



Research Data Centre (FDZ)  
of the German Federal  
Employment Agency (BA)  
at the Institute for  
Employment Research (IAB)

# The FDZ at UM: Access to German Labor Market Data at the University of Michigan

Princeton University, Dec 8th, 2011

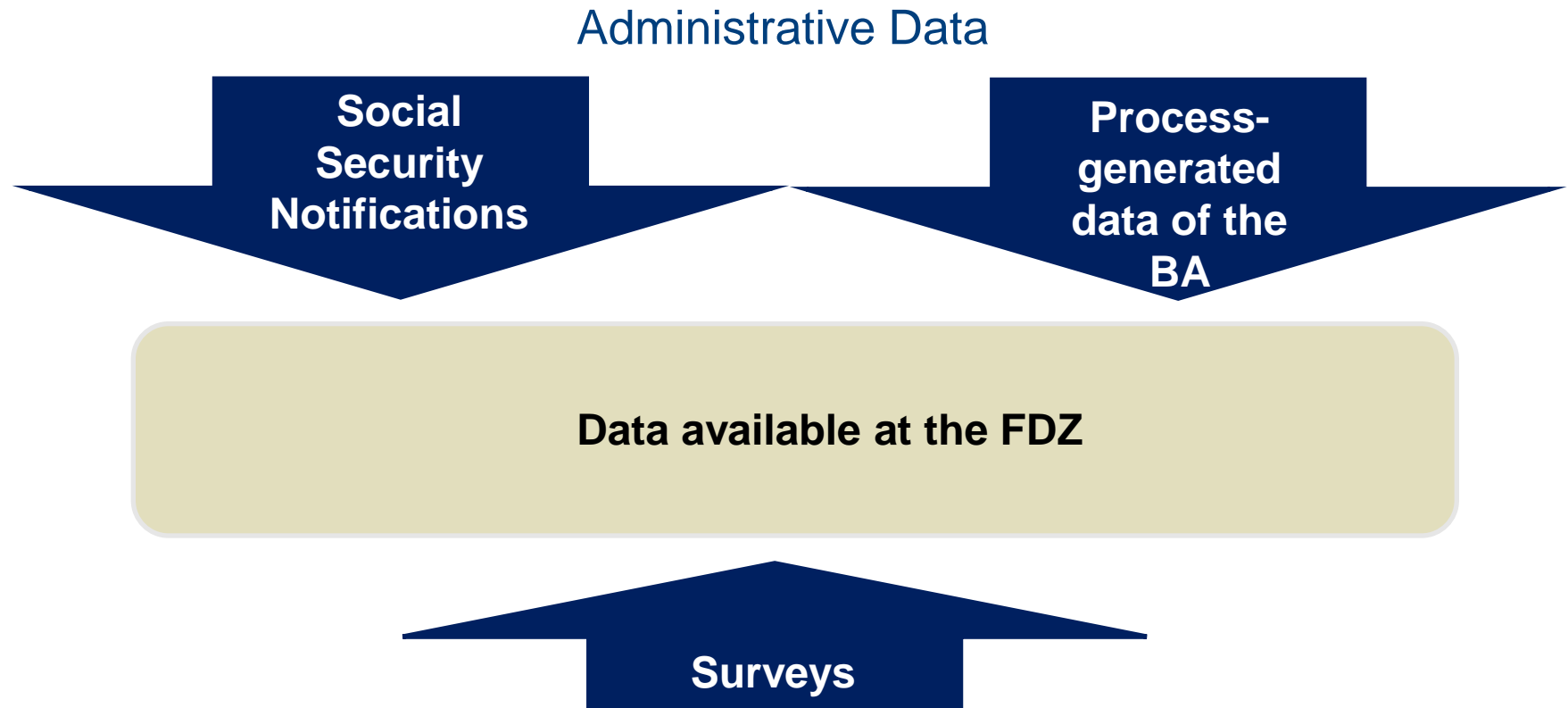
Stefan Bender  
Joerg Heining

# 1. The FDZ

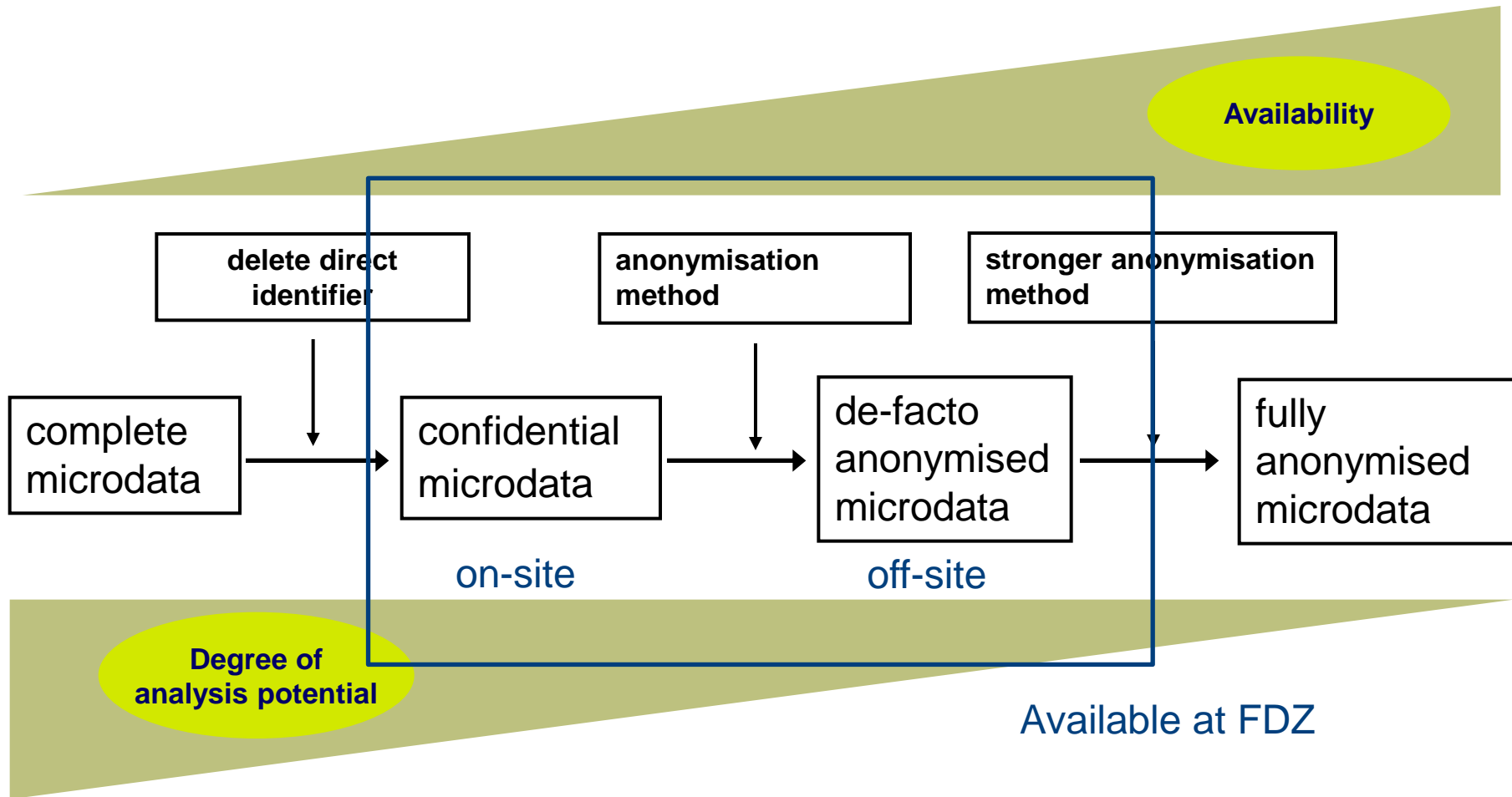
- FDZ: Research Data Center of the German Federal Employment Agency (BA)
- Located at the Institute for Employment Research (IAB) in Nuremberg, Germany
- Established in 2004
- Since 2011: Field Office at UM's Institute for Social Research (ISR) in Ann Arbor

# 1. The FDZ

- Micro labor market data on individuals/households and establishments



# 1. The FDZ



# Agenda

1. The FDZ
2. The FDZ at UM
3. Administrative Data
4. Data available at the FDZ
5. Demand for Data
6. Data Access
7. Other Services Provided by the FDZ

## 2. The FDZ at UM

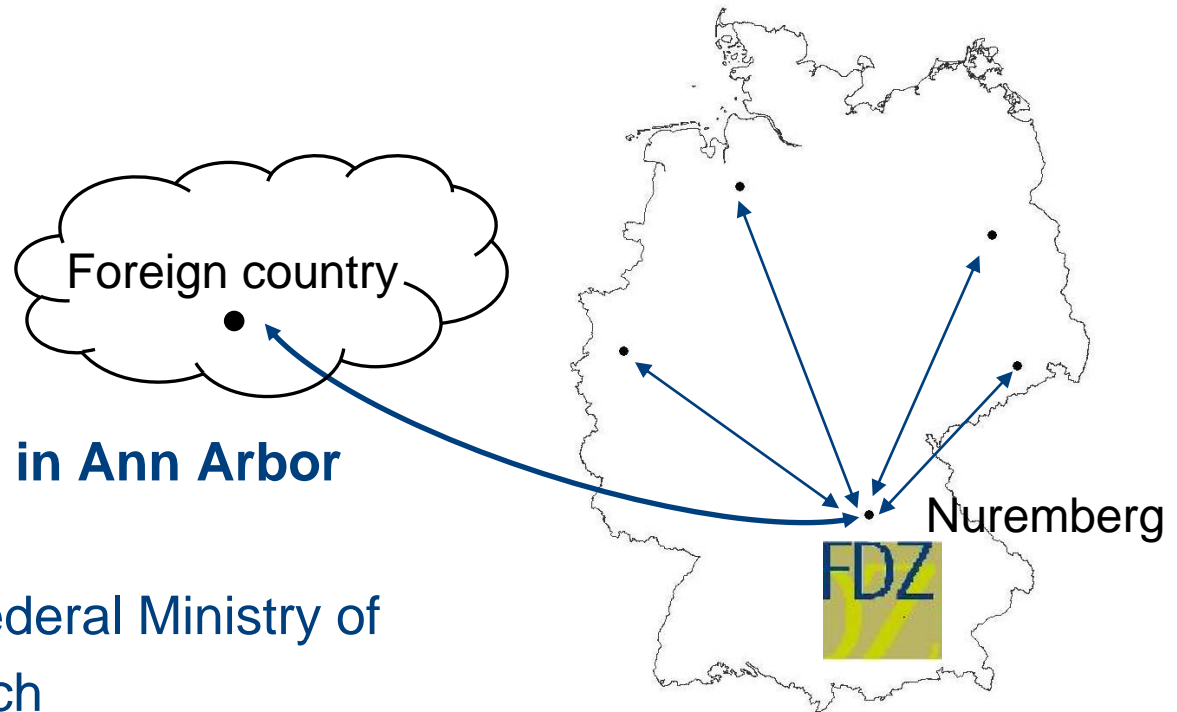
- **RDC-in-RDC approach:**
- Comparable standards in nearly all RDCs over the world
- Access to BA/IAB data can be granted from other RDCs or comparable institutions

- in Germany

- and **abroad:**

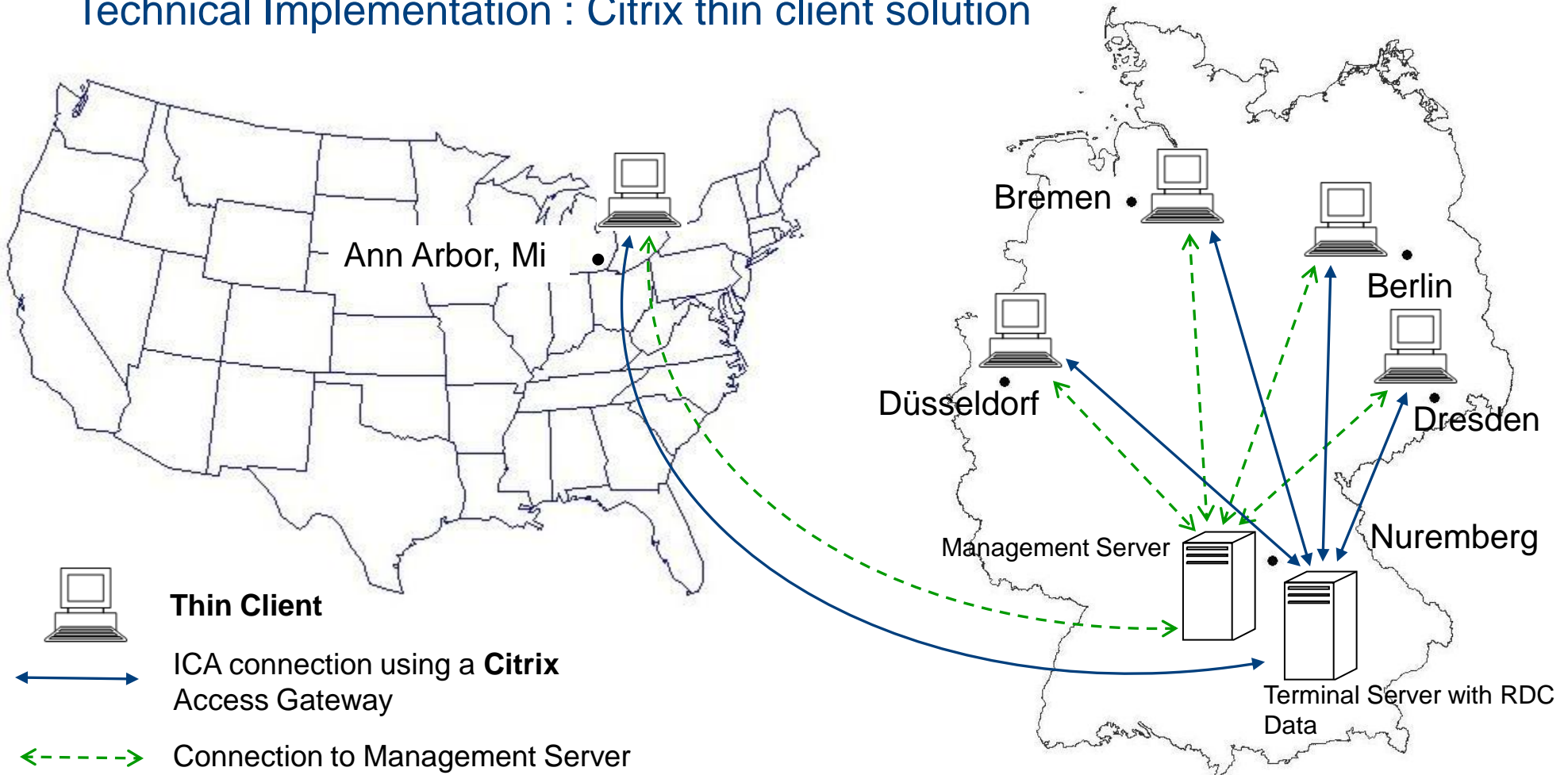
### MICDA Enclave at ISR in Ann Arbor

- Funding provided by Federal Ministry of Education and Research



## 2. The FDZ at UM

### Technical Implementation : Citrix thin client solution



# Bremen



# Ann Arbor



# Dresden





## 3. Administrative Data

### Social Security Notifications

- Procedure
  - Employers notify to the social security system
  - For every employee and marginal worker covered by the social security system (notification requirement)
  - Annually. Or: Begin or end of employment, employment interruption, change of health insurance
  - Identification: social security number and establishment number
- Intention of data collection
  - Calculation of social security contributions and (unemployment) benefits
  - Statistics

# Meldung

13 Belegart

Versicherungsnummer  
  
 Name, Vorsatzwort, Name  
  
 Vorname  
  
 Straße und Hausnummer  
  
 (Land) Postleitzahl

Grund der Abgabe\*

Beschäftigungszeit  
 von  
  
 Beitragsgruppen\*  KV  
 Beitragspflichtiges Brutto  
 (in DM)

Stornierung einer ber  
 von

## Notification to the Social Security System:

- Social Security Number
- Establishment Number
- Last Name
- First Name
- Address
- Reason for Notification
- Times of Employment (on a daily basis)
- Nationality
- School Education
- Vocational Training
- Type of Employment
- Wages
- Occupational Status

# Änderung

n Daten:  
werden unter Beachtung  
nis ist zur Durchführung  
es Sozialgesetzbuch sowie  
erforderlich.

Änderung der  
 Staatsangehörigkeit

einfachbe- Betriebsstätte  
 schäftigung Ost West

einfachbe- Betriebsstätte  
 schäftigung Ost West

### 3. Administrative Data

- No information about civil servants, freelancers or self-employed
- **Internal processes of the Federal Employment Agency**
  - Payment/Receipt of unemployment benefits
  - Participation in labour market programs
  - Registered job search
- Exact start and end dates
- Computer-aided processes

### 3. Administrative Data

- Federal Employment Agency transmits data to IAB
- IAB merges social security notifications and BA data  
⇒ (complete) individual employment biographies

apprenticeship

pension

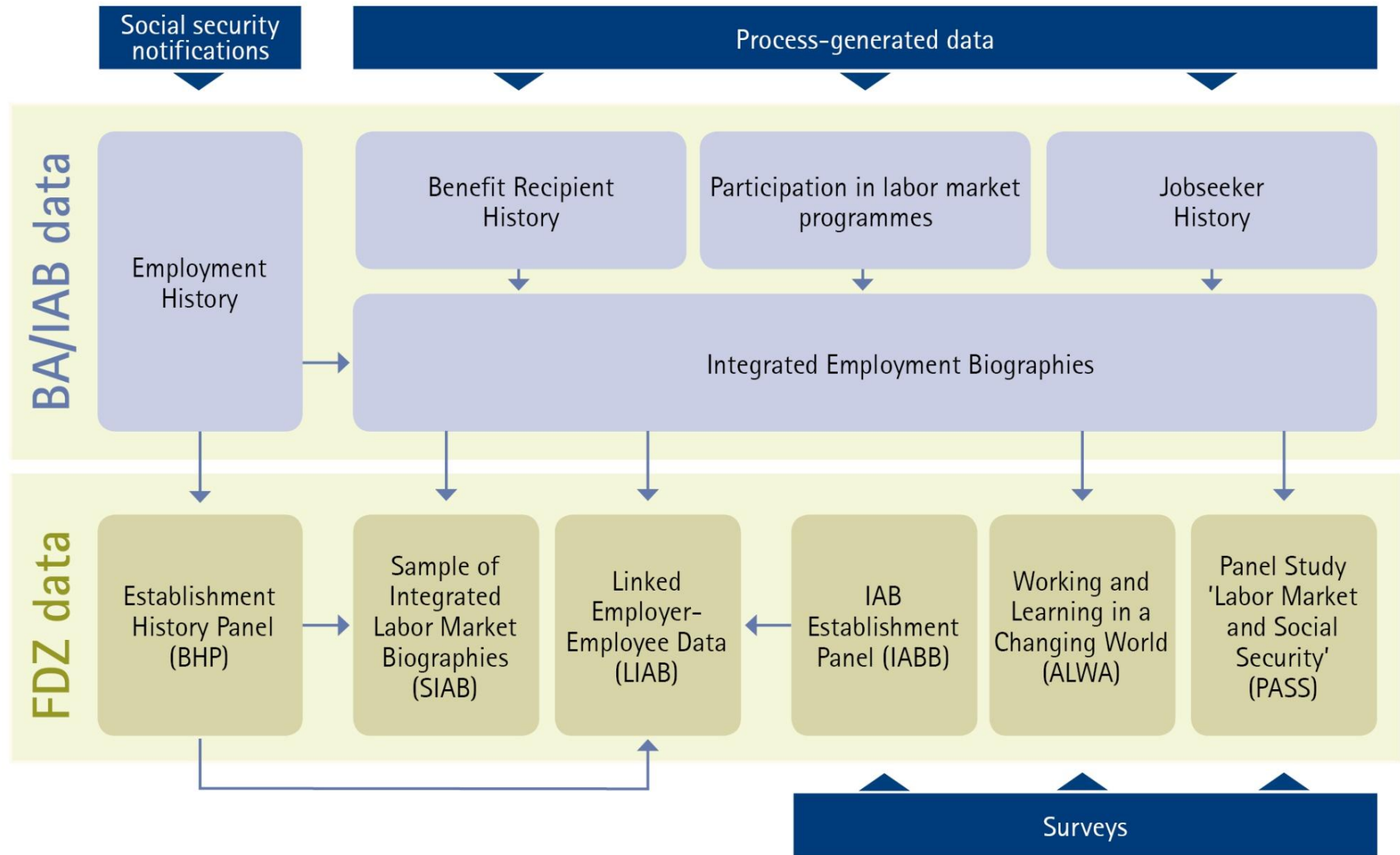


Employment history covered by social security system (since 1975)

Unemployment benefit receipt (since 1975)

Registered job search (since 2000)

Participation in labor market programs (since 2000)



## 4. Data available at the FDZ - SIAB

### Sample of Integrated Labour Market Biographies (SIAB)

- Approximately 2 % random sample drawn from the Integrated Employment Biographies of the IAB

Period covered	1975 – 2008 (2009) (East-Germany since 1992)
Time reference	Employment biographies on a day-to-day basis
Number of cases	1,659,024 individuals
Topics	<p><b>Socio-demographic characteristics (examples):</b></p> <p>Gender, year of birth, nationality, marital status, number of children, school leaving qualification, etc.</p>

## 4. Data available at the FDZ - SIAB

Topics  
(continued)

**Information on employment, benefit receipt, job search (examples):**

Begin and end of employment, benefit receipt and job search, daily wage, daily benefit rate, occupation, termination of last job, etc.

**Information on location (examples):**

Place of residence, place of work (federal state, county, regional directorate, employment agency)

**Information on establishments (examples):**

Branch of industry, total number of employees, median wage of the establishment , etc. ⇒ **Establishment History Panel**

## 4. Data available at the FDZ - BHP

### Establishment History Panel (BHP)

- Cross sectional dataset on all establishments in Germany with
  - at least one employee liable to social security (until 1998)
  - since 1999 also with at least one marginal worker
- Aggregations of the individual administrative data by establishment ids
- May be combined with SIAB
- 50% random sample or random sample stratified by 8 establishment sizes



## 4. Data available at the FDZ - BHP

Period covered	West-Germany: 1975 - 2008 East-Germany: 1992 - 2008
Time reference	June 30
Number of cases	Between approx. 650,000 and 1.3 million establishments p.a. (in the samples)
Topics	<p><b>Establishment information (examples):</b></p> <ul style="list-style-type: none"> <li>• Total number of employees</li> <li>• Number of employees by main occupation</li> <li>• Employee age structure</li> <li>• Division of employees by educational and vocational qualifications</li> <li>• Wage structure of full-time employees</li> <li>• Branch of industry</li> <li>• Number of inflows and outflows</li> <li>• Classification of establishment entry and exit</li> <li>• Etc.</li> </ul>

## 4. Data available at the FDZ – Establishment Panel

### IAB Establishment Panel

- Annual establishment survey
  - West-Germany since 1993, East-Germany 1996
  - Representative on federal state level since 2001
- Tries to follow establishments continuously over time
- Sample, stratified according to establishment size, industry and federal state ⇒ weights
- Annually repeated topics, special focus every year

## 4. Data available at the FDZ – Establishment Panel

Period covered	West Germany: 1993 to 2009 East Germany: 1996 to 2009
Time reference	June 30
Number of cases	Between 4,265 and approx. 16,000 establishments per year
Topics	<p><b>Annually repeated topics (examples):</b></p> <ul style="list-style-type: none"> <li>•General company information</li> <li>•Development of employment,</li> <li>•Business policy and development,</li> <li>•Investments, in-house innovations,</li> <li>•Government subsidies,</li> <li>•Vocational training and apprenticeship places,</li> <li>•Recruitments and dismissals,</li> <li>•Wages,</li> <li>•Etc.</li> </ul>

## 4. Data available at the FDZ – LIAB

### Linked-Employer-Employee Data (LIAB)

- **IAB Establishment Panel** matched with individual data from the **Integrated Employment Biographies**
- Simultaneous analysis of the supply and demand sides of the German labour market
- May be combined with **Establishment History Panel**

## 4. Data available at the FDZ – LIAB

- Two different models:
  - LIAB cross-sectional model:

The cross-sectional LIAB model contains both information on individuals and data from the IAB Establishment Panel matched on a specific reference date (June 30).
  - LIAB longitudinal model:

The data in the longitudinal LIAB model are not referenced to a specific date, but contains personal details related to a certain period of time.

## 4. Data available at the FDZ – PASS

### Panel ‘Labour Market and Social Security’ (PASS)

- Annual household survey started in 2006/2007: Labor market and poverty situation in Germany
- Situation of recipients of benefits in accordance with the German Social Code Book II (recipients of Unemployment Benefit II (“Hartz IV”))
- Two random samples from two partial populations:
  - Persons and households in receipt of Unemployment Benefit II
  - All persons and households registered as residents of Germany

## 4. Data available at the FDZ – PASS

- First wave of the panel study was continued.
- Refreshment samples of households that newly claimed Unemployment Benefit II were drawn.
- Four waves are now available
- Combined data: PASS – administrative data

## 4. Data available at the FDZ – ALWA

### **Working and Learning in a Changing World (ALWA)**

- Survey which contains information about more than 10.400 life histories
  
- Allows longitudinal analysis of
  - Schooling and training decisions
  - Labor market re-entries and labor market behavior
  - Processes of family formation
  - Regional mobility
  - Competence tests
  
- Combined data: ALWA – administrative data



## 4. Data available at the FDZ – in the future

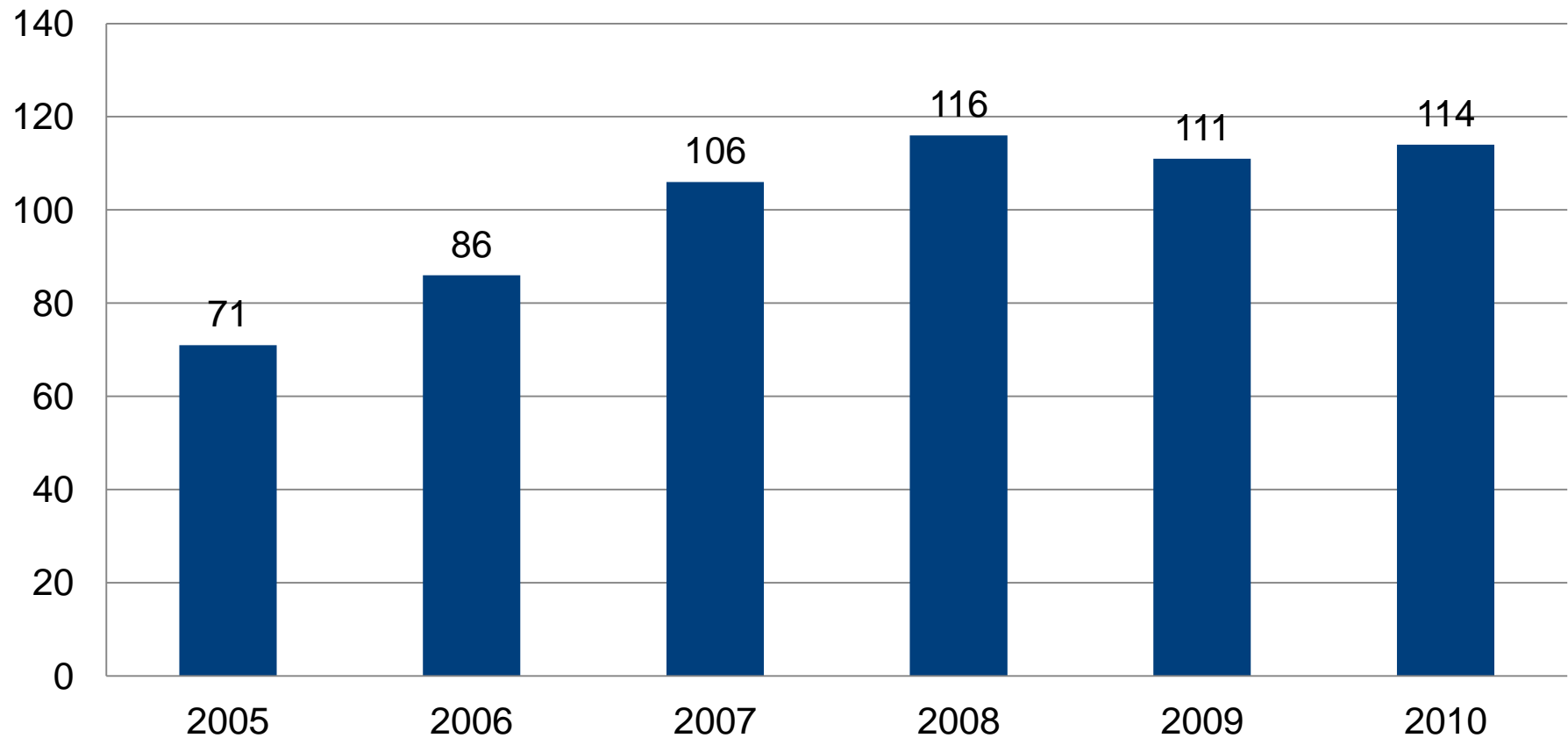
- Geo coded data (total population)
  
- Patent data:
  - Data from the German Patent and Trade Mark Office (DPMA) linked to administrative data of IAB
  - Name and address of inventors for all registered patents in 2002
  
- Data of the Deutsche Bundesbank: Foreign Direct Investments, Annual Financial Statements
  
- Data on short-time allowance/work (individuals only Nuremberg region)
  
- Commercial business data (Bureau van Dijke)

## 4. Data available at the FDZ – in the future

- Health data (LIDA)
- Educational data (National Education Panel Study)
- Social security data from other countries combined with German administrative data
- Multinationals

## 5. Demand for Data - Projects

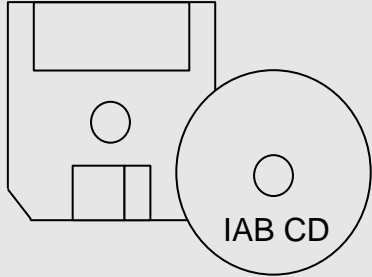
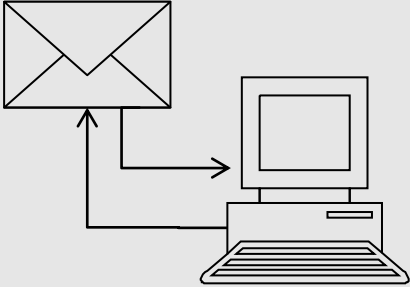
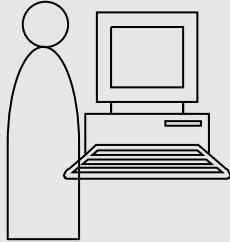
**Number of New Projects**  
(in total, including on-site and off-site use)



## 5. Demand for Data – Journals

- American Economic Review
- Quarterly Journal of Economics
- The Review of Economics and Statistics
- European Economic Review
- Journal of Business and Economic Statistics
- The Scandinavian Journal of Economics
- Journal of Labor Economics
- Journal of Urban Economics
- Labor Economics
- Journal of Population Economics
- and many more

## 6. Data Access

Off-Site Use		On-Site Use
		
<p>CD or Download (Scientific Use File)</p>	<p>Remote Execution</p>	<p>Guest Stay</p>
<p>Factually anonymous</p>	<p>Weakly anonymous (= confidential)</p>	

## 6. Data Access

	On-Site	Off-Site	
		Remote Execution	Scientific Use File
SIAB	✓	✓	✓ (planned)
Establishment History Panel	✓	✓	
Establishment Panel	(✓)	✓	✓ (only for 2007)
Linked-Employer-Employee-Data	✓	✓	
PASS	✓*	✓*	✓
ALWA	✓*	✓*	✓

\* combined data

## 6. Data Access

- **Easy, Quick and Cheap**
  
- **Easy**
  - Non-technical project proposal
  - Approval by RDC (off-site use) or Federal Ministry (on-site use)
  - Use agreement with the institution of the researcher
  
- **Quick**
  - (Estimated) Time until user/institution receives contract:
    - 2 weeks for off-site use (scientific use file)
    - 4 weeks for on-site use

## 6. Data Access

- **Cheap**
  - Data access is free of charge
  - No lab fees
  - No restrictions on hours/visits of on-site use facilities or runs of remote executions
  - Financial support



## 7. Other Services Provided by the FDZ

- Software available at the Ann Arbor site: Stata, TSP, MatLab, Gauss, R
- Remote Execution after on-site use
- Documentation
- Consultation and Assistance
  - Application Process/Proposal
  - Data issues
  - Preliminary Evaluations
  - **Cooperation**
  
- Financial support

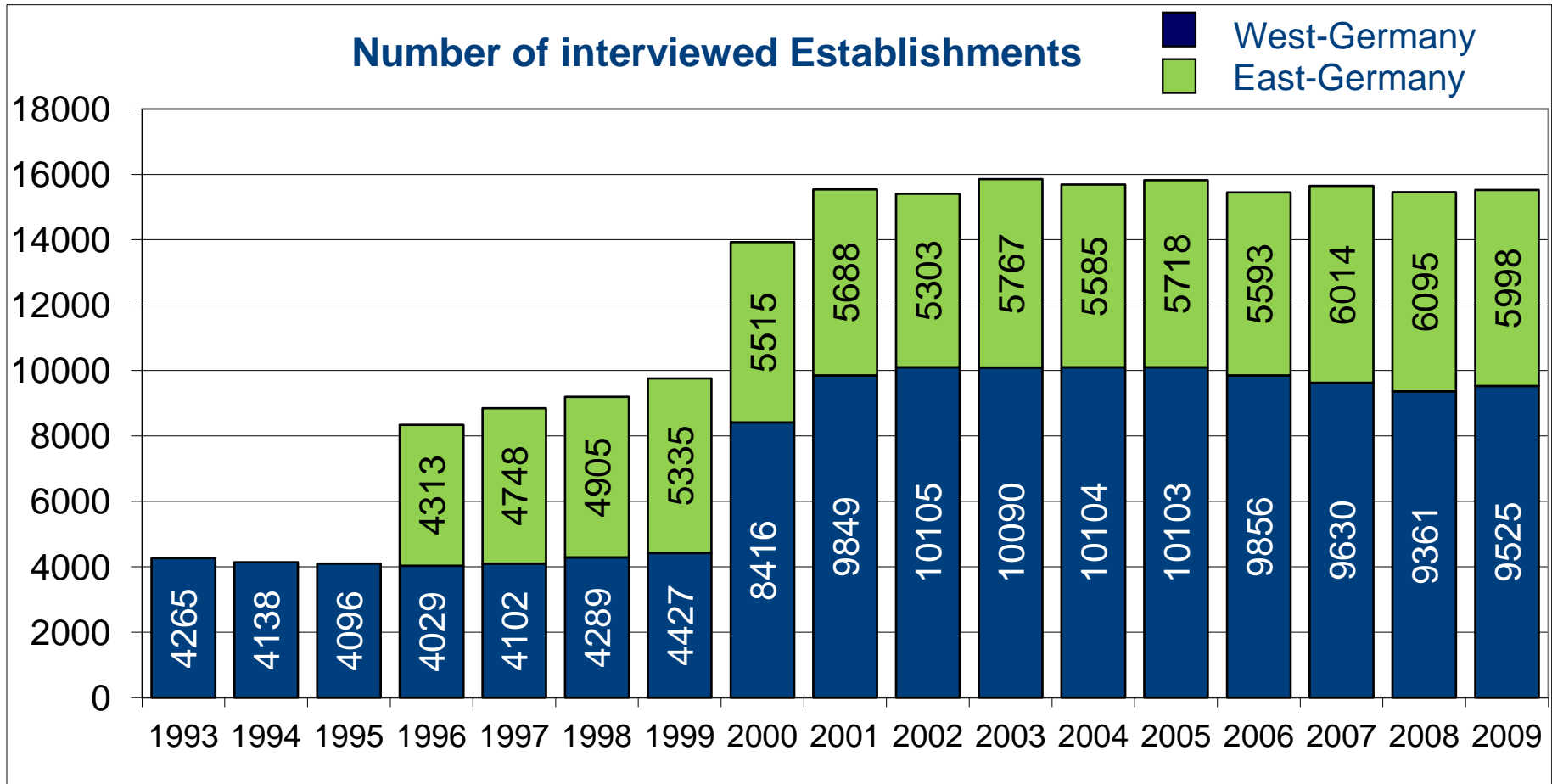


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<http://fdz.iab.de>

Joerg Heining  
University of Michigan  
Institute for Social Research  
330 Liberty Street, Room 4027  
Ann Arbor, MI, 48104  
734-763-2348  
[joerg.heining@iab.de](mailto:joerg.heining@iab.de)

# IAB Establishment Panel



# IAB Establishment Panel

## Special topics:

- 1994: Contact with the employment agency
- 1997: Business start-ups; recruitment of skilled labour
- 1998: Investments abroad
- 1999: Progressive retirement and pre-retirement; share of turnover in environmentally protective goods; revision of the DM 630 job regulation
- 2000: Skilled worker demand; elderly employees; financial incentives for employees
- 2001: Computer and Internet equipment; staff shares and profit-sharing
- 2002: Elderly employees; health protection; equal opportunities; contact with the employment agency
- 2003: Operational flexibility
- 2004: Personnel structure (senior management), working hours
- 2005: Environmentally protective goods, personnel recruitment
- 2006: Job security and locational security of industries
- 2007: Future staffing for qualified employees
- 2008: Job security and locational security of industries, equal opportunities
- 2009: Types of employment, vocational training and apprenticeship

# IAB Establishment Panel – Entries and Exits

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Exits after 1993		-701	-583	-582	-582	-582	-582	-582	-582	-582	-582	-582	-582	-582	-582	-582	-582
Exits after 1994			-671	-552	-552	-552	-552	-550	-549	-549	-549	-549	-549	-549	-549	-549	-549
Exits after 1995				-719	-591	-590	-588	-586	-586	-585	-585	-585	-585	-585	-585	-585	-585
Exits after 1996					-1500	-1290	-1286	-1282	-1280	-1280	-1280	-1279	-1279	-1279	-1279	-1279	-1279
Exits after 1997						-1818	-1607	-1602	-1596	-1594	-1590	-1590	-1590	-1590	-1590	-1590	-1590
Exits after 1998							-1869	-1605	-1598	-1594	-1592	-1591	-1591	-1591	-1591	-1591	-1591
Exits after 1999								-1611	-1422	-1417	-1415	-1414	-1412	-1412	-1412	-1411	-1411
Exits after 2000									-2766	-2459	-2450	-2447	-2445	-2443	-2442	-2442	-2441
Exits after 2001										-3675	-3421	-3411	-3408	-3404	-3401	-3401	-3400
Exits after 2002											-3563	-3325	-3312	-3306	-3305	-3304	-3300
Exits after 2003												-2986	-2723	-2707	-2700	-2694	-2690
Exits after 2004													-2865	-2626	-2609	-2600	-2595
Exits after 2005														-3150	-2892	-2874	-2865
Exits after 2006															-2975	-2724	-2712
Exits after 2007																-3040	-2808
Exits after 2008																	-2917
Initial survey 1993	4265	3564	3030	2579	2187	1871	1556	1364	1195	1017	873	749	666	580	492	463	367
Entries 1994		574	437	337	265	217	175	152	137	110	97	85	73	66	53	42	32
Entries 1995			629	461	366	301	248	210	178	151	125	108	92	80	70	61	54
Entries 1996				4965	4024	3336	2828	2479	2192	1928	1698	1495	1319	1154	1037	954	863
Entries 1997					2008	1307	991	794	663	559	474	412	362	313	274	242	214
Entries 1998						2162	1527	1238	1044	876	738	647	580	498	437	382	346
Entries 1999							2437	1914	1577	1330	1147	1003	863	747	658	595	522
Entries 2000								5780	4179	3073	2312	1976	1705	1464	1253	1079	937
Entries 2001									4372	2818	2007	1614	1333	1107	952	825	716
Entries 2002										3546	2374	1820	1482	1189	999	865	743
Entries 2003											4012	2962	2391	1962	1648	1404	1223
Entries 2004												2818	1958	1463	1175	961	814
Entries 2005													2997	2048	1495	1201	989
Entries 2006														2778	1931	1453	1179
Entries 2007															3170	2104	1581
Entries 2008																2852	1959
Entries 2009																	2984
<b>Evaluable cross-sectional cases</b>	<b>4265</b>	<b>4138</b>	<b>4096</b>	<b>8342</b>	<b>8850</b>	<b>9194</b>	<b>9762</b>	<b>13931</b>	<b>15537</b>	<b>15408</b>	<b>15857</b>	<b>15689</b>	<b>15821</b>	<b>15449</b>	<b>15644</b>	<b>15456</b>	<b>15523</b>

# Linked Employer-Employee Data (LIAB)

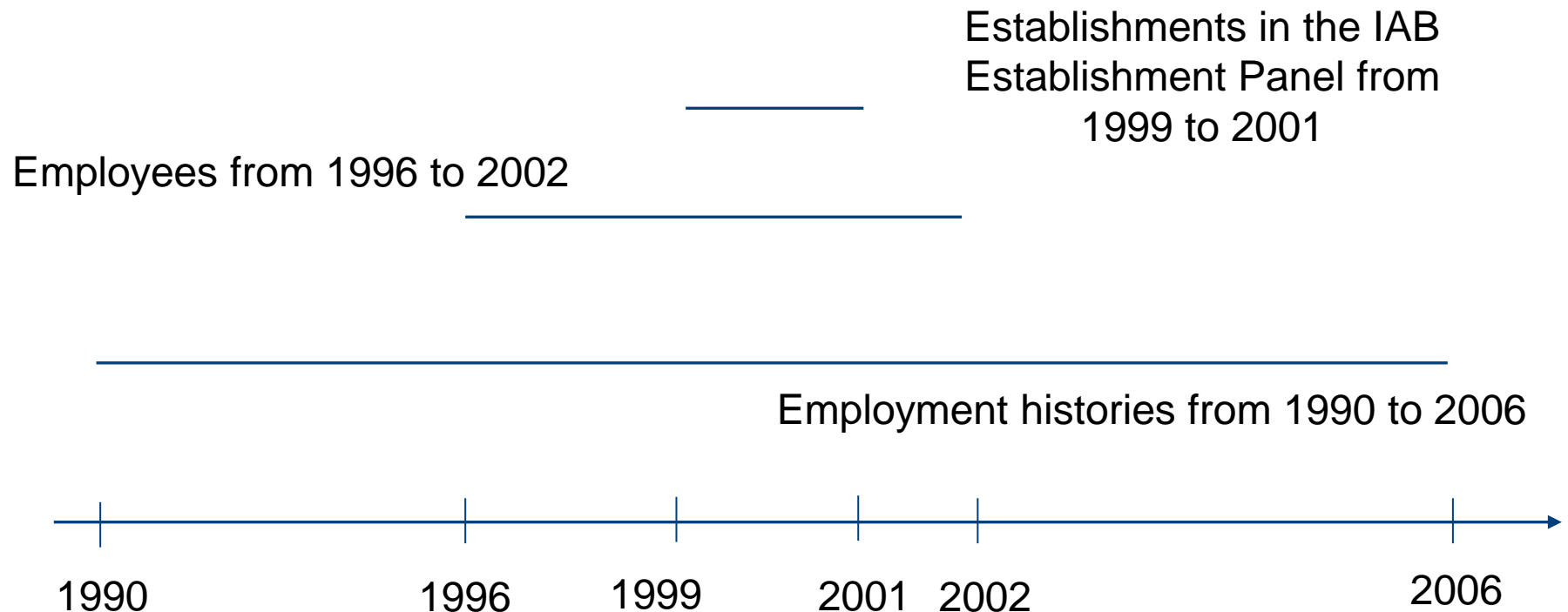
- **LIAB cross-sectional model**
- IAB Establishment Panel: all establishments of the IAB Establishment Panel
- Establishments: 4,114 to 16,280 per year, 46,182 in total
- All observations on employment , benefit receipt and job search on the reference date June 30th,
- Includes all individuals employed in an establishment of the IAB Establishment on that date
- Individuals: 1,885,684 to 2,586,048 per year, 9,784,888 in total

# Linked Employer-Employee Data (LIAB)

- **Longitudinal Model 1**
  
- Observations of the IAB Establishment Panel that participated in the survey without gap from 1999 to 2001
- Only those with good matching quality
- ⇒ 2,100 establishments in East- and West-Germany respectively
  
- All individuals who were employed in one of the selected establishments between 01.01.1996 and 31.12.2002 for at least one day
- All observations on employment and benefit receipt from 1990 to 2006
- ⇒ Approximately 1,9 million individuals

# Linked Employer-Employee Data (LIAB)

- **Longitudinal Model 1**





# Linked Employer-Employee Data (LIAB)

## ▪ Longitudinal Model 2

- Observations of the IAB Establishment Panel that participated in the survey without gap from 2000 to 2002
- Plus establishments already included in model 1
- Only those with good matching quality
- ⇒ 4,360 establishments in East- and 5,293 in West-Germany
  
- All individuals who were employed in one of the selected establishments between 01.01.1997 and 31.12.2003 for at least one day
- All observations on employment and benefit receipt from 1993 to 2006
- ⇒ Approximately 3,6 million individuals

# Linked Employer-Employee Data (LIAB)

- **Longitudinal Model 2**



# Linked Employer-Employee Data (LIAB)

- **Longitudinal Model 3**
  
- Observations of the IAB Establishment Panel that participated in the survey without gap from 1996 to 2005
- Only those with good matching quality
- ⇒ approximately 2,300 establishments
  
- All individuals who were employed in one of the selected establishments between 01.01.1993 and 31.12.2006 for at least one day
- All observations on employment and benefit receipt from 1993 to 2006
- ⇒ Approximately 1,8 million individuals

# Linked Employer-Employee Data (LIAB)

- **Longitudinal Model 3**

Establishments in the IAB Establishment  
Panel from 1996 to 2005



Employees from 1993 to 2006



Employment histories from 1993 to 2006



# Panel Study „Labour Market and Social Security“

## Wave 1:

Recipients of Unemployment Benefit II in 7/2006:

Sample I: 9,386 individuals (living in 6,804 households)

Residents in Germany :

Sample II: 9,568 individuals (living in 5,990 households)

## Wave 2:

Sample I: 4,753 individuals (living in 3,491 households)

Sample II: 6,392 individuals (living in 3,897 households)

Recipients and Residents in 7/2007 but without receipt in 7/2006 :

Sample III: 1,342 individuals (living in 1,041 households)

# Panel Study „Labour Market and Social Security“

## Wave 3:

Sample I: 4,913 individuals (living in 3,754 households)

Sample II: 6,207 individuals (living in 3,901 households)

Sample III: 898 individuals (living in 694 households)

Residents and recipients in 07/2008 but without receipt in 07/2006 and 07/2007:

Sample IV: 1,421 individuals (living in 1,186 households)

# The Unemployment Insurance System in Germany

## Until 1984:

- Unemployment benefits (UB, „Arbeitslosengeld“):
- Potential duration of UB: up to 12 months
- Duration depends on the number of months worked in the base period prior to unemployment (least 12 months in the previous 3 years)
- 68% of the last net wage, not means tested
- After UB, unemployment assistance (UA, Arbeitslosenhilfe)
- Unlimited duration
- 58% of the last net wage, other sources of income are subtracted
- Means tested, reviewed once a year
- In case supplemented with social assistance (social welfare, “Sozialhilfe”)

# The Unemployment Insurance System in Germany

## 1984 to 1987

- 1984: replacement rates were lowered for individuals without children (UB: 68 – 63%, UA: 58 – 53%)
- Expansion of UB durations for workers with higher experience levels ⇒ age dependency

## 1988 to 1997

- Fairly stable, only slight decrease in the replacement rate in 1994

## 1997 to 2004

- potential UB durations were lowered for older individuals
- Age requirements for higher UB durations increased by 3 years
- Stricter sanction rules were introduced



# The Unemployment Insurance System in Germany

## since 2005

- Unemployment benefits (UB, “Arbeitslosengeld”) for the first 6 to 12 months.
- Duration depends on age and the number of months worked in a base period prior to unemployment .
- 67 % of income prior to unemployment (60 % without children).
  
- After UB has expired: Arbeitslosengeld II (UB II, “Hartz IV”).
- Lump-sum, not earnings-based and means-tested.
- Less generous than former social assistance (welfare).
- Unlimited duration.

# Data on Short-time Work

## Short-time work/short-time allowance (“Kurzarbeit/Kurzarbeitergeld”):

- Labor market program in Germany
- Intended to avoid lay-offs during a temporary decline of business activity

### Idea:

- Temporary reductions of working hours (involuntary)
- Government (partially) compensates wage loss of short-time workers ⇒ **short-time allowance**
- Employer continues to pay all social security contributions for the affected workers

# Data on Short-time Work

- Three types of short-time allowance in Germany:
  - Seasonal short-time allowance
  - „Transfer“ short-time allowance
  - Cyclical short-time allowance (due to economic trends)

## **Eligibility requirements:**

- Substantial decline in business activity due to economic reasons (or an unpreventable event)
- Temporary decline in business activity (working hours)
- Decline in business activity is inevitable
- At least 1/3 of all employees in an establishment have to experience a 10% reduction in their gross pay

# Data on Short-time Work

- Cyclical short-time allowance was promoted by the federal government during the economic crisis in 2009 and 2010 (“Konjunkturpakete I and II”):
  - Several extensions of the maximum length of entitlement (6 to 24 months, currently 12 months)
  - 10% decline in business activity (working hours) is regarded substantial
  - Suspension of “1/3 rule”
  - Reimbursement of social security contributions to the employers (since February 2009: 50%, since July 2009: 100% as of the 7<sup>th</sup> month of short-time work)

# Data on Short-time Work

- Establishments apply for short-time work at the local field office of the Federal Employment Agency
- Monthly data on the establishment level

## Data on Short-time Work

- IT systems of the Federal Employment agency do not allow to identify the recipients of short-time allowance
  - Paper lists of affected workers are submitted monthly by establishments
  - FDZ project to identify recipients of short-time allowance
    - in one region: Nuremberg (city)
    - for June 2008 to June 2010
- ⇒ Manually copying/typewriting the information contained in the paper lists to a data base

# Data on Short-time Work

## Individual data on short-time workers:

- About 74,000 records
- 741 establishments
- 14.495 individuals
- Not included yet: establishments with more than 1,000 short-time workers ⇒ CD
  
- Future project: Combining data of individual short-time work data with administrative data

# Procedure of Social Security Notifications (simplified)

