

**SECTORAL INTERDEPENDENCY AND EFFECTS OF  
INCOME REDISTRIBUTION IN THE ECONOMY OF  
UTTAR PRADESH : A STUDY IN  
INPUT-OUTPUT FRAMEWORK**

A Thesis Submitted  
In Partial Fulfilment of the Requirements  
for the Degree of  
DOCTOR OF PHILOSOPHY

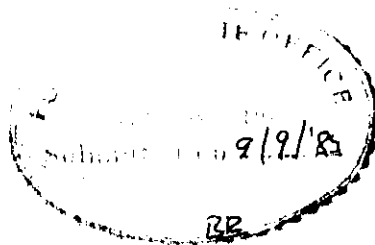
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*By*

**NIRANKAR SRIVASTAV**

*to the*  
**DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES  
INDIAN INSTITUTE OF TECHNOLOGY KANPUR  
1983**

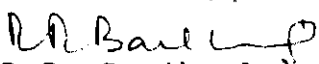
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## CERTIFICATE

This is to certify that the thesis 'SECTORAL INTERDEPENDENCY AND EFFECTS OF INCOME REDISTRIBUTION IN THE ECONOMY OF UTTAR PRADESH: A STUDY IN INPUT-OUTPUT FRAMEWORK' submitted by Mr. Nirankar Srivastav in partial fulfilment of the degree of Doctor of Philosophy to the Indian Institute of Technology, Kanpur, is a record of bonafide research work carried out by him under my supervision and guidance. The results embodied in the thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

9th September, 1983

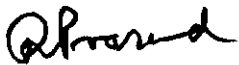
  
( R.R. Barthwal )  
Professor of Economics  
Department of Humanities and Social Sciences  
Indian Institute of Technology  
Kanpur, India.

## CERTIFICATE

This is to certify that Mr. Nirankar Srivastav has satisfactorily completed all the course requirements for the Ph.D. programme in Economics. The courses include :

H-ECO	732	Econometrics
H-ECO	735	Theory of Fiscal Policy
H-ECO	736	Industrial Organization and Policy
H-ECO	739	Price Theory
H-ECO	740	Inter-Industry Economics
H-ECO	741	Project Economics
H-ECO	742	Seminar on selected topics in Advanced Economic Analysis

Mr. Nirankar Srivastav was admitted to the candidacy of the Ph.D. degree in October, 1979 after he successfully completed the written and oral qualifying examinations.



( R. Prasad )  
Head  
Department of Humanities  
and Social Sciences



( A.K. Sinha )  
Convenor  
Departmental Post-Graduate  
Committee

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The list of sixty four sectors of the input-output  
Table of the State Economy : 1970-71

Sector No.	Name of the Sector	Sector No.	Name of the sector
1.	Construction	17.	Tea and coffee processing
2.	Electrical equipments	18.	Misc. food preservation
3.	Transport equipments	19.	Sugar
4.	Non-electrical equipments	20.	Gur and khandsari
5.	Metal products	21.	Vanaspati
6.	Iron and steel	22.	Oils
7.	Nonferrous metals	23.	Beverages industries
8.	Cement	24.	Cigar and cigarettes
9.	Mining	25.	Other tobacco manufacturers
10.	Leather and leather products	26.	Cereals
11.	Glass and glass products	27.	Pulses
12.	Wooden products	28.	By products of agriculture
13.	Nonmetallic products	29.	Oils seeds
14.	Dairy products	30.	Sugar cane
15.	Canning and preservation	31.	Cotton and cotton seeds
16.	Grainmill products	32.	Potato

contd ...

Sector No.	Name of the sector	Sector No.	Name of the sector
33.	Fibers	49.	Printing and publishing
34.	Tobacco	50.	Paints and vanishes
35.	Other agri. products	51.	Synthetic rubber
36.	Fruit vegetable and spices	52.	Insecticides and pesticides
37.	Animal husbandry	53.	Drugs and pharmaceuticals
38.	Fisheries	54.	Soaps and glycerine
39.	Forestry	55.	Misc. chemicals
40.	Cotton textiles	56.	Power
41.	Woollen textiles	57.	Coal and coke
42.	Silk industry	58.	Water supply
43.	Other textiles	59.	Railway transport
44.	Nitrogenous fertilizer	60.	Motor and other transport
45.	Phosphatic fertilizer	61.	Trades and commerce
46.	Potassic fertilizer	62.	Services
47.	Rubber products	63.	Petroleum products
48.	Paper and paper products	64.	Wrapping, packing, filling and plastic materials

## SYNOPSIS

### SECTORAL INTERDEPENDENCY AND EFFECTS OF INCOME REDISTRIBUTION IN THE ECONOMY OF UTTAR PRADESH: A STUDY IN INPUT-OUTPUT FRAMEWORK

- A Thesis submitted in partial fulfilment of the requirements for the Degree of Doctor of Philosophy by Mr. Nirankar Srivastav to the Department of Humanities and Social Sciences, Indian Institute of Technology, Kanpur, India, September 1983.

The understanding of the structure of an economy is very much essential for its planned development. Keeping this view in mind, the present study is concerned with the structural analysis of the economy of Uttar Pradesh, a State of India. Such type of study becomes more relevant in the case of a state like Uttar Pradesh, as it is exhibiting the salient features of an overpopulated and underdeveloped economy with an acute level of poverty. The economic conditions of the state require an immediate attention to evolve a comprehensive strategy for rapid economic development. Keeping this objective in mind, the present study has been designed in such a way that its findings could be useful in development planning for the state economy.

The study has been conducted by using the input-output technique. An interindustry flow matrix of the state economy has been used in which the whole state economy is divided into 64 economic sectors. As a 1st step of structural analysis the Graph Theoretic approach has been used to decompose the sectors of interindustry flow matrix into a few self sufficient groups of sectors. At the next stage, the Leontief open input-output model has been used to compute sectoral backward and forward linkages related to different policy objectives like income, output, equity and employment maximization. The linkage indices have been used to identify the keysectors for the state economy. The semiclosed input-output model has been used to estimate the direct, indirect and induced effects of exogenous changes in final demand on the economy. This analysis is further extended to compute the various types of income and employment multipliers.

The semiclosed I-O model has also been used to analyze the effects of income redistribution in the state economy. For this purpose, the value-added sector and the sector of household consumption were disaggregated into three income groups each i.e., poor, middle and top in rural and urban areas separately. Three different types of income redistribution policies were considered in this study : (i) The income redistribution policy in which additional income injected exogenously to various income levels, without affecting the incomes of other income

groups, (ii) in this policy, income transfer takes place from top income group to bottom and middle income groups but for 'once only'; (iii) in this policy, income transfer becomes a permanent feature by making suitable changes in the distribution of sectoral value-added in favour of income recipient class. The effects of such policies on output structure, employment and income potential have been analyzed in detail. The structures of the industries in the organized and unorganized sectors have also been studied in order to complete the structural analysis of the state economy.

From the first stage of the analysis, the state economy depicts the following salient features :

- (a) The state economy is mainly a rural based agricultural economy. Agriculture and allied goods sector is the most important economic sector from the point of view of income and employment generation. This sector is drawing very little amount of inputs from the industrial sector at present.
- (b) Industrially, U.P. is a backward state. Most of the industries in the state are agrobased, which are mainly drawing inputs from agriculture and allied goods sector.
- (c) Capital and intermediate goods industries are still in the developing phase in the state. Most of these products are either not being produced in the state or their production is very much inadequate to satisfy the interindustry needs of the state economy.

On the basis of linkage indices and sectoral multipliers the pulses sector of the economy is quite important which show higher income, equity and employment linkages simultaneously. Similarly, cotton textile sector satisfies all the four plan objectives, viz., output, income, employment and equity maximization at a time.

To deal with the problem of acute level of poverty in the state economy, the effects of redistribution policies are quite relevant and useful. It has been found that the existing sectoral distribution of value-added is very much in favour of the rich and against the poor. As a result of which the rural and urban bottom income classes are not getting much advantages from the income redistribution strategies. The Ist and the IInd types of income redistribution policies bring only a temporary increase in the incomes of the bottom income classes, only the IIIrd type of income redistribution policy can improve the relative position of the bottom income classes. The highest employment potential is created when additional income goes to rural and urban bottom income classes. Income transfer from top to bottom income classes doesn't create significant level of additional employment.

The structural analysis of the industries of the organized and the unorganized sectors reveals that iron and steel and misc. chemicals are the major input supplier to the industries

of the unorganized sector, whereas these two industries along with cement are main input suppliers to the organized sector of the state economy. So, as a policy measure production of these three industries should be given priority to develop the overall industrial sector of the state economy. Unorganized sector in the state is quite vast. The state economy can't be developed unless this sector is given proper attention.

The findings of this study will help to understand the structure of the state economy in a much more meaningful way. These findings may be applicable to the other states of the country or other countries with similar characteristics. The study on the whole provides a good basis to evolve a development strategy for accelerated and balanced growth of the state economy.