months, cost approx. 100k€
- The importance of CONTROL groups to identify delta's:
 - 3 groups used in study (matching pairs):
 - E = Experimental group: funded IWT-clients
 - A = Control group A: non-funded IWT-“clients”
 - B = Control group B: no IWT-clients

Results Additionality Study

- **Project Add.** (= High if project is cancelled without support)
 - 40% of projects would not have taken place without support
 - 50% with a smaller budget
- **Input Add.** (=High if companies spend more on R&D due to support)
 - No crowding out
 - 1€ funding → 0.85€ to 1.34€ add. R&D spending by firm
 - Follow up projects financed internally
 - No confirmation for labeling effect (= leverage effect of IWT funding to attract additional financial means)

Results of Additionality study

- **Cooperation**(= high when government support helps to create cooperation)
 - Funded clients more involved in non-subsidised R&D cooperation
 - Positive effects for SMEs (funding leads to the inclusion of SME in projects)
- **Intelligence**(=positive impact on competencies and expertise)
 - Limited impact on IP strategy (except first contact with IP (SMEs)) ,
 - Positive impact: only after the first IWT project or with more partners
 - No impact: if already professional R&D-organisation

Results of Additionality study

- **Speed** (= public funding speeds up project)
 - Funding speeds up projects, especially for starters
 - Projects are not submitted if time to market is important ...
- **Output and impacts** (= additional output thanks to public support, introduction of products/processes, impact on turnover, export, competitiveness, ...)
 - introduction of new product in 69% of projects
 - of which 30% would not have been realized without funding
 - introduction of new process in 58% of the projects
 - of which 38% would not have been realized without funding

What else did we learn from this study: Some hypotheses tested

Hypotheses	Results	Not rejected/rejected
Hypothesis 1: The larger the share of IWT subsidy in R&D, the higher the additionality.	IWT support is of crucial importance especially for SMEs. For project and outcome additionality we indeed can observe a higher additionality (positive and significant effects). No effect can be observed concerning competence additionality.	Not rejected for outcome and project additionality Rejected for competence additionality
Hypothesis 2: Subsidies for start-ups have more additionality, in particular outcome additionality.	Large firms and SMEs have less outcome additionality (negative significant effect). As the start-ups are the baseline, the start-ups show higher levels of outcome additionality.	Not rejected for outcome additionality

Some hypotheses tested

Hypotheses	Results	Not rejected/rejected
Hypothesis 3: Multi-partner projects have a higher additionality.	Multi-partner projects have higher competence additionality (positive and significant effects) than projects with only one partner. This does not hold for outcome additionality (negative and significant effects). In the case of project additionality, there is no significant relationship.	Not rejected for competence additionality Rejected for outcome and project additionality
Hypothesis 4: Companies that have a high turnover abroad will be able to achieve higher levels of additionality than those companies that are not yet international.	For strongly internationalizing companies, lower project additionality can be observed (meaning: these companies would self-finance the project). For both outcome and competence additionality there is no significant relationship.	Rejected (for all types of additionality)

Some hypotheses tested

Hypotheses	Results	Not rejected/rejected
Hypothesis 5: Companies with a more professionalized R&D organisation will have less competence additionality.	A more professionalized R&D company achieves lower levels of competence additionality. They 'learn' less from participation in IWT projects.	Not rejected
Hypothesis 6: First projects lead to higher additionality than subsequent projects.	For companies with more than one project, the project additionality is lower. Outcome additionality, as well as competence additionality are however positively affected (more opportunities to learn).	Not rejected for project additionality Rejected for outcome and competence additionality

Some hypotheses tested

Hypotheses	Results	Not rejected/rejected
Hypothesis 7: If companies have more cash-flow (investment slack) they would have a higher additionality.	We do not find any significant influence of cash flow on any type of additionality.	Rejected (for all types of additionality)
Hypothesis 8: Additionality, in particular outcome additionality, is more likely to show up the longer ago the project has been finished.	There is a positive and significant relationship between the project age and outcome additionality.	Not rejected for outcome additionality

Conclusions

- Direct R&D funding still makes sense
- Impact *on firms* can be assessed and
- Is positive for the firms *innovation behaviour*
- This 'could/should' lead to a positive impact on the region ...and give an answer to the questions of policy makers.

*Study available
for download
www.iwt.be*



Questions ?

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