Commercial Banks and Agricultural Credit
- A Stucy In Regional Disparity In India -

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DECLARATION

This Dissertation entitled "Commercial Banks and Agricultural Credit - A Study in Regional Disparity in India" - Submitted by Subhas K. Basu, for the Degree of Doctor of Philosophy has not been previously submitted for any other degree of this or any other University. We recommend that this Thesis should be placed before the examiners for their consideration for the award of Ph.D. degree.

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COMMERCIAL BANKS AND AGRICULTURAL CREDIT
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SUBHAS K. BASU

A Thesis Submitted for the Degree of
Doctor of Philosophy of the
Jawaharlal Nehru University
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New Delhi-110057
1976

Dedicated

to

The Memory

of

My Father

Late Dinesh Chandra Bose

who inspired

ACKNOWLEDGEMENTS

I SINCERELY THANK MY RESEARCH SUPERVISOR DR. ASHOK MATHUR. HE HAS LENT ME ALL HELP IN PREPARING THIS THESIS.

I AM EXTREMELY GRATEFUL TO PROF. BOUDHAYAN CHATTOPADHYAYA AND PROF. MOONIS RAZA WHO GAVE VALUABLE GUIDELINES AT AN EARLY STAGE. I AM ALSO THANKFUL TO PROF. G.S.BHALLA FOR GIVING USEFUL HELP WHENEVER I APPROACHED HIM. SOME OCCASIONAL DISCUSSIONS WITH DR. B.K.ROY BURMAN, PROF. AMIT BHADURI AND DR. S.K.RAO PROVED HELPFUL IN SOLVING A NUMBER OF PROBLEMS. I AM GRATEFUL TO THEM.

I WISH TO THANK PROF. WALTER ISRAD, PROF. SATYESH CHAKRAVORTY, DR. AJIT NARAYAN BOSE, AND DR. C.R.PATHAK FOR MAKING USEFUL SUGGESTIONS ON EARLIER VERSIONS OF PARTS OF THIS THESIS PRESENTED AT SEMINARS OF REGIONAL SCIENCE ASSOCIATION HELD IN CALCUTTA (1972 AND 1974) AND DELHI (1973).

I AM GRATEFUL TO MR. HASURKAR OF MINISTRY OF FINANCE (DEPARTMENT OF BANKING) AND MR. K.P.RAO OF THE MINISTRY OF AGRICULTURE, MISS UTPALA MUKHERJEE OF METEOROLOGICAL BUREAU OF INDIA, MR . CHAWLA OF COMPUTER CENTRE, PLANNING COMMISSION, FOR GIVING PROMPT AND READY REFERENCE TO SOURCES OF DATA, FOR PREPARING THE DATA DECK, AND FOR HANDLING THE COMPUTER PROGRAMMES OF MY PROBLEMS RESPECTIVELY.

I THANK MR. A.N.ARORA FOR EFFECTIVE AND SPEEDY SECRETARIAL ASSISTANCE IN PREPARING THE MANUSCRIPT.

A GRANT FROM THE UNIVERSITY GRANTS COMMISSION REDUCED THE FINANCIAL BURDEN OF THIS WORK CONSIDERABLY.

MY STUDENTS SIKHA BANERJEE, TARUN BOSE AND ANUPAM CHAKRAVORTY HAVE BEEN EXTREMELY HELPFUL IN VARIOUS STAGES.

NEEDLESS TO MENTION, MY WIFE, SONALI HELPED ME IN MY WORK IN ALL POSSIBLE WAYS. MY DAUGHTERS MUNMUN AND SUMUN AND THEIR COUSINS VIZ., MITHU, BABU, TUKLA, RINKU, APU, AND BUBU GAVE EXTREMELY USEFUL AND TIMELY REMINDERS OF THE OLD SAYING "ALL WORK AND NO PLAY .... ETC." WHICH MADE THE WORK PLEASANT. I AM GRATEFUL TO ALL OF THEM.

LASTLY, I AM THANKFUL TO ALL MEMBERS OF THE STAFF IN THE CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT FOR THEIR CO-OPERATION.

Subhas K. Basu

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COMMERCIAL BANKS AND AGRICULTURAL CREDIT
- A STUDY IN REGIONAL DISPARITY IN INDIA -
- ABSTRACT -

The present thesis visualises the banking industry of the country under the effective control of the state gradually coming up to play a role in the economy of the country comparable to that which Credit Mobilier, the first industrial development bank in France played for stimulating industrial growth in the French economy, in the late 18th century. The process of capital accumulation and the path of socio-economic development under which the banking system works in our country is largely analogous to that prevailing in the French economy during the comparable period in history. A point of difference between the developmental roles of the two banking systems is the fact that the banking system in our country may have to pay special attention to the problem of intersectoral disparity of growth, and also to that of inter-regional disparity which is a spill-over of vertical disparity generated by the overall system itself.

The larger part of the analysis has been carried on for investigating inter-district disparities in the credit operations of commercial banks in general and in the distribution of bank-credit to the agricultural sector in particular. On particular issues, inter-state disparities have also been investigated. Two measures of concentration of rural assets within each State were formulated. These are: (i) G, the Ginni-

co-efficient of inequality of asset distribution, multiplied by 100 and (ii) $A_p^{>i_a}$, the percentage concentration of assets in the upper asset groups.

The co-efficient of correlation between G and X_2 (commercial banks' agricultural credit per hectare of net sown area) was positive and quite high at .70 whereas the same between $A_p^{>i_a}$ and X_2 was almost as high at .61, when X_2 was estimated as a second degree polynomial function of $A_p^{>i_a}$, rising within the relevant range of the latter. The two estimating equations with actual parameters are as follows :

Equation 4.1 $X_2 = -96.329 + 2.03\ G$ ... $[R^2 = .48]$

Equation 4.3 $X_2 = -40.648 + .012\ A_p^{>i_a} + .015\ (A_p^{>i_a})^2$ ... $[R^2 = .46]$

A weighted index of concentration of cultivated area in large operational holdings (X_4) was also formulated. In a multiple regression analysis on the basis of 283 observations at the district level, the addition of X_4 to the deck of explanatory variables improved R^2 significantly whereas its regression co-efficient itself was negative and significant. This along with equations 4.1 and 4.3 showed that whereas commercial banks were succepitble to pressures of regions of high concentration in asset-distribution, in matters of giving agricultural credit, were, afterall, successful in averting such pressures from areas dominated by forces of monopoly in land as regards the same. The following is the equation in which the negative co-efficient of X_4 turned out as significant.

Equation 4.7 $X_2 = 9.571 - .531\ x_4 + .373\ x_6 + .084\ x_3$

$[R^2 = .28]$,

where, the following are the variables that enter into the analysis in various stages :

X_6 = per capita credit

X_3 = Central Co-operative Banks' outstanding credit per hectare of net sown area

X_7 = per capita deposit

X_5 = Number of Bank-offices per lakh population

X_9 = degree of urbanisation

X_{10} = intensity of irrigation

X_{11} = intensity of cultivation

X_{12} = intensity of commercial crop cultivation

The equation of best fit for X_2, that we obtained, is as follows :

Equation 6.11 $X_2 = -53.703 + .078\ x_3 - .415\ x_4$
$-3.052\ x_5 + .317\ x_6 + .080\ x_7$
$+ 4.814\ x_9 + .514\ x_{11}$
... [$R^2 = .303$, With N = 283, F-Ratio (17.047) was significant even at 1% level]

However, three separate subsamples out of 283 districts were formed of which Sample 2 (of districts in the middle range of per capita credit and numbering 146) had the following estimate of X_2 :

Equation 6.11 (Sample 2)

$X_2 = -47.297 + .085\ x_3 - .106\ x_4 + 3.636\ x_5$
$+ .352\ x_6 - .087\ x_7 + 1.530\ x_9 + .394\ x_{11}$
$[R^2 = .44]$

In the final analysis, X_6 , X_7 , X_3 , X_5 , X_9 and X_{11} emerged as significant determinants of X_2. Whereas X_4 had negative regression co-efficient, all others excepting X_5 had positive co-efficient. Whereas X_5 had positive and significant co-efficient in the Sample 2 estimate, it had a negative co-efficient which was nearly significant in the sample of all-districts. The magnitude of negative impact of X_4 on X_2 gradually increased from Sample 1 to Sample 3 estimates of X_2.

The analysis of X_2 was viewed in the context of variation in X_6 , X_7 and X_3 . The following equations were obtained from the regression analysis of these variables.

Equation 3.2 $X_6 = -20.308 + .308\ x_7 + .090\ x_3 + 36.531\ x_9 + 5.370\ x_5$ .. $\bar{R}^2 = .59$

Equation 3.4 $X_7 = -25.780 + 30.992\ x_9 + 25.128\ x_5 - .022\ x_3 + .545\ x_6$ .. $\bar{R}^2 = .64$

Equation 5.1 $X_3 = -90.123 + 1.099\ x_4 + .325\ x_6 + .580\ x_{10} + .740\ x_{11} + 2.131\ x_{12}$ .. $\bar{R}^2 = .32$

Interestingly, X_4 showed positive and significant regression co-efficient in equation 5.1 determining X_3. All other variables entered as explanatory variables in equation 3.2, 3.4 and 5.1 showed positive and significant co-efficients excepting X_3 which was not significant in equation 3.4.

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NOTATIONS

The following standard notations have been rendered in print and ink, in this study, as shown below :

Σ	Summation [as in $\Sigma X_i Y_i + 1$]
δ	delta [as in $\frac{\delta X_7}{\delta X_5}$]
$>$	greater than [as in $a_1 > 0$]
$<$	less than [as in $a_0 < 0$]
$\sqrt{}$	Square root
$\div$	divided by [as in col. 1 $\div$ col. 3]
$\times$	multiplied [as in $\frac{\Sigma X_{i+1} Y_i - \Sigma X_i Y_{i+1}}{100 \times 100}$]
$\neq$	Not equal to [Not equal to [as in $a_0 \neq 0$]
$=$	Equal to