

## Working Paper Questionnaire No. 5

Name of Paper: Measuring the Value of Life and Limb: Estimating Compensating Wage Differentials among Workers in Chennai and Mumbai, by S. Madheswaran, SANDEE Working Paper No. 9- 05

Abstract: Policy makers confronted with the need to introduce health and safety regulations often wonder how to value the benefits of these regulations. One way that a monetary value could be placed on reductions in health risks, including risk of death, is through understanding how people are compensated for the different risks they take. This approach, referred to as the compensating wage differentials method, estimates the wage premium a worker would need to be paid to accept a small increase in his/her risk of dying, or, equivalently, what a worker would pay to achieve a small reduction in risk of death. Wage premiums can be estimated from observed labor market data and converted to the value of a statistical life (VSL) -- a number that summarizes what a population may be willing to pay to reduce the risk of one death in a statistical sense.

While there is an extensive literature on VSL and compensating wage differentials for the developed countries, few such studies exist when it comes to developing countries. Our study is an attempt at obtaining estimates of VSL that reflects Indian risk preferences. Based on a survey of 550 workers in Chennai and 535 workers in Mumbai, we find the value of a statistical life in India to be approximately Rs. 15 million. The value of statistical injury ranges from Rs. 6000 to Rs. 9000. Policy makers interested in programs to decrease environmental and health risks could use these numbers as one bench-mark against which costs can be assessed.

Key words: Compensating Wage Differentials, Hedonic Price, Valuations of Life/Injury  
JEL Classification: J17, J28, J31.

Date of Survey: June 2000 – Jan 2001

Place of Survey: Chennai and Mumbai

Type of Survey: Urban Household

Number of Respondents: 550 in Chennai and 535 in Mumbai

Sponsored by: South Asian Network for Development and Environmental Economics (SANDEE)

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Valuations of Life and Injury Risks

Sample No:

Date of Interview:

Industry Code:

Name and Address of the Company:

**1. Household Demographic Information**

1.1 Name of the Respondent

1.2 Sex

1.3 Age

1.4 Caste/Religion

1.5 Education Level(in years)

1.6 Marital Status

1.7 Details of Family Size and Members

Household Member	Sex	Age	Marital Status	Educational Attainment	Activity Status
1.Spouse					
2.Children					
01					
02					
03					
04					
05					
3.Father					
4.Mother					
5.Others					

## 2. Job Characteristics of the Respondent

- 2.1 Name of the Job:
- 2.2 Name and address of the firm where the respondents works
- 2.3 Wage rate per hour/week/month (in Rs.)
- 2.4 Hours worked last week
- 2.5 Weeks worked last week
- 2.6 Date of joining the job:
- 2.7 Experience in the present job
- 2.8 Is it a first job: Yes/No

If No, give the following details

No.	Name of the Previous job	Date of joining	Date of Leaving	Wage per Day when left (in Rs.)	Reasons for Leaving
1					
2					
3					

- 2.9. Age at which worker started earning:
- 2.10 Are you a Supervisor? Yes/No  
If yes, number of subordinates working under you:
- 2.11 Whether the present job is: (a) Full-time/Part time (b) Permanent/Temporary
- 2.12 Whether the job requires that:
  - a. You must work fast: Yes/No
  - b. You should make decisions: Yes/No
  - c. You should not make mistakes: Yes/No
- 2.13 Are You a Union Member?
- 2.14 Whether the job requires
  - a. Over-time work: Yes/No  
If Yes, (1) how many hours: (per day/Week)  
(2) Compensation (in Rs.): (per day/ week)
  - b. On-the-job Training  
If Yes, give detail .....

2.15 Whether the working firm belongs to:

a. Private Sector/ State Government/ Union Government:

2.16 Number of Employees at Work Place: Male/ Female

2.17 Do you feel that work hours are irregular: Yes/No

2.18 Are you allowed to avail of the sick leave days with full pay: Yes/ No

### 3. Employment Status of Family Members

3.1 Total number of working persons in the family (other than the respondent):

3.2 Details of family members who work

Working Family Member	Name of the Job	Name of the Firm Where employed	Experience in the present job	Monthly/ Weekly Wage in Rs.	Age at which started earnings

### 4. Family Assets and Asset Income

4.1 Are you living in your own house: Yes/No

(i) If Yes, the present value of the house: (in Rs.)

(ii) If No, the paying rent of the house: (in Rs.)

4.2 Give the following details (other than own living house):

No.	Name of the asset	Value of the asset (in Rs.)	Nature of income (if it gives income)	Annual income from the asset (in Rs.)
1.	Land			
2.	Other Properties a. b. c.			
3.	TV(Colour/BW			
4	Two wheelers			
5.				
6.				

## 5. Details about the Working Conditions

5.1 Whether your job exposes you to environmental problems, which lead to unhealthy conditions: Yes/No

5.2 Whether your job requires hard Physical work: Yes/No

If Yes, type of hard work:

(a) Need to lift 60Kg. sometimes once a week or daily: Yes/No

(b) The work is physically demanding in ways not covered by heavy lifting: Yes/ No

(c) The physical activity at work causes daily sweating: Yes/No.

(d) Punctuality and carefulness are important: Yes/ No.

5.3 Do you feel that your work is:

a) Very noisy: sometimes/often/always

b) Exposed to gas, dust, or smoke: sometimes/often/always

c) Exposed to strong shakes or vibrations: sometimes/often/always

d) Other inconvenience/ environmental problems (details.....)

sometimes/often/always

5.4 Do you feel that the job is so stressful that it is:

a) Mentally Demanding: Yes/No

b) Hectic : Yes/No

c) Other : Yes/No

5.5 Did any accident occur in your firm in the last year: Yes/No

If Yes, give the following details:

Nature of accident	Number of accidents	Reasons for the occurrence	Man-day lost and Compensation Paid (If you know)
1. Fatal			
2. Non-Fatal:			
i) Permanent			
ii) Temporary			

5.6 Do you feel that the present job has:

a) Pleasant Physical Surroundings: Yes/No

b) Good job security : Yes/No

## 6. Details about Tax and Benefits

6.1 Are you a taxpayer? : Yes/No

If Yes, give the following details

No.	Name of the tax	Tax amount per year	others
1.			
2.			
3.			

6.2. Give Details on labor social security schemes:

No.	Type of Social Schemes	Value in (Rs.)	Duration	Premium Share Yours      Firm's (in Rs.)
1.	State Employee Insurance: Yes/No			
2.	Pension: Yes/No			
3.	Gratuity: Yes/No			
4.	Others like			
5.	Soap : Yes/No			
	Uniform: Yes/No			
	Glass: Yes/No			
	Gloves: Yes/No			
	Boots; Yes/No			

## 7. Respondent Belief about the Job

7.1 What was the reason to choose the present job:

a) More salary b) Less competitive c) More Amenities d) Other (details):

7.2 Did any accident occur to you when at work? Yes/No

IF YES,

- a) Type of accident.....
- b) No. of times.....
- c) Man-day lost due to it.....
- d) Compensation received (in Rs.).....

7.3 Search for alternative job:

- a) Are you satisfied with the present job: Yes/No
- b) Are you thinking of finding a new job: Yes/No
- c) Have you applied for any alternative job: Yes/No

If yes,

a) What is the reason?

(b) What is the name of the job applied?

- d) Do you plan to quit your job during this year: Yes/No

7.4 Are you getting Bonus? Yes/No

If yes, bonus amount (last year in Rs.):

7.5 Distance from house to work site:

7.6 Do you know anything about labor welfare and social security schemes in India?

Yes/No

If Yes, give details.....