

# **Understanding Why Public Employment Services and Small-Business Assistance Programs Work at Getting the Unemployed Back to Work**

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# **EVALUATION OF ACTIVE LABOUR MARKET PROGRAMMES (ALMPs)**

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- **Substantial increase in the empirical evidence on the effectiveness of ALMPs**
- **Two ALMPs have received considerable attention from researchers and policy makers:**
  - **Public Employment Services (PES) and**
  - **Small-Business Assistance (SBA) Programs**

# **Public Employment Services (PES) and Small-Business Assistance Programs (SBA)**

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## **SUCCESSFUL IN:**

- Developed countries—Kluve, 2006, and Martin and Grubb, 2001
- Developing and transition countries—Dar and Tzannatos, 1999, and Betcherman, Olivas and Dar, 2004

## **GOAL OF THESE ALMPs:**

**PES:** Include different types of measures aimed at improving job search efficiency

**SBA:** Support the start-up and development of self-employment endeavors or micro-enterprises

# Public Employment Services (PES) and Small-Business Assistance Programs (SBA)

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## MOST PREVIOUS RESEARCH:

- Studies the average effect of these programs for the unemployed or for the specific population subgroup for which the program is targeted

## THIS PAPER:

- Studies the suitability of these programs for different population subgroups in Romania in the 1990s
- Examines the channels through which these programs work by contrasting possible theoretical explanations with heterogeneity analysis
- Enhances our understanding of PES and SBA in transition economies, in general, and in Romania, in particular

# Why Romania?

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- Concentrating in one country has the advantage that the institutional environment is held constant
- These two programs were the first large scale programs ever implemented in Romania after the 1989 Revolution
- A rich data set (collected specifically for this evaluation) provided good quality data on key variables—such as earnings for both the employed and the self-employed

# CONTRIBUTION OF THE STUDY

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1. Using unusually rich (for transition economies) survey data and matching methods, the analysis reveals that average effects for the population as a whole may hide statistically and economically significant differences across subgroups
2. Compare to non-participation:
  1. PES are effective for young workers and those in rural areas
  2. SBA works for workers in rural areas and less educated workers
3. These findings are compatible with: (1) Improved job matching theory for PES, and (2) Segmented labor theory for SBA
4. Provide guidance on which populations would benefit the most from PES and SBA

# TWO RELEVANT CHARACTERISTICS OF THE ROMANIAN LABOR MARKET

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## 1. Two job search channels:

- Important informal search channel (family, friends, coworkers)
- Formal search channel (PES)

Improved job matching theory predicts PES ought to work best for those who do not have access to informal search Channels (such as young workers or those living in more depressed areas—rural areas.)

## 2. Segmented labor markets:

- Primary labor market (high productivity jobs with benefits)
- Secondary labor market (subsistence agriculture and underground economy)

Segmented labor market theory predicts SBA ought to work best for workers who do not have access to primary labor market (such as those living in depressed areas or less educated workers)

# **STRUCTURE OF THE PRESENTATION**

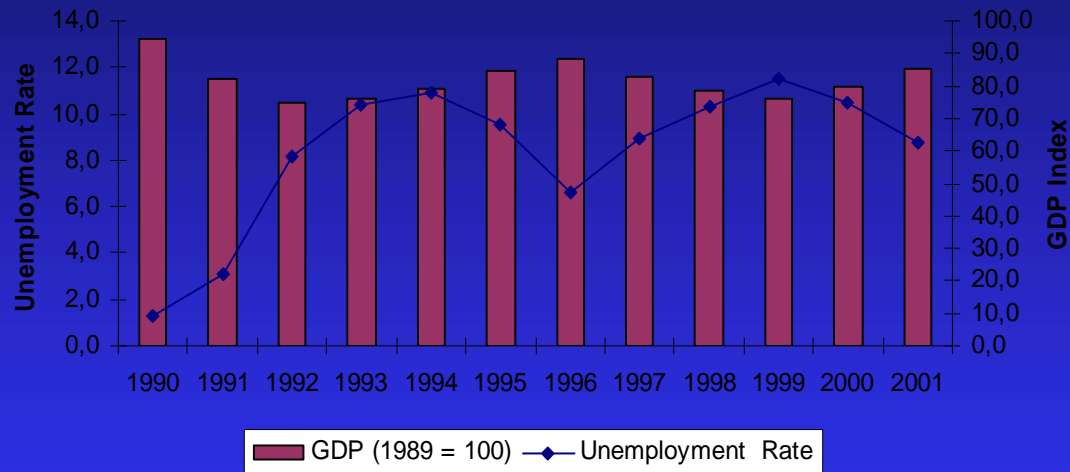
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- **Economic and institutional background**
- **Theoretical considerations**
- **The data and methodological approach**
- **Results**
- **Policy implications**



# **ECONOMIC AND INSTITUTIONAL BACKGROUND**

# ROMANIA ECONOMIC INDICATORS, 1990-2001



# **SMALL AND MEDIUM ENTERPRISE SECTOR**

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- **Dynamic sector (SMEs represented 47% of total employment and contributed to 65% of GDP in 2000)**
- **SMEs' sector size is small compared to other transition economies**
- **Slow development explained by:**
  - **Private initiative inexistent prior to 1990**
  - **Complex legislative framework**
  - **High taxation level**
  - **Considerable social and political pressures against privatization**
  - **Very weak entrepreneurial tradition**
  - **SME's financing has been limited and expensive**

# **ROMANIAN SOCIAL SAFETY PROGRAMS**

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- **1991: Adoption of passive labor market programs**
- **1995: Provision of financial and technical support to improve the employment services offered**
- **1997: Adoption of ALMPs**

# ACTIVE LABOR MARKET PROGRAMS (ALMPs)

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|  | PES   | SBA   |
|--|---|---|
| CONTENT                                | Job and social counseling, job search assistance, job placement services, and relocation assistance | Initial assessment of business skills, developing business plans, business advising |
| MAXIMUM DURATION                       | Up to 9 months <sup>a</sup>   | No general rule, up to 12 months <sup>a</sup>                                       |
| TARGET GROUP                           | Recently unemployed   | Recently unemployed   |
| NEGOTIATED PLACEMENT RATE OF AT LEAST: | 10 percent  | 5 percent   |

# **THEORETICAL CONSIDERATIONS**

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- 1. Improved Job Matching**
- 2. Segmented Labor Markets**
- 3. Human Capital**
- 3. Signalling**

## **IMPROVED JOB MATCHING**

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- 1. Theoretical and empirical evidence that PES does not work for individuals with access to informal job search channels (Van der Berg and Van der Klaauw, 2006, and Woltermann, 2002)**
- 2. Prediction: PES works for individuals with little access to informal job search channels (young workers and those in depressed areas)**



# SEGMENTED LABOR MARKETS

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1. Primary (productive, with job benefits) and secondary sector (traditional, unproductive)
2. Secondary sector is seen as venue for those rationed out of primary sector (Fajnzylber, Maloney, and Montes Rojas, 2006)
3. Prediction: SBA will work best for individuals rationed out of primary sector (young and low-educated workers, and those in depressed areas)

# HUMAN CAPITAL

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1. Impact of PES on HC small
2. Positive impact of SBA on HC (Karlan and Valdivia, 2006)
3. Prediction: SBA will work best for more educated workers individuals IF HC is a complement of managerial activity (Rees and Shah, 1986, and Cressy, 1996). Similar prediction for older workers IF managerial ability increases with work experience.

# **SIGNALLING**

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- 1. SBA may have a positive signalling effect**
- 2. SBA likely to be more costly than PES**
- 3. Prediction: SBA should be more effective for those workers for whom the costs of participating in SBA would be lower (more educated and older workers)**

# **HETEROGENEITY WITH RESPECT TO AGE**

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- 1. If PES works best for young workers  
(improved job matching)**
- 2. If SBA works best for young workers  
(Segmented labor markets)**
- 3. If SBA works best for older workers (human  
capital and signalling)**

# **HETEROGENEITY WITH RESPECT TO REGION**

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- 1. If PES works best for rural workers  
(improved job matching)**
- 2. If SBA works best for rural workers  
(Segmented labor markets)**

# **HETEROGENEITY WITH RESPECT TO EDUCATION**

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- 1. If SBA works best for less-educated workers  
(Segmented labor markets)**
- 2. If SBA works best for more educated  
workers (human capital and signalling)**

# **DATA AND METHODOLOGY**

# TIMING

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- During 1999: Displaced workers register at Employment Bureau. Some participate into one ALMP, some do not.
- In January and February of 2002: We interviewed a sample of approximately 3,400 persons. We asked them three types of questions:
  - Current employment status and avg. monthly earnings
  - Retrospective questions on employment status and avg. monthly earnings:
    - during 1998 (baseline)
    - during the years 2000 and 2001



# HOW WAS THE SAMPLE SELECTED?

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- We randomly selected 10% of clients served by each of the ALMPs in the 14 *judets* with the largest number of clients served in 1999  
⇒ 1,934 participants
- We selected approximately an equal number of individuals who had registered at Employment Bureau around the same time and in the same judet but had *not* participated in an ALMP  
⇒ 2,905 non-participants

# SAMPLE SIZE

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- Initial sample:  
1,934 participants and 2,905 non-participants
- Completed interviews:  
1,398 participants and 1,949 non-participants
- Restriction that all data be available lead to a sample of:  
1,109 participants and 1,501 non-participants

# **SUMMARY BASELINE DATA**

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- **Little differences between PES and SBA participants**
- **Participants in SBA slightly more advantaged than those in PES**
- **Larger differences between participants and non-participants. The latter have tend to have more stable employment despite living in more depressed areas**

# SELECTED BASELINE CHARACTERISTICS OF ALMP PARTICIPANTS AND NON-PARTICIPANTS, 1998

(Percentages except where noted)

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| CHARACTERISTICS                                 | PES<br>(1)        | SBA<br>(2)        | NON-PARTICIPANTS<br>(5) |
|---|-------------------|-------------------|-------------------------|
| Male  | 45.92             | 50.69             | 63.82                   |
| Education completed                             |                   |                   |                         |
| Primary school                                  | 13.25             | 9.97              | 14.86                   |
| Secondary school                                | 45.92             | 32.41             | 44.30                   |
| High school                                     | 28.65             | 37.67             | 29.31                   |
| University                                      | 12.82             | 19.45             | 11.26                   |
| Judet's unemployment rate                       | 11.86             | 11.37             | 13.12                   |
| Rural or Urban < 20,000<br>habitants            | 29.54             | 41.08             | 36.37                   |
| Average monthly earnings<br>(in thousand lei)   | 758.07<br>(22.51) | 881.72<br>(39.38) | 926.60<br>(17.88)       |
| Not employed in 1998                            | 22.36             | 23.82             | 19.19                   |
| Employed at least 9<br>months during 1998       | 53.82             | 65.37             | 65.36                   |
| Avg unemployment length<br>during 1998 (months) | 3.90<br>(0.17)    | 3.38<br>(0.2)     | 2.99<br>(0.11)          |
| Received training during<br>1998                | 6.69              | 8.86              | 3.13                    |
| Sample size                                     | 747               | 362               | 1,501                   |

# THE AVERAGE TREATMENT EFFECT ON THE TREATED (ATET)

(Rubin 1974)

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$$ATET = E(Y^t - Y^c \mid D=1) = E(Y^t \mid D=1) - E(Y^c \mid D=1)$$

- Counterfactual,  $E(Y^c \mid D=1)$ , is not observed
- If individuals randomly assigned then

$$E(Y^c \mid D=1) = E(Y^c \mid D=0)$$

- Alternatively, identify a comparison group that is similar, on average, to the treatment group
- Conditional independence assumption (CIA)

$$E(Y^c \mid D=1, X=x) = E(Y^c \mid D=0, X=x)$$

# HOW COMPARISON GROUPS WERE SELECTED?

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1. One comparison group for each ALMP from the sample of individuals who had registered at the Employment Bureau in the same judet in 1999 but did *not* participate in an ALMP
2. Propensity score matching

# PROPENSITY SCORE MATCHING

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Three steps:

1. A probit model for the choice between each of the programmes and non-participation was estimated
2. A propensity score was assigned to each treatment group member and each potential comparison group member (common support requirement imposed)
3. For each treatment group, a potential comparison group was selected. Selection process was done with replacement and using a kernel-based matching (1% caliper)

# IS THE CIA PLAUSIBLE?

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We included:

1. Characteristics influencing the decision to participate in ALMP (E.g., previous work experience, unemployment history, training experience, and family composition)
2. Baseline values of the outcomes calculated (E.g., likelihood of being employed in 1998, 1998 monthly earnings)
3. Variables influencing future potential outcomes (E.g., age, sex, education)
4. Variables reflecting local labour market conditions, and regional differences in program implementation (E.g., 1998 judet unemployment rate, and regional indicators)



# INDICATORS OF COVARIATE BALANCING, BEFORE AND AFTER MATCHING, BY ALMP

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|                                | # of<br>treated<br>before<br><br>(1) | # of<br>non-<br>treated<br>before<br><br>(2) | Treated<br>as a %<br>of non-<br>treated<br>before<br><br>(3) | Probit<br>pseudo-<br>R <sup>2</sup><br>before<br><br>(4) | Probit<br>pseudo-<br>R <sup>2</sup> after<br><br>(5) | Pr ><br>X <sup>2</sup><br>after<br><br>(6) | Median<br>bias<br>before<br><br>(7) | Median<br>bias<br>after<br><br>(8) | # of<br>treated<br>lost to<br>common<br>support<br>after<br><br>(9) |
|--------------------------------|--------------------------------------|--|--|--|--|--|-------------------------------------|------------------------------------|---|
| PES vs. Non-<br>participation  | 747                                  | 1,028  | 72.67  | 0.174  | 0.017  | 0.533                                      | 9.36                                | 2.88                               | 4   |
| SBA vs. Non-<br>participations | 362                                  | 964  | 37.55  | 0.162  | 0.013  | 0.985                                      | 11.31                               | 2.29                               | 11  |

# RESULTS

# OUTCOMES

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1. At the time of the survey
  - Employed or Self-employed
  - Avg. monthly earnings
2. During the 2 year period 2000-2001
  - Employed for at least 6 months
  - Employed for at least 12 months
  - Avg. monthly earnings
  - Months unemployed
  - Months receiving unemployment benefits

# OUTCOMES FOR ALMP PARTICIPANTS

## (Percentages except where noted)

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| Outcomes   | EMPLOYMENT SERVICES | SMALL-BUSINESS ASSISTANCE |
|--|---------------------|---------------------------|
| Currently employed                               | 51                  | 51                        |
| Current avg. monthly earnings                    | 310                 | 303                       |
| Employed for at least 12 months during 2000-2001 | 63                  | 60                        |
| Avg. monthly earnings during 2000-2001           | 394                 | 399                       |
| Months unemployed during 2000-2001               | 9.5                 | 10.4                      |

# Average Treatment Effects (Percentage points except where noted)

|  | PES vs.<br>No participation<br>(1) | SBA vs.<br>No participation<br>(2) |
|--|------------------------------------|------------------------------------|
| OUTCOMES                                   |                                    |                                    |
| Current experience                         |                                    |                                    |
| Employed or self-employed                  | <b>8.45</b><br>(3.19; 13.90 )      | 6.14<br>(-0.44 12.29 )             |
| Employed                                   | <b>9.72</b><br>(4.17 ; 15.12)      | 2.8<br>(-3.93 ; 9.55 )             |
| Self-employed                              | -1.17<br>(-3.75 ; 0.65)            | 2.37<br>(-1.01 ; 5.30)             |
| Average monthly earnings (in thousand lei) | <b>56.86</b><br>(1 0.49; 109.51)   | 37.58<br>(-13.25; 80.12 )          |
| During the two year period 2000-2001       |                                    |                                    |
| Employed for at least 6 months             | <b>6.22</b><br>( 2.35 ; 13.52 )    | <b>8.38</b><br>(2.29; 14.13)       |
| Employed for at least 12 months            | <b>7.65</b><br>( 2.11 ; 13.73 )    | 7.97<br>(-0.20; 14.40)             |
| Average monthly earnings (in thousand lei) | <b>87.32</b><br>( 56.99; 130.21 )  | 43.08<br>(-9.48; 87.58 )           |
| Months unemployed                          | <b>-1.90</b><br>( -3.15 ; -0.9 2)  | <b>-1.82</b><br>( -3.00 -0.54 )    |
| Months receiving UB payments               | <b>-0.74</b><br>(-1.18 ; -0.29 )   | <b>-0.75</b><br>(-1.50; -0.05)     |
| Sample size                                | 1,748                              | 1,311                              |
| Size of treatment group                    | 743                                | 350                                |
| Size of comparison group                   | 1,005                              | 961                                |

## Average Treatment Effects according to Age

(Percentage points except where noted)

|                                      | PES vs.<br>No participation<br>(1) |              | SBA vs.<br>No participation<br>(2) |              |
|--------------------------------------|------------------------------------|--------------|------------------------------------|--------------|
| <b>OUTCOMES</b>                      | <36 years                          | >35 years    | <36 years                          | >35 years    |
| Current experience                   |                                    |              |                                    |              |
| Employed or self-employed            | <b>16.89</b>                       | <b>6.73</b>  | -2.83                              | <b>9.01</b>  |
| Employed                             | 19.28                              | 6.96         | -1.14                              | 5.04         |
| Self-employed                        | -2.39                              | -0.19        | 0.24                               | 2.87         |
| Average wage<br>(in thousand lei)    | 65.73                              | <b>60.67</b> | -51.40                             | <b>58.01</b> |
|                                      |                                    |              |                                    |              |
| During the two year period 2000-2001 |                                    |              |                                    |              |
| Employed for at least 6 months       | <b>17.78✓</b>                      | 3.96✓        | 9.35                               | 8.31         |
| Employed for at least 12 months      | <b>26.20✓</b>                      | 4.12✓        | 12.89                              | <b>10.76</b> |
| Average wage<br>(in thousand lei)    | <b>116.62</b>                      | <b>82.81</b> | 5.11                               | 43.27        |
| Months unemployment                  | <b>-4.62✓</b>                      | -1.21✓       | -2.50                              | <b>-2.22</b> |
| Months receiving UB payments         | -0.66                              | <b>-0.76</b> | -0.71                              | -0.75        |
| Sample size                          | 362                                | 1,365        | 273                                | 955          |
| Size of treatment group              | 159                                | 577          | 97                                 | 254          |
| Size of comparison group             | 203                                | 788          | 176                                | 701          |

## Average Treatment Effects according to Type of Region

(Percentage points except where noted)

|                                      | PES vs.<br>No participation<br>(1) |                        | SBA vs.<br>No participation<br>(2) |                        |
|--------------------------------------|------------------------------------|------------------------|------------------------------------|------------------------|
| <del>OUTCOMES</del>                  | <del>Rural areas</del>             | <del>Urban areas</del> | <del>Rural areas</del>             | <del>Urban areas</del> |
| Current experience                   |                                    |                        |                                    |                        |
| Employed or self-employed            | <b>17.93</b>                       | <b>6.13</b>            | 9.90                               | 4.00                   |
| Employed                             | 17.60                              | 8.19                   | 6.82                               | 0.27                   |
| Self-employed                        | 0.33                               | -1.65                  | 3.30                               | 2.31                   |
| Average wage<br>(in thousand lei)    | <b>91.54</b>                       | 47.19                  | 36.90                              | 42.54                  |
|                                      |                                    |                        |                                    |                        |
| During the two year period 2000-2001 |                                    |                        |                                    |                        |
| Employed for at least 6 months       | 7.73                               | <b>3.68</b>            | <b>19.89✓</b>                      | 0.06✓                  |
| Employed for at least 12 months      | <b>17.25</b>                       | 5.09                   | <b>19.06✓</b>                      | 5.38✓                  |
| Average wage<br>(in thousand lei)    | <b>144.24✓</b>                     | 50.42✓                 | 10.28                              | 34.48                  |
| Months unemployment                  | <b>-4.87✓</b>                      | -0.96✓                 | <b>-3.64✓</b>                      | -1.20✓                 |
| Months receiving UB payments         | <b>-1.57</b>                       | <b>-0.50</b>           | <b>-3.61✓</b>                      | 0.36✓                  |
| Sample size                          | 454                                | 1,177                  | 427                                | 774                    |
| Size of treatment group              | 189                                | 531                    | 142                                | 210                    |
| Size of comparison group             | 265                                | 646                    | 285                                | 564                    |

## Average Treatment Effects according to Education Achievement

(Percentage points except where noted)

|                                      | PES vs.<br>No participation<br>(1) |                             | SBA vs.<br>No participation<br>(2) |                             |
|--------------------------------------|------------------------------------|-----------------------------|------------------------------------|-----------------------------|
| OUTCOMES                             | No High school diploma             | High school diploma or more | No High school diploma             | High school diploma or more |
| Current experience                   |                                    |                             |                                    |                             |
| Employed or self-employed            | 5.86                               | <b>11.28</b>                | 5.48                               | 5.15                        |
| Employed                             | 8.52                               | 11.09                       | 3.47                               | 0.70                        |
| Self-employed                        | -1.92                              | -0.04                       | 1.00                               | 3.44                        |
| Average wage<br>(in thousand lei)    | 73.48                              | <b>55.11</b>                | 20.34                              | 41.30                       |
|                                      |                                    |                             |                                    |                             |
| During the two year period 2000-2001 |                                    |                             |                                    |                             |
| Employed for at least 6 months       | 3.87                               | 6.47                        | <b>13.45</b>                       | 4.89                        |
| Employed for at least 12 months      | 5.39                               | <b>9.13</b>                 | <b>19.35✓</b>                      | 1.45✓                       |
| Average wage<br>(in thousand lei)    | 60.08                              | <b>97.01</b>                | 47.95                              | 14.68                       |
| Months unemployment                  | -1.40                              | <b>-1.96</b>                | <b>-3.61✓</b>                      | -0.57✓                      |
| Months receiving UB payments         | <b>-0.83</b>                       | -0.76                       | <b>-1.93</b>                       | 0.06                        |
| Sample size                          | 977                                | 725                         | 595                                | 687                         |
| Size of treatment group              | 438                                | 296                         | 200                                | 150                         |
| Size of comparison group             | 539                                | 429                         | 395                                | 537                         |



# **EMPIRICAL EVIDENCE FROM HETEROGENEITY ANALYSIS COMPATIBLE WITH:**

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- 1. Improved job matching theory for PES  
(based on the results for the younger  
workers and those living in rural areas)**
- 2. Segmented labor market for SBA (based on  
the results for the low-educated workers  
and rural workers)**

# CONCLUSION

# **POLICY IMPLICATIONS (1)**

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- 1. Offering PES to unemployed workers with good access to the informal job search channel is not a good idea**
- 2. In economies with large informal sectors, PES ought to be targeted to displaced workers:**
  - with little access to the informal job search channel (such as young workers) or**
  - for whom the informal channel has dried up (such as those living in depressed areas)**

## **POLICY IMPLICATIONS (2)**

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- 3. In economies with segmented labor markets, SBA seems to be an efficient program for workers in the secondary sector. The reason for this is that by improving worker's capabilities, SBA widens the scope of opportunities for unemployed workers in this segment**