THE ANALYSIS OF GUARANTEES
EXTERNAL IMPACT STUDIES

PANEL 2 – AECM SEMINAR – 15TH JUNE 2018
WARSAW
Panel 2: The analysis of guarantees: External impact studies

- Moderator and introductory speaker: Kurt Leutgeb, Head of Guarantees – Equity, aws, Austria
- Doris Neuberger, Department of Economics, University of Rostock, Germany
- Vasco Rodrigues, Department of Economics, Universidade Católica Portuguesa (UCP), Portugal
- Beatriz Freitas, Chairwoman, SPGM, Portugal
- Pablo Pombo, Secretary General of REGAR, Founding President of AECM
- Horacio Molina, Department of Statistics, Econometrics, Applied Research, Business Management and Applied Economics, University of Córdoba (Spain)

- Short introduction on the role of external impact studies
  - aws example
  - input by the panel

- Discussion
  - with the panel
  - with the audience
The role of evaluation in aws

Guarantee evaluation 2016 – methodology and results
The role of evaluation in aws

- Inherent in nearly all aws-programmes

- Special service unit for Strategy Development and Evaluation
  - Internal evaluations
  - Monitoring of external evaluations
  - Client feedback analysis
  - Evaluations sometimes contracted by the principal/ministry
aws example

guarantees are more effective

66 % of SMEs say that without aws guarantees the realisation of the project would not have been possible.

Source: aws
aws guarantees for innovation and growth
November 2017

Results of the evaluation of the guarantee activity of aws

Sascha Ruhland, M.A.
Methodology of the Evaluation Study

- Multiple method approach
  - qualitative
  - quantitative
  - primary data
  - secondary data
- Perspective of groups involved (interviews + survey)
  - supported SMEs
  - banks
  - aws
- Analysis of detailed monitoring data (including rating data)
- Control group analysis
  - Supported vs. non-supported twins
  - CRUCIAL: data base of research institute (annual accounts of nearly all Austrian companies)
aws-guarantees provide multi impact because of a wide ranging functional chain

- **Granting of loan**
  - Better loan conditions
  - Improvement of financial basis
    - Additionality
      - Effect on Project
      - Effect on company
        - Assets, employment, turnover, production capacity
          - Innovation, technology leader
            - Market position, competitiveness
AWS guaranteed projects have positive effects on turnover and employment of the company.

- Safeguarding of sustained turnover
- Increasing of turnover
- Safeguarding of jobs
- Increase of jobs
- Higher qualification of jobs

Control Group Analysis (Annual Turnover)

Control Group Analysis (Staff)
**aws guarantees have**

Clear positive effect on the company´s

- Investment
- Innovation
- Turnover
- Employment
- Marketposition

Companies with aws-guaranteed financing grow faster than not supported companies
EXTERNAL IMPACT STUDIES

Input
- Guarantee

Output
- Loan

Outcome
- Investment
- Innovation
- Turnover
- Employment
- Market Position

Impact
- On the Economy

GROWING TOGETHER
Macroeconomic impact studies for German guarantee banks

<table>
<thead>
<tr>
<th>Authors (region, period)</th>
<th>Finance additionality</th>
<th>Project additionality</th>
<th>Economic and fiscal benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hennecke et al. (2018), Hebebrand et al. (2017) (East Germany, 1991-2015)</td>
<td>63% (89%) add. loans to SMEs (start-ups) 85% (78%) cheaper loans to SMEs (start-ups)</td>
<td>72-75% of credit sum add. investments 70% of SMEs add. sales 1-2 new jobs and 3-5 saved jobs per company</td>
<td>GDP-multiplier: 1.15-1.22  Fiscal net benefit: &gt; 4 billion euro</td>
</tr>
<tr>
<td>Brautzsch et al. (2015) (whole Germany, extended guarantee program 2008-2009)</td>
<td>71% (60%) add. investments at SMEs (start-ups) 31% add. sales</td>
<td>60-82% (95%) add. loans to SMEs (start-ups) 43% add. information</td>
<td>GDP-multiplier: 1.3-1.5</td>
</tr>
<tr>
<td>Schmidt/Elkan (2010) (whole Germany, forecast 2009-2015)</td>
<td>67% (72%) add. investments at SMEs (start-ups) 60% add. jobs 5 new jobs and 2.5 saved jobs per guarantee</td>
<td>Multipliers (scenario 75% project additionality):  - investments: 2.14  - GDP: 3.2  - state budget: 0.65  - jobs: 12.66</td>
<td>Growth of GDP, employment, state budget (7 times the costs of counter-guarantees)</td>
</tr>
</tbody>
</table>
Impact study 2017

Data set and methodology

- **Internal data** from 5 guarantee banks in East Germany, 1991 – 2015: 40,000 loans of 32,000 firms
- **Survey** among firms having obtained a credit guarantee to assess finance and project additionality
- **Survey** among banks to assess finance additionality and windfall gains (finance done without guarantee)
- **Data about non-supported enterprises** from a credit bureau to compare firms with and without guarantees
- **Multipliers** from macroeconometric models to estimate the economic and fiscal net benefits
- Regional **national accounts** and **tax** data
PORTUGUESE GUARANTEE SCHEME MODEL

The Portuguese Mutual Guarantee Scheme is a public and private partnership.

**Shareholders**
- IAPMEI
- Turismo de Portugal
- Banks
- SME
- Chamber of Commerce
- IFAP

**Mainly Public shareholders**
- Participates in the capital of the MGSs and acts as “holding” of the System

**SPGM**
- Shared Service Center
  - administrative services
  - financial services
  - information systems
  - juridic services

**Mutual Guarantee Societies (MGSs)**
- Norgarante
- Garval
- Lisgarante
- Agrogarante

**Mainly Private shareholders**
- Participation in the capital of the MGSs and acts as “holding” of the System

**FCGM Management Company**
- FCGM Management Company
- Automatic and mandatory counter-guarantee fees
- Third-Tier Guarantee

**Public Fund**
- Counter-guarantee fees
- Periodic contributions
- Third-Tier Guarantee

**European Investment Fund (EIF)**
- Automatic and mandatory counter-guarantee fees

**State Guarantee**
- Automatic and mandatory counter-guarantee fees

**Beneficiary**
- Banks
- Public Institutions

**Clients**
- SME
- Individual businessmen

**Guarantees**
- Shares

**Protocols - institutional agreements**
- Portfolio Guarantees

**Bank Loans**
- Contract
- Technical Performance
- Etc.
MULTIPLYING EFFECT OF FUND ALLOCATION

Public Investment

€ 1 614

Bank financing for investment and working capital

€ 10 441

Counter Guarantees Issued

€ 13 906

Guarantees Issued

€ 27 637

Induced investment in the economy

€ 28 415

SME
> 100 100

Employment
> 1 571 000

Nº Students
21 516

VALORES EM MILHÕES DE € EUROS
DADOS A 31.12.2017
ACCUMULATED ISSUED GUARANTEES AND OUTSTANDING GUARANTEES PORTFOLIO

Volume of guarantee activity compared to the value of economic activity

Volume of outstanding guarantees in portfolio scaled by GDP

From: AECM facts & figures AECM members figures 2016 may 2017
ACCUMULATED ISSUED GUARANTEESE AND OUTSTANDING GUARANTEES PORTFOLIO

Accumulated Issued Guarantees (includes renovations and plafonds)
Outstanding Guarantees Portfolio
The Portuguese evaluation experience

Four rounds
- 2016: 2009-2014
- Ongoing: 2011-2016

Questions

Impact on users of mutual guarantees
- Financial additionality: Cost and amount of debt
- Economic additionality: Investment and exports

Impact on the aggregate Portuguese economy
- GDP
- Employment
The most recent evaluation (2016)

Data
- SPGM: list of guarantees and its beneficiaries
- BvD: accounts for every Portuguese firm
- Sample: 168 thousand firms

Methods
- Micro effects: econometrics, differences-in-differences
- Macro effects: input-output analysis

Results

Impact on users of mutual guarantees
- Average cost of debt down by 0.5 p.p. (60 million €)
- Debt up by 5 p.p. (3 billion €)
- Investment up by 4.3 p.p. (2.6 billion €)
- Small but positive impact on exports

Impact on the aggregate Portuguese economy
- GDP up by 0.3 to 0.8%, depending
On 27.09.17 the founding charter of the Ibero-American guarantee network association was signed in Bogotá (Colombia).

On 05.12.17 it was constituted in Porto (Portugal) with 10 Founding Members from seven countries.

Open to new incorporations of both partners for the guarantee activity, as well as adhered and / or strategic partners from which the activity of REGAR will be financed and financed.

The Association will be governed by its Statutes approved with date of December 5, 2017 in the city of Porto, Portugal, according to registration with the Number 233-A of the Notary Public of Ana Filipa Ferreira Maio de Menezes Falcão, for its Regulation of Regime Internal and by all those rules that are applicable to it.

Honor Associates
Outreach

Financial Additionality

Economic Additionality

Financial sustainability

ADDITIONALITY WHAT?
FINANCIAL & ECONOMIC ADDICIONALITY & MACROECOMIC IMPACT

Approve concepts
Data access
Measurement methodologies

Different approaches to public policy: The guarantee instrument of public policy
What level? What objectives?

Heterogeneous guarantee operators

Macros level
✓ Market does not ensure an efficient credit to economy
✓ The international rules of the financial system produce unintended negative effects on the financing of SMEs
✓ Malfunction of the institutions
✓ Reduction of banking activities in the context of the crisis

Intermediate level
✓ Incomplete offer in less attractive segments
✓ Disadvantaged regions
✓ Weak sectors
✓ Emerging activities

Micro level
✓ Needs of improvement in credit conditions
✓ Access Factor Dimension - microcredit
✓ Lifecycle phase - entrepreneurship - growth
✓ Nature of the business - intangible assets
✓ Profile of the operation - medium-long term

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Approve concepts
Data access
Measurement methodologies

Stewardship

Outreach
Financial Addicicionality
Economic Addicicionality

Fundamental characteristics of the information:
• Relevance, Faithful Representations
• Comparability, Timelessness, Understandability and Verifiability

Characteristics of improvement of the information:
• Cost-benefit restriction

Measures

Measurement of additionality

Qualitative methods
Control group

Quantitative methods

Questionnaires
In-depth interviews
Focus group
Through a decision model
Through a control group

Test of Difference between mean and proportions
Linear regression
Difference in Difference
Matching
Propensity Score Matching
Regression
Discontinuity Design
### IMPACT EVALUATIONS OF CGSs IN LATIN AMERICA

<table>
<thead>
<tr>
<th>PAIS / ENTE</th>
<th>INFORME DE EVALUACION</th>
<th>REALIZACION</th>
<th>ALCANCE / AMBITO</th>
<th>METODOLOGIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile FOGAPE</td>
<td>Mullins, W., Toro, P. (2017) &quot;Additional report from FOGAPE&quot;</td>
<td>1 University of Maryland 2 Central Bank of Chile</td>
<td>Financial additionality &amp; Increase in the number or bank relationship</td>
<td>Empirical strategy (Fuzzy Regression Discontinuity): allows to obtain an adequate control group for the treated companies (which obtained the guarantee).</td>
</tr>
<tr>
<td>Chile IGRs</td>
<td>Quiroz &amp; Asociados (2017) &quot;Impact of IGRs on mipyme financing&quot;</td>
<td>Quiroz &amp; Asociados Chile University</td>
<td>Effect on divisibility and mobility and intensive financial additionality</td>
<td>Quantitative</td>
</tr>
<tr>
<td>México Guarantee program of the Secretary of Economy</td>
<td>Benavente, JM (2006), &quot;Impact evaluation BBVA-Bancomer business card guarantee programs&quot;</td>
<td>Chile University Mexico University</td>
<td>Economic Additionality (customer &amp; employment),</td>
<td>Difference Difference Estimator - Matching</td>
</tr>
</tbody>
</table>
Concepts & Objectives:
- Financial Sustainability (FS)
- Outreach
- Financial Additionality (FA)
- Economic Additionality (EA)

Level of decision:
- **Tactical decisions**: Management of FS, Outreach & FA?
- **Strategical decisions**:
  - Identification of the credit market failures
  - Assessment of the social benefits if credit market failure is solved

Ex ante FA measures whether a specific credit would have been rejected without the CGS guarantee

Ex post FA measures the volume of incremental credit or the better conditions of access to credit (extensive & intensive FA)

Methods for FA & EA:
- Decision support tools
- Impact evaluation analysis (micro & macro)
- Qualitative analysis (cost-benefit restriction)
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