

# **Net Impact and Cost-Benefit Analyses of Washington State's Workforce Development System**

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Briefing prepared for  
Steering Committee, WASHINGTON LEARNS

by

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# Workforce Development System

		<u>2001-02</u>	<u>2003-04</u>
		<u>Exiters</u>	<u>Exiters</u>
<b>WIA</b>	<b>I-B Adults</b>	<b>2,400</b>	<b>3,900</b>
	<b>I-B Dislocated Workers</b>	<b>3,125</b>	<b>5,200</b>
	<b>I-B Youth</b>	<b>2,250</b>	<b>3,100</b>
<b>Community College</b>	<b>Job Prep</b>	<b>31,700</b>	<b>40,000</b>
	<b>Worker Retraining</b>	<b>7,500</b>	<b>7,000</b>
	<b>Adult Basic Ed.</b>	<b>15,700</b>	<b>15,000</b>
<b>Private Career Schools</b>	<b>16,500</b>	<b>20,000</b>	
<b>Apprenticeship</b>	<b>3,100</b>	<b>3,000</b>	
<b>Secondary Career and Technical Education</b>	<b>11,500</b>	<b>12,000</b>	
<b>Voc. Rehab</b>	<b>2,500</b>	<b>2,500</b>	
<b>School for Blind</b>	<b>190</b>	<b>200</b>	
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<b>Labor Exchange</b>	<b>230,000</b>	<b>230,000</b>	

# Net Impacts

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# Net Impact: (Definition)

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- Outcome resulting from encountering an educational program relative to next best alternative.
- Assumption: If program didn't exist, clients would be going to next best alternative.

# Outcomes — What and When

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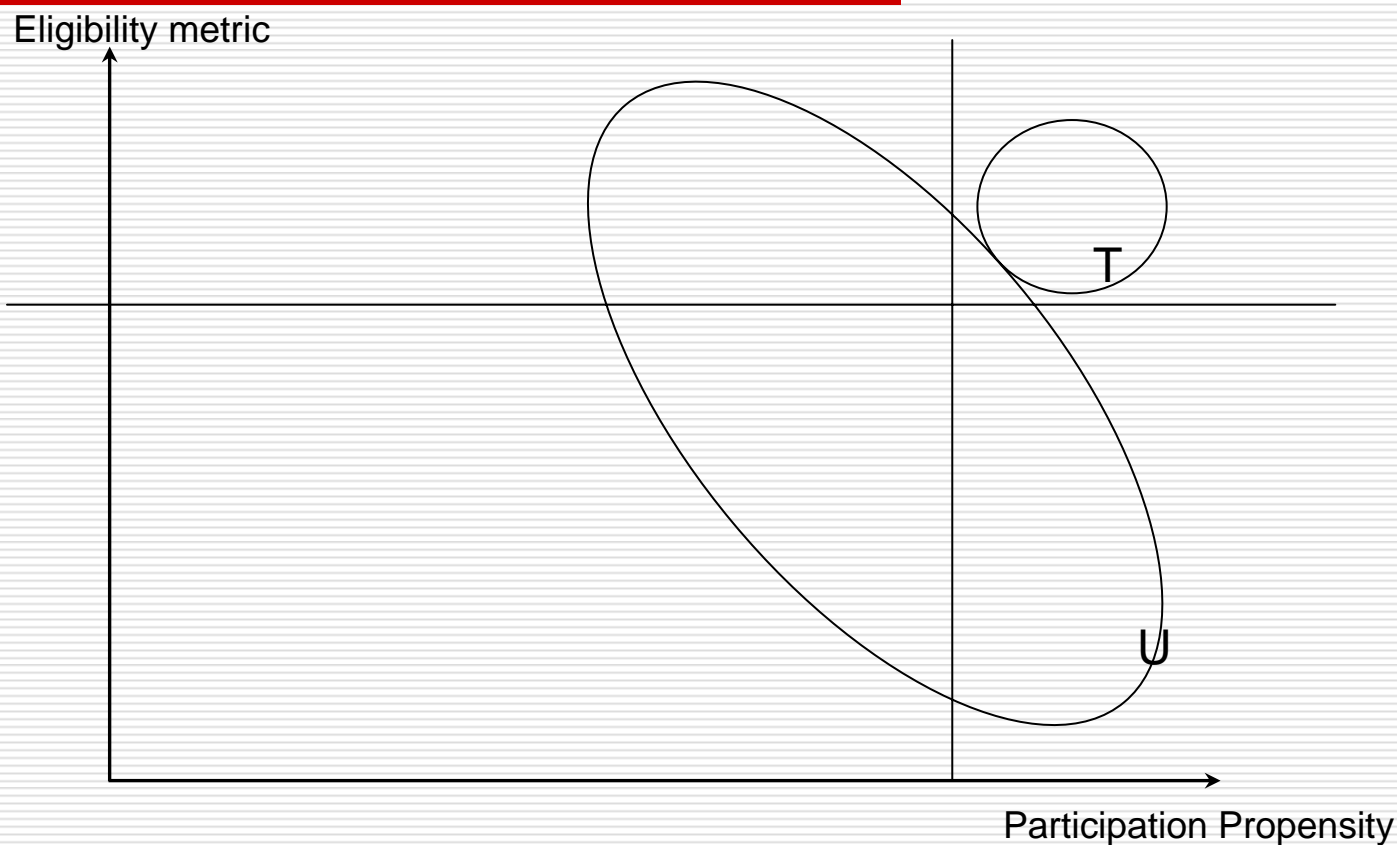
- ❑ Decision: Limited to data already collected
- ❑ Time periods: +3 quarters (short-term)  
+9-12 quarters (longer-term)
- ❑ Employment, earnings, hours, wage rates, transfer payments: TANF, FS, Medicaid, UI receipt
  - Several different ways to measure
  - Study ended up with 23 short-term and 25 longer-term outcomes

# Estimation Technique

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- Needs to be estimated — can't be in two states of the world at same time
  
- Estimation Method #1: Random Assignment
  - “gold standard”
  - Expensive. May not be viable when programs are entitlements.
  
- Estimation Method #2: Pre-post
  - Generally only a last resort; problem is too many intervening factors
  
- Estimation Method #3: Quasi-experimental
  - Program participants — treatment
  - LE — comparison group

# Quasi-experimental Net Impact Estimation:



**NOTE: Two major problems in comparing U and T: (1) observable characteristics may differ (composition), and (2) unobservables.**

# Results

## Net Impact of Educational Programs on Employment (in percentage points)

Program	2002 Study		2006 Study	
	Short-term	Longer-term <sup>a</sup>	Short-term	Longer-term <sup>b</sup>
Community College				
Job Prep	7.6	7.0	9.2	6.7
Worker Retraining	8.0	6.3	7.8	4.6
ABE	-5.2	1.6	-1.3*	5.9
Private Career Schools	2.6	na	4.8	4.3
Apprenticeship	5.4	5.3	7.4	6.8
Secondary Career and Technical Education	5.5	5.7	6.7	5.4

<sup>a</sup> Defined as average over quarters 8-11 after exit.

<sup>b</sup> Defined as average over quarters 9-12 after exit.

\* Not statistically significant.

# Results

## Net Impact of Educational Programs on Quarterly Earnings (2005 Q1 \$)

Program	2002 Study		2006 Study	
	Short-term	Longer-term <sup>a</sup>	Short-term	Longer-term <sup>b</sup>
Community College				
Job Prep	1,583	1,276	1,564	1,008
Worker Retraining	158*	455	376	298
ABE	-660	-46*	200	-26*
Private Career Schools	11*	na	686	343
Apprenticeship	2,186	2,054	3,001	2,281
Secondary Career and Technical Education	121	486	210	416

<sup>a</sup> Defined as average over quarters 8-11 after exit.

<sup>b</sup> Defined as average over quarters 9-12 after exit.

\* Not statistically significant.

# Results -- Subgroups

Net Impact of Educational Programs on Employment (in percentage points)

Program	2006 Study			
	All Exiters		Completers Only	
	Short-term	Longer-term <sup>a</sup>	Short-term	Longer-term <sup>a</sup>
Community College				
Job Prep	9.2	6.7	12.9	9.5
Worker Retraining	7.8	4.6	10.8	8.2
ABE	-1.3*	5.9	6.6 <sup>b</sup>	12.0 <sup>b</sup>
Private Career Schools	4.8	4.3	7.3	6.4
Apprenticeship	7.4	6.8	18.8	16.1
Secondary Career and Technical Education	6.7	5.4	7.7 <sup>c</sup>	9.8 <sup>c</sup>

<sup>a</sup> Defined as average over quarters 9-12 after exit.

<sup>b</sup> Subgroup is participants in CTC Job Prep.

<sup>c</sup> Subgroup is individuals who attended a higher education institution.

\* Not statistically significant.

# Results -- Subgroups

## Net Impact of Educational Programs on Quarterly Earnings (2005 Q1 \$)

Program	2006 Study			
	All Exiters		Completers Only	
	Short-term	Longer-term <sup>a</sup>	Short-term	Longer-term <sup>a</sup>
Community College				
Job Prep	1,564	1,008	1,924	1,529
Worker Retraining	376	298	572	783
ABE	200	-26*	727 <sup>b</sup>	890 <sup>b</sup>
Private Career Schools	686	343	875	613
Apprenticeship	3,001	2,281	5,990	4,965
Secondary Career and Technical Education	210	416	93 <sup>c</sup>	472 <sup>c</sup>

<sup>a</sup> Defined as average over quarters 9-12 after exit.

<sup>b</sup> Subgroup is participants in CTC Job Prep.

<sup>c</sup> Subgroup is individuals who attended a higher education institution.

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# Cost-Benefit Analyses

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# Cost-Benefit Analysis (Definition)

- ❑ Net value (benefits – costs) of net impacts to participant and to public (state)
- ❑ Participants and public have benefits and costs

	Benefits	Costs
-- Participant	Earnings Employee Benefits	Taxes Reduction in public assistance Program costs – tuition, if any – foregone earnings
-- Public	Tax receipts Reduction in public assistance	Public cost of program

- ❑ Rate of return (ROI) equals benefit/cost ratio minus 1

# Results

## Benefits and Costs of Job Preparatory Training at Community & Technical Colleges

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
<b>Benefits</b>				
Earnings	\$13,644		\$90,455	
Employee Benefits	\$2,729		\$18,091	
Taxes	-\$2,354	\$2,354	-\$15,603	\$15,603
Transfers*	-\$1,796	\$1,796	-\$1,324	\$1,324
<b>Costs</b>				
Foregone Earnings	-\$2,309		-\$2,309	
Program Costs**	-\$3,869	-\$7,560	-\$3,869	-\$7,560
<b>TOTAL</b>	<b>\$6,045</b>	<b>-\$3,410</b>	<b>\$85,442</b>	<b>\$9,367</b>

\* Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.

\*\* Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

# Results

## Benefits and Costs of Community and Technical College Worker Retraining

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
<b>Benefits</b>				
Earnings	\$3,389		\$21,128	
Employee Benefits	\$678		\$4,226	
Taxes	-\$882	\$882	-\$5,494	\$5,494
Transfers*	-\$810	\$810	-\$319	\$319
<b>Costs</b>				
Foregone Earnings	-\$5,985		-\$5,895	
Program Costs**	-\$2,647	-\$5,172	-\$2,647	-\$5,172
<b>TOTAL</b>	<b>-\$6,166</b>	<b>-\$3,481</b>	<b>\$10,999</b>	<b>\$640</b>

\* Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.

\*\* Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

# Results

## Benefits and Costs of ABE/ESL Education

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
<b>Benefits</b>				
Earnings	\$0		\$0	
Employee Benefits	\$0		\$0	
Taxes	\$0	\$0	\$0	\$0
Transfers*	\$735	-\$735	\$5,303	-\$5,303
<b>Costs</b>				
Foregone Earnings	-\$140		-\$140	
Program Costs**	\$0	-\$2,453	\$0	-\$2,453
<b>TOTAL</b>	<b>\$596</b>	<b>-\$3,188</b>	<b>\$5,164</b>	<b>-\$7,756</b>

\* Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.

\*\* In 2001-02 ABE/ESL students in CTC programs were not required to pay tuition.

# Results

## Benefits and Costs of Private Career School Training

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
<b>Benefits</b>				
Earnings	\$4,701		\$29,719	
Employee Benefits	\$940		\$5,944	
Taxes	-\$811	\$811	-\$5,126	\$5,126
Transfers*	-\$1,559	\$1,559	-\$941	\$941
<b>Costs</b>				
Foregone Earnings	-\$294		-\$294	
Program Costs**	**	\$0	**	\$0
<b>TOTAL</b>	**	\$2,370	**	\$6,067

\* Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.

\*\* Participant program cost, i.e., tuition, is not included in this table because of the substantial variability across private career schools and training programs. Therefore, participant Total could not be calculated. Program costs do not include student financial aid programs.

# Results

## Benefits and Costs of Apprenticeship Training

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$27,883		\$205,825	
Employee Benefits	\$5,577		\$41,166	
Taxes	-\$7,249	\$7,249	-\$53,515	\$53,515
Transfers*	\$984	-\$984	\$4,052	-\$4,052
Costs				
Foregone Earnings	\$23,997		\$23,997	
Program Costs**	-\$652	-\$2,546	-\$652	-\$2,546
<b>TOTAL</b>	<b>\$50,540</b>	<b>\$3,719</b>	<b>\$220,874</b>	<b>\$46,916</b>

\* Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.

\*\* Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

# Results

## Benefits and Costs of Secondary Career and Technical Education Program

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
<b>Benefits</b>				
Earnings	\$3,027		\$38,041	
Employee Benefits	\$606		\$7,608	
Taxes	-\$522	\$522	-\$6,562	\$6,562
Transfers*	-\$192	\$192	-\$905	\$905
<b>Costs</b>				
Foregone Earnings	\$31		\$31	
Program Costs**	\$0	-\$924	\$0	-\$924
<b>TOTAL</b>	<b>\$2,948</b>	<b>-\$210</b>	<b>\$38,213</b>	<b>\$6,543</b>

\* Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.

# Summary Results

## Participant Benefits, Costs, Tax Receipts, and Public Costs to Age 65

	Participant		State	
	Benefits <sup>a</sup>	Costs <sup>b</sup>	Increased Tax Receipts <sup>c</sup>	Public Costs <sup>d</sup>
Community & Technical College (CTC) Job Preparatory Training	\$108,546	\$6,178	\$15,603	\$7,560
CTC Worker Retraining	\$25,354	\$8,542	\$5,494	\$5,172
Adult Basic Skills Education	\$0	\$140	\$0	\$2,453
Private Career School	\$35,663	na	\$5,126	\$0
Apprenticeship	\$246,991	-\$23,345	\$53,515	\$2,546
Secondary Career and Technical Education	\$45,649	-\$31	\$6,562	\$926

Notes: Benefits, receipts, costs are expressed in 2005 Q1 dollars.

<sup>a</sup>Present value of the additional lifetime earnings and employee benefits.

<sup>b</sup>Foregone earnings during program participation and tuition/fees, if any.

<sup>c</sup>Present value of additional social security, Medicare, federal income, and state sales taxes generated by increased participant earnings to age 65.

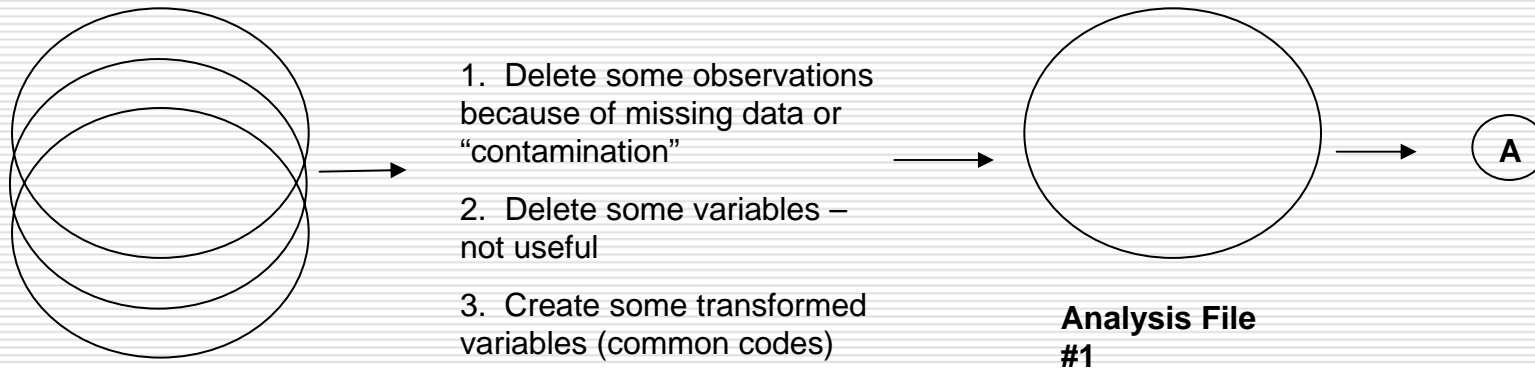
<sup>d</sup>Includes state and federal program costs per participant, with the exception of student financial aid programs.

# Technical Appendix

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# Data Processing:

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## **Original data**

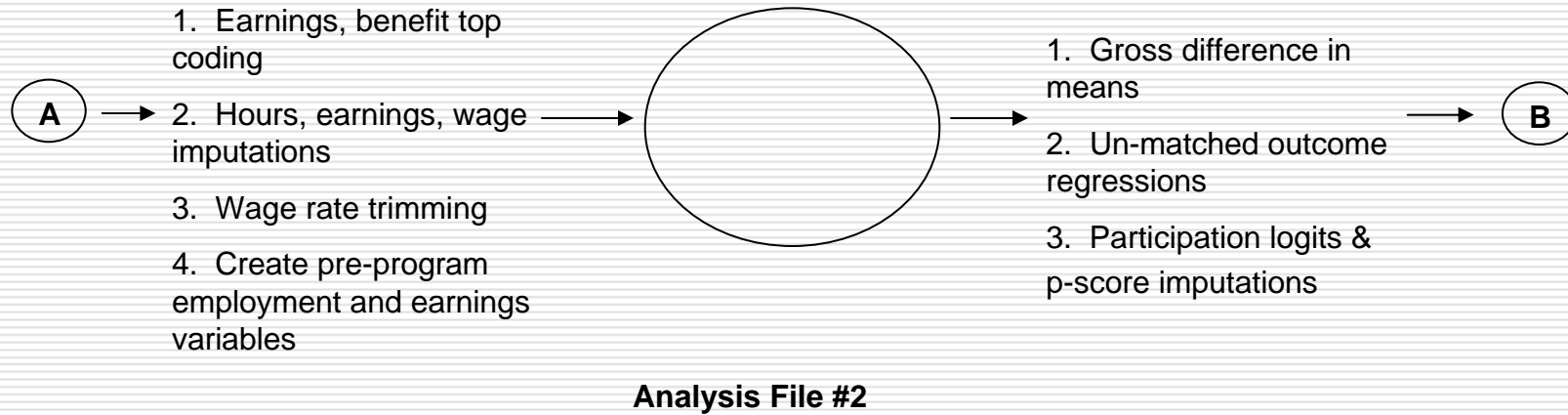
- demographic
- training
- employment
- h.e.
- TANF, FS, Medicaid
- UI

Note: Representation for a single program, e.g. CTC Job Prep or Apprenticeships.

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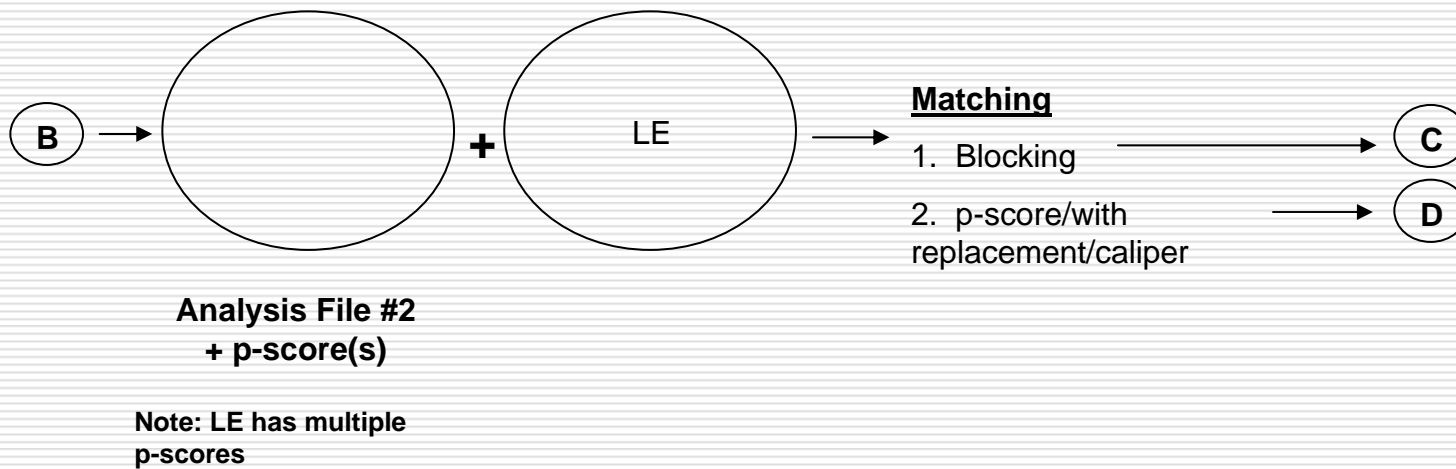
# Data Processing (continued):

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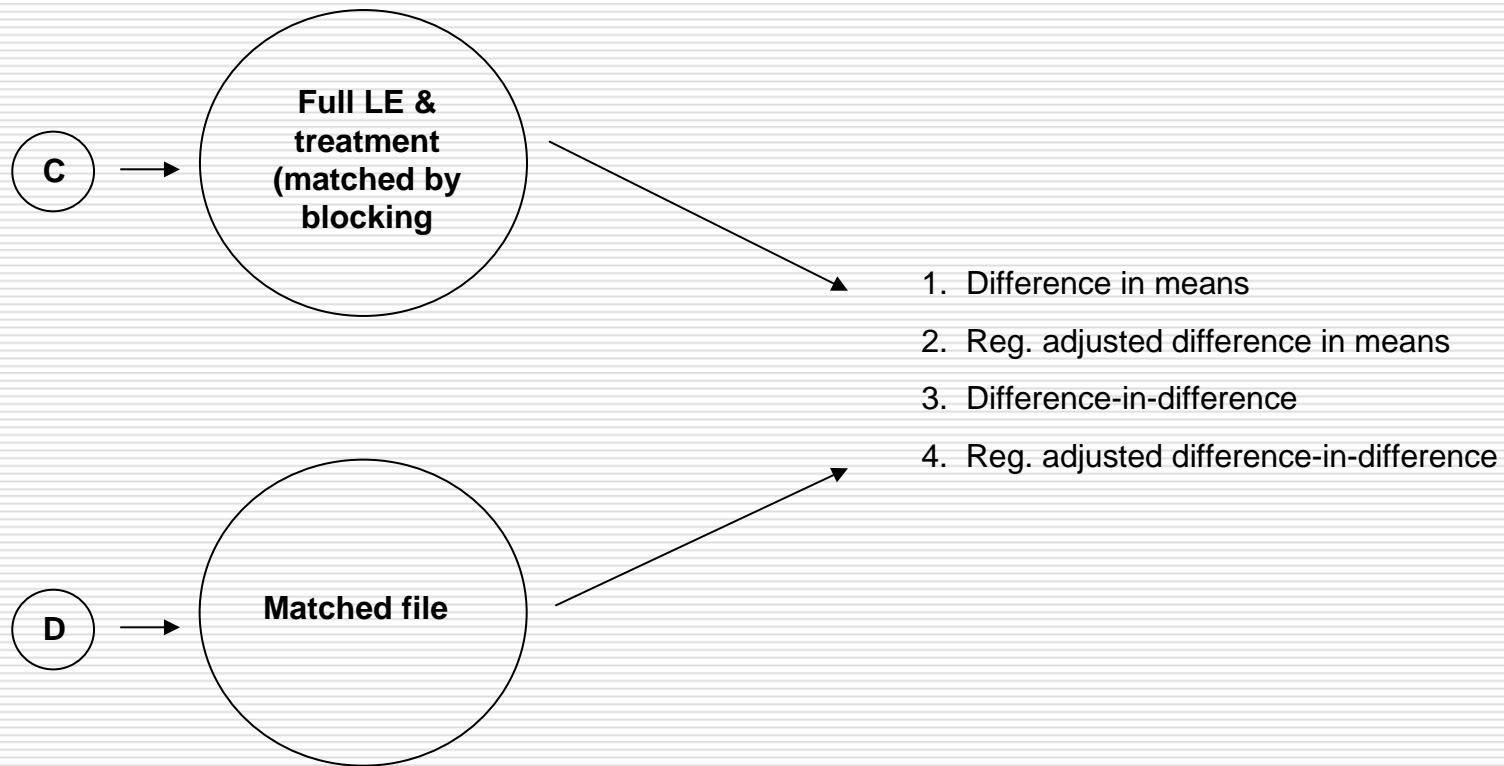
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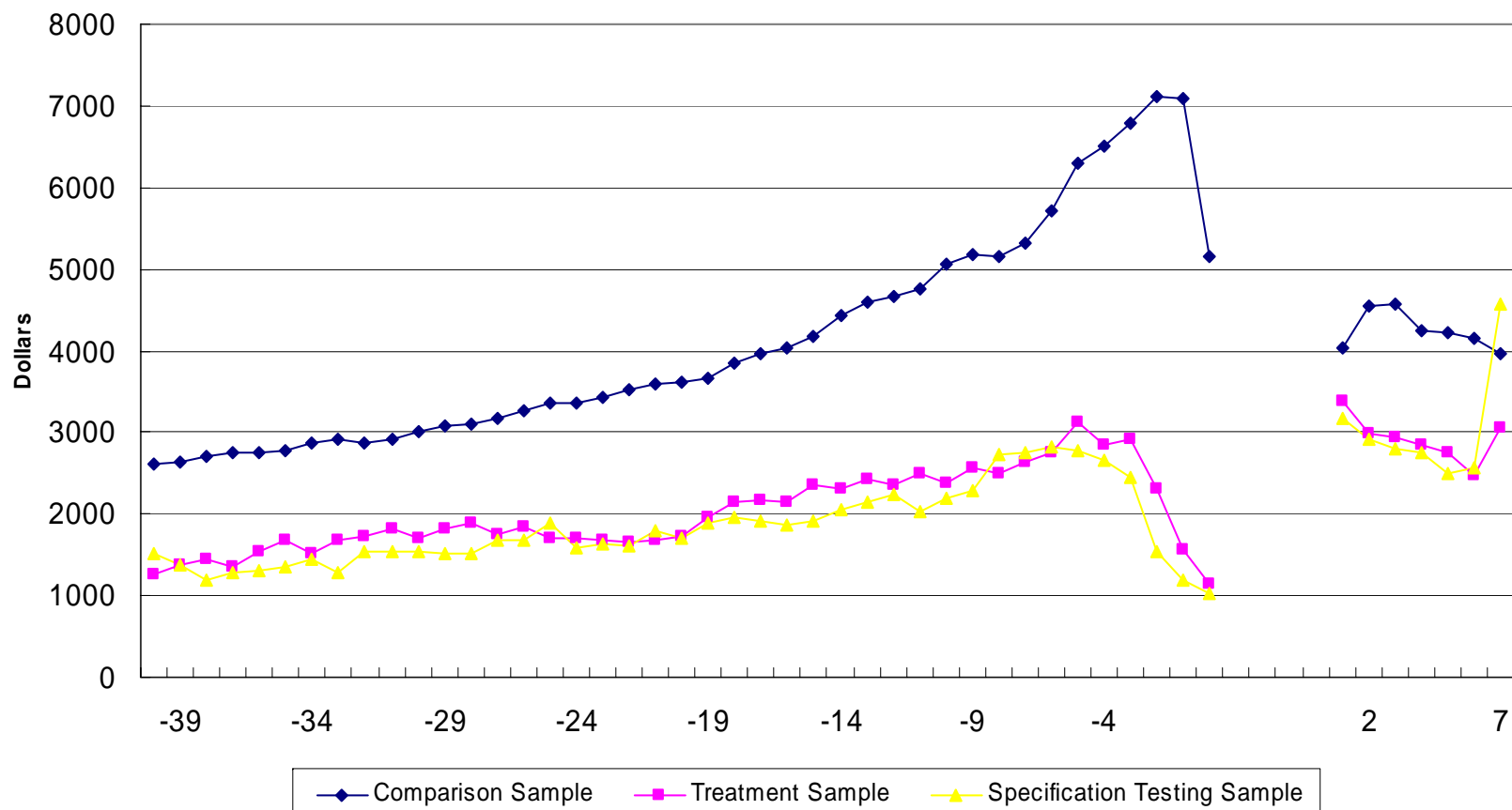


# Data Processing (continued):

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**Figure 2. Average Earnings, Male  
Comparison Sample: Full**



**Figure 3. Average Earnings, Female  
Comparison Sample: Full**

