The Employment Rate for Graduates of High Schools for the Disabled in Japan

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Background 1

- For disabled people to attain economic self-reliance, getting a job is very important.
- It is not easy for the disabled and their parents to plan a career path for after graduation.
- This study focuses on the disabled, especially the intellectually disabled and physically disabled and the seriously challenged.

Background 2

- After graduation from junior high schools for the disabled, the percentage of students who were enrolled in high schools for the disabled was:

  70% in 1978 → 95% in 2005

  Figure 2(1)

Background 3

- After graduation from high schools for the disabled, the percentage of students who became users of social welfare facilities, patients in hospitals, or people who stayed at home was:

  30% in 1978 → 75% in 2005　Figure 2(2)

  The percentage of students who became workers in firms or government or self-employed was:

  45% in 1978 → 20% in 2005　Figure 2(2)

Background 4

- The employment rate of graduates from high schools for the disabled:

  45% in 1978 → 20% in 2005 Figure 1

- Occupations for graduates from high schools for the disabled

  production workers: decrease

  salesperson: increase

  Figure 3(1)(2)(3)(4)

Background 5

Petty–Clark's law

primary industry → secondary industry→

tertiary industry

* Primary industry: agriculture, forestry and fisheries
* Secondary industry: manufacturing
* Tertiary industry: service

Aim of this study

- This study investigates the factors that have lowered the employment rate for graduates of high schools for the disabled in Japan.

Previous literature

- Disability depresses the labor force participation of the disabled.

  Baldwin and Johnson: 1994,

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  Maddin: 2004, Kidd, Sloane, and Ferko: 2000

- Governmental policy and disability-related insurance schemes cause work disincentive.

  Campolieti: 2004, Cullen: 2003, Gruber: 2000,

  Harkness: 1993, Kreider: 1999, Kubik: 1999,

  Schmidt and Sevak: 2004

Conjecture 1

What kinds of factors decrease the employment rate?

(1) The balance between labor demand and labor supply

For new graduates, the ratio of job offers to applicants

High ratio → Getting a new job is easy.

Low ratio → Getting a new job is difficult.

(2) The change of industrial structure: Petty-Clark's law

Market scale of the primary industry : down

Market scale of the secondary industry : down

Market scale of the tertiary industry : up

Conjecture 2

What kinds of factors decrease the employment rate?

(3) Policy intervention

Public pension → labor disincentive?

(4) The effect of the severely disabled

How difficult?

(Enroll university/get job training/find work)

People with multiple disabilities

Empirical strategy 1

- Japanese prefectural panel data from 1978 to 2005
- Since 1978, School Basic Survey has reported the yearly employment rate of graduates of high schools.
- The Services and Support for Persons with Disabilities went into effect (April 2006).
- The period from 1978 to 2005 before the act's implementation

Empirical strategy 2

- Labor supply function/labor demand function
- Endogenous variables:

  labor supply/labor demand/wage rate
- Labor supply/Labor demand → employment rate
- Panel estimation using instrumental variables
- First step: Wage rate function
- Second step: Fitted value of wage rate

  → an explanatory variable for labor supply function.

Empirical strategy 3

(1) The explanatory variables for labor demand function:

constant/wage rate/business tax, fixed asset tax/

ratio of jobs to applicants/1987dummy, 1997 dummy

＊ Business tax, fixed asset tax: corporate performance

＊ Ratio of jobs to applicants:

the difference between labor demand and labor supply

＊ 1987dummy: the introduction of the Law for Employment Promotion, etc. of the Disabled

＊ 1997dummy: the revision of the Law for Employment Promotion, etc. of the Disabled

Empirical strategy 4

(2) The explanatory variables for labor supply function:

constant/wage rate/

percentages of workers in the primary and secondary industries/

public pension/numbers of certificates/

percentage of people with multiple disabilities/

percentages of the intellectually and physically disabled/

numbers of rehabilitation facilities and hospitals

* Percentages of workers in the primary and secondary industries

→ Change of industrial structure

* Number of certificates: “physically disabled” → quota system

* People with multiple disabilities, intellectually and physically disabled

→ The effect of disabilities

Empirical strategy 5

* The number of rehabilitation facilities and hospitals

  → Users and patients: more difficult to employ?

* Model specification test:

  – Pooled OLS (Ordinary least squares)

  – Fixed effect model

  – GLS Random effect model

  Fixed effect model > Pooled OLS

  Fixed effect model > GLS Random effect model

  → Fixed effect model

Estimation results : Labor supply function 1
Table 3 (1978-2005) and Table 4 (1984-2005)

(1) Wage rate: Positive

(2) The change of industrial structure: Positive

* Marginal increase (decrease) of 1% in the primary industry →
  Increase (decrease) of 13-14% in employment rate
* Marginal increase (decrease) of 1% in the secondary industry →
  Increase (decrease) of 3-4% in employment rate

(3) Multiple disabilities: Negative

* Marginal increase (decrease) of 1% (10%) →
  Decrease (increase) of 0.4% (4%) in employment rate (1978-2005)
  Decrease (increase) of 2.0% (20%) in employment rate (1984-2005)

Estimation results : Labor supply function 2
Table 3 (1978–2005) and Table 4 (1984–2005)

(4) The percentage of the intellectually disabled: Positive

* Marginal increase (decrease) of 1% (10%) →

  Increase (decrease) of 0.15% (1.5%) in employment rate

(5) Rehabilitation facilities and hospitals: Not significant

(6) Public pension benefit for the disabled:

* Negatively significant (partly)/Coefficient is small.

Estimation results : Wage rate function (reference, pooled OLS) Table 5

(1)　The business tax and fixed asset: Negative

Increase in business earnings may not be sufficiently distributed to employees as wages.

(2) The ratio of jobs to applicants: Positive

Generally, when labor demand is larger than labor supply, firms offer higher wages.

(3) 1987dummy, 1997 dummy: Positive

The wage rate is not for the disabled alone but for the able-bodied as well. We can largely discount the coefficient of this governmental intervention.

Conclusion 1

The decrease of the employment rate for the graduates of high schools for the disabled

The change of industrial structure: Positive

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Conclusion 2

＊ For the disabled to catch up with the changed industrial structure,
they require job training and more employment opportunities
in the tertiary industry.

＊ The negative impact of multiple disabilities on the employment rate
<< Additional research questions >>
(1) Is disabled people's impairment the main obstacle to labor force participation?
(2) Does the insufficiency of reasonable accommodation in the labor market cause unemployment?
(3) Do disabled people give up seeking employment because of their social environment or their basic disposition?

The future direction of this study

* Follow-up study of the unemployed graduates
  (1) How do they live after graduation?
  (2) Once they select and work for a social welfare facility, do they experience labor mobility or are they employed by business or government after obtaining skills and adaptive capabilities from those social welfare facilities?

* Macro data → Micro data