Evaluation of Active Labour Market Programmes
(in Europe)

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Roma, April 2011

1) **The policy**
2) **The evaluation problem**
3) **Example I: Germany**
4) **Example II: Required controls**

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Data extracted on 12 Apr 2011 08:00 UTC (GMT) from OECD.Stat

Frequency	Annual									
Country	OECD countries									
Measure	EXPPCT: Public expenditure as a percentage of GDP					STOPCT: Participant stocks as a percentage of the labour force				
Time	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Programmes										
10: PES and administration	0.18	0.17	0.16	0.15	0.16	..	..	..	..	..
11: Placement and related services	0.07	0.06	0.06	0.06	0.07	..	..	..	..	..
12: Benefit administration	0.06	0.05	0.05	0.05	0.05	..	..	..	..	..
20: Training	0.19	0.18	0.17	0.15	0.14	..	1.25	1.29	1.20	1.15
21: Institutional training	0.13	0.12	0.11	0.10	0.09	..	0.81	0.79	0.77	0.74
22: Workplace training	0.01	0.01	0.01	0.01	0.01	..	0.15	0.15	0.11	0.10
23: Integrated training	0.01	0.01	0.01	0.01	0.01	..	0.10	0.09	0.08	0.09
24: Special support for apprenticeship	0.02	0.02	0.02	0.02	0.02	..	0.28	0.29	0.33	0.33
30: Job rotation and job sharing	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00	..	0.04	0.04	0.03	0.03
40: Employment incentives	0.10	0.10	0.10	0.09	0.09	..	1.58	1.48	1.57	1.42
41: Recruitment incentives	0.10	0.09	0.09	0.08	0.08	..	1.42	1.31	1.36	1.12
42: Employment maintenance incentives	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00	..	0.07	0.09	0.10	0.11
50: Supported employment and rehabilitation	0.09	0.09	0.09	0.09	0.09	..	0.50	0.49	0.50	0.65
51: Supported employment	0.06	0.07	0.07	0.07	0.07	..	0.35	0.36	0.38	0.52
52: Rehabilitation	0.03	0.02	0.02	0.02	0.02	..	0.11	0.09	0.08	0.08
60: Direct job creation	0.07	0.06	0.06	0.06	0.06	..	0.61	0.64	0.55	0.52
70: Start-up incentives	0.02	0.01	0.02	0.02	0.02	..	0.14	0.17	0.17	0.19
80: Out-of-work income maintenance and support	0.92	0.85	0.75	0.65	0.67	..	5.68	5.20	4.58	4.66
81: Full unemployment benefits	0.86	0.79	0.70	0.60	0.63	..	5.20	4.75	4.20	4.28
811: Unemployment insurance	0.63	0.58	0.51	0.44	0.46	..	3.66	3.26	2.81	2.74
812: Unemployment assistance	0.25	0.23	0.21	0.18	0.18	..	1.98	1.85	1.69	1.82
82: Partial unemployment benefits	0.01	0.01	0.01	0.01	0.01	..	0.23	0.20	0.16	0.21
83: Part-time unemployment benefits	0.03	0.02	0.02	0.02	0.01	..	0.23	0.22	0.19	0.16
84: Redundancy compensation	0.01	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00	..	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00
85: Bankruptcy compensation	0.02	0.01	0.01	0.01	0.01	..	(n) 0.00	(n) 0.00	(n) 0.00	(n) 0.00
90: Early retirement	0.12	0.13	0.12	0.11	0.11	..	0.78	0.77	0.72	0.67
100: Total	1.74	1.64	1.50	1.35	1.37	..	..	..	..	..
110: Active measures (10-70)	0.67	0.64	0.61	0.57	0.57	..	..	..	..	..
112: Categories 20-70 only	0.48	0.45	0.44	0.41	0.41	..	4.02	4.01	3.94	3.85
120: Passive measures (80-90)	1.04	0.98	0.87	0.76	0.78	..	6.47	5.97	5.30	5.31

Data extracted on 12 Apr 2011 08:07 UTC (GMT) from OECD.Stat

Frequency	Annual												
Time	2008												
Measure	EXPPCT: Public expenditure as a percentage of GDP												
Programmes	10: PES and administration	20: Training	30: Job rotation and job sharing	40: Employment incentives	50: Supported employment and rehabilitation	60: Direct job creation	70: Start-up incentives	80: Out-of-work income maintenance and support	90: Early retirement	100: Total	100: Total	
											110: Active measures (10-70)	120: Passive measures (80-90)
Country												
Australia	0.16	0.01	(n) 0.00	0.01	0.06	0.04	0.01	0.45	(n) 0.00	0.74	0.29	0.45
Austria	0.16	0.37	(n) 0.00	0.06	0.04	0.04	0.01	0.96	0.20	1.83	0.67	1.16
Belgium	0.20	0.16	(n) 0.00	0.45	0.12	0.34	(n) 0.00	1.30	0.74	3.32	1.28	2.04
Canada	0.12	0.08	(n) 0.00	0.01	0.02	0.02	0.01	0.66	(n) 0.00	0.96	0.30	0.66
Czech Republic	0.12	0.01	(n) 0.00	0.01	0.07	0.01	(n) 0.00	0.20	(n) 0.00	0.42	0.23	0.20
Denmark	0.37	0.23	(n) 0.00	0.14	0.61	(n) 0.00	(n) 0.00	0.73	0.48	2.56	1.35	1.22
Finland	0.15	0.36	0.06	0.08	0.09	0.07	0.02	0.96	0.39	2.18	0.82	1.35
France	0.20	0.25	(n) 0.00	0.10	0.07	0.15	0.03	1.15	0.02	1.98	0.81	1.17
Germany	0.29	0.29	(n) 0.00	0.08	0.03	0.06	0.07	1.04	0.05	1.91	0.81	1.10
Greece	..	0.09	(n) 0.00	0.04	(n) 0.00	0.01	0.01	0.46	(n) 0.00	..	..	0.46
Hungary	0.09	0.06	(n) 0.00	0.09	(n) 0.00	0.04	0.01	0.37	(n) 0.00	0.67	0.30	0.37
Ireland	0.13	0.30	(n) 0.00	0.04	0.01	0.23	(n) 0.00	1.26	0.06	2.03	0.70	1.33
Italy	0.09	0.18	(n) 0.00	0.15	(n) 0.00	0.01	0.02	0.72	0.09	1.26	0.45	0.81
Japan	0.14	0.03	(n) 0.00	0.01	(n) 0.00	0.08	(n) 0.00	0.30	(n) 0.00	0.57	0.26	0.30
Korea	0.02	0.06	(n) 0.00	0.06	0.01	0.05	(n) 0.00	0.29	(n) 0.00	0.49	0.20	0.29
Luxembourg	0.04	0.04	(n) 0.00	0.25	0.01	0.09	(n) 0.00	0.37	0.15	0.95	0.42	0.53
Netherlands	0.33	0.10	(n) 0.00	(n) 0.00	0.47	0.15	(n) 0.00	1.26	(n) 0.00	2.31	1.04	1.26
New Zealand	..	0.17	(n) 0.00	0.01	0.05	(n) 0.00	0.01	0.28	(n) 0.00	..	..	0.28
Norway	..	0.21	(n) 0.00	0.02	0.14	0.01	(n) 0.00	0.32	(n) 0.00	..	..	0.02
Poland	0.09	0.12	(n) 0.00	0.08	0.19	0.02	0.06	0.14	0.21	0.91	0.56	0.35
Portugal	0.15	0.24	(n) 0.00	0.13	0.03	0.02	(n) 0.00	0.93	0.09	1.59	0.57	1.02
Slovak Republic	0.11	0.01	(n) 0.00	0.02	0.02	0.05	0.05	0.11	0.33	0.69	0.25	0.43
Spain	0.13	0.17	0.01	0.19	0.03	0.09	0.11	1.84	0.05	2.62	0.73	1.89
Sweden	0.33	0.07	(n) 0.00	0.38	0.20	(n) 0.00	0.01	0.46	(n) 0.00	1.45	0.99	0.46
Switzerland	0.11	0.16	(n) 0.00	0.06	0.14	(n) 0.00	(n) 0.00	0.54	(n) 0.00	1.01	0.47	0.54
United Kingdom	0.27	0.02	(n) 0.00	0.01	0.01	0.01	(n) 0.00	0.20	(n) 0.00	0.52	0.32	0.20
United States	0.04	0.07	(n) 0.00	0.01	0.04	0.01	(n) 0.00	0.81	(n) 0.00	0.98	0.17	0.81
OECD countries	0.16	0.14	(n) 0.00	0.09	0.09	0.06	0.02	0.67	0.11	1.37	0.57	0.78

Introduction (1)

> Governments spent considerable amounts of money in active labour market programs **and** their empirical evaluations

> Widespread microeconometric program evaluation literature that influences government decisions (*evidence based policy*)

Identification

Selection bias

Problems of all studies

- Case workers **select** specific types of unemployed into specific programmes
- Specific unemployed **self-select** into specific programmes
- Programmes may have **effect** on labour market outcomes

➔Labour market outcomes are correlated with participation, but **why**?

How can we disentangle **selection** and **programme** effects?

Introduction (2)

> **If** the data is informative enough …

- 'Informative enough': It should capture all factors jointly influencing program participation and labour market outcomes

> … then matching is a compelling method

- Robustness due to its semiparametric nature
  - no (less) functional form dependence (like in parametric models)
  - no units of measurement dependence (like in Difference-in-Difference)
- Different relevant population effects can be identified
  - not instrument or cut-off dependent effects like in RDD or IV (LATE's)
- More precise than instrument dependent methods (IV & RDD)
  - information from all of the sample is used, not just from the *compliers*

Introduction (2)

> All methods have drawbacks and (all reasonable methods) use equally strong (identifying) assumptions

> Example of such drawbacks for semi-/nonparametric methods:

- *Social experiments*: External validity, cost, relevance, attrition

  the U.S. Department of Labor (DOL) recently initiated a project to experimentally evaluate the WIA program, results will not be available for at least seven years. Given the current policy

- *IV, RDD*: Only local effects, average effects for populations not related to instrument (participants) not identified
- *DiD*: Nonparametric identification impossible (DiD is functional form dependent). Comparison groups with credible common trends rare
- Matching: Need very informative data to overcome confounding, but this data collection may be very expensive and not always possible

Introduction (3)

> ***If*** researchers can influence the data collection process (successfully) ***matching*** may be the method of choice
  - may use data collected for other purposes
  - avoids many functional form assumptions
  - identified population averages (incl. marg. distributions)
  - identification not depending on scale of outcome measurement
  - usually more precise than IV type methods

> Europe: Matching based on informative administrative data is the most commonly used research design

Example:

Long-Run Effects of Public Sector Sponsored Training in West Germany

Last presentation 2005 (forthcoming *JEEA, August, 2011*)

Michael Lechner, Ruth Miquel, Conny Wunsch

SEW, CEPR, IZA *former SEW* *SEW*

www.sew.unisg.ch/lechner

Contributions of this paper

- Quantify effects of different types of training for the unemployed in Germany, for the first time using a decent data base
- Analyse the evolution of the effects of the programmes over time in relation to their typical duration
- Uncover the long term effects (after 8 years)
- Resolve some of the puzzles that appeared in the literature about the effects of training
- (Modified matching estimator)

Labour market policy in Germany in more detail

Active labour market policy – further vocational training

- **Further training (adjustment of skills; up to 1 year; max. 2 years)**
- **Retraining (new vocational degree; up to 3 years)**
- **Special types of further training I: Practice firms**

  a) simulate working in commercial part of firm (ex.: accountant)

  b) ... in manufacturing part of firm (ex.: special drivers license)
- Special types of further training II: Career improvements

→ Maintain and improve skills and occupational knowledge

→ Adjust skills to technological changes

→ Facilitate a career improvement

→ Award a first professional degree

Our data

The new data base

	Employment subsample	Benefit payment register	Training participant data
Source	Employer supplied mandatory social insurance entries.	Benefit payment register of the FEA.	Questionnaires filled in by the labour officer for statistical purposes (*ST35*).
Population	1% random sample of persons covered by social insurance for at least one day 1975-1997. Self-employed, civil servants, students are not included. (Data until **2002**)	Recipients of UA, UB, or MA, 1975-**2002**.	Participants in further training, retraining, short programmes (41a EPA), German language courses and temporary wage subsidies 1975-1997.
Available information	**Personal characteristics and history of employment.**	**Information about the receipt of benefits, mainly *UB, UA, MA*.**	**Personal characteristics of participants and information about training programmes.**
Important variables	Gender, age, nationality, education, profession, employ-ment status, industrial sector, firm size, earnings, regional information	Type and amount of benefits received.	Type, duration and result of the programme, type of income support paid during participation.
Structure	Spells based on daily information.	Spells based on daily info.	Spells based on monthly information.

Note: The merged data is based on monthly information. For detailed information on the merging and recoding proce-dures see Bender et al. (2004). The creation of this data base is a result of a three year joint project of research groups at the Universities of Mannheim (Bergemann, Fitzenberger, Speckesser) and St. Gallen (Lechner, Miquel, Wunsch) as well as the Institute for Employment Research of the FEA (Bender).

Identification

The conditional independence assumption

... means that all variables that jointly influence selection and outcomes are observed

- **Is this assumption plausible in our data?**

  + many variables influencing choices of case worker and unemployed are in this new data base (employment records, personal information, regional labour market info, employer information, ...)

- Key variables that are missing in our data

  - Jail and health status histories

  - Judgements of the case workers (about motivation etc.)

  - ...

Estimation: Standard type matching with multiple treatments (eg. Gerfin and Lechner, 02)

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Our data

Selection of the sample

	Non-part.	Prac-tice firm	Short train.	Long train.	Re-train.	Career im-prov.	Other
Persons entering unemployment between Jan. '93 and Dec. '94	**36965**	324	644	380	497	130	103
Simulated programme start after the entry in unemployment (UE) and before the end of the observation period							
Remaining observations	**26022**	324	644	380	497	130	103
Eligibility: Only individuals receiving UB or UA in the month of and before the programme start							
Remaining observations	**13091**	309	618	350	450	118	92
Personal characteristics : a) 20 ≤ age ≤ 55; b) no trainees or apprentices; c) at least one observation of employment; d) no home workers; e) no part-time worker less than half of a full-time work							
Final sample	**9197**	**273**	**572**	**329**	**413**	**110**	**74**

Note: All variables are measured before or in the same year as the start of the programme.

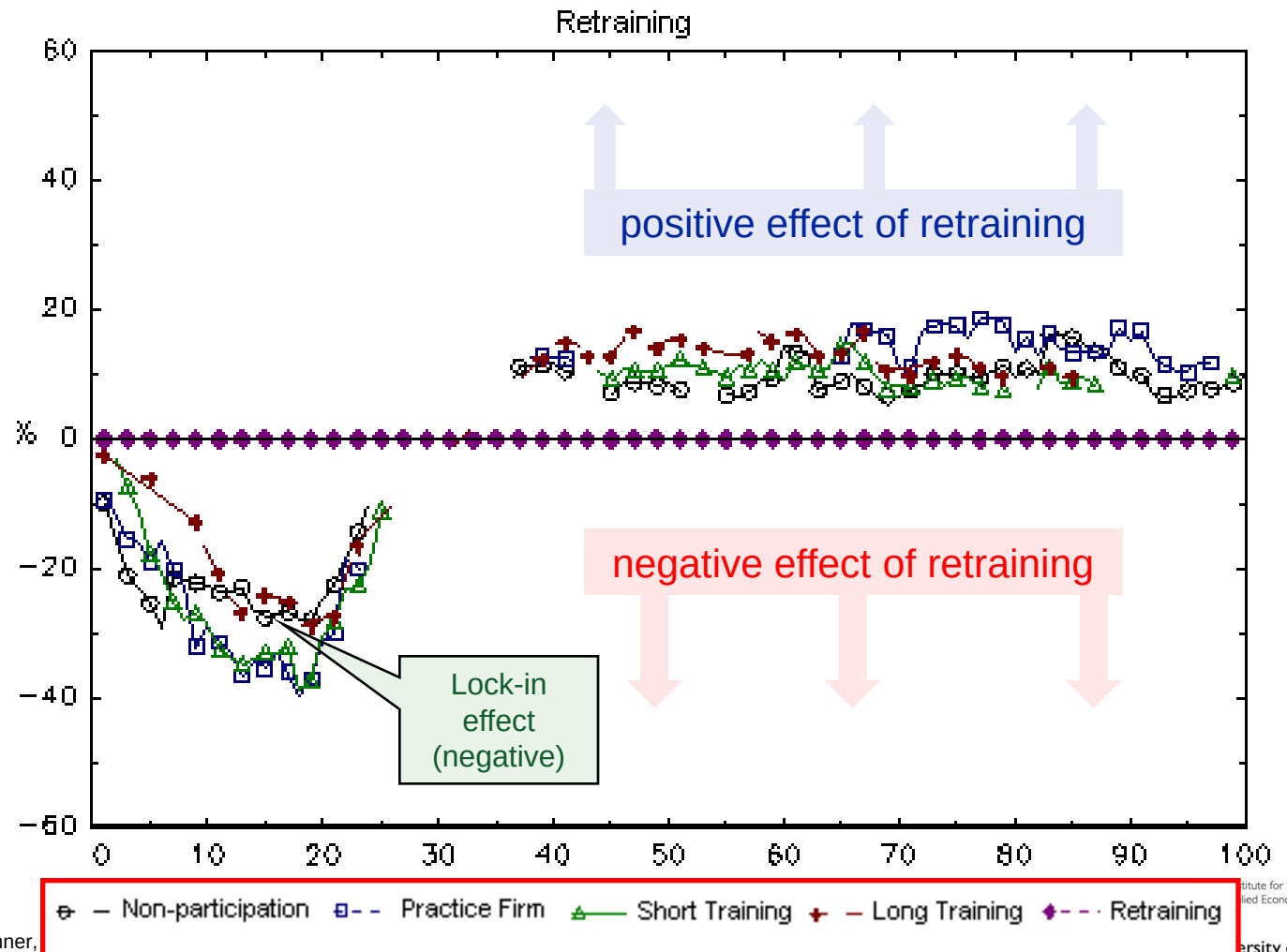
Results

Definition of different outcome variables

- Employed in month *t*
- Registered as unemployed in month *t*
- Employment status defined as three month moving average
- Employed with earnings of at least 90% of previous earnings
- Employed for at least 7 months
- Monthly earnings
- Accumulated employment / earnings

Results

Changes in employment rate in %-points X months after start



Conclusions

Effects of the programmes

- All programmes have negative effects in the short run. Relevance depending on their duration ➔ lock-in effects
- All programmes except practice firms have positive effects in the long run
- Short training most successful over 8 years (+ 9 months of employment)
- Long training successful over 8 years (+ 5 months of employment)
- Retraining has largest lock-in and largest long run effect (10-15%-p.) – negative effects too large to more than compensate them over 8 years
- All programmes increase benefit receipt (RT: 10 m.; PF: 4 m., LT: 3 m., ST: few days)

Conclusions

Effects of the programmes

- A
- A
- S
- L
- R
- A

Findings for later German programmes less optimistic!

Conclusions

Effects of the programmes II

- ATE < ATEN in some cases (retraining): Suboptimal allocation of unemployed to programmes

- Explains puzzle in literature: Usually negative or zero effects of training are found, but **usually the time horizon is fairly short**

Methodological advances

- Building a new data base that can be used for many purposes
  - But today we have an even better data base!
- Improved version of matching estimator

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Conclusions

Shortcomings and future research

- No cost data
- Increase horizon even further (in particular for retraining)
- **More control variables increase credibility (case worker information, firm information)**
- More detailed programme information
- Inference for matching estimation
- Explicit treatment of the dynamic selection problem
- Effect of programme duration and sequences of programmes

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