Evaluation of ALMPs

- 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)

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

IN DEVELOPED COUNTRIES:

PES: Work for better for individuals with unfavorable labor market prospects (Dolton and O'Neil, 1995 and 1996; OECD 2003, Van Reenen 2003; Crépon *et al.*, 2005, among others)

SBA: Work better for those displaced workers with entrepreneurial skills and motivation to survive in a competitive environment, such as, highly educated prime-aged males (Fay, 1996; Wilson and Adams, 1994; Kosavonich and Fleck, 2001)

IT IS UNCLEAR WHETHER SUCH FINDINGS WOULD APPLY IN TRANSITION ECONOMIES

- Strong social networks and

- Large unregulated secondary labor markets

This is particularly true for PES AND SBA (as opposed to Training or Public Employment) because:

- Weak institutional capacity,

- Unfamiliarity with the process of job search,

- Little business tradition,

- Isolation from information about jobs and business opportunities

(Costariol, 1993; Blanchard and Kremer, 1997; Ahrend and Martins, 2003; and Giles *et al.,* 2006)

EVIDENCE FROM TRANSITION COUNTRIES

- Only a hand full of studies

- Focus on analyzing the average effects of these two ALMPs relative to non-participatiion

- Findings consistent with PES and SBA increasing the probability of employment of its participants (mixed effect on earnings)

Policy makers may be more interested on:
- What are the relative effects of these two programs?

- For whom do these two programs work best?

- Through which channels do these two programs work?

CONTRIBUTION/FINDINGS

1. Evaluation the relative effectiveness of these two ALMPs in Romania in the late 1990s

2. Both PES and SBA are superior to non-participation

3. On average, PES are superior to SBA

4. But heterogeneity analysis shows that it matters and that programs ought to be targeted to specific groups

5. Use theory and institutional knowledge to understand what is inside the black box (come up with policy implications)

Why Romania?

- 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

- Results could well apply to other (transition) countries that share common underlying specificities with Romania

- 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

STRUCTURE OF THE PRESENTATION

- Economic and institutional background

- The data and methodological approach

- Results

- Policy implications
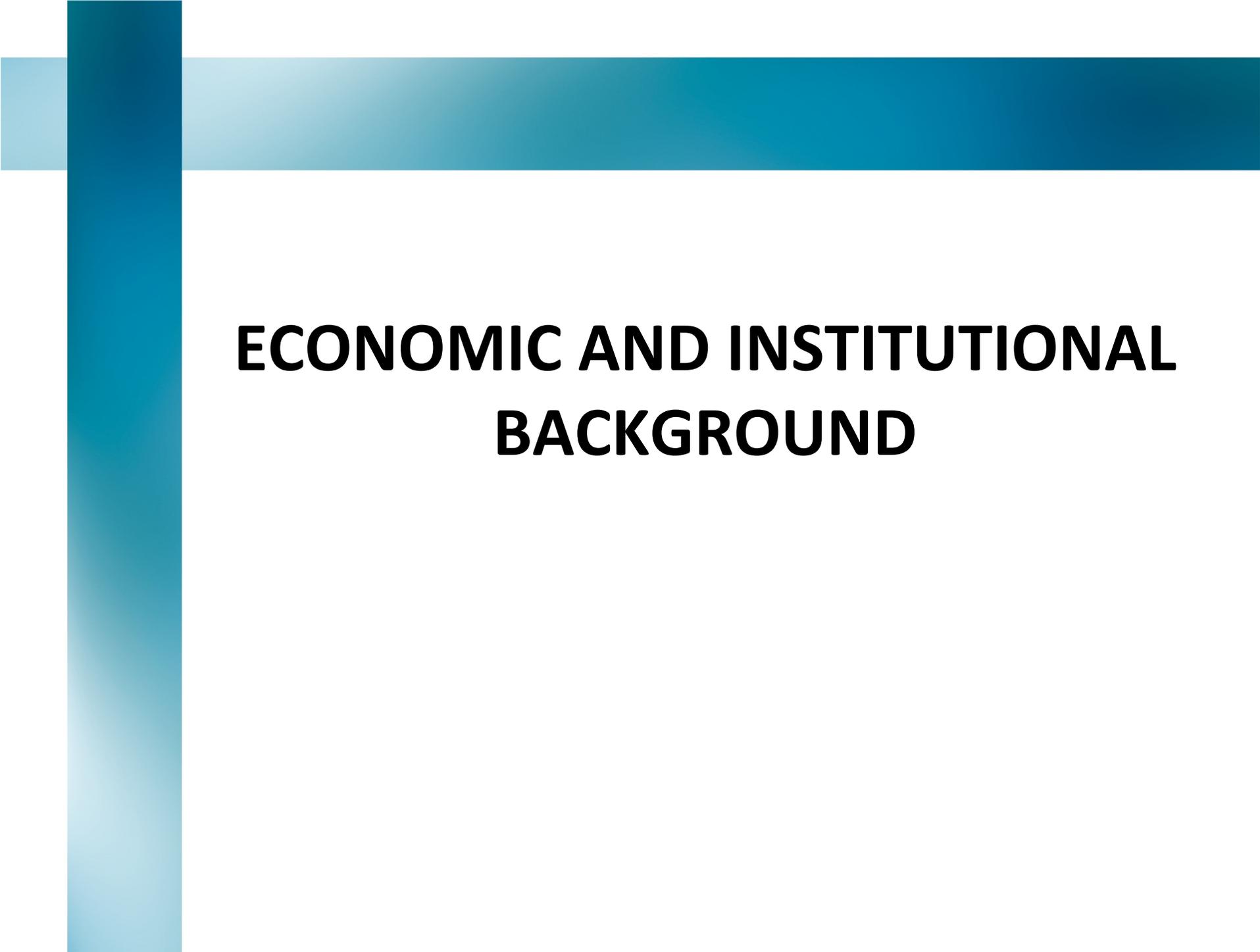
ECONOMIC AND INSTITUTIONAL BACKGROUND

ECONOMIC CONTEXT

- Romania is one of the transition economies that experienced the largest drop in output during the transition to a market economy (Blanchard and Kremer, 1997)

- This is explained by its more problematic heritage and its slower pace of reform (OECD, 2000)

- Two traits of the labor market are worth highlighting:

  – The surge of an unregulated secondary labor market, and

  – The existence of important informal networks

SURGE OF AN UNREGULATED SECONDARY LABOR MARKET

- Early 1990s: Policy approach that limited job destruction by adjusting through real wages and promoting early retirement programs

- Pushed workers out of the labor force into low productivity jobs in subsistence agriculture and urban underground economy:

  - Share of agricultural employment rose from 28% in 1989 to 42% in 2001 (OECD 2000)

  - Many dislocated workers began to identify themselves as self-employed (Earle and Sakova, 2000)

EXISTENCE OF IMPORTANT INFORMAL NETWORKS

- As in many post-communist societies, many people in Romania rely and trust their informal private networks (Howard, 20003)

- Informal networks are an inheritance of Ceausescu's totalitarian regime

- But this 'culture of informality' was strengthened during the transition because of the void caused by weak or inexistent formal institutions (Ledevena, 1998; Dinello, 1999)

- These informal networks are mechanisms aimed to reduce uncertainty and increase security (Ahrens and Martins, 2003; and Carey and Manea, 2004)

SMALL AND MEDIUM ENTERPRISE SECTOR

- 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

- 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)

	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[a]	No general rule, up to 12 months[a]
TARGET GROUP	Recently unemployed	Recently unemployed
NEGOTIATED PLACEMENT RATE OF AT LEAST:	10 percent	5 percent

DATA AND METHODOLOGY

TIMING

➢ <u>During 1999</u>: Displaced workers register at Employment Bureau. Some participate into one ALMP, some do not.

➢ <u>In January and February of 2002</u>: 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?

- 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
  $\Rightarrow$ 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
  $\Rightarrow$ 2,905 non-participants

SAMPLE SIZE

- <u>Initial sample:</u>
  1,934 participants and 2,905 non-participants

- <u>Completed interviews:</u>
  1,398 participants and 1,949 non-participants

- <u>Restriction that all data be available</u> <u>lead to a sample of:</u>
  1,109 participants and 1,501 non-participants

SUMMARY BASELINE DATA

- PES and SBA participants are different: Participants of SBA better off workers than participants of PES

- Larger differences between participants and non-participants. The latter 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)

CHARACTERISTICS	PES (1)	SBA (2)	NON-PARTICIPANTS (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 habitants	29.54	41.08	36.37
Average monthly earnigns (in thousand lei)	758.07 (22.51)	881.72 (39.38)	926.60 (17.88)
Not employed in 1998	22.36	23.82	19.19
Employed at least 9 months during 1998	53.82	65.37	65.36
Avg unemployment length during 1998 (months)	3.90 (0.17)	3.38 (0.2)	2.99 (0.11)
Received training during 1998	6.69	8.86	3.13
Sample size	747	362	1,501

THE AVERAGE TREATMENT EFFECT ON THE TREATED (ATET) (Rubin 1974)

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

- 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?

1. Analysis presents pair-wise comparisons between the two programs (SBA and PES) and between each of the programs and non-participation

2. Matching protocol (kernel matching estimator with replacement, imposing common support requirement)
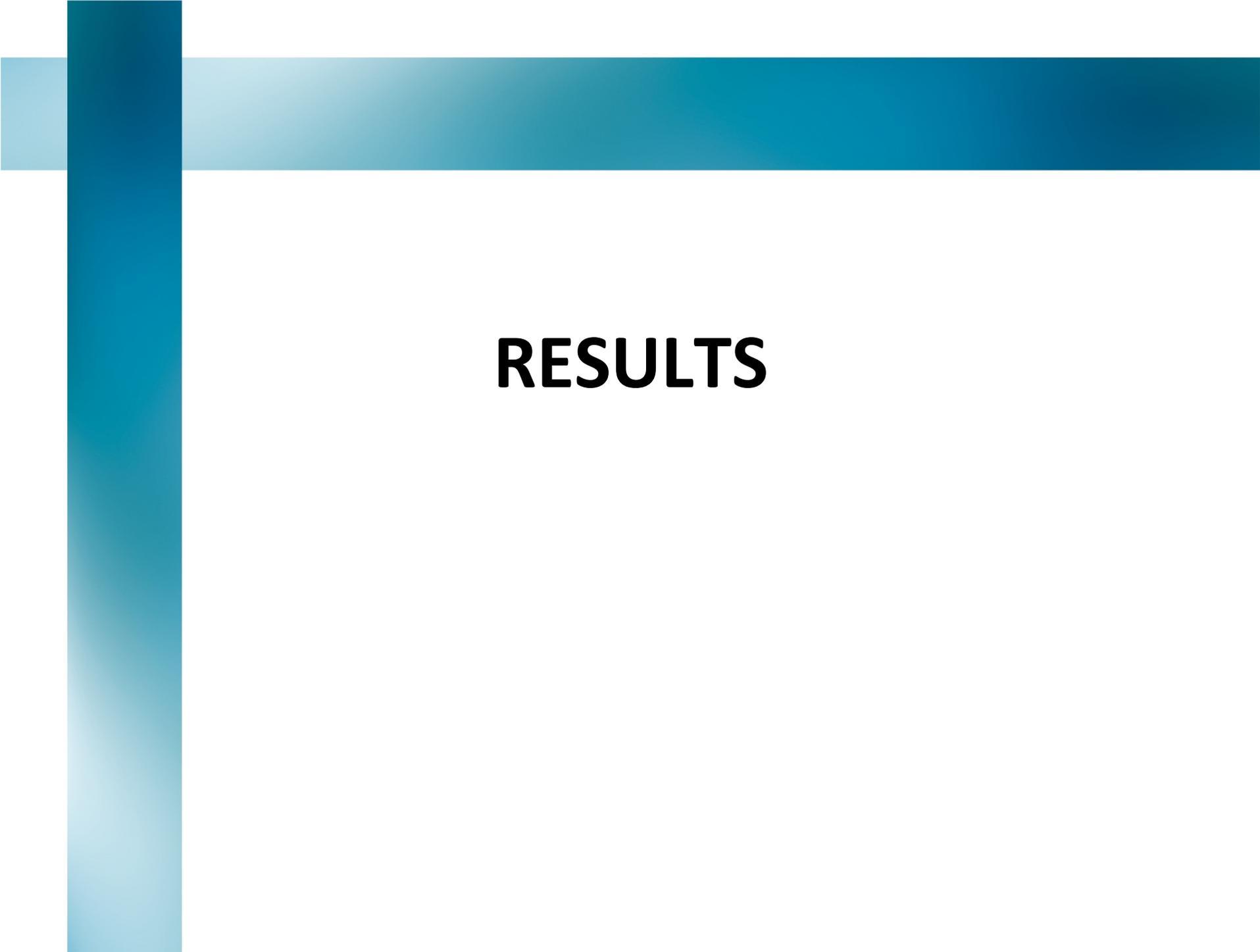
RESULTS

RESULT 1: BOTH PES AND SBA ARE SUPERIOR TO NON-PARTICIPATION

- PES increased <u>the probability of being employed</u> at the time of the survey by 20% compared to non-participants.

- SBA increased by 12% <u>the likelihood of being employed</u> for 6 months during the two-year period 2000–2001 compared to non-participants.

- Both PES and SBA reduced by 2 months the average <u>unemployment spell</u> compared to non-participants, and the number of months receiving <u>unemployment benefits</u> by almost 1 month.

- PES increased <u>average current monthly earnings</u> by 57 thousand lei (or 22%) and <u>average monthly earnings during 2000–2001</u> by 87 thousand lei (or 28%) compared to the earnings of non-participants. No effect of SBA on earnings.

RESULT 2: PES ARE SUPERIOR TO SBA

1. PES was more effective for individuals receiving this type of service than if they had participated in an SBA program instead.

    - Participating in PES increased by 34% the likelihood of being employed for at least 12 months in the 2-year period 2000–1,13 and reduced by over 3 months (or 27%) the spell of unemployment during the same period compared with participating in SBA.

2. SBA participants would have been better off had they participated in PES instead

    - Participating in SBA program reduced participants' probabilities of being employed for at least 6 (by 12%) and 12 months (by 25%) within the years 2000 and 2001 than if they had participated in PES, instead.

RESULT 3: HETEROGENEITY MATTERS!!!

1. Subgroup analysis reveals that:

    1. PES outperforms SBA for less-educated and younger workers

    2. SBA outperforms PES for more-educated workers

2. Compared to non-participation:

    1. PES are effective for young workers and those in rural areas

    2. SBA works for workers in rural areas, less educated workers, and those with lower previous earnings
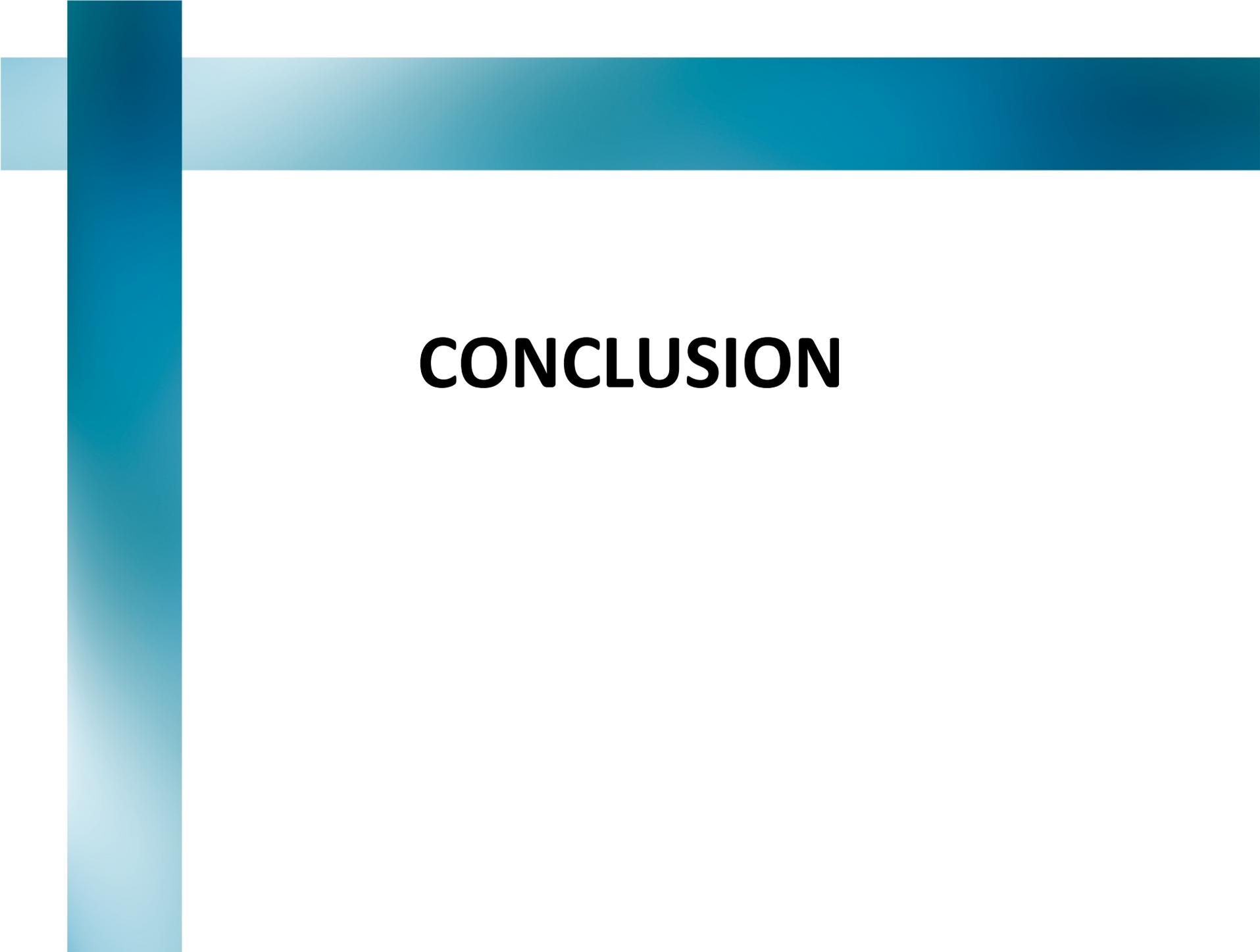
CONCLUSION

FIRST POLICY IMPLICATION

- Offering PES to unemployed workers with good access to the informal job search channel is not a good idea

- In economies with important social networks, 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 driep up (such as those living in depressed areas)

SECOND POLICY IMPLICATION

- 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

THIRD POLICY IMPLICATION

- While (compared to non-participation) both programs are beneficial for workers with and without a high-school degree, SBA is more appropriate for more educated workers, whereas PES is more helpful for the less educated ones

FOURTH POLICY IMPLICATION

- Relevance of targeting individuals with particular labor-market needs to programs that are better suited for them.
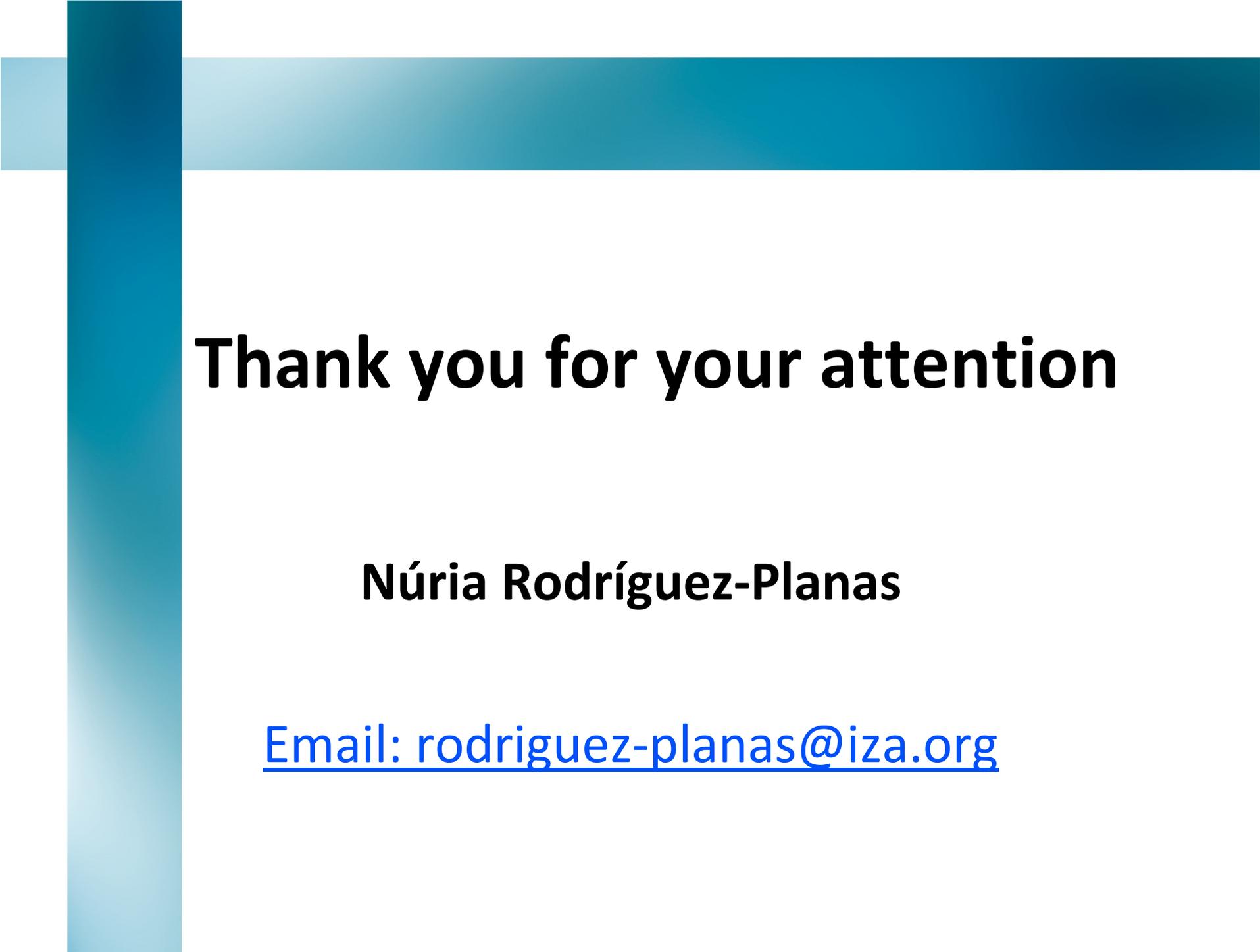
Thank you for your attention

Núria Rodríguez-Planas

Email: rodriguez-planas@iza.org
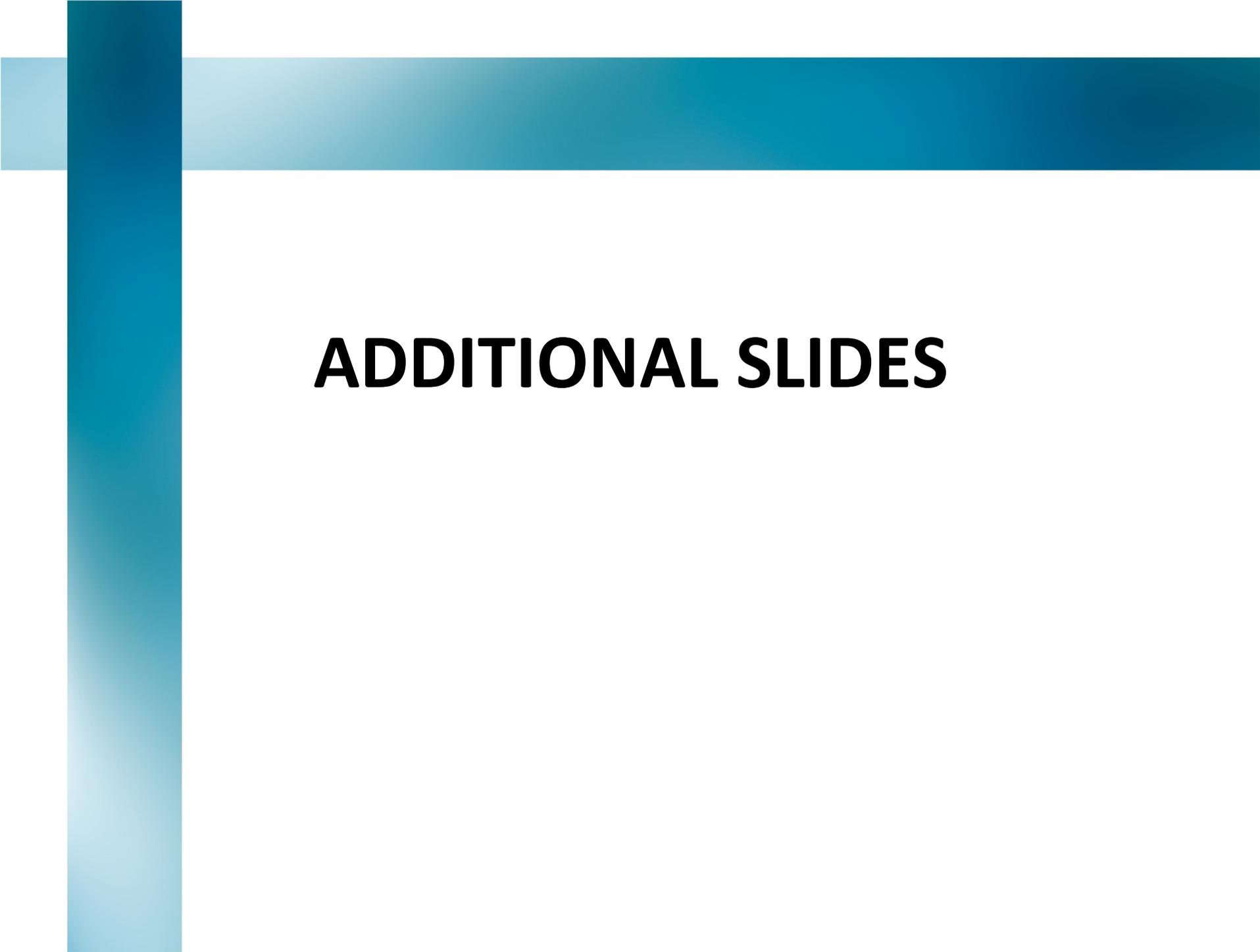
ADDITIONAL SLIDES

EMPIRICAL EVIDENCE FROM HETEROGENEITY ANALYSIS COMPATIBLE WITH:

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)

OUTCOMES

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)

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

MATCHING PROTOCOL

Step 1	Estimate binary conditional probabilities for PES versus SBA—See Table A.2. in the Appendix.
Step 2	Impose the common-support requirement to guarantee that there is an overlap between the propensity scores for each pair (few treated observations were dropped overall, as illustrated in column 9 of Table 4).
Step 3	For each treatment group member, select potential comparison group members based on their propensity scores and their *judet*. The selection process was done with replacement. The selection method used was kernel matching.
Step 4	Using the matched comparison group formed in step 3, compute the following matching estimator: $$\Delta^{MATCHING} = \frac{1}{N_1} \sum_{i \in \{D_i = 1\}} \left[Y_i^1 - \sum_{j \in \{D_j = 0\}} w_{N_0}(i, j) Y_j^0 \right]$$ In the case of kernel matching, the weight function is calculated as follows: $$w_{N_0}(i, j) = \frac{G\left(\dfrac{P_i(X) - P_j(X)}{a_n} \right)}{\sum_{k \in \{D_j = 0\}} G\left(\dfrac{P_i(X) - P_j(X)}{a_n} \right)}$$
Step 5	To adjust for the additional sources of variability introduced by the estimation of the propensity score as well as by the matching process itself, bootstrapped 95 % confidence intervals have been calculated based on 1,000 re-samples

IS THE CIA PLAUSIBLE?

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)

SENSITIVITY ANALYSIS…

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

	# of treated before	# of non-treated before	Treated as a % of non-treated before	Probit pseudo-R^2 before	Probit pseudo-R^2 after	Pr > X^2 after	Median bias before	Median bias after	# of treated lost to common support after
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ES vs. Non-participation	747	1,028	72.67	0.174	0.017	0.533	9.36	2.88	4
SBA vs. Non-participations	362	964	37.55	0.162	0.013	0.985	11.31	2.29	11
ES vs. SBA	438	247	177.33	0.200	0.019	0.998	18.56	2.99	37
SBA vs. ES	247	438	56.39	0.200	0.035	0.743	18.56	4.19	5

Average Treatment Effects (Percentage points except where noted)

OUTCOMES	PES VS. SBA (1)	SBA VS. PES (2)	PES vs. No participation (3)	SBA vs. No participation (4)
Current experience				
Employed or self-employed	-1.02 (-10.77; 11.52)	-5.05 (-9.92; 2.95)	**8.45 (3.19; 13.90)**	6.14 (-0.44 12.29)
Employed	2.30 (-8.11; 13.46)	-8.34 (-18.07; 0.38)	**9.72 (4.17 ; 15.12)**	2.8 (-3.93 ; 9.55)
Self-employed	-2.74 (-5.38; 0.08)	2.93 (-0.88; 0.67)	-1.17 (-3.75 ; 0.65)	2.37 (-1.01 ; 5.30)
Average monthly earnings (in thousand lei)	-37.56 (-133.27; 40.26)	-25.32 (-98.78; 36.73)	**56.86 (1 0.49; 109.51)**	37.58 (-13.25; 80.12)
During the two year period 2000-2001				
Employed for at least 6 months	10.70 (-0.86; 20.86)	**-9.86 (-19.79; -3.07)**	**6.22 (2.35 ; 13.52)**	**8.38 (2.29; 14.13)**
Employed for at least 12 months	**17.28 (0.38; 26.70)**	**-17.02 (-26.02; -10.18)**	**7.65 (2.11 ; 13.73)**	7.97 (-0.20; 14.40)
Average monthly earnings (in thousand lei)	-69.99 (-148.74; 15.99)	**-63.94 (-140.56; -9.45)**	**87.32 (56.99; 130.21)**	43.08 (-9.48; 87.58)
Months unemployed	**-3.10 (-4.70; -0.32)**	**3.41 (1.66; 6.10)**	**-1.90 (-3.15 ; -0.9 2)**	**-1.82 (-3.00 -0.54)**
Months receiving UB payments	-0.45 (-1.17; 0.87)	0.74 (-0.22; 1.47)	**-0.74 (-1.18 ; -0.29)**	**-0.75 (-1.50; -0.05)**
Sample size	643	643	1,748	1,311
Size of treatment group	401	242	743	350
Size of comparison group	242	401	1,005	961

Average Treatment Effects according to Age
(Percentage points except where noted)

OUTCOMES	PES VS. SBA (1)		PES vs. No participation (2)		SBA vs. No participation (3)	
	<36 years	>35 years	<36 years	>35 years	<36 years	>35 years
Current experience						
Employed or self-employed	26.25✔	-1.98✔	16.89	6.73	-2.83	9.01
Employed	27.30✔	1.48✔	19.28	6.96	-1.14	5.04
Self-employed	-1.05	-3.18	-2.39	-0.19	0.24	2.87
Average wage (in tousand lei)	129.18✔	-71.31✔	65.73	60.67	-51.40	58.01
During the two year period 2000-2001						
Employed for at least 6 months	9.52	10.11	17.78✔	3.96✔	9.35	8.31
Employed for at least 12 months	15.63	11.54	26.20✔	4.12✔	12.89	10.76
Average wage (in thousand lei)	-43.76	-82.91	116.62	82.81	5.11	43.27
Months unemployment	-2.25	-2.27	-4.62✔	-1.21✔	-2.50	-2.22
Months receiving UB payments	-0.64	-0.46	-0.66	-0.76	-0.71	-0.75
Sample size	124	473	362	1,365	273	955
Size of treatment group	71	304	159	577	97	254
Size of comparison group	53	169	203	788	176	701

Average Treatment Effects according to Type of Region
(Percentage points except where noted)

| OUTCOMES	PES VS. SBA (1)		PES vs. No participation (2)		SBA vs. No participation (3)	
	Rural areas	Urban areas	Rural areas	Urban areas	Rural areas	Urban areas
Current experience						
Employed or self-employed	7.82	-1.49	**17.93**	**6.13**	9.90	4.00
Employed	9.77	0.37	17.60	8.19	6.82	0.27
Self-employed	-1.96	-1.55	0.33	-1.65	3.30	2.31
Average wage (in tousand lei)	33.64	-64.86	**91.54**	47.19	36.90	42.54
During the two year period 2000-2001						
Employed for at least 6 months	6.16	16.65	7.73	**3.68**	**19.89✔**	0.06✔
Employed for at least 12 months	13.85	**18.55**	**17.25**	5.09	**19.06✔**	5.38✔
Average wage (in thousand lei)	**81.89**	-110.59	**144.24✔**	50.42✔	10.28	34.48
Months unemployment	-2.52	-3.28	**-4.87✔**	-0.96✔	**-3.64✔**	-1.20✔
Months receiving UB payments	0.60	-0.96	**-1.57**	**-0.50**	**-3.61✔**	0.36✔
Sample size	229	384	454	1,177	427	774
Size of treatment group	135	268	189	531	142	210
Size of comparison group	94	116	265	646	285	564

Average Treatment Effects according to Education Achievement
(Percentage points except where noted)

OUTCOMES	PES VS. SBA (1)		PES vs. No participation (2)		SBA vs. No participation (3)	
	No High school diploma	High school diploma or more	No High school diploma	High school diploma or more	No High school diploma	High school diploma or more
Current experience						
Employed or self-employed	7.50✓	-11.61✓	5.86	11.28	5.48	5.15
Employed	10.43	-2.25	8.52	11.09	3.47	0.70
Self-employed	-1.51	-9.36	-1.92	-0.04	1.00	3.44
Average wage (in tousand lei)	1.69✓	-168.77✓	73.48	55.11	20.34	41.30
During the two year period 2000-2001						
Employed for at least 6 months	13.17	9.70	3.87	6.47	13.45	4.89
Employed for at least 12 months	17.34	15.26	5.39	9.13	19.35✓	1.45✓
Average wage (in thousand lei)	-55.14	-65.56	60.08	97.01	47.95	14.68
Months unemployment	-3.26	-2.26	-1.40	-1.96	-3.61✓	-0.57✓
Months receiving UB payments	-13.81	-1.27	**-0.83**	-0.76	-1.93	0.06
Sample size	293	294	977	725	595	687
Size of treatment group	204	158	438	296	200	150
Size of comparison group	89	136	539	429	395	537

Average Treatment Effects according to Previous Earnings
(Percentage points except where noted)

OUTCOMES	PES VS. SBA (1)		PES vs. No participation (2)		SBA vs. No participation (3)	
	<850 thousand lei	>849 thousand lei	<850 thousand lei	>849 thousand lei	<850 thousand lei	>849 thousand lei
Current experience						
Employed or self-employed	-3.43	0.51	6.18	10.77	11.26	8.89
Employed	5.98	-0.11	7.02	11.42	5.63	5.79
Self-employed	-9.41✔	0.97✔	-0.48	-0.63	5.10	1.67
Average wage (in tousand lei)	-22.03	-97.19	25.15	95.12	59.07	26.70
During the two year period 2000-2001						
Employed for at least 6 months	15.11	18.34	5.71	7.66	17.62	11.48
Employed for at least 12 months	26.32	20.29	10.71	2.84	17.44✔	1.77✔
Average wage (in thousand lei)	-31.02	-124.27	59.86	89.66	95.28	29.63
Months unemployment	-4.01	-4.49	-2.19	-1.42	-4.25✔	-0.89✔
Months receiving UB payments	-0.00	-1.04	-0.64	-1.06	-0.64	-0.39
Sample size	**376**	**257**	**818**	**923**	**510**	**736**
Size of treatment group	222	183	417	320	172	177
Size of comparison group	154	74	401	603	338	559
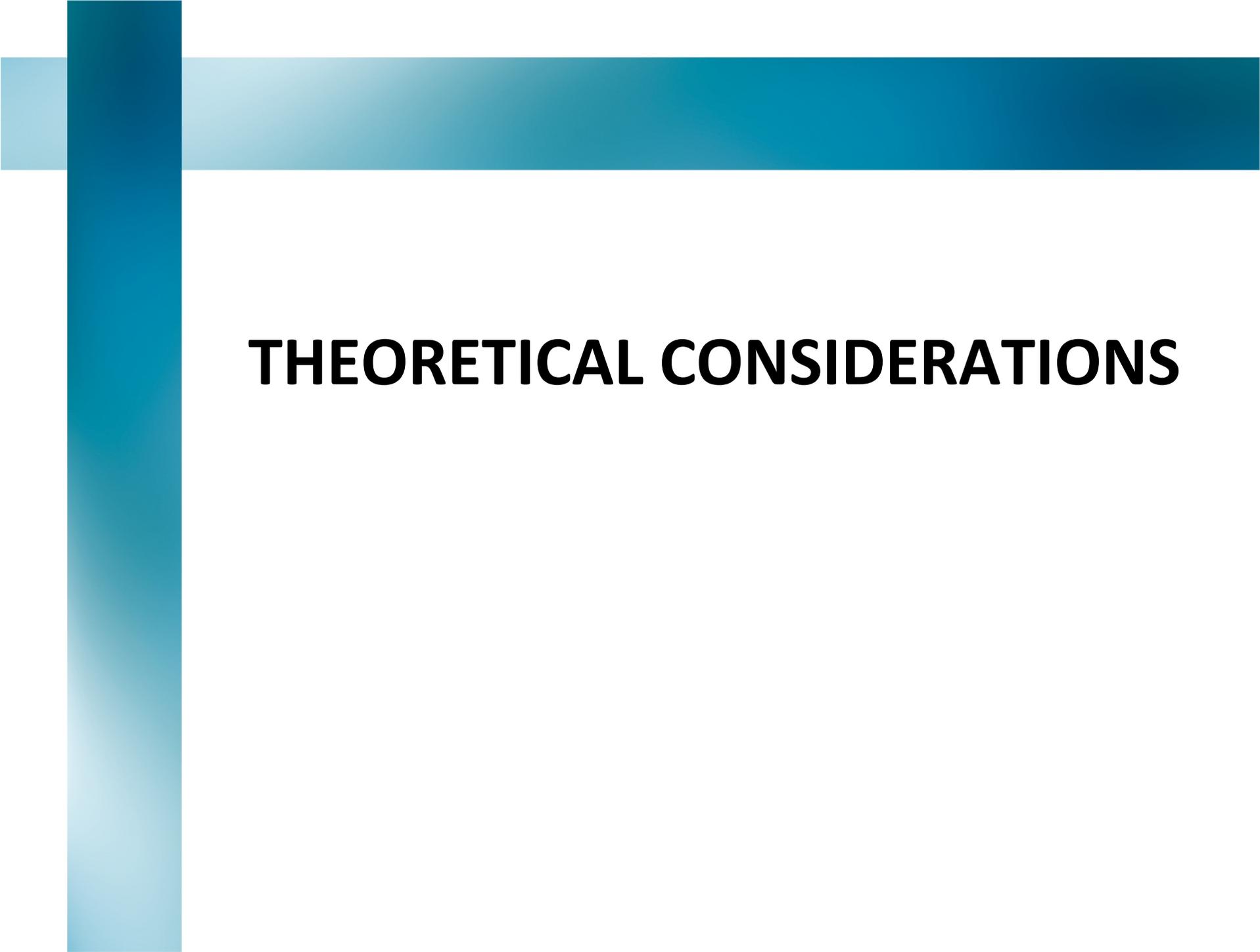
THEORETICAL CONSIDERATIONS

THEORETICAL CONSIDERATIONS

1. Improved Job Matching

2. Segmented Labor Markets

3. Human Capital

3. Signalling

IMPROVED JOB MATCHING

1. Two job search channels:

   ➢ Important informal search channel (family, friends, coworkers)

   ➢ Formal search channel (PES)

2. Theoretical and empirical evidence that PES does not work for individuals with access to informal job search channels (Van der Berg and Van der Klaauvw, 2006, and Woltermann, 2002)

3. Prediction: 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.)

SEGMENTED LABOR MARKETS

1. Segmented labor markets:

    ➢ Primary labor market (high productivity jobs with benefits)

    ➢ Secondary labor market (subsistence agriculture and underground economy)

2. Secondary sector is seen as venue for those rationed out of primary sector (Fajnzylber *et al.*, 2006; Köllo and Vincze, 1999)

3. <u>Prediction:</u> 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, less educated workers, or workers with lower prior earnings)

HUMAN CAPITAL

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 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.

SIGNALING

1. SBA may have a positive signaling effect

2. SBA likely to be costly

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)

SUMMARY OF THE CHANNELS THROUGH WHICH PES AND SBA WORK
(effectiveness is measured relative to non-participation)

	Alternative theories:			
Subgroups	Job matching	Segmented labor markets	Human capital	Signaling
Young vs. Old	PES ought to work better for <u>younger</u> workers	SBA ought to work better for <u>younger</u> workers	SBA ought to work better for <u>older</u> workers	SBA ought to work better for <u>older</u> workers
Rural vs. Urban	PES ought to work better for <u>rural</u> workers	SBA ought to work better for <u>rural</u> workers		
Educated vs. Non-educated		SBA ought to work better for <u>less educated</u> workers	SBA ought to work better for <u>more educated</u> workers	SBA ought to work better for <u>more educated</u> workers
Low vs. High previous earnings		SBA ought to work better for workers <u>with lower previous earnings</u>	SBA ought to work better for workers <u>with higher previous earnings</u>	SBA ought to work better for workers <u>with higher previous earnings</u>