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THE WORLD BANK

Washington, D.C.

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The World Bank 1818 H Street NW Washington DC 20433 Telephone: 202-473-1000

Internet: www.worldbank.org

ORGANIZATION - ECONOMIC DEPT. (ORCUTT ACTIVITIES

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1069864

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GENERAL FILES

THIS FILE IS CLOSED AS OF

DECEMBER 1968.

FOR FURTHER CORRESPONDENCE SEE:

1969 - 1971.

RECORDS MANAGEMENT SECTION February 1969

Act Oreutt

August 28, 1968

Mr. A. Ross Eckler
Director
Bureau of the Census
U.S. Department of
Commerce
Washington, D. C. 20233

Dear Ross:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

> The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

Mr. Norman W. Storer Social Science Research Council 230 Park Avenue New York, New York 10017

Dear Mr. Storer:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

Mr. Henry David
Executive Secretary
Division of Behavioral Sciences
National Research Council
National Academy of Sciences
2101 Constitution Avenue
Washington, D. C. 20433

Dear Henry:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

> The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

Dr. Harold F. Williamson Secretary American Economic Association 629 Noyes Street Evanston, Illinois 60201

Dear Dr. Williamson:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

Professor D. G. Hartle Director University of Toronto Institute for the Quantitative Analysis of Social and Economic Policy 455 Spadina Avenue Toronto 5, Canada

Dear Professor Hartle:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PM 12: 29

COMMUNICATIONS

Professor D. G. Hartle
Director
University of Toronto
Institute for the Quantitative Analysis
of Social and Economic Policy
455 Spadina Avenue
Toronto 5, Canada

Dear Professor Hartle:

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Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PM 12: 29

RECEIVED COMMUNICATIONS

Mr. Steve Viederman
Executive Officer Behavioral and
Social Sciences Survey Committee
1775 Massachusetts Avenue, N.W.
Washington, D. C. 20036

Dear Steve:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

> The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PM 12: 29

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Telephone: 223-1950

Sincerely yours,

Guy H. Oreutt

GHOreutt: sg

1868 MUG 29 PM 12: 29

COMMUNICATIONS
COMMUNICATIONS

Mr. Carl Kaysen Director The Institute for Advanced Study Princeton, New Jersey 08540

Dear Carl:

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Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

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Telephone: 223-1950

Sincerely yours,

Guy H. Oreubt

GHOreutt: sg

1968 AUG 29 PM 12: 29

SENERAL FILES COMMUNICATIONS Professor William Baumol Department of Economics Princeton University Princeton, New Jersey

Dear Bill:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D.C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PH 12: 29

COMMUNICATIONS

Professor William Baumol Department of Economics Princeton University Princeton, New Jersey

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The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Oreutt

ga: jtuouOHD

1968 AUG 29 PM 12: 29

COMMUNICATIONS
OF WELLENED

Mr. S. M. Miller Program Advisor Division of National Affairs The Ford Foundation 477 Madison Avenue New York, New York 10022

Dear Mr. Miller:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D.C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PM 12: 29

RECEIVED RENERAL FILES COMMUNICATIONS

Mr. S. M. Miller Program Advisor Division of National Affairs The Ford Foundation 477 Madison Avenue New York, New York 10022

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Telephone: 223-1950

Sincerely yours,

Guy H. Oreutt

GHOreutt:sg

1968 AUG 29 PM 12: 29

GENERAL FILES COMMUNICATIONS Mr. Robert Ferber College of Business Administration University of Illinois Urbana, Illinois

Dear Bob:

Ascof the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PN 12: 29

COMMUNICATIONS

Muguet 28, 1968

Mr. Robert Ferber College of Business Administration University of Illinois Urbana, Illinois

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The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Oreutt

GHOreutt: sg

1968 AUG 29 PM 12: 29

GENERAL FILES COMMUNICATIONS

Mr. Oscar Harkavy Program Officer in Charge International Division - Population The Ford Foundation 320 East 43rd Street New York, New York 10017

Dear Oscar:

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

1968 AUG 29 PM 12: 29

HEGEIVED HEMERAL FILES COMMUNICATIONS

Mr. Oscar Harkavy Program Officer in Charge International Division - Population The Ford Foundation 320 East h3rd Street New York, New York 10017

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The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

Sincerely yours,

Guy H. Orcutt

GHOreutt: sg

1968 AUG 29 PM 12: 29

SENERAL FILES COMMUNICATIONS Dr. G. Harbour
Department of Mathematical
Statistics and Operational Research
University College of South Wales
and Monmouthshire
Cathays Park
Cardiff CFl 3NR
England

Dear Dr. Harbour:

Enclosed are some studies which may be of some interest to you although they may be tangential to your interests. In any case, this is all that I can lay my hands on at the moment.

As of the end of this week, I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My new address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

Mr. I. M. Stroyezhin
Head
Laboratory of Mathematics in
Economics
School of Economics
Leningrad University
Leningrad, V-164
USSR

Dear Mr. Stroyezhin:

The papers you requested were unpublished seminar papers and are no longer available. Enclosed are copies of several papers which came out of the simulation studies with which I have been associated in the last few years.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

Koichi Mera
Assistant Professor of
Economics
Department of Economics
Harvard University
1737 Cambridge Street
Room 510
Cambridge, Massachusetts 02138

Dear Professor Mera:

The idea of participating in a seminar on multi-regional simulation models is attractive, particularly if the seminar is to be held in Hawaii or Tokyo. Unfortunately, however, I believe I must decline. I am not doing any work in this area, and I am dubious that I could make a worthwhile contribution. In any case, I certainly couldn't prepare a paper for such a seminar since I am just starting a new job and my work will take me in somewhat different directions.

Thank you very much for thinking of me. My slow response resulted from travel for the Bank, a vacation, and a change of employer.

Sincerely yours,

Guy H. Orcutt

August 29, 1968

Mrs. Dorothy Machigashira Department of Economics Social Science Building 1180 Observatory Drive University of Wisconsin Madison, Wisconsin 53706

Dear Dorothy:

Enclosed is a form which, after it has been filled in, should be sent to the North-Holland Publishing Company. Please arrange to have an official purchase order either included or sent separately as they request. I believe there is time to send something for my signature if that is needed.

Incidentally, should official purchase orders be made out at this time for the two sets of reprints I refer to in my letter of July 25th?

Also enclosed is the latest bill from Harvard for computing. I hope I signed it appropriately. The signed job plan for the Data and Computation Center also is included.

As of the end of this week I shall be leaving the World Bank to join the Urban Institute in Washington, D. C. My future address will be:

> The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Telephone: 223-1950

With warm regards,

Sincerely,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (1)

August 26, 1968

Arnold Zellner
H.G.B. Alexander Professor of
Economics and Statistics
Graduate School of Business
University of Chicago
Chicago, Illinois 60637

Dear Arnold:

I was delighted to receive a copy of your new book of Readings in Economic Statistics and Econometrics. I think this makes a very useful contribution and I'm delighted to have one of my articles included in it.

Enclosed is a copy of "An Autoregressive Model: Bayesian Versus Sampling Theory Analyses" which you kindly loaned me.

I don't know if you have heard yet, but I am changing jobs as of this week and my new address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

With best regards,

Sincerely yours,

Guy H. Orcutt

Enclosure (1)

Act Consult

August 16, 1968

Professor Roger Revelle Chairman of the Study Group Office of the Foreign Secretary National Academy of Sciences 2101 Constitution Avenue Washington, D. C. 20418

Dear Professor Revelle:

I regret very much that I will be unable to attend a conference at Woods Hole during this September. The primary difficulty is that I am changing jobs as of the end of this month and I cannot reasonably justify being absent from my new job at this time.

My new address will be:

The Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Thank you for thinking of me as a possible participant.

Sincerely yours,

Guy H. Orcutt

Ec- Act Orbult August 16, 1968 Professor Richard E. Caves Chairman Department of Economics M-8 Littauer Center Harvard University Cambridge 38, Massachusetts Dear Dick: Many thanks for your letter and your suggestion of Lawrence H. Officer. I think this is a fine suggestion and as a matter of fact, I tried to move Officer out to Wisconsin at one point. As things have worked out I have decided to leave the Bank and will join Bill Gorham in his new Urban Institute within a few weeks. My secretary, Claire Gardiner, was most grateful for the opportunity to talk with both you and Mrs. Brine while she was in Boston earlier this week. I would appreciate very much your considering her application for possible employment, should an opening present itself in the future. With best regards, Sincerely yours, Luy Occutt

Guy H. groutt GHOrcutt:sg

August 1, 1968

Mrs. Mary Ellen M. Byrn
Apartment 0523
2400 Virginia Avenue, N.W.
Washington, D. G. 20037
Dear Mrs. Byrn:

Thank you very much for your letter and resume. I have sent a copy of them down to our personnel department with a suggestion that the Bank might well be interested in using your services. However, I wouldn't count on anything happening on this front since the primary emphasis at this point is on hiring non-Americans.

I hope you don't mind, but I have taken the liberty of sending a copy of your letter and resume to Mr. William Gorham who is the director of the new Urban Institute that you may have heard about. This is an exciting new research development that might well be of interest to you. They have just located themselves on the top two floors at 1900 L Street, N.W. I don't know if they will have an opening for you, but if you have any interest at all I think it would be worth investigating the possibility of jobs with them.

I have been out of town and am just going away until August 13th. If you wish, I would be glad to talk with you then or later about job possibilities.

You didn't say so in your letter, but I imagine you are the young lady who was so helpful to my daughter Alice in connection with her visit to Abt Associates. She was very grateful.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

cc: Mr. William Gorham

Chautt Ach

August 1, 1968

Edwin Young
Vice President
The University of Wisconsin
Office of the President
1770 Van Hise Hall
1220 Linden Drive
Madison, Wisconsin 53706

Dear Ed:

Thanks a lot for your kind letter, I appreciated it.

Geil and I would be delighted if Phyllis and you or either one of you would spend a few days with us on one of your trips to Washington. Please let us know whenever it would be convenient to do so.

With best regards,

Sincerely,

Guy H. Orcutt

Oncut Ach August 1, 1968 Mrs. Dorothy Machigashira Department of Economics Social Science Building 1180 Observatory Drive University of Wisconsin Madison, Wisconsin 53706 Dear Dorothy: Thank you for the travel forms. My plans have changed a little so that I don't need them immediately but I will file them for future use. On the reprints, I wasn't too certain how payment out of my NSF funds at Wisconsin should be arranged. I guess the thing to do is just wait until a bill arrives. With best regards, Sincerely. Guy H. Orcutt GHOrcutt:sg

August 1, 1968

Mr. Norman W. Storer Social Science Research Council 230 Park Avenue New York, New York 10017

Dear Mr. Storer:

For a number of reasons my plans have been up in the air. At present, however, it appears that I could attend a conference on the use of social psychological questions in government surveys on September 19 and 20. I am not certain that I can be very helpful but I am interested.

Sincerely,

Guy H. Orcutt

Oncutt Act.

August 1, 1968

Mr. William Gorham Director Urban Institute 9th Floor 1900 L Street, N.W. Washington, D. C.

Dear Bill:

Enclosed is a copy of a letter and resume which may be of interest to you. I also have enclosed a copy of my reply to her.

As you will see, for a young woman of 23, she has a fine academic record and some excellent job experience. I have never met her but my daughter gave a very enthusiastic account of her. From what my daughter said, I believe she has left the Cambridge area because her husband has just finished graduate work at Harvard.

Sincerely,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

Growth Act

July 30, 1968

Professor and Mrs. Richard Stone Department of Applied Economics University of Cambridge Sidgwick Avenue Cambridge, England

Dear Giovanna and Dick:

After such a pleasant two weeks in Northern Ireland and England followed by a vacation on the Michigan side of Lake Michigan, I am having a difficult time settling down to work in Washington.

I particularly enjoyed having the opportunity to renew my friendship with Dick and to become acquainted with his lovely wife. I enjoyed seeing Dick's Mother again and I hope that you will convey my thanks for the excellent meal which she served us. My daughter was pleased that she had been remembered.

Alan Prest is spending six or seven weeks with the International Monetary Fund and we have just spent a pleasant weekend with him on the Atlantic coast. We would be delighted if one or both of you would arrange to spend a few days with us on your next trip to the States.

With many thanks and best regards,

Sincerely,

Guy H. Orcutt

July 30, 1968

Professor and Mrs. Jack Johnston 137 Acre Lane Bram Hall Cheshire, England

Dear Agnes and Jack:

I'm back at my desk in Washington after two extraordinarily fine weeks in England and a lovely ten days on Lake Michigan with my family in Michigan. Somehow it all seems a little remote and dreamlike at the moment, but what nice memories I have! I particularly enjoyed seeing each of you and your fine children again and I greatly appreciated the warm hospitality. Somehow the best part of traveling is seeing one's friends. I was sorry to crowd you a little on Friday night but I did enjoy your friends a great deal and will certainly never look at Malinvaud's book again without thinking of them.

My visit to York was fine, the talk in London was not a disaster, and the two days I spent with the Stones in Cambridge were rich and rewarding for me. I was only sorry that Geil wasn't along to enjoy seeing our friends and England again. Next time I am determined that we will come together.

With warm regards,

Sincerely,

Guy H. Orcutt

July 30, 1968

Professor and Mrs. Norman Gibson The New University of Ulster Coleraine County Londonderry Northern Ireland

Dear Faith and Norman:

I am back in Washington after two weeks in Northern Ireland and England and another ten days on the Michigan side of Lake Michigan. After so much traveling and sheer pleasure, it is a little hard to get back into my usual routine.

My entire trip to Great Britain was productive and extremely pleasant. I particularly value my stay with you and your lively and lovely children. Your home has an ideal setting and will be beautiful. The challenge of creating a new university is an exciting one and the prospects certainly look good. I think that Norman is doing a fine job of recruiting and I enjoyed meeting some of his staff and colleagues. The five mile walk that Norman and I took along the Giant's Causeway will long remain in my memory both because of the beauty and grandeur of the cliffs and ocean and because of the opportunity it gave Norman and myself to discuss a number of things relating to my work.

With best regards and many thanks,

Sincerely,

Guy H. Orcutt

Mr. Irving S. Friedman

July 25, 1968

Guy H. Orcutt

470

Letter to Mr. McNamara from Mr. Wolf of RAND

Mr. Charles Wolf, Jr. is a good economist. The problem of innovation, technological diffusion, and education is one of basic significance to understanding and engineering faster development. The Bank should be strongly supporting such research and RAND certainly is one of the more obvious choices for carrying out research in this area. Perhaps RAND would be a good agency for carrying out a great deal of the research which the Bank ought to be doing but probably will find beyond its own capabilities.

GHOrcutt:sg

cc: Mr. Kamarck

Oxcult.

July 25, 1968

Mrs. Dorothy Machigashira Department of Economics Social Science Building 1180 Observatory Drive University of Wisconsin Madison, Wisconsin 53706

Dear Dorothy:

I just received and returned the galley proofs for two articles which are to appear in the September, 1968 issue of the American Economic Review. Along with these were reprint order blanks which were to be returned at once airmail to:

The American Economic Review Room 220 Stanford University Stanford, California

In each case, 50 reprints came free and I ordered 400 additional reprints to be sent to me at the SSRI. In talking with Dick Day yesterday, we agreed that they would be included in the SSRI reprint series. The cost of the reprints and the covers should be charged, in due course, to my NSF account. The titles and estimated cost of each set of reprints is as follows::

"Data Aggregation and Information Loss," by Guy H. Orcutt, Harold W. Watts, and John B. Edwards. Estimated cost of 400 additional reprints is \$38.20.

"Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes," by Guy H. Orcutt and Alice G. Orcutt. Estimated cost of 400 additional reprints is \$46.80.

Mrs. Dorothy Machigashira - 2 - July 25, 1968

After the 450 reprints of each article arrive and have covers, fifty should be supplied to each of the authors and the rest used for the reprint series.

I am planning one or two trips which I will charge to my NSF account. Would you send me a couple of sets of the necessary forms I must use including the travel tax exemption forms.

With warm regards,

Sincerely,

Guy H. Orcutt

GHOreutt: sg

July 2, 1968

Professor Richard H. Day 34 Gottingen Dahlmannstrasse 6 West Germany

Dear Dick:

We look forward to seeing you in Washington on the 24th and 25th of July. We will plan on having you and Susan for diner on the 24th but if the 25th would be better, let me know and we can easily plan on that day instead. We will plan an adult affair including one or two other couples, but can easily accommodate your children also if that turns out to be more convenient for you.

I had a wonderful trip to England and am now looking forward to ten days of vacation.

With best regards,

Sincerely yours,

Guy H. Orcutt

Jellow

July 1, 1968

Professor William J. Baumol Department of Economics Princeton University Princeton, New Jersey 08540

Dear Bill:

I received six of your reprints in this morning's mail and want you to know that I am delighted to have them. I am impressed with both the volume and quality.

With best regards,

Sincerely yours,

Guy H. Orcutt

gellow.

July 1, 1968

Professor William J. Baumol Department of Economics Princeton University Princeton, New Jersey 08540

Dear Bill:

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With best regards,

Sincerely yours,

Guy H. Orcutt

CHOreutt: 8g



## **Record Removal Notice**



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June 28, 1968

Guy H. Orcutt, Charles G. Goor, and Yves Rovani
Draft Paper "IBRD Financial Model"

Attached for information and comment is a preliminary draft of a paper describing the "IBRD Financial Model", a model designed to forecast by computer the evolution of the Bank's finances under a number of assumptions and policy variables. The model, which has been in operation for some time is presently undergoing some changes to conform generally with the format described in this paper. As soon as this work has been finished a more complete draft will be circulated attaching sample tables.

Attachment. CGGoor: YRovani/ms

Orcutt Act

Mr. B. Chadenet

June 18, 1968

R. Sadove

#### Research and the World Bank -- G. H. Orcutt's Memorandum of May 27, 1968

- Although our loan operations and our technical assistance efforts have grown at an impressive pace over the years, and we have come to advise Governments and agencies on vital and varied issues, our research effort within the Bank and our support for research effort outside, especially in the underdeveloped countries -- has been modest. We rarely have taken a serious look at the analytical foundations of our recommendations and policies. We have often been too preoccupied with immediate operational matters.
- 2. Professor Orcutt has thought many of these matters through. His proposal deserves our fullest support. Within the Projects Department, we are particularly conscious of the urgent need for research in three areas: criteria for project selection; more meaningful sector analysis both in the Bank's traditional sectors like power and transport and in the newer sectors like agriculture, population, etc.; and, finally, the retrospective analysis of completed projects.
- 3. Professor Orcutt suggests that for only \$10 million we can staff and equip a useful research center. There is no reason why we should inhibit ourselves and try to fit the entire operation into the existing organizational structure of the Bank. In fact, there may be distinct merits in thinking in terms of a separate Development Research Institute that would combine the advantages of autonomy and of the fullest access to other members of the Bank family.
- In confronting the question "Should the Bank carry out and support an extensive program of development related research?", which is answered in the affirmative in the memorandum by Mr. Orcutt, we should pay particular attention to some of the supporting arguments adduced by Mr. Orcutt as follows:
- (a) "Relevant knowledge may in and of itself be a very potent tool for achieving development." This thesis is at the heart of our project lending cum technical assistance efforts. We have always argued that project aid transmits the greatest amount of relevant knowledge per dollar of development capital; yet even in the narrowly defined context of particular projects our staff and the consulting firms which we retain increasingly recognize the frequency with which we employ untested hypotheses and analogies

often deferring the testing to some later date and to some vague discipline called "basic research". Yet there is insufficient effort to collect and record those issues which we cannot solve in the immediate, operational project context, and we have to continue to "solve" these problems by reliance upon the ad hoc judgment of our staff. In this manner, I believe it is fair to say, we are continually running the risk of substituting operational precedents for systematically tested hypotheses.

- (b) "Supporting outside research will bring Bank researchers into closer contact with outside researchers and greatly facilitate Bank staffing while promoting a healthy two-way flow of researchers between the Bank and other research centers." In support of this argument I would like to point to the impact that our working relationships with consulting firms have had both upon the approaches and staff composition of these firms, as well as upon the effectiveness of our own staff. Any effort of ours to enhance the flow of information between capable research groups would at present come at an opportune time in that the emphasis placed by the social sciences upon an inter-disciplinary approach has renewed the interest of the academic world in the "project approach" which is our stock in trade. As regards Bank staffing, our Y.P. program has proven that the development problems confronting our institution continue to capture the imaginations of some of the best graduates of the world's universities, but I doubt that we will be able to continue to attract these young people if we create the impression that we only reward the operational and not also the research capabilities and ambitions of our staff.
- (c) We should be prepared to emphatically support Mr. Orcutt's recommendations regarding "inductive research" as a systematic way to learn from our lending experience. We have long been aware of the need to conduct project lending in such a way as to facilitate ex post evaluation of our investment decisions. Yet, short of a separate research center which could develop ex post evaluation criteria which could influence our ex ante appraisal techniques, the valuable lessons which each of our projects can teach will remain in the realm of the isolated case study, and the wealth of collected data which could facilitiate the ex post evaluation will remain in the working papers of the appraisal team.
- (d) Finally, we are increasingly concerned that our approach to the determination of project priorities is still too pragmatic and still depends too much upon project readiness. However, the comprehensive evaluation of inter and intra sectoral project priorities requires such a wealth of technical and behavioral data that a comprehensive or integrated project or program evaluation would never become feasible in an operational context without the inductive research efforts and corresponding data generation advocated by Mr. Orcutt.

June 18, 1968 Mr. Chadenet - 3 -I propose that from our point of view these truly operational considerations provide ample justification for the advocated investment in a "project" to increase the relevant knowledge about economic and social development processes which we, as an institution are charged to foster and to accelerate. With regard to the exact "project plans" and the implementa-tion of such a "project" we should gather ecomments from the Divisions. I am attaching a copy of a newly published agenda for research on U.S. Energy Policies which gives a lot of food for our thoughts regarding the proper approaches to studies in those fields of greatest interest to us. Attachment RSadove:lvc IBRD

FORM No. 57

### OFFICE MEMORANDUM

TO: Files

DATE: June 17, 1968

FROM: Andrew M. Kamarck GUY

SUBJECT: Initial Program of Work in Basic Research

Mr. Orcutt and I had two long talks on June 10 and June 14 on the initial program of work of his group. Where we came out was as follows: the first project that his group will work on is a "world model". This will cover capital and trade flows. Mr. Orcutt said that he had talked with Mr. Rhomberg of the Fund and that Rhomberg had agreed that Mr. Orcutt's proposal would not conflict with what he is doing on international trade. Mr. Orcutt said that the reason he wished to begin with this is that it fitted in best with his experience and technical knowledge and that of the people he had recruited. I told Mr. Orcutt that this was agreeable to me. There is a great deal of work being done on world capital requirements models by Mosak's shop, UNCTAD, Chenery and Strout and by Jorge Marshall on Latin America, and the World Bank should do enough work in this field (besides our own capital inflow estimates) to have our own views and to be in a position to influence and evaluate what is being done elsewhere.

As for "research laboratories" that are contemplated under the five-year projections, the other parts of the Economics Department, in cooperation with the Area and Projects Departments, will work out and set up the research projects. Mr. Orcutt will be kept informed. He and his group will give whatever advice and assistance they can in this. If at some point someone from Mr. Orcutt's group could make a contribution in taking on a part of any of these research projects, suitable arrangements will be worked out.

cc: Messrs. Friedman Stevenson Orcutt de Vries van der Tak Hawkins

AMK/vhw

Droutt Act June 14, 1968 Professor Jack Johnston 137 Acre Lane Bram Hall Cheshire, England Dear Jack: This is just a note to confirm that I will be staying with Norman Gibson of the New University of Ulster in Coleraine, Northern Ireland on the nights of Tuesday and Wednesday, June 18th and 19th. I expect to arrive in Manchester on Thursday, June 20th around 10:15 a.m. on flight BE 7691. I hope to stay until Saturday, June 22nd and then go to Heslington, York. While staying with Norman I will try and contact you by phone. With best regards, Sincerely yours, Guy H. Orcutt GHOrcutt:sg

Orcell. Ack June 14, 1968 Professor George H. Borts Economic Studies Program Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C. 20036 Dear George: Thank you for your letter of June 11, 1968. It is exactly what I needed and if we go ahead on this venture, I will do everything within my power to see that something comes out of our discussion. It will probably be about a month before things are clarified. With best regards, Sincerely yours, Guy H. Orcutt GHOrcutt:sg

Mr. George Sadowsky Director Computer Center The Brookings Institution 1775 Massachusetts Avenue, N.W. Washington D. C. 20036

Dear George:

Many thanks for "THE BEAST." I am off too England for two weeks and then will be on vacation for two weeks so that I haven't been able to study what appears to be a highly useful effort. I have asked someone I'm trying to hire to look at it and I hope to devote some attention to it upon my return.

With best regards,

Sincerely yours,

Guy H. Orcutt

Mr. John B. Edwards 35 N. Hancock Street Lexington, Massachusetts

Dear Jack:

This is just a note to let you know that I put in your reappointment at Wisconsin for another year at \$15,600.00 and it seems to have gone through without any trouble. This represents a slightly higher raise than we discussed so I hope it pleases you.

I am off the England for two weeks and expect to contact you upon my return. In any case, I hope you will proceed as rapidly as possible in rounding out what you think we need in order to make a book out of our combined output.

I will be here on July 1, 2, and 3 and then will be on vacation in Michigan until July 15. I could think about our undertaking during my vacation and I plan on coming up to Cambridge once during the summer after July 15. If you think it would be useful to see me on July 1, 2 or 3, go ahead and make arrangements to come down for a couple of days.

With best regards,

Sincerely yours,

Guy H. Orcutt

Professor Richard Ruggles
Department of Economics
37 Hillhouse Avenue
Box 1972
Yale University
New Haven, Connecticut

Dear Dick:

Many thanks for the paper and the copy of the manuscript done with Nancy. I'm off for about four weeks but look forward to studying them upon my return.

With best regards,

Sincerely yours,

Guy H. Orcutt

Professor and Mrs. Martin David 20 St. Olave's Road York, England

Dear Betsy and Martin:

The arrangements sound wonderful, and I am looking forward a great deal to seeing both of you. I expect to be at Jack Johnston's home, 137 Acre Lane, Bram Hall, Cheshire on June 20-21 and will try to give you a call from there when I have a clearer idea about the time of day I might arrive on Saturday, June 22.

With warm regards,

Sincerely yours,

Guy H. Orcutt

Professor Norman J. Gibson
The New University of Ulster
Coleraine
County Londonderry
Northern Ireland

Dear Norman:

This is just a note to let you know that I received your letter and am very pleased that things will work out so nicely.

I will plan on coming up to Coleraine on Tuesday, June 18 in the University car which will meet the BEA 12:20 flight leaving London at 11:00 a.m. This will be perfect from my standpoint since I expect to arrive in Belfast on flight BE 6519 at 9:30 a.m. This flight leaves London (Heathrow) at 8:25 a.m. and I will enjoy the short wait in Belfast.

If you should have to contact me for any reason I will be laying over the night of June 17 in the Ariel Hotel at London Airport.

With best regards to you and Faith,

Sincerely yours,

Guy H. Orcutt

Mr. John G. Gurley American Economic Review Room 220 Stanford University Stanford, California 94305

Dear John:

The best address for me during the summer will continue to be the above.

Sincerely yours,

Guy H. Orcutt

Professor Arthur Goldberger Social Science Building Department of Economics University of Wisconsin Madison, Wisconsin

Dear Arthur:

Congratulations on your fine new book, Topics in Regression Analysis. I hope its sales surpass your expectations and fondest wishes. I appreciated receiving a copy and even though I am afraid my contribution to your thinking was rather small, I do, of course, take some measure of pride in being mentioned.

With warm regards to you and Iefke.

Sincerely yours,

Guy H. Orcutt

Professor Richard Stone
Department of Applied Economics
University of Cambridge
Sidgwick Avenue
Cambridge, England

Dear Dick:

Many thanks for your prompt and generous response. I certainly would like to accept your invitation and I will plan on taking the train up to Cambridge on the morning or afternoon of Friday, June 28th. (I believe C.E.I.R. hopes to take us to a ballet on the evening of the 27th.)

I leave London for home on TW 709 at 13:30 on Sunday, June 30th and so will either go down to London on June 29th or on the morning of June 30th. In any case, I will try and contact you Wednesday or Thursday before coming up to see if my arrangements fit in with your schedule.

With warm regards,

Sincerely yours,

Guy H. Orcutt

Allow Hellow

June 14, 1968

Dr. Joseph Pechman Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

Dear Joe:

At the request of your President, Kermit Gordon, I have been studying Volume II: Models for Transport System Simulation by Paul O. Roberts and David T. Kresge. As requested, I am now transmitting to you my overall evaluation in this letter. The separate memorandum contains the detailed comments which I am able to provide at this particular time. As it happens, I have been rushing to get off to England for two weeks and so I must send you what I have now if I am to stay within the requested deadline.

In my opinion, the overall scholarly quality of this manuscript is very high and it certainly should be published. If the authors could spare the time and were willing to try and improve the readability and general structuring of this book, I feel certain that they could do so. However, I feel strongly that this work has sufficient merit to justify publication even if nothing were to be changed.

To my knowledge, there is nothing else in the field which is as ambitious as the effort made by this Harvard Group. In this respect, I am reminded of some of my own efforts. However, a rather crucial difference is that the product of the Harvard Group comes much closer to being compatible with their ambitions than has been true in my own case.

In short, I strongly believe that this volume will represent a very significant addition to the literature and it certainly should be published. If the authors could be persuaded to spend another month on the manuscript, I believe they could make it somewhat more readable than it now is but in any case, it will be an important book.

Sincerely yours,

Guy H. Orcutt

#### Comments on Volume II: Models for Transport System Simulation

by

#### Paul O. Roberts and David T. Kresge

This book has great merit and will make a very significant contribution to the field. Nevertheless, I believe that the authors could improve its readability significantly if they could afford to spend a few more weeks on it. At present I regard it as a rather difficult book to read and to look at as a unified whole.

To make the foregoing suggestion is, of course, much easier than to try and do something about it. I will make a few suggestions as to changes which I think might help, but I suspect that most of the ideas on this score will have to come from the authors.

In my mind, the most disturbing aspect of the book as it stands is that it ends with the present Chapter VIII. I certainly do not think that the value of the book depends on the material in Chapter VIII or that the rest of the book leads up to it. Nor do I think that this chapter provides either a suitable summing up or an application of what has gone before. I would prefer to see the Present Chapter VIII put in the appendix. If it is not put there, it might be better to bury it in the middle somewhere rather than leaving it as the last chapter.

In place of the present Chapter VIII, I would prefer a short chapter which presents a summary statement, evaluation, and overview of what has been presented in the rest of the book. If this suggestion is not acceptable, I would prefer to see Chapter VI or perhaps Chapter VII converted into the final chapter.

I would rate the present Chapter V among the many really exciting parts of this book. Perhaps it already is well located and in any case will make a real contribution no matter where it appears. Nevertheless, I think it is at least worth considering whether it wouldn't be better to use it as an introductory chapter either just before or just after the present Chapter II.

Finally, perhaps some further thought should be given to the present appendix. An alternative treatment would be to remove all or some of it from the present volume and use the material removed in an operating manual prepared for the use of those who would like to work with and use the computer programs which have been developed. The present appendix is not complete enough to serve as a manual and may not even be enough for the expert who wishes to develop a similar computer program. Nevertheless, it seems worth considering whether the more general reader will benefit much from having this appendix.



# **Record Removal Notice**



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Correspondents / Participants From:Guy H. Orcutt To: Prof. Charles C. Holt				
Subject / Title Participation in National Science Fou	undation Economic Panel			
Exception(s) Personal Information				
Additional Comments		remov Policy disclo	The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.	
		With	drawn by Ann May	Date August 16, 2021

June 7, 1968 Mr. Paul Clark Room 3942 A.I.D. New State Department Building 21st and Virginia Avenue, N. W. Washington, D. C. Dear Paul: In the hopes that you may be interested, I have enclosed a copy of "Research and the World Bank" with an addendum. Perhaps we might have lunch at your convenience and discuss some of these issues. With best regards, Yours sincerely, Guy H. Orcutt (Sg) GHOrcutt: sg Enclosures (2)

June 6, 1968

Mr. Alexis Lachman Room 3947 A.I.D. New State Department Building 21st and Virginia Avenue, N.W. Washington, D. C.

Dear Mr. Lachman:

It has been suggested to me by Mr. Alfred Reifman of the State Department that the enclosed papers, "Research and the World Bank" and the addendum might be of some interest to you.

Yours sincerely,

Guy H. Orcutt

GHOreutt:sg

Enclosures (2)

1968 JUM - 7 PM 12: 10

DMMUNICATIONS

June 6, 1968

Mr. Alexis Lachman Room 3947 A.I.D. Mew State Department Building 21st and Virginia Avenue, N.W. Washington, D. C.

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Yours sincerely,

Guy H. Orcutt

GHOreutt:sg

Enclosures (2)

1968 JUN-7 PM 12: 10

COMMUNICATIONS

Mr. Henry Heuser
Room 3841
A.I.D.
New State Department Building
21st and Virginia Avenue, N.W.
Washington, D. C.

Dear Mr. Heuser:

It has been suggested to me by Mr. Alfred Reifman of the State Department that the enclosed papers, "Research and the World Bank" and the addendum might be of some interest to you.

Yours sincerely,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

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Yours sincerely,

Guy H. Oreutt

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Enclosures (2)

1968 JUN -7 PMIZ: 10

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June 6, 1968 Sr. Eugenio Ahumada Revista de Economia Latinoamericana Banco Central de Venezuela Caracas, Venezuela Dear Sr. Ahumada: I have delayed responding to your kind offer to contribute an article to the Revista de Economia Latinoamericana in the hope that I would be able to inform you when I would be able to submit an article and what the article would be on. I still hope and expect to contribute an article but am still unable to fix a date. As soon as I have an article that might be appropriate, I will send it to you for your use if it fits your needs. Please note my new address. With many thanks, Sincerely yours, Guy H. Orcutt GHOrcutt: sg

Oralt Act

June 4, 1968

Professor C. Alves Martins Centro de Economia e Financas Gulbenkian Foundation Avenida de Berna, 56 Lisbon, Portugal

Dear Professor Martins:

Early this year I received a letter saying that within two or three weeks I would be sent ten clothbound copies of the Proceedings of the NATO Advanced Summer Institute on Forecasting on a Scientific Basis held at Curia in 1966. I received a single paperback volume but the clothbound copies never arrived. Perhaps they went to me at my former Harvard address and were either returned or not properly forwarded. If it is at all possible, I would still very much like to receive the ten clothbound copies. If additional copies are sent, please have note taken of my present address.

Enclosed is a copy of "Research and the World Bank" along with an addendum which may be of interest. As you will notice, the last two parts of the addendum draw heavily on my Portuguese lectures.

With best regards and many thanks,

Sincerely yours,

Guy H. Orcutt

GHOrcutt: sg

Enclosures (2)

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Overty by

June 4, 1968

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With best regards and many thanks,

Sincerely yours,

duy H. Orcubt

GHOroutt: sg

Enclosures (2)

1968 JUN -5 AMII: 03

COMMUNICATIONS

Cacull Act

June 4, 1968

Dr. Oscar Fisch Researcher Di Tella Research Institute Virrey del Pino 3257 Buenos Aires, Argentina

Dear Dr. Fisch:

Thank you very much for sending me "Contribution Towards A Theory of Urban Systems: Simulation of the Filtering Process in the Housing Market." I enjoyed reading it and liked it very much. I have only a few comments.

I very much favor the general framework of feedback adaptive and learning systems which you have adopted, but I wondered a little if you adequately identify and relate the control theory jargon which is used to the physical and social phenomena you wish to deal with. Since I am not certain about the nature of your intended audience, I am in a poor position to judge but I couldn't help wondering if your readers would be able to think of the real counterpart of such terms as "Social comparator, social identificator, social measurer, and social compensator."

My major criticism of the work as it now stands is that it has no obvious inductive content. The usefulness of any model of the filtering process in the housing market will ultimately depend on how well the behavioral and physical relations of the real process have been captured. Therefore, the fact that no hypotheses seem to be put forward and tested disturbs me. Is it that the underlying relationships are so well known and substantiated by others that they can be taken as given?

I have enclosed some papers which may be of interest to you. I hope at some point that I may be able to visit your excellent institute and have the opportunity of discussing research matters of mutual interest. If you write me again please note my new address.

Thanks again for your excellent paper.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

June 3, 1968 Mr. Jonathan Rosenhead Lecturer in Operational Research The London School of Economics and Political Science Houghton Street Aldwych London W.C.2 England Dear Mr. Rosenhead: Enclosed are a few reprints and a copy of "Research and the World Bank." It is the addendum of this paper which may interest you since it is made up of all or part of recent things that I have participated in doing. The enclosed vita lists my publications but the most significant thing in your area of interest would be the book with Greenberger, Korbel, and Rivlin. Perhaps we may have the opportunity of meeting when I am in London in a few weeks for a C.E.I.R. Model Building Symposium. Sincerely yours, Guy H. Orcutt GHOrcutt:sg Enclosures (7)

June 3, 1968

Mr. Lloyd Homme Manager, Research Department, Behavior Systems Division Westinghouse Learning Corporation 1840 Lomas Boulevard, North East Albuquerque, New Mexico 87106

Dear Lloyd:

After I came to appreciate the meaning of such terms as "Operant conditioner" and "contingency manager," I enjoyed your piece on contingency management very much. I would welcome a further extension of my education if you care to send me any additional literature.

The enclosed paper on "Research and the World Bank" may be of interest to you, either for the paper itself, or for the addendum.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

Oncut Act

June 3, 1968

Professor Hans O. Schmitt Department of Economics Social Science Building The University of Wisconsin Madison Wisconsin 53706

Dear Hans:

Thank you very much for your letter about Seiji Naya. I fully agree that he would make an excellent addition to our group. However, I notice that he lists himself as a Research Fellow at the National Bureau starting in September. Does this mean that he is out for next year or could we still consider him as a real possibility? In general, what I am pushing for at this point are one or two year appointments so it would be particularly nice if he could come on leave from the University of Wisconsin starting this fall.

If Seiji has a potential interest in anything starting within the next six or seven months, please have him fill in the enclosed form and return it to me immediately. He could send the picture later if necessary.

Is there anything we could be doing for you? Why not plan on spending a few days with us while your stuff is being moved in and so on? We would be delighted.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

June 3, 1968

Professor Martin Shubik
Department of Administrative Sciences
2 Hillhouse Avenue
Yale University
New Haven, Connecticut 06520

Dear Martin:

Thank you very much for your letter of May along with the paper on "Simulation of Socio-econ Systems." I have read and enjoyed Parts I and II

Thank you very much for your letter of May 16 along with the paper on "Simulation of Socio-economic Systems." I have read and enjoyed Parts I and II which you sent and am looking forward to Part III when it is available.

Our ideas and interests are strongly complimentary and I would very much like to explore alternative possibilities for achieving a useful collaboration. At present I am doing some thinking about a relatively simple world model with country components containing a sample representation of the population. The overall model would be set up in such a way that it could be run as desired without rerunning the micro-analytical population sub-models.

Enclosed are a few things which may be of interest to you.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (3)

Professor and Mrs. Martin David
Institute of Social and Economic Research
University of York
Heslington, York
England
Dear Betsy and Martin:

As things have worked out, my plans are to arrive in London on June 17, proceed to the New University of Ulster on June 18, go to Manchester on June 20, and come to visit you people on Saturday, June 22. I would leave you on June 24th for my meetings in London. Then on June 28th or 29th I might go up to Cambridge for a day and return to Washington on June 30th.

How would the dates for my visit to York work out for you? Please don't hesitate to tell me if the suggested dates are awkward for any reason. I think Jack Johnston will drive me over to your place from his home.

Enclosed is a copy of a paper on research and the World Bank which may interest you.

I am looking forward to seeing both of you and am only sorry that I couldn't persuade my wife to come.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (1)

May 31, 1968

Professor Charles C. Holt Social Systems Research Institute Social Science Building The University of Wisconsin Madison, Wisconsin 53706

Dear Charlie:

I have asked Mr. Alexander (Sandy) Stevenson to obtain a ruling on your request and will let you know the outcome as soon as possible. If you feel you need some guidance on the Bank's position on such matters before a formal response is forthcoming, I suggest you call Sandy.

Enclosed is a third and considerably reworked version of "Research and the World Bank." I regard this as my final version.

All of us are delighted that you will be joining the Bank's staff for this next year and I look forward to working with you.

With best regards,

Sincerely yours,

GHOrcutt:sg

Guy H. Orcutt

Enclosures (1)

Professor Alan Prest Department of Economics University of Manchester Manchester, England

Dear Alan:

We are delighted to know that you and Pauline will be in Washington for part of this summer. Geil and I will look forward to seeing you then. Can we be of any help to you before you come?

I greatly appreciated your kind invitation and do hope to see you in Manchester. As things have worked out, I have accepted an invitation to stay with Jack and Agnes Johnston the nights of June 23rd and 24th. I understand you live nearby so perhaps it will be easy to see something of you and Pauline as well as the Johnstons.

Enclosed is a copy of "Research and the World Bank" which may be of interest to you.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt: sg

Enclosures (2)

Professor Norman Gibson
The New University of Ulster
Coleraine
County Londonderry
Northern Ireland

Dear Norman:

I would be delighted to see you again and also to be able to discuss any ideas you might have about what research the Bank should be doing in the development area.

Unfortunately my wife is not coming, but if it fits in with your plans, I will fly up from London to Belfast and them proceed to Coleraine on Tuesday, June 18th. My present idea is to stay two nights with you and then fly over from Belfast to Manchester for a visit with the Johnstons and the Prests. I also hope to see Dick Day and his wife since they will be coming over from Germany for a talk Dick is giving.

Enclosed is a copy of "Research and the World Bank" which may be of some interest to you.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (1)

Professor Edwin Kuh
Department of Economics
Massachusetts Institute of
Technology
Cambridge, Massachusetts

Dear Ed:

Thanks a lot for the copy of the TROLL manual. It looks like Mark Eisner and the rest of your group are doing a great job. I will be very interested to see how this project develops.

Enclosed is a copy off "Research and the World Bank" along with an addendum. Perhaps it may be of interest.

With best regards,

Sincerely Yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

Mr. Guy H. Orcutt

May 31, 1968

Arthur E. Tiemann Oct

Revised Braft of "Research and the World Bank"

In connection with your memorandum of May 28, 1968, I regret that I have not taken the opportunity to comment on your earlier drafts of "Research and the World Bank". Basically, I support the thesis you propose.

I would suggest that the paper recommend that as part of the proposed support of research, additional programmers be employed who would be qualified to do "scientific programming" and could thus serve constructively the senior researchers on problems requiring computer usage.

I would also suggest that among the non-economists shown on page 10, operations research analysts should be added. I recognize that this profession is not as clearly defined as the ones you have listed, but I believe that their research contribution could be significant.

cc: Mr. Stevensen

AETiemann/ms

Orcult Hel May 31, 1968 Professor Ray Marshall College of Business and Economics Department of Economics University of Kentucky Lexington, Kentucky 40506 Dear Professor Marshall: David Huang is a truly outstanding, relatively young (by my present standards) economist. He would be an outstanding acquisition for any department. He is highly motivated and very productive. I believe his work is of excellent quality. He is an outstanding researcher and scholar. I am less knowledgeable about his teaching ability. Judging from the facility and poise with which he speaks, I believe that he must be a good teacher. I always enjoyed him as a colleague and would expect him to contribute in a fine, positive manner to departmental affairs. He is a hard driver personally and this may carry over into his departmental activities. This characteristic makes him very valuable but may not always contribute to your equanimity. With best regards, Sincerely yours, Guy H. Orcutt Senior Adviser GHOrcutt:sg

May 31, 1968 Professor Richard Stone Department of Applied Economics University of Cambridge Sidgwick Avenue Cambridge, England Dear Dick: I am going to be in England for the last two weeks of June for a C.E.I.R. Symposium. My present plan is to visit the New University of Ulster, the University of Manchester, and the University of York before the Symposium which is June 25th through June 27th in London. Is there any chance of my seeing you on Friday or Saturday, June 28th or 29th?

The two years I spent with you in Cambridge were among the very best I have ever spent on both personal and professional grounds. I have wanted to see you again for many years and if it is possible to do so on this trip, I would be delighted to have such an opportunity.

Enclosed is a copy of "Research and the World Bank" along with an addendum which may be of some interest to you.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

May 31, 1968

Mr. Alexander Stevenson

Guy H. Orcutt & 7()

# Travel Plans in Connection with C.E.I.R Lecture

My present plans are to leave Washington the morning of June 17th and return to Washington from London on June 30th. I expect to visit the New University of Ulster at Coleraine in Northern Ireland on June 18th and 19th as the guest of Professor Norman Gibson. Then I hope to proceed to visit the University of Manchester on June 20th and 21st as the guest of Professors Jack Johnston and Alan Prest. While there, I expect to see Dr. Wallis Taylor and Professor Richard Day, among others. From Manchester, I plan on going to Heslington, York to visit the University of York during June 22nd and 23rd as the guest of Professor Martin David. While there, I hope to see Alan Peacock and others. On June 24th I will fly down to London for the C.E.I.R. Model Building Symposium on June 25th, 26th and 27th. On June 28th and 29th, I hope to see Professors Richard Stone and James Meade of the University of Cambridge and possibly one or two individuals at the London School of Economics.

The air fare for this trip and my expenses in London during the Symposium are being covered by C.E.I.R. My other expenses will be rather small since my round trip to London will cover the flight to Northern Ireland and back by way of the Universities of Manchester and York. In addition, I will be treated as a guest while visiting these three universities.

My understanding is that I should pay for other legitimate business expenses as needed and then file a claim to the Bank for them upon my return. In total, these might amount to living expenses for three or four days and for miscellaneous ground transportation expenses.

While visiting scholars and universities in England, I will use the opportunity to interchange ideas about Bank research. I also will be looking in a discrete way for individuals that might make an important contribution to our research staff.

and arrangements with Mr. James Twining, please let me know as soon as possible.

GHOrcutt:sg

FORM No. 58

INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

TO: Mr. Martin M. Rosen

DATE: May 28, 1968

FROM: Guy H. Orcutt

SUBJECT: Revised Draft of "RESEARCH AND THE WORLD BANK"

Attached is the third, and I hope final, draft of "RESEARCH AND THE WORLD BANK." As you will see, there are several significant alterations and extensions as compared with the previous draft of April 30.

My hope, of course, is that you will find much in this paper which is worth supporting.

### INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

#### RESEARCH AND THE WORLD BANK

by

Guy H. Orcutt

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RESEARCH METHODS AND STRATEGY

Draft

27 May 1968

#### SUMMARY AND CONCLUSIONS

Two major theses of this paper are that the Bank should substantially increase its support of development related research and that the Bank should carry on an extensive research program as well as promote and financially support outside research. A third thesis, considered to be of major importance, is that although the Bank has done little serious inductive research, it should engage in such research on a substantial scale and that in so doing it should pay particular attention to overcoming serious data problems. A fourth major thesis of this paper is that Bank research should be carried on within one basic and two applied research departments. These three departments might well be called the Inductive (or Basic) Research Department, the Operational Research Department, and the Economic Policy Research Department.

The case for the first two major theses of this paper is presented in Sections I and II. Annual research support, at least to the extent of an amount equal to the sum that would be yielded by a one-tenth of one percent charge on the Bank's outstanding loans, is considered to be a reasonable five-year target. This amount of support, amounting as it currently would to nearly ten million dollars per year, would be enough, as far as money goes, to finance creation and maintenance of the world's leading development research center as well as provide significant support for data collection efforts and for outside research.

After Section III which contains numerous suggestions for increasing the effectiveness and the attractiveness of Bank research, Sections IV and V support the third major thesis. Section VI then completes the case, first made in Section III, for having an Inductive (or Basic) Research Department, an Operational Research Department, and an Economic Policy Research Department. In addition, Section VI completes the description of the envisaged role of each of the proposed research departments by presenting a large number of potential research topics, grouped according to the department which might well undertake them. Selection of specific research problems and strategy must, of course, be worked out by each department after it is formed.

The final section of the paper is then followed by an addendum which presents and attempts to justify several fundamental views on research strategy.

# RESEARCH AND THE WORLD BANK1/

by

Guy H. Orcutt

# I. WHY THE BANK SHOULD SUPPORT RESEARCH

How much should be spent on development related research, who should provide the funds, who should do the research, where should the research be done, what should the research be on, how much of it should be applied, how much analytical-theoretical, how much inductive, how much of it of a data gathering nature, and how much of a tool building nature are important issues. Nevertheless, it is difficult to avoid the conclusion that, no matter how these issues are decided, a more rational world would spend as much or more on development related research as it spends on military related research. At present, it is doubtful if the total world expenditure on development research amounts to as much as one percent of the total world expenditure on military related research. Are development problems less urgent or important? Is our knowledge about how to promote development more advanced than our knowledge about explosives? Is development research easier and therefore less expensive than military research?

Space research is something that many of us favor, but is it more critical to man's future well-being than man's entire development research effort? No doubt there eventually will be a useful technological fall out from space research, but who will be the primary beneficiaries of this fall out when it occurs, the technologically underdeveloped nations, or the technologically advanced nations?

The author, a Senior Adviser in the Economics Department of the World Bank, was invited to take a close look at current research activities of the Bank and come up with recommendations for improving them. This he has done to the best of his ability during the first nine months of his employment and this paper presents the results of his efforts. Without in anyway shifting responsibility for the analysis presented and conclusions reached, the author would like to express his sincere appreciation for the substantial encouragement and guidance of Mr. I. S. Friedman, for the generous assistance and forbearance of Messrs. A. Kamarck, A. Stevenson and B. de Vries, and for the extremely helpful suggestions and criticisms of earlier drafts by Professors B. Balassa, R. E. Baldwin, E. Despres, I. Frank, C. Holt, C. P. Kindleberger, S. Kuznets, E. S. Mason, J. R. Meyer, H. Schmitt, W. F. Stolper; by Messrs. R. E. Asher, J. Grunwald, H. F. Haviland, J. Pechman and W. Salant of the Brookings Institution; by Messrs. R. Goode, and R. A. Young of the International Monetary Fund; by Miss G. Lovasy and Messrs. A. Churchill, E. Hawkins, V. W. Hogg, B. B. King, H. Latimer, O. McDiarmid, S. Please, S. Reutlinger, W. Thalwitz and M. Weiner of the World Bank.

United States corporations by themselves are probably spending a hundred times as much on finding knowledge aimed at improving their competitive position and profitability as is being spent on research aimed at improving the position and prospects of the poorest third of humanity. We rightly value the contribution to world income made by the United States corporations and we strongly support the wisdom and value of their commitment to research. But what is this imbalance of research effort doing to the distribution of world income? Perhaps here is part of the key to understanding how the rich can get richer while at least some of the poor get poorer in an absolute as well as a relative sense.

The case for as rapid a build up of development oriented research as can be managed, with due care for quality and long run research productivity, seems clear; but what is the Bank's responsibility in this endeavor? As the leading international institution explicitly established to promote development, should not we seek a leading position in promoting development research? And if we are serious about promoting research aimed at improving our operations and in overcoming development problems, should we be spending less per year on research, inside and outside the Bank, than would be earned by a one-tenth of one percent interest charge on our outstanding loans? It takes more than money to build a renowned research center. Nevertheless, it is of interest to recognize that, as far as money is concerned, the approximately ten million dollars per year that will soon be yielded by a one-tenth of one percent interest charge on our outstanding loans would be enough to finance creation and maintenance of the world's leading development research center as well as to provide significant support to research outside the Bank.

Quite apart from the importance of research for improving the Bank's present operations, relevant knowledge may in and of itself be a very potent tool for achieving development. This point, which has been made by many including Kuznets, suggests an additional major reason why the Bank should undertake and strongly support suitable research. Research output might then take its place as a major tool by which the Bank promotes development, alongside loans, technical advice, and other activities.

# II. THE BANK SHOULD BOTH DO AND PROMOTE RESEARCH

Conceivably the Bank might concentrate on supporting research of outside scientists to the near exclusion of research within the Bank. Would this be desirable? I think not, since without a serious and competent broad research effort of its own, the Bank will not know what research needs to be done and might be feasible to do. Neither will the Bank know or be well equipped to learn who could do needed research or even to judge whether research work done for it is worthy of serious attention. Furthermore, unless the Bank does base its actions and recommendations on adequate research of its own, it may not continue to receive the respect and full cooperation of those nations we wish to assist and whose self-help is essential.

The Bank also should encourage and support relevant research in universities and in research institutes. It should do this in order to speed up acquisition of needed knowledge and in order to assist in ensuring that the generation of researchers which is now being trained will be brought into contact with significant research problems in economic development. Also supporting outside research will bring Bank researchers into closer contact with outside researchers and greatly facilitate Bank staffing while promoting a healthy two-way flow of researchers between the Bank and other research centers.

A growing part of outside research assisted by the Bank should be in less developed countries. This would serve to bring development research into closer contact with real development problems, to develop a suitable apparatus for obtaining data needed for development research, to develop additional lines of communication between the Bank and member countries, and to assist member countries develop their own research and problem solving capabilities.

As argued above, support of outside research is much to be desired.

Nevertheless, it seems clear that it should not be an either-or question.

We should support research both outside and inside the bank; each would benefit the other. Without a substantial research effort within the Bank, it is difficult to believe that the Bank could do much for development research outside of the Bank.

# III. ORGANIZATION OF BANK RESEARCH

The Bank has attracted and retained the services of many able men but it has been rather unsuccessful in attracting recognized researchers into research positions or in keeping them in research positions if hired. Why is this and how can the present situation be altered?

Role of Researchers

A difficult matter which deserves consideration if the Bank is to be made attractive to recognized scholars, is the pecking order which one finds within the Bank. By actual count there are six administrative or policy making levels above the level at which most research is done. Some relief to the affect on research of this administrative structure has been achieved by good administrators and by judicious use of such titles as adviser or senior adviser, but something more is needed. Taking account of time-consuming and onerous clearance procedures and communication practices and restrictions could only reinforce this conclusion.

In my view, the majority of researchers should be in one or more research departments rather than scattered throughout the Area, Project, and Economic Departments. (Some rotation into and out of research departments from other departments could, of course, be very helpful in maintaining desirable contacts.) In addition, fewer levels are needed; research administrators and researchers should not, as a general rule, simultaneously have non-research policy or operating responsibilities; and all research administrators should devote at least part of their working time to their own research and publishing.

Because of their research value, the most effective researchers are much in demand both by corporations and by universities. In addition to a competitive salary, the Bank must offer such men considerable scope in helping

to select research directions and in mapping research strategy. And of course, it is essential that the men selected to lead research efforts be backed up with adequate resources and tools accompanied by a clear recognition of the importance of flexibility in the conduct and support of effective research.

Variations in the make up of different senior researchers as well as differences in the problems they work on will result in wide variations in their needs for assistants and associates. Precisely because the research value of some individuals working almost by themselves is very high, it is important that salary, prestige, and influence should not be linked in any simple minded way to the numerical size of a research team directed by a senior researcher. In fact, it should be possible for some distinguished and well paid individuals to work almost entirely on their own if that is the way in which they can make their most effective contribution.

## Direct Coupling of Research to Policy Makers is Unwise

Part of the problem of achieving relevant and successful research in the development area is that of putting researchers in a setting in which they are continually aware of real development problems. The Bank should be an excellent environment for this purpose. But in addition to keeping researchers aware of real problems, it is also necessary to give them time and scope to exercise their imagination in inventing hypotheses along with essential time and resources for effectively testing them. It is necessary to recognize that research is somewhat like prospecting for oil. The overall prospect of gain is high but the risk of failure in individual ventures also is very high. In addition, the payoff period is likely to be long. All of these features inevitably make the relationship rather difficult between researchers and policy makers faced with immediate needs. Attempts at direct coupling almost always fail and less direct means of interaction are essential. Researchers should be in close contact with policy makers and operators they are trying to serve, but in my opinion, they should be in separate departments.

#### Research Teams and Senior Researchers

Research should be conducted within task-oriented research teams, as has been the case for both the Supplementary Finance and Commodity Studies.

Each such team should be headed by a senior researcher who is actively engaged in the research he directs. Each research team should have a clearly defined research objective and a great deal of autonomy in seeking to fulfill its mission. If, as suggested, research teams are task-oriented, it is to be expected that they will be organized and dispersed as new research tasks arise and as old ones are completed. New research teams will be organized around the senior researchers to work on new research tasks as they are conceived and authorized.

It should be possible for two or three senior researchers to work together on the same research team when there seems to be either a need or a common desire to do so. Otherwise, research tasks should be so structured that each research team contains but one senior researcher along with one or more less experienced researchers. Within five or six years from appointment, new researchers either should demonstrate their research competence and become senior researchers or should move into other activities.

# Research Departments

Insofar as size permits, research teams having somewhat similar or closely related customers for their research products should be grouped together into separate research departments. This will help keep research focused in desired directions. It also will facilitate keeping broad problems relating to allocation of research resources at a top management level, where they belong, while permitting great freedom to departments in use of resources which are allocated to them.

There is no completely firm rule about exactly how large individual research departments should be, but a variety of considerations suggest that the optimal size for a research department would be one containing between fifteen and forty researchers grouped into between five and fifteen research teams. Among other things, smaller departments would be too small to operate a good research seminar or colloquium and larger groups would be too large for the director and senior researchers of a department to properly interact with junior researchers on both an intellectual and a social level.

Taking into account the above and the present position of research within the Bank, my belief is that we should move as rapidly as possible to concentrate research within three research departments. As will be seen from the organization of research topics in Section VI, each of the three research departments, towards which we should be moving, would concentrate its attention in one of the following broad research areas.

- 1. Behavior and needs of decision-making units.
- 2. Operational problems of the Bank.
- 3. Influence of economic policies on development.

#### Seminars

Each research department should operate a regularly scheduled seminar. In addition to providing for a useful degree of interaction, each such seminar could facilitate quality control, productivity control, and research guidance in an acceptable, pleasant, and stimulating way. Each seminar would provide a natural setting for presentation and discussion of research plans and results of the various teams within a department. Also, each seminar would provide an excellent forum for selected researchers from outside of the Bank.

# Dissemination of Results

Appropriate dissemination of research results is of great importance, not only because the payoff is in their use. Publication of results can also encourage the maintenance of a high quality research operation. The resulting feedback from other researchers is necessary to avoid gross duplication; it is necessary to learn about contributions of others that should be taken into account, and it is necessary to uncover errors and correct biases. Feedback from outsiders of recognized standing also provides one reasonable basis on which the top management of the Bank can evaluate the research for which they allocate resources.

Appropriate dissemination of research results also is important for personnel reasons. The best scientists are frequently research and problem oriented rather than institution oriented. A great part of their satisfaction comes from having their work recognized and in seeing it put to good use. In addition, scientists think of the scientific process as a cumulative building process. Each one wishes to contribute to, or be responsible for,

adding one or more blocks of knowledge to the growing structure. But how can anyone obtain this satisfaction if his work is not published in a form available for use by others? It should also be recognized that a good researcher, like a skilled craftsman, will take pride in his work and will wish his name to be associated with it. The upshot of these considerations is that if the Bank is to attract and keep researchers of the highest caliber, it must provide them with an ample opportunity to publish the fruits of their research.

As pointed out in this section, the case for encouraging publication is a strong one. In line with this there are sound reasons for the Bank to sponsor a variety of publications. Nevertheless, researchers usually should be encouraged to try for outside publication in widely read professional journals. These provide for some review by outside scholars. They also seem better designed to keep our researchers in and hopefully leading the main stream of development research.

The nature and role of internal review and evaluation of research products is important and should be given due consideration. Nevertheless, it is important to point out here that review and evaluation, essential as they certainly are, should not be executed in such a manner as to impede and discourage research or to impose a sequence of road blocks and delays standing between the researcher and publication of his results. The mere fact that a researcher's superiors do not think something worth publishing should not by itself prevent him from trying to get it published, if he wishes to try. Nor should the Bank take the stance that it stands behind or somehow endorses publications of members of its research staff.

Researchers should be expected to appreciate that some information must be treated as strictly confidential. They also should be expected to see that some things cannot be published while certain decisions are pending. However, the best protection of the overall interests of the Bank will certainly be better served by depending essentially on the taste and good judgment of its senior researchers rather than on elaborate and cumbersome review procedures which are themselves capable of doing great damage to the effective promotion of development research.

## Staffing

Appropriate staffing of a research staff is both difficult and critical, and current hiring practices of the Bank in this area should be carefully

reviewed. In my opinion, it is absolutely essential that the primary responsibility, for appropriate selection of researchers and for selling the Bank to those selected, must be undertaken by the Bank's research staff. No other group within the Bank has the knowledge and motivation to take the leadership in these matters. Research administrators must do a creditable job of living within their budgets, but their success should not be severely jeopardized by putting the single most important tool of research administration in the hands of non-researchers.

At present, most of the scholars that the Bank needs for senior researchers are wedded to academic jobs and an academic environment. This combined with the fact that the Bank is not generally regarded in many leading universities as providing a highly attractive research environment does pose severe staffing problems. Successful staffing probably requires that we do as the Brookings Institution did and develop a variety of ties to a selected set of leading universities along with a rich assortment of ways in which faculty members of universities can be involved in and employed on Bank research.

# Salary of Senior Researchers

Salary and fringe benefits are significant factors which undoubtedly bear study. My impression is that the Bank is not especially competitive in these matters as far as senior research positions are concerned. Not only have academic salaries moved up substantially relative to Bank salaries but salaries of the most desirable researchers have moved up more than academic salaries in general. Unless the Bank is prepared to outbid the leading universities at the level of salaries they offer the top one-third of their professors, it simply is not prepared seriously to compete for senior researchers of demonstrated ability. In any review of the Bank's competitive position it is essential that the Bank's limitations on outside earnings be taken into consideration, as well as the apparent unattractiveness of the Bank's retirement provisions for those who cannot or do not wish to spend long periods in the Bank. In addition, the obvious fact that university salaries are usually on either a nine or eight-month basis, should not be overlooked.

## Computation Facilities

The computer being acquired has not been widely used by researchers and does not begin to compare in power with those in current use in universities, business, and government. Although this new computer will be useful for research and it should be used in developing a computerized data library of existing standard data, its main contribution will be to administration rather than to research. Under the circumstances, the Bank should continue to make extensive use of outside service centers. In addition, the Bank should acquire a remote terminal suitable for connecting by telephone line to one or more of the time sharing, computing utility systems being developed.

## Employment of Non-Economists

Should development research sponsored by the Bank be organized and carried out exclusively by economists or should the Bank seek research contributions from non-economists; say anthropologists, historians, social psychologists, sociologists, political scientists, lawyers, engineers, or statisticians, not to mention biological, medical, and physical scientists? Could non-economists make a significant research contribution to development problems which do or should concern the Bank? If so, could the Bank successfully attract and employ non-economists to do research?

For an economist to even pose the above questions must appear, to other social scientists, to border on the absurd. In fact, very few economists would wish to suggest that only they are competent or suitably trained to research an area which certainly seems to involve many aspects of man and his environment rarely treated by economists. Of course non-economists could, and in fact do, make research contributions which are relevant to development and of course they should be involved in Bank Research.

### Development of a Research Network

Both the attractiveness and effectiveness of Bank research could be enhanced by the development of close working arrangements with a carefully selected set of ten to twenty research centers scattered around the world. Such arrangements should include provisions for a regular exchange of publications and working papers, exchange of staff, and liaison on data collection and major research projects.

Development of an effective research network would serve to improve research done by the cooperating research centers: by raising the aspiration level of all, by improving the possibilities of relevant data collection, by providing the needed cross-fertilization with respect to problem recognition, by facilitating the diffusion of knowledge about research methods, and by facilitating the dissemination and application of research results. A side advantage to the Bank of an effective network of research centers would be that it would provide the Bank with a good opportunity of supplying support of outside research on a long run institutional basis rather than on a project basis.

# IV. INDUCTIVE RESEARCH ALSO IS ESSENTIAL

The Bank is currently engaged in research on various subjects, much of it is descriptive and applied, a significant part of it is analytical-theoretical in nature, and some of it involves model building. However, with the exception of a few studies, none of it is inductive in more than a superficial sense. The principal areas of research might be summarized as follows: 1/

- (a) Exploration in the use of quantitative models in the analysis of development strategy and problems, focused on national economies, problems of sectors, and international commodity markets.
- (b) Problems of resource allocation, in part dealing with improvement in policies and in part with methodological issues. The Economics Department has been conducting various studies on the economies of protection and the problems of industrialization. It is also engaged in methodological explorations on the measurement of returns on investment in projects and sectors and the methods of applying these methodologies in development planning and the appraisal of individual projects.
- (c) Research into the patterns of development finance, the terms of lending, and the impact of alternative terms of development finance on the cost of foreign aid to donor countries, the flows of net capital to developing countries, and on their debt servicing burdens and development policies.

The reader is referred to Status of Studies, a quarterly publication, of the Economics Department, for a listing and brief description of research studies which have been completed, ones that are in progress, or ones that are planned.

(d) Mobilization of financial resources for development, analysis of the impact of alternative fiscal and financial policies on resource allocation and utilization, in particular in agriculture.

Although the Bank has come to recognize that applied research and even analytical-theoretical research, such as is involved in work by Bela Balassa and by Alan Walters, are important, it has yet to support inductive research, along with associated tool building activities, in a major way. As will be pointed out in what follows, this is a strategic error which should be rectified as rapidly as possible.

The distinction between inductive research and applied research may be summed up in a single sentence: Inductive research is trying to learn in a systematic way from experience; applied research is trying to apply in a systematic way what has been learned. Mathematics, statistics, and computers may be tools in both inductive and applied research since both types often seek to use models and involve an interest in measurement. Both types have prediction as a goal and both may be concerned with the same variables. Both types may be of great practical usefulness in policy evaluation. The fundamental difference has to do with research objectives and with starting points. Inductive research seeks to discover and evaluate predictive relationships. Its focus is on inventing and testing hypotheses. The results of inductive research are the base upon which applied research must build. Applied research seeks fruitful application of tested theories. In the absence of an appropriate knowledge base, applied research is at a great handicap. Inductive centered research is frequently called basic research precisely because it furnished the base on which applied research builds.

The driving goal of inductive research is new knowledge and understanding of man and his environment. The primary problem of inductive research is how to learn from experience whether it is generated by planned experiments or whether it occurs naturally.

The driving goal of applied research is policy guidance. The primary problem of applied research is how to use existing knowledge about man and his environment to predict the consequences of alternative courses of action.

Available predictive relations are used as building blocks in constructing models which are used in prediction, in evaluation of alternative policies, and in seeking optimal strategies.

The proper relation of inductive and applied research is thus seen to be a symbiotic one. Each is essential to the well-being and ultimate usefulness of the other.

In economics, applied research is directed towards solution of policy and operating problems by application of general economic theories, such as the Keynesian, Leontief, or neo-classical theories, or by application of more specialized theories or individual relations. The focus of applied research is on using such building blocks or relations to make specific predictions, develop cost-benefit comparisons, or to carry out other kinds of analysis. In some cases, this work involves measurement and parameter estimation but it does not involve a systematic attempt to evaluate and test the underlying theory. The basic tools used are those of the applied mathematician such as linear programming, cost benefit analysis, queuing theory, and probability theory. Inductive economic research, on the other hand, seeks to learn which variables are important in determining behavior and what is their causal role. It seeks to learn why things happen as they do. The focus of inductive research in economics is likely to be on the discovery of the variables that should enter into and the form that should be used for suitable building blocks such as saving functions, consumption functions, supply functions, cost functions, and production functions. The tools used in inductive research include experiments, experimental design, cross section surveys, panel surveys, historical research, and econometric methods.

Diagram 1 presents a schematic overview of the wide range of research activities which are needed in order to achieve the wisdom needed by policy makers. The research activities of the top part down through model building and testing are inductively oriented. The research activities of the bottom part, starting with model building and solution, are frequently of an operational research nature and applied in character.

Diagram 1: ECONOMIC RESEARCH

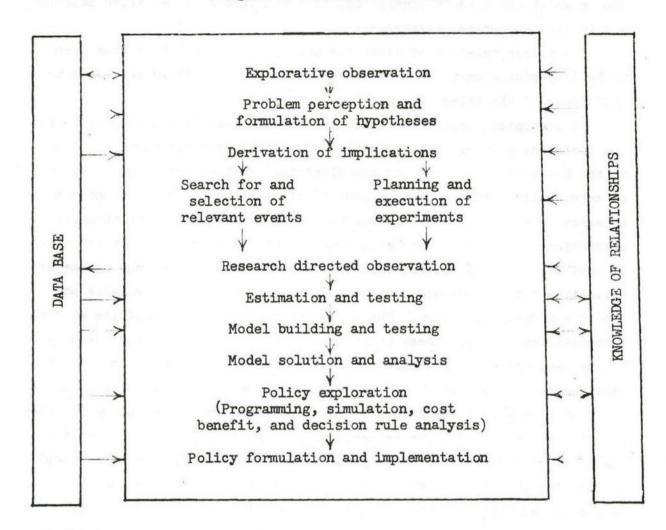


Diagram 1 and the foregoing discussion do not serve to focus attention on the role of analytical-theoretical research. It is hoped, however, that the reader will perceive that analytical-theoretical research is of importance to both inductive and applied research. The importance of this kind of research to inductive research arises in formulating hypotheses and in working out their implications. The importance to applied research lies in formulating and solving system wide models.

It is neither necessary nor feasible for the Bank to support all kinds of development research at all levels. However, by vigorously supporting in depth inductively oriented research relating to the upper levels of Diagram 1 as well as by very vigorously pursuing model building, testing, and application activities relating to areas of greatest immediate policy concern, the Bank could greatly enhance its long run contribution to economic development. It could do this both by accelerating the general acquisition of needed knowledge about behavioral and environmental responses and by putting itself in a position to take fuller advantage of new and existing knowledge which is acquired inside or outside the Bank.

The Bank has the financial resources to set new standards for inductive as well as for other types of research on how to improve the present condition and prospects of the world's poor. The Bank is almost ideally located to support and carry out inductive research. Almost the only possible reason, of a satisfactory nature, for the Bank not to support inductive research would be that we know so much about how to achieve development that it would be a misuse of resources to spend more on learning how to do the job. Unfortunately the march of events and a long history of unsuccessful efforts could hardly lead to the view that we do not need an improved understanding of the determinants of behavioral and environmental change and of the role that might be played by policy in bringing about desirable changes. Clearly we do not have a common understanding of what is going wrong, nor do we have clear views about how to secure an attractive long run prospect for man. In view of the problems facing mankind, and the state of our knowledge, it would be unrealistic to hope that even a very vigorous program of inductive and other types of research by the Bank would enable us to avoid all major mistakes in the development area. But at least the pursuance of a vigorous and well balanced research program would enable policy makers both inside and outside the Bank to play a much more useful role in promoting development than would otherwise be the case.

The Bank's choice of projects to support should and does rest in part upon a comparison of expected consequences. But how much is known about the consequences of various kinds of education for various groups of people? For that matter, how much is known about the social and economic consequences of road building efforts in various types of geographical and social settings? The Bank has invested in many such projects. In each case, it has made a pre-project study and evaluation. In how many cases has it sought to learn the social and economic consequences? And in those cases in which a follow-up attempt was made, how much was learned? To the best of my knowledge the Bank has yet to conduct a project in such a way as to facilitate successful post-project evaluation. To do so successfully will certainly involve highly sophisticated inductive research.

The Bank gives advice to those who borrow from it on many matters of general governmental policy. In some cases it withholds support unless its advice is followed. How sound is the advice given and on how firm a base of knowledge about development and its determinants does this advice rest? For example, do Bank economists really know the determinants of variables we are trying to influence, such as saving, investment, productivity, exports, and world income and its distribution between nations and households?

The truth of the matter, as probably nearly any social scientist will attest, is that not enough is known about how more effectively to promote development. Even in well established areas of concern and speculation, such as international trade theory, the determinants of saving, or the role of physical capital, we have only begun to obtain any reasonably well tested hypotheses. In such basic areas as the influence of price incentives, economists frequently disagree even about the direction of affect. Inductive research along with analytical-theoretical research is clearly called for.

The Bank needs additional knowledge to more intelligently guide its own activities. The Bank needs additional knowledge about the effects of governmental actions to be more useful in advising others. Above all else,

the Bank needs the vision and understanding to see that wisdom of action is as essential to development as physical or monetary resources and that achievement of wisdom requires research: inductive, analytical-theoretical, and applied.

# V. DATA: THE KEY ROAD BLOCK

Hypothesis testing is an essential part of inductive research but it also is the facet of such research which has given economists and other social scientists the most trouble. Hypothesis testing involves comparison of implications of a hypothesis, taken singly or jointly with other hypotheses, with appropriate observations. Thus, relevant data are essential for inductive research.

The critical importance of suitable data for testing hypotheses has long been recognized in most sciences; in fact, probably well over ninety percent of total research expenditures in many, if not most sciences, are for data collection. Telescopes, electron microscopes, space probes, and the various accelerators used by high energy physicists are just a few of the better known and more spectacular data collection tools of the physical scientist. At present, even a single data collection tool, such as an accelerator which facilitates data collection on a very specialized subject, may cost several hundred million dollars to build and well over fifty million dollars a year to operate.

While perhaps intellectually recognizing the need for data suitable for hypotheses testing, the economic profession has, in fact, devoted but a very small percentage of its total effort to specifying and obtaining data suitable for hypotheses testing. Perhaps the data collection problems that should have been faced were too large to have been dealt with by individual professors or by the relatively small research organizations which have characterized economic research. Perhaps the possibility and apparent ease of self-observation lulled economists into a false sense of confidence about the inductive foundations of our science. Perhaps the availability of enormous

quantities of data produced by government permitted the hope that collection of relevant data could be treated as someone else's responsibility.

Whatever the explanation of the lack of attention devoted by economists to obtaining data suitable for extensive testing of promising hypotheses, the fact remains that economists have not been very successful in testing critical hypotheses. Theories come and go but rarely on the basis of solid evidence.

In my opinion, the data available for hypothesis testing even in the rich countries are grossly inadequate for purposes of putting economic theory on a satisfactory empirical base. The total quantity may be impressive, even the accuracy of many measurements may be fully adequate; it is the relevance for purposes of hypothesis testing which is being questioned. If I am right about the data situation for the rich countries, what about the data base that Bank economists try and get by on when it comes to many of our less affluent members?

Suitable data, whether derived from planned experimentation or from observation of actions and reactions that occur naturally, are essential to worthwhile inductive research in the development area. To obtain suitable data it is essential that researchers interested in testing hypotheses also make it their business to specify what data are needed and to take an active role in securing them. In other words, securing of essential data should be regarded as an intrinsic part of inductive research just as it has typically been in other sciences.

National accounts data generated by government, country data brought back by missions, data collected in the course of pre-project evaluation: all of these are potentially useful to the researcher and could probably be exploited much more fully than has yet been done. Nevertheless, if inductive research promoted by the Bank is to be highly productive, the acquisition of essential data must be treated as a high priority matter with respect to the use of both intellectual and financial resources. Researchers will have to spend substantial amounts of time in the field; cooperative data collection efforts will need to be worked out with research institutes located within member countries; the use of cross-sectional and panel surveys will be highly desirable. Historical research making use of basic data sources needs to be intensified. If, as I strongly believe, well

designed field experiments are feasible, there will be strong scientific justification for trying to forge ahead by use of this approach to securing valuable data.

The five addenda to this paper were substantially finished before I joined the Bank staff and so were not written with the audience for this paper in mind. They obviously don't contain the last word on what is wrong with existing data collection strategy and practice or on what should be done about improving current practices. For example, I certainly am not suggesting that negative income tax experimentation is needed in member countries outside of the United States. Nevertheless, I believe that the first three of these papers are relevant to thinking about present and possible data collection strategy and that they can provide both motivation and some guidance in improving present data collection efforts of the Bank. They all point in the direction of greatly increasing the emphasis on obtaining sample time series data from and on microcomponents and groups of microcomponents below the sector level.

# VI. RESEARCH STRUCTURING AND TOPICS

How research functions are divided between research departments will determine how much freedom can be given to departments, and to teams and individuals within departments, for the allocation and use of research resources. This is important because decentralization of decision making has much to commend it. In the first place, much of the knowledge that should be brought to bear is in the heads of individual researchers. Decentralization also has obvious advantages in developing a research atmosphere which will be attractive to first-rate researchers and which will help motivate them to focus their attention on turning out a significant product. In addition, avoidance of the heavy costs of excessive and sometimes misplaced supervision and regulation could be an added advantage of decentralization and the fostering of independence in research.

Insofar as research functions are assigned to research departments in such a way that each department has a reasonably homogeneous group of potential customers to serve, who would be pleased with a reasonably well defined and

complementary set of products, then each research department can and should be developed to use a great deal of freedom in allocating and using resources made available to it. Top management can then exercise one of its proper functions by allocating resources to major functions by setting the overall budgets of departments. Departments can then be left relatively free to maximize the benefit obtained from assigned resources.

When a research department is expected to meet seriously conflicting demands of different sets of customers, then it will find it necessary to decide which functions and customers to favor and which to neglect. Since by the very nature of the situation it will be impossible in the foreseeable future to fully meet the needs of any set of research customers, the probable result will be that some important functions will never receive more than superficial attention from the research leadership within the department. Unfortunately no matter how much resources are allocated to the department, it still will find it very difficult to allocate resources to non-complementary functions in any reasonable way.

My view is that considering the present position, overall needs and the potential role of the Bank, three research departments are needed. All three would carry out analytical-theoretical work as they deemed desirable, all three would develop and use models as seemed appropriate, all three would use simulation techniques and computer tools as needed. Nevertheless, the role, activities, and ultimate complexion of the three departments would differ in important respects.

One of the three departments would focus on inductive problems regarded as of central importance in developing a deep understanding of the basic elements of development. This department might be called the Inductive Research Department or perhaps the Basic Research Department. At present, the Bank does not have any group concentrating on inductive research although scattered individuals are doing this type of research on a part-time basis.

A second of the three research departments would focus on operational problems of the Bank and of policy makers in Member Countries faced either with making specific and detailed investment decisions or with operating specific enterprises. The operational research focus of this group would thus most

nearly match the focus of the research which is now done within the Projects Department and within the Sector and Project Group of the Economics Department. This department might be called the Operational Research Department.

The third of the three research departments would focus on macro-economic policy matters. Thus like the Operational Research Department this department also would be applied in the sense of seeking to produce a research output of direct interest to policy makers. However in this case the policy makers to be served would be those charged with developing and administering national and international policies for use of monetary, fiscal, exchange rate, tariff, price, and wage control tools. This department might be called the Economic Policy Research Department. The present Applied Quantitative Research Division of the Economics Department might well be included in this new research department.

With the suggested three way division of research effort, each research department would face a different and workably homogeneous set of potential users of their output. Decisions about overall research support and about allocation of the Bank's research budget, as between major research functions, could then be made at a top management level. Each department, having been given a fairly well defined and homogeneous function, could then be encouraged to develop the appropriate internal machinery for arriving at a sensible research strategy and for optimally allocating resources made available to it.

Research Topics for the Inductive Research Department

The promotion of development calls for extensive inductive research on natural resources and environment, on physical and biological processes, and on the functioning and behavioral responses of individuals, families, firms and other small and large groups of individuals. However, perhaps not all of this research needs to be the specific concern of those concerned with promoting development. Some of it, like high energy physics for example, may be of great importance to mankind in the long run but is so far removed from application and deals with phenomena which are so universal in nature that it makes little difference where or by whom such research is done, so long as it is done. Given the existing total allocation of resources to such research, it would be hard to make a case for using any resources available for development for such research.

Other research is of more immediate relevancy to development but may be so far removed from the Bank's area of activity and competence that it should be done and developed by others. Research on the biological aspects of human reproduction as well as much agricultural research work might fall in this category. In these areas the Bank might well wish to keep informed of significant developments flowing from such research. The Bank might even find it desirable to promote and finance such research. However, it seems unlikely that the Bank would find it advantageous to actually carry out such research itself except, perhaps, in cases where such research could be usefully carried out as a by-product of the Bank's project work.

In view of the present totally inadequate level of behavioral research in the development area, and in view of the dependence of the Bank's more applied research on the output of behavioral research, it seems clear that behavioral research is the general area in which the Bank should seek to make its major inductive research contribution.

Our views as to how economic and social systems function and how they will respond to policy measures rest, in the last analysis, on our understanding of how microunits, such as individuals, families, and firms behave. What are the determinants of births, health, mortality, educational choices, and career choices? What are the determinants of consumption, saving, and investment behavior of decision making units? What are the determinants of location of entrance into the labor force, of job seeking behavior, and of work effort when employed? What causal factors affect the choice of crops, of acreage planted, of production methods, of choice of products, choice of output, choice of markets, and so on.

Could development be promoted by altering the nature, mix, and application of incentives and disincentives within developing countries. What affect do price and certainty of demand have on the production and sale of agricultural and manufactured products? What affect do relative price changes of inputs have on their use and origin? What affect do safety and return on savings have on the amount saved? What affect do welfare provisions have on labor force participation and job mobility? What affect do

tax laws have on saving, investment, and composition of economic activity?
What affect does the availability of guidance and technical help have on productivity and output? What are the possibilities for improving productivity by a better use of available incentives? What methods and tools could be used in bringing about changes in the use of incentives and disincentives?
How could they be used, what would be the implications of using them and how desirable is their use? Are there attractive efforts in this area that the Bank should finance?

The answers to the above kinds of questions relating to the behavior of micro-units clearly underlie, or should underlie, our views about how economies function. If we want to obtain a more serviceable understanding of how available policy tools may be used more effectively to promote economic development, we need to deepen our understanding of how the key behavioral elements of economic systems actually behave.

What do individuals in various countries and in various economic conditions need and want? What are their goals and objectives? What kind of preference function do they have? What kinds of adjustments and efforts will they make for various objectives?

What human resources do individuals in various countries and in various economic conditions have? What skills are present that could be utilized more appropriately? What kinds of human organization are already present and what are their capabilities? What kinds of productive units would be viable?

Research on behavior of decision making units and on human needs and resources clearly requires the active participation of several kinds of scientists and specialists? Thus sociologists, social psychologists and anthropologists, as well as economists, and economic historians would have much to offer. In addition, effective research on the above questions will require a fresh look at existing data resources and data collection tools. In my opinion, the outcome of such reexamination of data needs and data collection tools will be to point up the need for data generated by ongoing, panel, sample surveys in each region of major interest. In addition, the

possibility of using experimental techniques by themselves and in combination with panel surveys needs to be explored and utilized where possible.

In the above connection, particular attention is drawn to the third paper in the Addendum, "Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes." The idea of serious use of well-designed experimentation in development research is certainly not new, since it has been used with great success in studying production functions at the micro-level in agriculture. It also is true that individuals, such as George E. P. Box, and Walter Salant, have been urging a wider use of systematic experimentation in resolving issues facing policy makers in less developed countries. Salant, for example, has urged use of experiments as a suitable technique for locating causes of the sluggish performance of agriculture in many underdeveloped countries. Perhaps, now that serious field experimentation on behavioral responses to negative income taxes is going forward in this country, it will be possible to move forward on a wider application of this important tool of inductive research in less developed countries.

The need for, advantages of, and methods of a microanalytic research strategy are developed in the Addendum. Suffice it to point out here that, not only do we need research on decision making units in order to model economic systems more successfully, and to supplement the work of economic historians, we also need research on microunits, such as individuals, and families, so that we may more adequately understand the needs, hopes, and dreams of those we hope to benefit.

## Research Topics for the Operational Research Department

A substantial part of the Bank's operations and research center around project selection and evaluation. How successful has the Bank been in selecting highly productive uses for its funds? How do actually achieved yields compare with predicted yields. Have the broader consequences of Bank financed projects been highly favorable to development? Have Bank developed methods of project selection and evaluation been found generally useful by industry and governments in the less developed nations? Has the Bank fully availed itself of the methods and tools used by highly successful firms in their investment planning?

The pre-project evaluation work of the Bank has received and should continue to receive much attention and resources. The varied and extensive current activities of the Bank in the transportation area, for example, bode extremely well for the future role of the Bank in evaluating and making loans. Much of this work, such as that performed for the Bank by Professor Alan Walters and by the Harvard Transportation Group under the leadership of Professor John Meyers, is clearly breaking new ground and may help give the Bank a great deal to offer member countries at least in the area of transportation planning and evaluation. Unfortunately, the problem of post-project evaluation has hardly been seriously tackled. This is an area of critical importance and one which the Operational Research Department, and perhaps the Inductive Research Department, should seriously consider. Clearly any significant post-project evaluation is a difficult business which will require much planning even before projects to be evaluated are carried out.

What is the value for development purposes of various types of physical and human capital? To what extent could development be promoted by altering the present level and composition of investment in physical and human capital? What gains might be achieved by improving replacement investment in physical and human capital? Are significant gains through economies of scale potentially available? Are there significant possibilities for improving the productivity of existing capital? What methods and tools are available for use in bringing about changes in the level and composition of investment in physical and human capital? How could they be used, what would be the consequences, and how desirable would be their use? What should be the nature of the Bank's activities in these areas?

The uneven geographical distribution of modern technology, the apparent difference in capacities to generate innovations, and the obstacles to and consequences of international transfers of technology have not yet been adequately explained. What is the significance for development of various kinds of research, research training, and research tools? Is is possible that the financing and location of research is a potent factor affecting the distribution, as well as the level, of world income? To what extent could development be promoted by altering either the level, the institutional setting, or the nature of activities devoted to knowledge acquisition, diffusion, and transmission? What methods and tools could be used in bringing about changes in these activities? How could they be used and what would be the likely consequences of their use? Could development be promoted by development of improved research tools for measurement, hypothesis testing, estimation, and model formulation and use? Are there efforts relating to knowledge acquisition, diffusion, and transmission which the Bank should finance? What should be the nature of the Bank's activities in these areas?

Rapid population growth in some areas has become a matter of widespread concern. What are the implications of rapid population control? What costs and benefits could be expected to flow from alternative methods and proposals for limiting population growth? Are there useful measures that the Bank should take in this area?

In addition to needing research on problems relating to the evaluation, granting, and disbursement of loans, the Bank also needs research having to do with operational problems such as management of the Bank's liquidity position, its future needs for funds, and the timing and placement of its loans. The current development of the IBRD CASH FLOW MODEL is a research effort aimed at providing a management tool for use in these areas.

The success of projects depends on how well they are managed as well as upon how well they are selected and financed. How far the Bank should become involved in research on management problems having to do with such things as pricing, marketing, purchasing, production scheduling, and so on is a moot point. Nevertheless, it seems clear that the Bank, even considering only its narrow interests as an investor, must take some interest in such matters. The Operational Research Department should, at least do enough

research in these areas to enable it to pinpoint major areas of managerial difficulties and breakdown, so that the Bank's top management can be informed of serious difficulties at this level. Perhaps the Operational Research Department should go much further and seek the answer to specific operating problems, such as how should a less developed country go about establishing its credit and qualifying for access to the private capital market or how should private and governmental enterprises within less developed countries achieve suitable pricing and marketing of their products?

The above listing of research topics does not, of course, begin to exhaust the range of operationally significant research problems which deserve to be considered. Many old problems such as determining the cost of tied loans, evaluating the merits of a program versus a project basis for loans, considering the debt-service ratio as a measure of borrowing capacity, measuring the capacity to absorb capital and innumerable other problems are still far from solved and could well be suitable for inclusion in a vigorous program of operational research. To be effective, however, an Operational Research Department must be selective and at any given time it must avoid trying to mount more than a handful of major research efforts. In general, unless a research area is considered to be worth several man years of effort, it probably should be left to others.

## Research Topics for the Economic Policy Research Department

In addition to monetary, fiscal, and exchange rate measures, nations also use a wide variety of policies in seeking full employment, rapid growth, price level stability, and a satisfactory balance of payments. What are the implications and possibilities of alternative policies in seeking such objectives? During the last decade, development policies of the less developed countries have emphasized import substitution. How would alternative policies affect world income — its growth and its distribution between nations and individuals? Wht should be the role, advisory or otherwise, of the Bank with regard to economic policies of member countries?

What are the limits and limitations of developmental finance as an instrument for promoting development? To what extent should emphasis during

the seventies be on trade? On grants? On equity investment? On loans? How important is it to increase the fraction of aid given on a multilateral basis? Is instability of foreign exchange earnings a serious impediment to development? If so, what steps could and should be taken to reduce such instabilities? What benefits and costs would be associated with the major schemes put forth for stabilizing commodity prices and foreign exchange earnings? To what extent could world income and its distribution be favorably affected by efforts to influence the level, stability, direction, form, and terms of trade, capital flows, and aid.

In recent years, balance of payments problems of member countries have had a major impact on Bank financing as well as on the international trade and finance policies of member countries. What are the implications for development of existing arranagements for handling balance of payments problems? Is concern for balance of payment problems a significant factor promoting protectionism and decreased bilateral and multilateral aid and finance? What would be the consequences for development of the various major proposals for altering the present arrangements for dealing with balance of payment problems?

The effect on the balance of payments of national policies in the monetary, fiscal, price level, foreign trade and foreign finance areas, and the constraints placed upon the exercise of these policies in representative social contexts, have been widely discussed in the Bank and in the International Monetary Fund, but firm knowledge is still scarce. Such knowledge is especially urgent on the following points. What does industrialization as a strategy for economic development contribute to allocative efficiency and to flexibility of the adjustment process? How do alternative international commodity stabilization schemes affect the size, allocation, and stability of international resource flows? What are the determinants of the direction, size, and composition of long-term capital flows, and what are their implications for relative rates of economic growth?

The foreign exchange position of a country, like the cash position of a firm, often takes a dominating importance that dictates short-term adjustments which distort or delay more basic programs. Balance of payments problems may, for large countries as well as for small, disrupt their aid,

development, monetary and fiscal policies for years at a time. Since balance of payments difficulties arise from trade and capital movements between countries, and adjustments may trigger counter adjustments, the problem is not amenable to piecemeal solution but requires a general systems approach in an interacting set of national units. The achievement of balance of payments adjustments between them needs furthermore to take account of rigidities associated with national pride and the autonomy of monetary authorities. Since the problem has many important implications for economic development, an exploratory study of this area, hopefully in cooperation with the International Monetary Fund has much to recommend it.

Could development be promoted by altering either the degree or the nature of decentralization of decision making and responsibility within less affluent countries? What is the role and development value of competition, a price system, and market mechanisms in enabling an economy to be a satisfactory decision making system? Are there ways in which decision making could be significantly improved? Are there attractive efforts in this area which the Bank should finance?

Sensible answers to most of the questions raised in this sub-section are very difficult to obtain and could hardly be given without the assistance of sophisticated and well developed policy response models of national economies and of the world economy. Implications of alternative proposals and policies need to be identified and explored but initial experimentation should be on models rather than on parts or all of the world economy.

Because of the need and the nature of the problems that must be faced by the Economic Policy Research Department, this research group has no choice but to try to develop satisfactory policy response models of the world economy. They also may find it desirable to try to develop models of selected national economies. Nevertheless, it should be recognized that a reasonable degree of success will not come easily or quickly. The degree of success possible at this level is highly dependent on what is known about the behavioral responses of households, firms, and the other basic components of economic systems. Unfortunately, man's knowledge about such matters is very limited and fragmentary at best.

## What About the Need for Forecasting

In addition to the need for evaluating alternative policies by trying them out on a suitable policy response model before applying them to a real economy, policy makers also could benefit by being forewarned of impending developments. The present situation is known only with a lag and instruments work only with a lag. Therefore, if policies are to be applied with fully optimum timing, policy makers must be forewarned of impending developments. Given a sufficiently realistic and complete model of an economic system, such a model could be used to generate forecasts of future economic developments. The accuracy of forecasts obtained in this way would depend on how adequately the dynamic behavior of the economy was represented as well as on the assumptions made about outside events that impinge on the economy.

Development of satisfactory models for unconditional forecasting is to be desired and, if the Bank were to support research at a very high level, development of such models would be a suitable function for a fourth research department. In the absence, however, of very extensive research support, two things should be taken into consideration.

In the first place, policy makers could, and in my opinion should, learn to function intelligently without anything more extensive, in the unconditional forecasting line, than what can be provided by simple minded projection of recent values of variables of interest. Policy making, without some knowledge of responses to policy, is an absurdity. However, given such knowledge, sensible policy making, based only on the observance of current discrepancies between actual and desired, is certainly feasible. It is no doubt true that policy makers could do a better job with than without accurate unconditional forecasts. But even without such forecasts, most things of interest to the Bank change so slowly that current needs are frequently rather good guides to future needs.

In the second place, while admitting that policy makers could benefit from good unconditional forecasts of the future, it is hard to escape the view that such forecasting of economic variables of interest have rarely been very successful except perhaps in the case of very short run forecasts. Such success as has been achieved in short run forecasting

could be of considerable value to those concerned with short run stabilization problems, but these are not the main concern of the Bank. When it comes to long run unconditional forecasts of many economic values, it may well be that successful prediction of this type will never be possible even for countries possessing an excellent set of national accounts data going back several decades.

If the above portrayal of the need for and possibilities of unconditional forecasting of the future are accepted, what should be the Bank's response to the situation? In my view, such projections as are required should be done either by the Economics Department, along with its many service, advisory, review, and policy analysis functions or by those who need such projections. In any case, emphasis in this area should be put on economic intelligence simed at more accurately determining past and current developments. Trend projections could then be used, as they have been in the past, to obtain desired forecasts of the future. At the present time our so-called knowledge of the past and present is sometimes much more harmful than our ignorance of the future.

Mr. Vincent P. Rock Consultant Executive Office of the President Office of Emergency Planning Washington, D. C. 20504

Dear Mr. Rock:

Enclosed is the corrected proof of my paper. I am afraid I couldn't find much to correct to justify my own delay.

I would be pleased to have five copies of the completed book. Please note my present address.

Sincerely yours,

Guy H. Orcutt

GHOroutt:sg

Enclosure (1)

Mr. John R. Meyer President National Bureau of Economic Research, Inc. 261 Madison Avenue, New York, New York 10016

Dear John:

Thank you very much for your nice letter.

I am more than pleased to enclose the ten copies you requested. The Addendum is not included but I could supply a few if they would be useful.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (10)

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Sincerely yours,

duy H. Oreutt

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Enclosures (10)

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COMMONICATIONS
NEMENTE LITES
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May 24, 1968

Resources For the Future, Inc. 1755 Massachusetts Avenue, N.W. Washington, D. C. 20036

Dear Sirs:

I would be most grateful if you would send me a single copy of No. 70 - UNEMPLOYMENT, EXCESS CAPACITY, AND BENEFIT-COST CRITERIA, by Robert Haveman and John Krutilla (reprinted from The Review of Economics and Statistics, August 1967, and November 1967). I would also like very much to obtain a copy of No. 71 - ECONOMICS AND THE QUALITY OF THE ENVIRONMENT --SOME EMPIRICAL EXPERIENCES, by Allen V. Kneese (reprinted from Social Sciences and the Environment, 1968).

Yours sincerely,

Guy H. Orcutt

GHOrcutt:sg

Entuto, Ach

May 23, 1968

Mr. John B. Edwards 35 N. Hancock Street Lexington, Massachusetts

Dear Jack:

Do you suppose it would be possible to fill this form in and bring it with you? I could have it typed along with a copy for you after you arrive. If necessary, the photograph could be added later.

As things stand now, I stongly hope to persuade you to join us here in Washington as soon as possible. However, to get the Bank to make you an offer, I will need this form filled out.

I am looking forward to seeing you on Monday.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

May 17, 1968

Miss Agnes M. Whitfield
Manager
Education Division
C-E-I-R
Sanderson House
49-57 Berners Street
London WI England

Dear Miss Whitfield,

In connection with my talk to the Model Building Symposium, June 25-27, 1968, please reserve a hotel room for me for the four nights of June 24 through June 27. I will be by myself and will be pleased with modest accommodations.

Yours sincerely,

Guy H. Orcutt

GHOrcutt:sg

Grantt

May 14, 1968

Mr. Henry David
Executive Secretary
National Research Council
Division of Behavioral Sciences
2101 Constitution Avenue
Washington, D. C. 20418

Dear Mr. David:

Enclosed is a copy of my curriculum vitae which you requested in your letter of May 9, 1968.

Sincerely yours,

Guy H. Orcutt

GHOrcutt: sg

Professor William Fellner Department of Economics Yale University New Haven, Connecticut

Dear Will:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Irving Kravis
Department of Economics
University of Pennsylvania
Philadelphia, Pennsylvania

Dear Irving:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Daniel Suits Department of Economics University of Michigan Ann Arbor, Michigan

Dear Dan:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Wolfgang F. Stolpher Department of Economics University of Michigan Ann Arbor, Michigan

Dear Wolfgang:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Ralph A. Young Center for Advanced Studies Wesleyan University Middletown, Connecticut 06457

Dear Ralph:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Paul Samuelson Department of Economics Massachusetts Institute of Technology Cambridge, Massachusetts 02139

Dear Paul:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Peter B. Kenen Department of Economics Columbia University New York, New York

Dear Peter:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt: sg

Professor Robert Triffin Department of Economics Yale University New Haven, Connecticut

Dear Bob:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor James Tobin Department of Economics Yale University New Haven, Connecticut

Dear Jim:

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With best regards,

Sincerely yours,

Guy H. Oreutt

GHOrcutt:sg

Professor Richard Ruggles Department of Economics Yale University New Haven, Connecticut

Dear Dick:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Kenneth Arrow Department of Economics Stanford University Stanford, California

Dear Ken:

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With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Robert Solow Department of Economics Massachusetts Institute of Technology Cambridge, Massachusetts 02139

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Professor John Meyers Department of Economics Harvard University Cambridge, Massachusetts

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Professor Richard Coves Department of Economics Harvard University Cambridge, Massachusetts

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Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

1958 MAY -8 AM 9:55

SEMENTIAL FILES

Professor Richard Coves Department of Economics Harvard University Cambridge, Massachusetts

Dear Dick:

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With best regards,

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Guy H. Oreutt

GHOrcutt:sg

Enclosures (2)

1968 MAY -8 AM 9:55

GENERAL FILES
COMMUNICATIONS

Professor Arnold C. Harberger Department of Economics University of Chicago Chicago, Illinois 60637

Dear Arnold:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

1968 MAY -8 MM 9:55

ADDETVED TEST TOTAL TILES COMMUNICATIONS

May 7, 1968

Professor Arnold C. Harberger Department of Mconomics University of Chicago Chicago, Illineis 60637

Dear Armold:

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Sincerely yours,

Guy H. Orcutt

GHOrcuttisg

Emclosures (2)

1968 MAY -8 AM 9:55

RECEIVED BENERAL FILES COMMUNICATIONS Professor Albert O. Hirschman Department of Economics Harvard University Cambridge, Massachusetts

Dear Al:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope that this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

With best regards,

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1968 МДУ -8 ДМ 9:55

GENERAL FILES COMMUNICATIONS Professor Mark Nerlove Department of Economics Harvard University Cambridge, Massachusetts

Dear Mark:

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Professor Mark Werlove Department of Economics Harvard University Cambridge, Massachusetts

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Enclosures (2)

1968 MAY -8 AM 9:55

RECEIVED
RENERAL FILES
COMMUNICATIONS

Professor Frank Fisher
Department of Economics
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts

Dear Frank:

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1968 HAY -8 AM 9:55

COMMUNICATIONS

Professor David Johnson Social Systems Research Institute Social Science Building The University of Wisconsin Madison, Wisconsin 53706

Dear Dave:

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Enclosures (2)

1968 MAY -8 AM 9:55

RECEIVED GENERAL FILES COMMUNICATIONS Professor P. N. Rosenstein-Rodan Department of Economics Massachusetts Institute of Technology 77 Massachusetts Avenue Cambridge, Massachusetts

Dear Professor Rosenstein-Rodan:

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1968 МДУ -8 ДМ 9:55

RECEIVED GENERAL FILES COMMUNICATIONS Professor Harry Johnson Department of Economics University of Chicago Chicago, Illinois 60637

Dear Harry:

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1968 MAY -8 AM 9:55

RECEIVED RENERAL FILES COMMUNICATIONS Professor Alexander Gerschenkron Department of Economics Harvard University Cambridge, Massachusetts

Dear Alex:

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1968 HAY -8 AM 9:55

TO PROMISE TO SERVICE OF THE SERVICE

Professor Alexander Gerachemicon Department of Economics Harvard University Cambridge, Massachusetts

Dear Alex:

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GHOreuthing

Enclosures (2)

1968 MAY -8 AM 9:55

RECEIVED SEMERAL FILES COMMUNICATIONS Professor Theodore W. Schultz Department of Economics University of Chicago Chicago, Illinois 60637

Dear Ted:

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Guy H. Oreutt

ga: ttueroHD

Enclosures (2)

35:8 MA 8-YAM 8381

COMMUNICATIONS

Professor Harvey Leibenstein Department of Economics Harvard University Cambridge, Massachusetts

Dear Harvey:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

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1968 #47 -8 44 9:55

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1968 MAY -8 AM 9:55

GENERAL FILES COMMUNICATIONS

Professor Charles P. Kindleberger Department of Economics Massachusetts Institute of Technology Cambridge, Massachusetts

Dear Charlie:

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With best regards,

Sincerely yours,

Guy H. Ofcutt.

@HOreutt:sg

Enclosures (2)

1968 MAY -8 AM 9:55

RECEIVED MENERAL FILES COMMUNICATIONS Professor Evsey Domar
Department of Economics
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts

Dear Evsey:

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Professor Evsey Domar Department of Economics Massachusetts Institute of Technology 77 Massachusetts Avenue Cambridge, Massachusetts

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Enclosures (2)

1968 MAY -8 AM 9:55

HEREIVED HENERAL FILES COMMUNICATIONS Professor Everett Hagen
Department of Economics
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts

Dear Everett:

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Professor Everett Hagen Department of Economics Massachusetts Institute of Technology 77 Massachusetts Avenue Cambridge, Massachusetts

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Guy H. Orgatt

GHOreutt: ag

Inclosures (2)

COMMUNICATIONS
1968 MAY -8 MM 9:55

Mr. Lawrence Krause
Council of Economic
Advisers
Executive Office of the
President
17th and Pennsylvania Avenue, N.W.
Washington, D. C.

Dear Larry:

Enclosed is a draft of "Research and the World Bank" along with an addendum. I hope this material will be of interest to you and I welcome any suggestions for making it more effective. I am particularly concerned about the present version of Section VII.

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Enclosures (2)

1988 MAY -8 AM 9:54

THE WAL FILES COMMUNICATIONS

Mr. Lawrence Krause Council of Economic Advisers Executive Office of the President 17th and Pennsylvania Avenue, N.W. Washington, D. C.

Dear Larry:

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With best regards,

Sincerely yours,

Cuy H. Oreutt

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1968 MAY -8 AM 9:54

RECEIVED MENERAL FILES COMMUNICATIONS Professor Robert Baldwin Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

Dear Bob:

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1968 MAY -8 AM 9:54

RECEIVED RESCOMMUNICATIONS

Professor Robert Baldwin Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

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Guy H. Orcutt

OHOreutt:sg

Enclosures (2)

1968 MAY -8 AM 9:54

GENERAL FILES COMMUNICATIONS Dr. Joseph Pechman Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

Dear Joe:

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1958 MAY -8 AM 9:54

MEHERAL FRES COMMUNICATIONS Dr. Joseph Pechman Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

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GHOreutt:sg

Enclosures (2)

45:6 MU 8- AUH 8961

COMMUNICATIONS
HENERAL FLES
GENERALS

Dr. Kermit Gordon Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

Dear Kermit:

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Dr. Walter Salant Brookings Institution 1775 Massachusetts Avenue, N.W. Washington, D. C.

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HERERAL FILES COMMUNICATIONS Professor Hollis Chenery Department of Economics Harvard University Cambridge, Massachusetts

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RECEIVED GENERAL FILES COMMUNICATIONS Professor Gottfried Haberler Department of Economics Harvard University Cambridge, Massachusetts

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COMMUNICATIONS

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Professor Gottfried Haberler Department of Economics Harvard University Vambridge, Massachusetts

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Professor Arthur Smithies Department of Economics Harvard University Cambridge, Massachusetts

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RECEIVED UENERAL FILES COMMUNICATIONS

May 7, 1968

Professor Simon Kuznets Department of Economics Harvard University Cambridge, Massachusetts

Dear Simon:

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RECEIVED WENERAL FILES COMMUNICATIONS Professor Charles C. Holt Social Systems Research Institute Social Science Building The University of Wisconsin Madison, Wisconsin 53706

Dear Charlie:

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HENERAL FILES COMMUNICATIONS Professor Hans Schmitt Department of Economics Social Science Building University of Wisconsin Madison, Wisconsin 53706

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Enclosures (2)

1968 MM 8- YAM 8381

COMMONICATIONS
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Professor Thomas Wilson
Depart of Political Economy
and Institute for Policy
Analysis
University of Toronto
Toronto, Canada

Dear Tom:

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University of Toronto
Teronto, Canada

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Sincerely yours,

Guy H. Orcutt

GHOreutt: 8g

Enclosures (2)

1968 MAY -8 AM 9:54

RECEIVED GENERAL FILES COMMUNICATIONS Dr. Alice Rivlin Health, Education and Welfare 330 Independence Avenue, S.W. Washington, D. C.

Dear Alice:

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Enclosures (2)

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RECEIVED GENERAL FILES COMMUNICATIONS

May 7, 1968

Mr. Lester E. Gordon
Deputy Director
Harvard University
Center for International Affairs
Development Advisory Service
1737 Cambridge Street
Cambridge, Massachusetts 02138

Dear Mr. Gordon:

On behalf of Mr. Kamarck who is at present out of the country, I am pleased to enclose a copy of the revised "Status of Studies" for your information. If you are interested in receiving a copy of any of the studies listed in Part I of the enclosed document, please let me know.

Yours sincerely,

Samir K. Bhatia Economics Department

Enclosure

SKBhatia/rk

1968 MAY -8 AM 11:35

COMMUNICATIONS

Mr. Lester E. Gordon
Deputy Director
Harvard University
Center for International Affairs
Development Advisory Service
1737 Cambridge Street
Cambridge, Massachusetts 02138

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Yours sincerely,

Sanir K. Shatis Economics Department

Enclosure

SKBhatia/rk

1968 MAY -8 AMII: 35

COMMUNICATIONS
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May 7, 1968

Mr. Gustav F. Papanek Director Harvard University Center for International Affairs Development Advisory Service 1737 Cambridge Street Cambridge, Massachusetts 02138

Dear Mr. Papanek:

With reference to your letter of March 11, 1968, to Mr. Sreedhar of this Department, I am enclosing for your information a copy of a document issued by the Economics Department of the World Bank, entitled "Status of Studies", which gives details of research studies going on in the Economics Department.

We hope to issue it every three months and have placed your name on our mailing list. If you are interested in receiving a copy of any of the studies listed in Part I of the enclosed document, please let me know.

Yours sincerely,

Alexander Stevenson Deputy Director Economics Department

Enclosure

cc: Mr. Sreedhar SKBhatia/rk COMMUNICATIONS
1968 MAY -8 AMII: 35

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Yours sincerely,

Alexander Stevenson Deputy Director Economics Department

Enclosure

cc: Mr. Sreedhar SKBhatia/rk

1968 MAY -8 AMII: 35

BECSIVED BENERAL FILES COMMUNICATIONS

to dep Act

Mr. H.J.James Dyck

April 18, 1968

Alexander Stevenson

Economic Policy Basic Group (Mr. Orcutt's memorandum of April 17, 1968)

Will you please take the necessary action on the abovementioned memorandum.

cc: Mr. Williams (with copy of Mr. Orcutt's memorandum)

AStevenson: is

Mr. Alexander Stevenson and

Mr. H. J. James Dyck Luy N. Occutt

Guy H. Orcutt

If the Economic Policy Basic Group is to become even a shadow of a reality during this next year, it is essential that Professor Charles Holt be hired by the Bank for a period of at least one year. It also is highly important that Professor Mervin Muller be hired for as long a period as he is willing to come.

The broad objective of the Economic Policy Basic Research Group is to reexamine the bases for the economic advice given by the World Bank Group to its member countries. It is specifically to reexamine basic economic theory from which such advice is derived, it is to formulate new hypotheses and to subject the alternatives to systematic empirical testing. Where feasible, a general systems approach will be used rather than partial analysis and in many cases, the system to be considered should be the world economy.

The general area of research of the Economic Policy Basic Research Group during this next year will be the influence of macroeconomic policies on development with specific attention being focused on balance of payment problems.

In recent years, balance of payments problems of Member Countries have had a major impact on Bank financing as well as on the international trade and finance policies of Member Countries. What are the implications for development of existing arrangements for handling balance of payments problems? Is concern for balance of payment problems a significant factor promoting protectionism and decreased bilateral and multilateral aid and finance? What would be the consequences for development of the various major proposals for altering the present arrangements for dealing with balance of payment problems?

The effect on the balance of payments of national policies in the monetary, fiscal, price level, foreign trade and foreign finance areas, and the constraints placed upon the exercise of these policies in representative social contexts, have been widely discussed, but firm knowledge is still scarce. Such knowledge is especially urgent on the following points:

- (a) What does industrialization as a strategy for economic development contribute to allocative efficiency and to flexibility of the adjustment process?
- (b) How do alternative international commodity stabilisation schemes affect the size, allocation, and stability of international resource flows?

(c) What are the determinants of the direction, size, and composition of long-term capital flows, and what are their implications for relative rates of economic growth?

The foreign exchange position of a country, like the cash position of a firm, often takes a dominating importance that dictates short term adjustments which distort or delay more basic programs. Balance of payments problems may, for large countries as well as for small, disrupt their aid, development, monetary and fiscal policies for years at a time. Since balance of payments difficulties arise from trade and capital movements between countries, and adjustments may trigger counter adjustments, the problem is not amenable to piecemeal solution but requires a general systems approach in an interacting set of national units. The achievement of balance of payments adjustments between them needs furthermore to take account of rigidities associated with national pride and the autonomy of monetary authorities. Since the problem has many important implications for economic development, an emploratory study of this area, hopefully in cooperation with the International Monetary Fund has much to recommend it.

My research plan is to have Professors Holt, Muller, Schmitt and possibly one or two others work with me in a close knit model building operation. The objective will be the design and implement a model of the world economy which will seek to relate macro policy variables of nations and of the World Bank to criterion variables of interest in considering the merits of present and proposed balance of payment adjustment mechanisms.

The objectives of the model building exercise will be to conduct design studies and to facilitate a continuing dialogue between policy makers and international trade and finance theorists. Our strategy will be to obtain a working model within the year and then use it as a basis for improvement and for guiding essential inductive research.

All of the individuals involved have overlapping competencies. Nevertheless, It is to be expected that Schmitt will specialize to some extent on capital movements. Muller will specialize in model design, computer systems analysis, and computer implementation of our Mr. Alexander Stevenson and Mr. H. J. James Dyck - 3 - April 17, 1968 model, Holt will specialize in design of our economic model and on use of it to investigate the functioning of alternative international arrangements in combination with plausible national policies. I, along with Schmitt and Holt, will work on design and specification of the model and of simulation experiments, design experiments, and policy games which use the model. We, of course, will draw heavily upon the existing literature and we will seek guidance on many points from other staff members of the Bank. In addition, we hope that Mr. R. R. Rhomberg of the Fund will collaborate with us on our model building venture. GHOrcutt:sg

April 8, 1968 Professor Charles C. Holt Social Systems Research Institute Social Science Building The University of Wisconsin Madison, Wisconsin 53706 Dear Charlie: Here is a xerox copy of "Research and the World Bank" along with a start on a somewhat fuller presentation of some research topics. Please send any suggested revisions so that I receive them by April 15th if that is at all possible. It was wonderful having you and Mary Lou here and we look forward to your being here this next year. With best regards, Sincerely, Guy H. Orcutt GHOreutt:sg Enclosures (2)

Ec Dept Ach April 5, 1968 Mr. John B. Edwards 35 N. Hancock Street Lexington, Massachusetts Dear Jack: This is just a note to acknowledge your letter of

March 19th and to inquire about your thesis plans.

First, what about your thesis? Are you planning to finish up this spring? If so, what is the deadline that you must make in terms of turning in your thesis?

Secondly, I want you to know that the results you referred to in your letter of March 19th were of substantial interest to me. Apparently we only have to look as far as heteroscedasticity to account for the gross underestimation of mean square error which we were getting.

Your letter didn't give any information about whether or not using minimum estimated error variances was optimum. Would use of only two or three explanatory variables have been better?

I haven't been able to give our joint work much thought for the last few months; however, starting in a few weeks I hope and expect to be able to do so. Perhaps by that time your thesis will be largely out of the way.

With best regards,

Sincerely,

Guy H. Orcutt

GHOrcutt: sg

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COMMUNICATIONS GENERAL FILES

to A + god 3

April 5, 1968

Mr. John B. Edwards 35 W. Hancock Street Lexington, Massachusetts

Dear Jack:

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With best regards,

Sincerely,

Guy H. Oreutt

GHOreutt: sg

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COMMONICATIONS
GENERAL FILES
GENERAL FILES

March 19, 1968

Professor Charles C. Holt Social Systems Research Institute Social Science Building The University of Wisconsin Madison, Wisconsin 53706

Dear Charlie:

The By-Annual Report of the SSRI looks great and is highly impressive. Could you please have ten copies sent to me.

With best regards,

Yours sincerely,

Guy H. Orcutt

GHOrcutt:sg

Bc Dept Act

Mr. Guy H. Orcutt

March 18, 1968

Anthony A. Churchill

Research Policy.

- Bank activities. I found the discussion of deductive versus inductive research a bit scholastic. It seems to me impossible to start out from a purely inductive approach; choice of variables implies a theory, that is, deduction. Perhaps what you mean by induction is equivalent to "fishing" in the error term to find explanatory variables once the more obvious variables (which were deduced from traditional theory) have failed to explain the phenomena. In any case this does not seem all that relevant to the basic vrs. applied research argument. I am not sure whether this (applied vrs. basic) is a meaningful or useful way of categorizing research. It may be only a matter of semantics and some examples might help to clarify what you mean by your categories of research.
- 2. Some months ago I wrote down the enclosed thoughts on the subject but never circulated them. Perhaps they will be of some interest.

encl. cc.and cleared with Mr. S.Please

AChurchill ands

## An Exploratory Essay on the Nature of Research and the Problem of its administration within and Ordered Environment

## Research within the Bank

- Research by its very nature is an expansion of knowledge into areas which only speculative or probabilistic information is available. In a sense it is analogous to traveling on a road system in which one has only a vague hunch as to the ultimate destination. The approximate area of destination may be known but the route is uncertain; at times there are forks in the road and sometimes the right hand fork is taken and sometimes the left hand fork. Often the nature of the route leads to a change in destination, or perhaps if the destination is not changed to the marking out of an interesting sideroad for future journeys. Under these conditions it is extremely difficult to work out a well ordered itinerary. The analogy to the administration of research is obvious; the administration has to work out an itinerary for a journey of uncertain destination and even more uncertain route.
- 2. At first glance it would appear that to administer research is a contradiction in terms and indeed some experience in this institution would provide the casual empiricist with sufficient evidence to bolster this conclusion. If this were to be the case it would be difficult for an institution such as the Bank to conduct imaginative and productive research given the premium placed upon a well ordered chain of command with everything in its proper place. This is not an attribute unique to the Bank but is endemic to any bureaucracy. The obvious conclusion is that such unorganizable activities as research should be left to the unorganized people who inhabit our unorganized universities. This, however, is an excessively negative conclusion but it illustrates what may happen to research within the Bank if it falls to produce results. (The term research, as it is used here, does not, of course, refer strictly to the "non country" work of the Bank but rather to the whole spectrum of Bank activities of a non-routine nature).
- 3. It would be unfortunate if this were to be the result for the Bank is in a unique position to bring together experienced personnel, research problems, finances, and information. At the same time the function of the Bank is such that it is in a position where the results of such a mixture can have practical application not only in its own work but also on the world wide effort at development.
- 4. Two questions need to be answered if the negative aspects of the problem presented above are to be countered:
  - a) Can research be conducted within the institutional framework of the Bank?
  - b) What modifications of current practice would be necessary to ensure that a meaningful program is carried out.

The first of these questions can be answered by examining the practices of those institutions which do in fact conduct a large volume of the research that takes

place in the world today. These institutions include governments, universities and private corporations and certainly neither the size of the bureaucracy of these institutions nor their endemic desire for an orderly environment appears to be a major obstacle. The U.S. Defense establishments is probably the largest and most productive research institution in the world. The Bank might find it useful to examine the administrative procedures of such institutions as, for example, the Rand Corporation.

- 5. The most distinguish feature of large institutions which support a successful research establishment is the reliance upon providing correct incentives as their major tool in administering research programs. The analogy of the road journey is again appropriate here, it is difficult if not impossible plan the itinerary of the trip but it is possible to see that the traveller has to correct incentives for making his decision when he reaches the unknown fork in the road. In the case of research this involves providing the appropriate monetary or other form of rewards for the correct decision, that is, the activities that produces desirable results. This means that the administration cannot and should not follow behind each step of the traveler but rather should wait for him at the end of the journey with the appropriate reward. In terms of a research program this means that sufficient confidence on the part of the administrators must exist in those carrying out the task. This, of course, places the major burden of research administration on the hiring and firing policy of the institution. It also requires that the institution be prepared to accept the costs involved in the (hopefully) occasional stroll down the wrong pathway. This, however, appears to be an inescapable cost inherent in the nature of research and one which even large commercial institutions are prepared to accept.
- The first question, as can be seen from the enswer above, was the more general one and thus more amendable to sweeping solutions. The second question asks for particulars and thus is the more difficult question to answer. The answer to the first question is that the correct rules of the game must be established, the answer to the second question must be in a list of these rules. The discussion below is not meant as a criticism of current Bank policy or personnel but rather is intended to help fill a need which has long been recognized at all levels within the Bank. The recent establishment of a new administrative department is a case in point.
- 7. One of the first and perhaps the most important steps to be taken is to establish better lines of communication within the Economics Department and between the Economics Department and other departments within the Bank. At present, harking back to the road analogy, a person trying to engage in research finds himself in a hopeless maze. Occassionally, by accident he stumble across other members of his department on other departments wondering in the same maze and they may sit down and figure a way out of the maze only to find they are unable to take any action because they each have to go back to their original starting point to consult with their respective travel agents who by the nature of their function are generalists with neither the time nor the background to adequately appraise the problems that have arisen. A recent suggestion with

<sup>1/</sup> Otto Maiss, Memo to Collier; Review of Country Economic Reports, May 16,1967.

respect to the functioning of the Economic Sub-Committee would appear to go a long way in solving the difficulty in some areas. Perhaps an extension of this scheme to the economics of specific projects would be of great aid to the overburdened Projects Department.

- 8. Another part of the same problem is the one way nature of the communications channels, a feature common in organization with a "command from above" environment. This may be necessary for most of the Bank's operations but in those areas or departments where research is emphasized a good deal more flexibility would be desirable. This is particularly true in the initiation of research projects. At present most of the initiative comes from above in the sense that research projects are passed down to those actually doing the work. The result of this is that the project itself then becomes above criticism from all but the most senior staff who are able only to focus on the most general aspects of such a project and not the details which are often the critical part of research. This means that proposed research projects escape the close scrutiny of the working staff (as distinguished from those who have to devote a large amount of time to administrative matters) which is in a position by nature of its training to pass judgement on the relevance and meaning of the proposed project.
- A possible solution to this difficulty and one that would also improve communications among staff members (both within the Department and between departments) is to held informal working sessions or seminars at all stages of any research project. This would mean that any research proposal would have to be discussed by the interested staff and those who plan to undertake the research should be prepared to defend the proposal from the criticism of their colleagues and at the same time would receive their advice and ideas. This is not a novel proposal but simply outlines the "work-shop" method used at most of the major universities in this country. The work-shop approach would avoid work being done on badly conceived projects and at the same time by subjecting this work to periodic review would increase the incentives for a higher level of professional competence. It also has the advantage of exposing the occasional blind alley into which a project may drift enabling a curtailment of the work rather than the present system which pushes work forward until it produces a useless paper.
- 10. This type of organizational structure of research work does, of course, make life a good deal less comfortable for the professional staff in that it exposes their performance levels to the view of both their colleagues and the administration and in order to make it work effectively incentives have to be provided. The best incentive can be provided by taking the work of such sessions seriously, that is, by considering them an important indicator of professional competence and by using them as a guide in formulating the direction of research work. Care must also be taken to make sure that such sessions do not become over-formalized, that is, that there is sufficient give and take among participants, regardless of place in the organizational hierarchy.
- 11. A further use of this type of organizational structure is to use it as a platform for receiving research ideas from below, that is, to bring to light some of the interesting pathways that either mission work or other research work

has revealed. At present it is difficult for a staff member to put forth any interesting ideas for futher investigation because he does not always have the ear of those who could make it possible for him to be given the time and resources to pursue his ideas further. Attempts to pursue ideas or to work out a research proposals meets with hostility within the Department or in other departments simply because it has no official blessing and because the appropriate committees etc., have not been set up. It is difficult under these conditions to formulate intelligent and useful research proposals as all attempts at independent initiative are likely to be frustrated.

- 12. The above few paragraphs should not be construed as advocating the abdication of the managerial functions in research work but simply suggests that it must be tailored to the type of work that is being done. In an institution where the fruits of research have practical relevance one of the major managerials tasks is to see that this work follows lines that are useful to operational activities but as has been suggested this can be done by providing the correct incentives.
- 13. An important task of the managers is to see that resources are distributed in such a fashion as to yield the maximum rate of return to the total research effort. This is not an easy task and is a problem that has no simple solution. Recently some emphasis has been placed on alternative cost concepts, that is, a research projects is thought of in terms of the number employed, travel costs, costs of consultants, etc. This, however, is only one side of the coin and some attempts should also be made to evaluate the benefits as, for example, the possible impact upon Bank policy in the allocation of its resources to member countries. Then too, the much berated assumption of the classical economists, that of full employment, is used in calculating alternative costs and one suspects that this may not always be the case. Under current organizational practices a good deal of underemployment is possible.
- 14. To conclude, as was stated in the title this has been an exploratory essay the purpose of which has been to stimulate rather than criticize. There seems to be a general awareness of all of the problems discussed here and it is hoped that this brief essay will help to focus this awareness into a more concrete form that will make a solution possible. At the very least it is a topic worthy of some discussion.

June 28, 1967

AChurchill/mds

Ec Dopli Act

Mr. S. Bhatia

March 18, 1968

G. Zaidan

## PIDE Research Reports

With reference to the Pakistan's Institute of Development Economics Research Reports, I would like to have reports number 8, 13,14,41,48,59,52,53,55, and 64.

GZaidanste 52

cc. Mr. Hawkins

March 15, 1968

Professor Martin David
Institute of Social and
Economic Research
University of York
Heslington, York, England

Dear Martin:

Thank you for the suggestion concerning Robert Hemmond. As things stand now, I do not know of a suitable opening for him in the Bank. However, I am sending your letter and his statement to Mr. James Dyck of the Bank's Administration Department. If he wishes to follow up on this matter he will contact Mr. Hammond through you at the University of York.

I enjoyed hearing from you and look forward to seeing you and Betsy. I am not sure how things will work out, but I am scheduled to give a talk for CEIR in London during June 25-27. Perhaps we can get together the following weekend.

When you see Dick give him my regards; also give him a shove towards doing something about the book.

Give my love to Betsy.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

cc: Mr. James Dyck

March 15, 1968

Professor Martin David Institute of Social and Economic Research University of York Heslington, York, England

Dear Martin:

Thank you for the suggestion concerning Robert Hammond. As things stand now, I do not know of a suitable opening for him in the Bank. However, I am sending your letter and his statement to Mr. James Dyck of the Bank's Administration Department. If he wishes to follow up on this matter he will contact Mr. Hammond through you at the University of York.

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When you see Dick give him my regards; also give him a shove towards doing something about the book.

Give my love to Betsy.

Sincerely yours,

Guy H. Oreutt

GHOrcutt:sg

ec: Mr. James Byck

15 TE D T. 13 PH 3: 44

Ec Depr Ach March 15, 1968 Professor Randall Hinshaw Chairman Graduate Faculty in Economics Claremont Graduate School and University Center Claremont, California 91711 Dear Professor Hinshaw: I am pleased to learn that the promotion of Stanley Warner to the rank of full professor has been proposed. He is an outstanding young econometrician and should continue to be a source of strength to the Claremont Graduate School. I have particularly enjoyed some of the nice work he has done on multivariate regression with dummy variates. I hope that he will be promoted and that you can hang on to him. Sincerely, Guy H. Orcutt Senior Advisor GHOrcutt:sg

Fo Dept Act. March 13, 1968 Professor John Gurley Managing Editor American Economic Review Stanford University Stanford, California 94305 Dear John: I am delighted that "Data Aggregation and Information Loss" by Guy H. Orcutt, Harold W. Watts, and John B. Edwards and "Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes" by Guy H. Orcutt and Alice G. Orcutt have been accepted for publication this year. Enclosed are the two abstracts which you requested. Please note that the specific issue of the AEA in which they will appear needs to be filled in after it has been determined. The Social Systems Research Institute of the University of Wisconsin may want to obtain 300 copies of each paper for inclusion in their reprint series. If this should be the case, who would be the person at AEA to contact and when should this be done? Sincerely, Guy H. Orcutt Enclosures (2) GHOrcutt:sg

I - Brodersohn E Dept Act March 12, 1968 Mr. Mario S. Brodersohn Director Instituto Torcuato Di Tella Centro de Investigaciones Economicas Virrey del Pino 3210 Buenos Aires 26 Argentina Dear Mr. Brodersohn: I would be most grateful if you could send me a copy of "Activities of the Center for Economic Research of the Torcuato Di Tella Institute in the Period 1960-1966." Yours sincerely, Guy H. Orcutt GHOrcutt:sg

March 11, 1968

Professor Mervin E. Muller
Director of University of Wisconsin
Computing Center and Professor of
Computer Sciences
1210 W. Dayton Street
Madison, Wisconsin 53706

Dear Merv:

Since matters have developed in a favorable direction, I am very anxious to have you join me in the World Bank for one year, two years, or on a permanent basis if that seemed desirable. I cannot make an offer on my own so please do not misinterpret this letter. Nevertheless, the way has been cleared to proceed with the setting up of an Economic Policy Basic Research Group and I am certain that you could make an enormous contribution.

In order to proceed, the Bank's Personnel Division must have a filled in copy of the enclosed Personal History Form. I hate to bother you with this but it cannot be avoided. If you could return it promptly, I believe that the Bank could then begin to move quite rapidly.

I have also enclosed several papers which may interest you. The one on the Economic Policy Basic Research Group was written to bring this matter to a head and to start things rolling. It, was well as the one on Research and the World Bank, should be regarded as drafts. The other papers relate to things I was working on before arriving here. If you joined me, one direction we might like to push in would be the use of experimentation in studying economic development. If so, I would be very anxious to take full advantage of the work being done by Box and Hunter. Another area of mutual interest might be economic development and international adjustment policy games and simulation models.

Please let me hear from you as soon as it is convenient. With best regards,

Sincerely,

Guy H. Orcutt

Enclosures (10)

Ec Dept Act March 11, 1968 Professor Ian Donald Terner Assistant Professor of City and Regional Planning Graduate School of Design Harvard University Robinson Hall Cambridge 38, Massachusetts Dear Professor Terner: Enclosed is the final outcome of my effort to see if the Bank couldn't be helpful in response to your letter of February 2. I am afraid that this isn't of much help, but I thought that you would want to know what happened. Sincerely yours, Guy H. Orcutt GHOrcutt:sg Enclosures (2)

March 11, 1968

Dr. Janos Kornai
Institute for Mathematical Studies
in the Social Sciences
Serra House, Serra Street
Stanford University
Stanford, California 94305

Dear Dr. Kornai:

As far as I can determine at this time, I expect to be in Washington on Friday, the 26th of April and would be pleased to see you if that fits in with your schedule. If you are free for lunch on that day, I, and a few of my colleagues, would be pleased if you would join us.

Sincerely,

Guy H. Orcutt

GHOrcutt:sg

Professor Charles C. Holt Social Systems Research Institute Social Science Building The University of Wisconsin Madison, Wisconsin 53706

Dear Charlie:

Matters are developing in a favorable direction in the Bank and I am very anxious to push things along concerning your joining us for one or two years or longer. In order to proceed, the Bank's Personnel Division must have a filled in copy of the enclosed Personal History Form. I hate to bother you with this but it cannot be avoided. If you could return it promptly, then I believe that the Bank could begin to move quite rapidly.

I have enclosed drafts of two papers which may be of some interest to you.

It would be very helpful to me if you could send me a copy of the annual comparative salary tabulations which Dave Johnson gets from the Cartel. This is the set of tabulations for the twenty-five or so leading economic departments. I need this to encourage the Bank to stay competitive at the upper end of the salary scale.

With best regards to you and your wife.

Sincerely,

Guy H. Orcutt

Enclosures (8)

P.S. Under separate cover I am sending the final draft of three papers which may be of some interest to you.

GHOrcutt:sg

March 11, 1968

Mrs. Dorothy Machigashira
Department of Economics
Room 6459A, Social Science Building
University of Wisconsin
Madison, Wisconsin 53706

Dear Dorothy:

Enclosed is a UWCC statement which I received for January 1968. Would you check to see if this is a legitimate charge? I didn't realize that I was having any work done by UWCC. If the charge is even remotely legitimate, please make out the appropriate transfer fund for my signature. Also please ask UWCC to close out any account numbers which I may happen to be responsible for unless you know of some good reason for keeping them open.

With best regards,

Sincerely,

4.0

Guy H. Orcutt

GHOrcutt: sg

March 11, 1968

Professor J. D. Sargan
The London School of Economics
and Political Science
Houghton Street
Aldwych, London, W.C.2 England

Dear Professor Sargan:

Thank you for your suggestion about Mr. Ray Byron. He sounds very attractive but as I have left academic life, I cannot be very helpful.

If you haven't already done so, I would suggest contacting Arthur Goldberger at the University of Wisconsin in Madison. As you may know Art is very interested in the estimation of sets of demand relations.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Andre Daniere
Research Project on the Structure
of the American Economy
Department of Economics
Harvard University
1583 Massachusetts Avenue
Cambridge, Massachusetts 02138

Dear Andre:

Thank you for your letter of March 1. It was a pleasure to have you with us and our milk supply held up in fine shape.

If you are interested in joining me at the Bank I am very interested in having you do so. Furthermore, as things have developed, I feel confident that an offer will be forthcoming in due course. However, as I am sure you understand, any offer must come from the Bank and cannot come from me.

Your interest in working on basic inductive research is something I approve of and believe in. Cost-benefit analysis and investment decision models in the area of human resource development would be of great interest to me and should be of substantial interest to the Bank. If we could jointly push some well designed experimentation in the education area, for example, I would be delighted.

Enclosed is a personal history form which must be filled in before we can proceed. I know that this is something of a bother, but I do hope that you can fill it in and air mail it back with in a day or so. Someone in the Personnel Department will check your references by phone and then we can have you come down again as soon as you can arrange to do so. Now that I have clearance on filling several slots, I have been assured that things can move very rapidly.

With best regards,

Sincerely,

My H. Orcutt (S. 9.

## Enclosures (6)

P.S. Enclosed is the document I put together to obtain the go-ahead sign. Please don't regard it as very likely that all of the specific individuals mentioned will be joining the Bank staff.

GHOrcutt:sg

For Stoff Act. February 15, 1968 Dr. Janos Kornai Institute for Mathematical Studies in the Social Sciences Serra House, Serra Street Stanford University Stanford, California 94305 Dear Dr. Kornai: Since I am no longer at the University of Wisconsin I have forwarded a copy of your letter to Professor Charles Holt, the current Chairman of the Social Systems Research Institute. I am certain that he and others at the University of Wisconsin would be honored and pleased to have you visit them. They easily can arrange a hotel reservation. If you should find it possible to visit Washington,

If you should find it possible to visit Washington, D.C., I, along with others, would be delighted to see you. Please let me know if you do find this possible.

Under separate cover, I am sending you some recent papers which I recently sent to Hungary for you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:mk

Mr. Robert Ferber College of Business Administration University of Illinois Urbana, Illinois

Dear Bob:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Mr. James Duesenberry Council of Economic Advisers Executive Office of the President Washington, D. C.

Dear Jim:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

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Sincerely yours,

Guy H. Orcutt

GHOrcutt: sg

Professor Martin David
Institute of Social and
Economic Research
University of York
Heslington, York, England

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Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Robert Lampman Department of Economics University of Wisconsin Madison, Wisconsin

Dear Bob:

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Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Robert M. Solow Department of Economics Massachusetts Institute of Technology Cambridge, Massachusetts 02139

Dear Bob:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Henri Theil
Director of the Center for Mathematical
Studies in Business and Economics
Graduate School of Business
University of Chicago
Chicago, Illinois 60637

Dear Henri:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Mr. William White Research and Statistics International Monetary Fund 19th and H Streets, N.W. Washington, D. C. 20431

Dear Bill:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Harold Watts Director Poverty Institute Social Science Building University of Wisconsin Madison, Wisconsin 53706

Dear Harold:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Ec Dep Act February 1, 1968 Professor James Tobin Cowles Foundation for Research in Economics Box 2125 Yale University New Haven, Connecticut 06520 Dear Jim: Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name. Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you. Sincerely yours, GHOrcutt:sg Enclosures(5)

Professor William Baumol Department of Economics Princeton University Princeton, New Jersey

Dear Bill:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor William Bennel Department of Economics Princeton University Princeton, New Jersey

Dear Bill:

Enclosed is a copy of what I hope is the final draft of the paper on experimentation which I did with my daughter. I hope that you do not object to the way in which I used your name.

Also enclosed you will find copies of the final drafts of some other papers which may be of interest to you.

Sincerely yours,

Guy H. Oreutt

GHDreutt: 8g

Professor Edwin Kuh Department of Economics Massachusetts Institute of Technology Cambridge, Massachusetts

Dear Edwin:

Enclosed are a number of papers which I

hope may be of interest to you.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor John Gurley
Managing Editor
American Economic Review
Stanford University
Stanford, California 94305

Dear John:

Enclosed are the revised and I hope final drafts of:

- 1. "Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes"
- 2. "Data Aggregation and Information Loss"

As far as I can tell, both papers are in a proper form for publication. In the case of the paper with Watts and Edwards, we made the necessary adjustments to conform to your style instructions but did little else except to correct a few minor errors which we discovered in going over it very carefully.

In the case of the paper with my daughter, the changes were more substantial, since we did our best to take account of the comments and questions which you and others were kind enough to send us. As you will notice, I have dropped the original appendix as you suggested and incorporated two or three pages from it in the main body of the paper.

Along with two copies of each of the two papers which are to be published, I have enclosed two copies of a new appendix to the paper on experimentation. This new appendix is based on work which I did a year

ago and has been put in this form as a result of a suggestion from Bob Solow. My initial thought in developing it was to substitute it for the original appendix. However, upon reflection, I rather doubt if this would suit your interests as an editor. This being the case, I have marked it "For private circulation." If you thought it was desirable to do so, some note could be put in the published version which indicated that this appendix was available upon request.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Paul Samuelson
Department of Economics
Massachusetts Institute of
Technology
Cambridge, Massachusetts

Dear Paul:

Enclosed are several papers which I hope may be of some interest to you. In particular, I would like to draw your attention to the one on experimentation which I did with my daughter.

With warm regards to you and Marian,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Thank you very much for "Mathematical Programming

I am very sorry that the materials which I sent you last year did not arrive. In any case, I will try again and hope that we have better luck this time. The papers

as a Tool in Drawing up the Five-year Economic Plan" which you so kindly sent me. I think it is a very useful

which I am sending to you under separate cover are:

1. "Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes"

2. An appendix to the paper

Loss

Prediction"

Economic Systems

of National Accounts"

"Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes"

3. "Data Aggregation and Information

4. "First Order Autoregression: Inference, Estimation and

5. "Research Strategy in Modelling

6. "Microeconomic Analysis for Prediction

Dr. J. Kornai

Budapest, Hungary

Dear Dr. Kornai:

paper.

Computing Centre of the Hungarian

Academy of Sciences

- 2 -Dr. J. Kornai January 31, 1968 If you have occasion to write me, please note that I am now a Senior Adviser at the International Bank for Reconstruction and Development and that my present address 1818 H Street, N.W. Room F-1350 Washington, D. C. 20433 Sincerely yours, Guy H. Orcutt GHOrcutt:sg

Ec. Act January 30, 1968 Miss Soma Golden Business Week 330 W. 42nd Street New York, New York 10036 Dear Miss Golden: Enclosed is a copy of the paper on "Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes" which I promised to send you. I have also enclosed an appendix to this paper which we have prepared for private circulation, as well as two other papers which may possibly be of personal interest to you. Sincerely yours, Guy H. Orcutt GHOrcutt:sg Enclosures (4)

Dr. Gary Fromm
The Brookings Institution
1775 Massachusetts Avenue, N.W.
Washington, D. C. 20036

Dear Gary:

I look forward to attending the two-day conference on Friday, March 22 and 22nd.

Enclosed are a number of papers which may be of some interest to you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Evalyn F. Segal
Department of Psychology
University of Illinois at Chicago Circle
1828 N. Cleveland Avenue
Chicago, Illinois 60614

Dear Prof. Segal:

Enclosed is a copy of a paper on experimentation which Harold Watts suggested that I send you.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Carlisle P. Runge Director CIC Council on Economic Growth Technology, and Public Policy 2569A University Avenue Madison, Wisconsin

Dear Carl:

Enclosed is a copy of a paper on experimentation which I did with my daughter. I am sending it at the suggestion of Harold Watts who said that you might possibly have some interest in it.

With best regards,

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

Professor Prem S. Satsangi Electrical Engineering Department University of Waterloo Waterloo, Ontario, Canada

Dear Prof. Satsangi:

Enclosed is a copy of a paper on experimentation which you requested.

Sincerely yours,

Guy H. Orcutt

GHOrcutt:sg

January 22, 1968

Professor Dorothy J. Hodges
Managing Editor of Econometrica
Department of Economics
University of Wisconsin
Social Science Building
Madison, Wisconsin 53706

Dear Dorothy:

Last October I received word from Bob Stratz that my paper with Herbert Winokur, "First Order Autoregression: Inference, Estimation, and Prediction" had been accepted for publication and was tentatively scheduled for the July 1968 issue of Econometrica. No changes were requested but in going over it carefully and in responding to suggestions from others, Herbert Winokur and I were led to make a number of minor changes.

We hope that this letter reaches you before anything has been sent to the printer, and that you will substitute the enclosed version for the original submission. Two copies are included but additional copies are available if they would be of any use to you. I hope that this request will not inconvenience you, but in any case, please let me know what you do.

With best regards,

Yours sincerely,

Guy H. Orcutt

GHOrcutt:sg

Enclosures (2)

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Professor Borothy J. Hodges
Managing Editor of Mconometrica
Department of Mconomics
University of Wisconsin
Social Science Building
Maddeon, Wisconsin 53706

Bear Borothy:

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We hope that this letter reaches you before anything has been sent to the printer, and that you will substitute the enclosed version for the original submission. Two copies are included but additional copies are available if they would be of any use to you. I hope that this request will not inconvenience you, but in any case, please let me knew what you do.

With best regards,

Yours sincerely,

Guy H. Oreutt

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Mr. Mandayam A. Sreedhar

January 11, 1968

Guy H. Orcutt

Projection of Automobile Demand

in Developing Countries by Mr. Alexander Nowicki

In view of your request concerning Mr. Nowicki's draft on automobile demand, I would like to respond immediately on the basis of a reading of this paper which I did a few weeks ago. As I remember, Mr. Nowicki's study presents the results of a perceptive and excellent literature search along with some original use of data of his own. No doubt if Mr. Nowicki were to do another major study in this area, it would be desirable to have his proposed plan of research receive some intensive discussion and criticisms. Nevertheless, I think what he has already done is very helpful and should receive wider circulation. Perhaps it would be useful to involve Latimer and Stevenson in deciding what should be done next.

GHOrcutt:sg

cc: Mr. Stevenson

Econ. Dipt Bet 1

Mr. Andrew M. Kamarck

December 22, 1967

Guy H. Orcutt 470

Schydlowsky, Daniel M.

This memorandum is a response to your request for an evaluation of Professor Schydlowsky's overall qualifications and a recommendation of where he might best fit in the Bank.

I believe that Schydlowsky is a highly qualified, highly motivated, and exceptionally competent young economist. His rich background and his interest ideally fit him for research activities in the development area, particularly for research relating to South America. I think that the International Bank for Reconstruction and Development would be well advised to hire him on the basis of his substantial general potential. In my opinion, he will become one of the generally recognized scholars in the development area within the next ten years.

Mr. Schydlowsky clearly belongs within the Economics Department if he is hired. Where within our Department is not so clear. My best guess is that he and we would be most pleased if he was somehow fitted into the Investment Planning Division within van der Tak's group. Judging from our talk and his letter to me dated December 14, I believe that he should start out working on either project evaluation or on investment incentive policy. Both of these interests point in the direction of van der Tak's group. Wherever he starts, it must be recognized that his interests range rather widely and that we should not try and force him into a narrow mold. On the basis of his past work, I would guess that he is somewhat better fitted for operationally oriented research than for basic inductive research.

My knowledge of Professor Schydlowsky is based in part on two meetings with him during his visit to the Bank and on a subsequent letter which he wrote to me at my request. However, I also have looked at some of his publications and I have been interested in him for three or four years. In addition, we were colleagues for several months when I returned to Harvard as a visiting professor during 1965-66.

GHOreutt:sg

cc: Mr. Stevenson

Econ Apit tet

Mr. Andrew M. Kamarck

December 21, 1967

GUY H. Orcutt Sluy Orcutt

Report on Activities Since Joining

the International Bank for Reconstruction and Development

My primary function, as I perceive it, is to find ways of improving the relevance, quality, quantity, visibility, and use of research carried out by or encouraged by the International Bank for Reconstruction and Development.

In view of my lack of familiarity, both with the International Bank for Reconstruction and Development and with the general area of development research, my central attention has been on overcoming these deficits. Up to this point my education has come mostly from friends, general reading pursued at home and on buses, nearly a full week of sessions organized by the Bank, reading of as much final or intermediate research output of the Economics Department as I could lay my hands on (about 35 papers), scanning a fair number of Country Economic Reports, and a fairly systematic use of my lunch periods to explore, with some sixty individuals, ideas or areas that seemed relevant to my main mission. In addition, I have had an opportunity to learn about the activities of the Bank through our departmental meetings and seminars as well as through a fair number of ad hoc meetings and discussions into which I have been drawn.

My written output to date which I can associate exclusively with the Bank consists of the following:

- 1. Memorandum to Mr. Stevenson relating to the proposed computer rental.
- 2. Memorandum to Mr. Stevenson dealing with the Economic Reports and circulated to the Economic Committee.
- 3. Memorandum to Mr. Sundrum concerning one of his studies.
- 4. Memorandum to Mr. Shoaib through Mr. Stevenson on Grant Element Tables
- 5. Memorandum to Mr. Stevenson containing a minor suggestion about reprint covers.

- Memorandum to Mr. Bhatia in connection with discussions about classification and indexing of papers and studies of the Economics Department.
  - 7. Draft of "Research and the Economics Department" circulated to Mr. Friedman, Mr. Kamarck, Mr. Stevenson, and Mr. de Vries.

Numbers 1, 4, 5, and 6 of the above items were done as a result of requests from Mr. Stevenson. Numbers 2 and 6 resulted from requests by Mr. Friedman. Number 3 resulted from a request by Mr. Sundrum.

At the request of Mr. Kamarck, I attended a Seminar on Application of Science and Technology to Development. At the request of Mr. van der Tak, I chaired a Department Seminar on "Risk Analysis in Investment Appraisal." On various occasions I have spent a fair amount of time on research issues raised by Mr. Goreux, and perhaps four or five other members of our Department have consulted with me about their work.

On the basis of my general research interests, I attended the following:

- 1) University of Michigan Survey Research Center, Research Advisory Committee Meeting
- O.E.O. Advisory Meeting and discussions relating to a five-year panel study bearing on poverty.
- 3) Brookings' Conference on the Affect of the Investment Tax Credit on Accelerated Depreciation on the Level of Investment.
- 4) Advisory Committee Meeting on the Brookings' Computer Center.

In addition, I drafted several expository papers for the Economic Panel of the Behavioral and Social Sciences Survey Committee sponsored by the National Academy of Sciences and the Social Science Research Council.

At the time I joined the Bank, I, along with others, had a number of studies close to completion or in various stages of publication. To minimize this overlap, I had delayed joining the Bank until September 1, 1967. Nevertheless some overlap was unavoidable. Some of these studies do have a substantial relevance for development research

December 21, 1967

but these papers were aimed at a different market. As a result, their bearing on the Bank will seem remote to anyone that hasn't thought very deeply about both the need for and the difficulties associated with inductive studies. In any case, I have used a minor part of my time and quite a bit of my secretary's time in moving the following studies towards publication:

- 1. "First Order Autoregression Inference, Estimation and Prediction."
- 2. "Data Aggregation and Information Loss."
- 3. "Incentive and Disincentive Experimentation for Income Maintenance Policy Purposes."
- 4. "Research Strategy in Modelling Economic Systems."

During the last several weeks I have been pleased to learn that the first one was accepted for publication in Econometrica and the second and third were accepted for publication in the American Economic Review. The fourth is to be published in a book of proceedings of a conference on the future of statistics. I was also pleased to have "Microeconomic Analysis for Prediction of National Accounts" appear in print in Arquivo Bo Instituto Gulbenkian De Ciencia. It will eventually appear in a book being edited by Herman Wold. The second, third, and fourth items mentioned above do have a bearing on and will underlie my thinking about development research strategy.

Accompanying this memorandum is a letter from Richard Ruggles, indicating that I have been elected a Council Member of the Econometric Society by the Fellows of that Society.

At the request of Mr. S. Aldewereld and the suggestion of Mr. Stevenson, I have agreed to devote my major efforts during the next four to six weeks working with a small group which I believe he intends to head up. The focus of concern will be policy issues associated with International Bank for Reconstruction and Development liquidity.

Starting with the end of January, I will try and turn in a brief monthly report of my activities.

GHOrcutt:sg Attachment (1)

cc: Mr. Irving S. Friedman Mr. Alexander Stevenson

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Mr. Samir K. Bhatia

December 20, 1967

Guy H. Orcutt & HO

Author Indexes of Completed Studies, Studies in Progress, and Planned Studies

The primary functions of these three indexes would be to help users of our research output obtain final or draft papers that are available to them and to identify individuals and divisions working on problems of interest to them.

By keeping these indexes compact and concise, users will be encouraged to scan and may discover additional research of interest to them. By prominently displaying the names of authors, researchers will be encouraged in a modest way, to take pride and satisfaction in their work. This will be of some help in recruiting and holding good researchers. It also will lend a little encouragement to achieving both higher quality and more quantity of research output.

All indexes which are distributed should contain an indication of availability of each item and an explicit statement about how items may be obtained.

It is assumed that the research activities and output of the Economics Department will be presented in various ways in addition to the proposed author indexes.

The following draft "Author Index of Major Studies" is included to give a concrete idea of the form I have in mind for each of the three proposed author indexes.

GHOrcutt:sg Attachment (1) cc: Mr. Stevenson

#### International Bank for Reconstruction and Development

#### Economics Department

# AUTHOR INDEX OF MAJOR STUDIES January 1, 1968

- CARTER, NICHOLAS G., "A Linear Programming Model of the Output and Employment Possibilities of the Economy of Jamaica 1965-1975; Preliminary Results," Applied Quantitative Research, Department Working Paper No. 8, October 30, 1967.
- DE VRIES, BAREND A., "Export Experience of Developing Countries," Front Office, EC-153, May 16, 1967.
- DE WEILLE, JAN and ANGELES, HAWTHORNE "A Review of 62 Road Project Appraisal Reports, 1960 to 1966," Investment Planning, Department Working Paper No. 5, December 4, 1967.
- DE WEILLE, JAN and KIM, HYUNG M., "Present Worth Calculation of Projects: 12 Tables," Investment Planning, Department Working Paper No. 2, June 5, 1967.
- EKLUND, PER "Earmarking of Taxes for Highways in Developing Countries," Domestic Finance, Department Working Paper No. 1, June 6, 1967.
- ELZ, DIETER "Basic Trends in World Coarse Grain Economy," Export Projections and Trade, EC-151, \_\_\_\_\_.
- ESCHENBACH, ANN "Commodity Price Series," Statistical Services, Department Working Paper No. 6, October 2, 1967.
- HALL, MARSHALL "An Analysis of the Determinants of Money Wage Changes in Jamaica, 1958-1964," Applied Quantitative Research, Department Working Paper No. 7, October 30, 1967.
- HAWKINS, E.K., KAO, S.N. and LEON, P., "The World Bank's Estimates of Capital Inflow into the Developing Countries," Applied Quantitative Research, EC/0/67-87, July 3, 1967. For copies, contact Mr. Owen, Secretary's Office.
- KING, BENJAMIN B., "The Mechanics of Growth and Debt," Front Office, Department Working Paper No. 4, August 31, 1967.
- LOVASY, GERTRUD "Development of U.S. Coffee Consumption, Analysis and Forecast," Export Projections and Trade, Department Working Paper No. 9, November 1967.
- OURY, BERNARD 'Program Windex for the Systematic Calculation of a Weather Index to be Used in Agricultural Production Analysis," Investment Planning, Department Working Paper No. 3, August 14, 1967.
- SINGH, SHAMSHER and STAFF "Commodity Price Trends, 1967 Edition," Export Projections and Trade, EC-155, August 1967.

<sup>1/</sup> For Working Papers, contact Mr. S.K. Bhatia, Room B-803, Ext. 2285. For EC-151, EC-153, and EC-155, contact General Files, Ext. 2451.

December 15, 1967

Mr. Alexander Stevenson

Guy H. Orcutt XX()

In looking at the working papers put out by our Department, it has struck me from time to time that they could be enhanced in a modest way by the addition of suitable covers. To give you an idea of what I have in mind, I have enclosed two examples of the type of covers used by others. I don't have any particular view as to how the covers ought to look although I do think it would be a distinct asset if they could be attractive and colorful enough to attract attention. The idea of having a window cut in the top of the front cover sheet is not always used but it does have the advantage of permitting the information which is constant, from paper to paper, to be presented in an attractive way and printed up for use as the need arises.

GHOreutt:sg

PRESIDENT Hendrik S. Houthakker

Professor of Economics Harvard University Cambridge, Massachusetts, U.S.A.

VICE PRESIDENT

Frank H. Hahn Churchill College University of Cambridge

SECRETARY Richard Ruggles Professor of Economics Yale University

TREASURER
Nancy D. Ruggles
Yale University

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University Institute of Economics

Oslo, Norway
Jack Johnston
University of Manchester

Com. Centre of the Hungarian Academy Edmond Malinvaud l'Ecole Nationale de la Statistique et de l'Administration Economique

John Sargan The London School of Economics Richard Stone University of Cambridge Herman Wold

University of Uppsala NORTH AMERICA

Kenneth J. Arrow Stanford University Hollis B. Chenery Harvard University Gerard Debreu University of California Leonid Hurwicz University of Minnesota Lawrence R. Klein University of Pennsylvania T. C. Koopmans Cowles Foundation for Research mics at Yale University in ' Jacob schak University of California Marc Nerlove Yale University Robert Solow Massachusetts Institute of Technology Robert H. Strotz

LATIN AMERICA Octaviano Campos Salas

Northwestern University

Secretary of Industry & Commerce, Mexico Enrique Cansado Inter American Statistical

Training Center (CIENES), Santiago

INDIA AND SOUTHEAST ASIA Sukhamoy Chakravarty Delhi College

Bagicha S. Minhas Indian Statistical Institute, New Delhi FAR FAST

Shinichi Ichimura Osaka University Hukukane Nikaidô Osaka University

OTHER AREAS

M.C. Kemp The University of New South Wales Nissan Liviatan The Hebrew University of Jerusalem

## THE ECONOMETRIC SOCIETY

An International Society for the Advancement of Economic Theory in its Relation to Statistics and Mathematics

> BOX 1264, YALE STATION NEW HAVEN, CONN., 06520 U.S.A.

December 14, 1967

Mr. Guy Orcutt 6202 Maiden Lane Bethesda, Maryland

Dear Guy:

It is my pleasure to inform you that you have been elected to the Council of the Econometric Society for a term of three years. The duties of this office are not arduous, but we hope that you will be able to give the Society the advantage of your advice and counsel during this period. The enclosed list gives the complete election results.

It is customary to list the Council members with their affiliations on the back cover of <u>Econometrica</u>. Could you please let us know at your earliest convenience how you would like to be listed. For our records, please include your home address, and home and professional telephone numbers, as well.

The Econometric Society will hold a dinner following the Presidential Address at the Econometric Society meeting in Washington on Thursday, December 28, at 6:30 p.m. As a newly elected Council member, you are invited to attend this dinner. I hope very much to see you there.

Sincerely yours,

Richard Ruggles Secretary

RR/h

p.s. I am enclosing an air mail reply postcard so that you can inform the Local Arrangements Chairman, Gary Fromm, whether you can attend the dinner. Guy H. Orcutt (through Mr. A. Stevenson)

#### Grant Element Tables

Enclosed with these comments are:

- Grant element tables for hypothetical loans and one table for selected loans with special repayment terms.
- 2) A copy of selected pages from Aid and Indebtedness, OECD, Paris, 1966 by Goran Ohlin.
- 3) A note by Mr. Arun Shourie on terms of lending.

The grant element tables prepared at your request were based on the formulae given in the above work of Ohlin. A copy of the relevant parts of Ohlin's study and the note by Mr. Arun Shourie have been included in case you might wish to delve more deeply into the foundations and implications of these tables. A brief description of the underlying logic follows.

#### Grant Element Tables

If an institution provides a loan at terms which are more attractive than those which it could command in the market place, it might be said that the loan contains a grant element. The size of the grant element depends on the terms of the loan relative to the financially most attractive alternative usage of funds which is open to the institution.

In placing a value on the grant element of a loan, a problem arises because the grant associated with the loan is given in the form of more favorable terms than justified solely on the basis of market considerations. This means that the grant is in the form of a flow which extends over the life of the loan rather than being a lump sum given at the time of transfer of the loan.

A standard procedure in comparing the value of financial flows over time is to compare their present values as obtained by discounting the financial flows back to the present. This same technique has been used in preparing the tables entitled Grant Elements which accompany these comments. Six percent, net of administrative costs, has been taken as the assumed market rate at which the loaning institution could

have loaned its money throughout the life of all loans which are compared. 1/ The time series of differences, between what would have been paid in interest and amortization on a flat six percent interest loan of equal maturity and no grace period and what would be paid under a loan containing a grant component, have been discounted back to the present at a six percent rate and expressed as a percentage of the original loan. It is these present values, in percentage terms, which are called grant elements and which are presented for various combinations of the interest rate, term, and grace period of a loan.

As will be seen, the tables presented include comparisons encompassing yet another dimension along which loans may differ. Thus, by moving horizontally and to the right on any row of the tables, one can observe the extent to which the grant element of a lean is reduced by the presence of tie-in provisions which result in increasing the original cost of obtaining the same real capital by 5%, 10%, 15%, 20%, and 25%.

Table Headed "Grant Elements - Selected Loans With Special Repayment Terms"

All grant element calculations need to be interpreted and applied with great caution, however this is especially the case with respect to this table.

The objective behind this table was achievement of greater concreteness. With this end in mind, the grant element calculations were carried out for selected loans. The need for added caution follows from the fact that, while the calculations do relate to selected loans, some of the assumptions underlying the calculations may not be fully appropriate to each set of selected loans. Thus, since the very concept of grant elements relates to the value of opportunities foregone by the lender, it is clear that the 6% rate used in discounting back to the present may not be correct or even equally inappropriate in the various cases presented. Furthermore, although the results of computations are given for various assumed costs of tie-in provisions, it is essential to recognize that in some cases, such as that for IBRD loans, there are no tie-in provisions for which it would be appropriate to assign a positive cost.

If the obtainable rate used for discounting were taken to be higher, the calculated grant elements would, of course, be higher for all combinations of the term, grace period, and actual interest rate charged.

### Grant Element Tables and the Borrower

Grant element tables may be useful to the borrower if properly understood. However, they only present a single significant aspect of a loan situation as appropriately seen by the lender. There is some connection between the grant element of a loan as seen by a lender and its relative attractiveness for a prospective borrower. However, it doesn't necessarily follow that the loan, which is most costly to the lender, is the best choice for the borrower any more than it follows that the loss, made by a manufacturer of a product, enhances the value received per dollar spent by a customer.

Policy choices facing a nation with respect to its capital stock and its financing are important ones, but they also are very difficult ones. They are difficult because they depend on value judgements that policy makers find very hard to make and because they depend upon predictions which researchers find difficult or impossible to make with any satisfactory degree of either accuracy or assurance. They have much in common with those faced by many large business firms. Both have some freedom of action with respect to level of capital stock, internal versus external financing, equity versus debt financing, and the term structure of debt financing. Both may have options involving tie-ins and both may have a bewildering array of debt possibilities open to them.

## Value Judgements Must be Made by the Borrower

External financing has obvious attractions for any country that is near a subsistence level and for any country which wishes to increase its capital stock faster than can be financed domestically. To the extent that external financing is sought, debt financing is likely to be less costly than equity financing per dollar increase in the capital stock level which is achieved and maintained. To the extent that external debt financing is used, short term debt is likely to be less expensive per dollar increase in the capital stock level than long term debt. Of course debt which was payable on demand would be even cheaper so long as the risk of default appeared to be negligible. Why then doesn't every country always prefer to raise its capital, when in a position to do so, on a short term, low interest basis? The reason, of course, is that to do so would increase the risk of having to accept very unfavorable credit terms at some point in the future, of having to default, and/or of experiencing a foreign exchange crisis.

To obtain and hold an additional billion dollars worth of capital on the basis of one year loans would require an annual level of refinancing twenty times as high as to do so on the basis of twenty year loans. If the current availability of funds were to continue, and if net export earnings continued or increased as expected, refinancing on an annual basis might be a lot cheaper than refinancing on a twenty year basis. However, what happens if foreign credit unexpectedly dries up, or if export earnings fail to grow as anticipated. or if imports grow faster than planned? To borrow on a demand basis, as banks do, would be even cheaper but the risks involved might be intolerable. Assume for the moment, that the policy maker could obtain a firm estimate of the probability of catastrophe that goes along with each possible debt structure. How much greater carrying charges are justified in order to reduce risks by a given amount? This kind of value judgement, concerning the future of a nation, is difficult for individuals to make for exactly the same reasons that it is difficult to choose between spending an additional number of billion per year on defense and running a one percent higher risk of some military disaster. In both situations, policy makers are faced with choices which would remain exceedingly difficult even if researchers could supply policy makers with perfect knowledge of all relevant probabilities. In both situations value judgements must be made by policy makers.

#### Research Problems

As pointed out in the preceding section, a rational external debt policy is dependent on difficult and rather subtle value judgements. Unfortunately it also is dependent on the success with which several different kinds of predictions can be made. To simplify the discussion, it will be assumed that the level of real capital stock to be obtained and maintained within a country is given. It also will be assumed that the fraction of this capital stock to be financed by external debt has been determined. 1

Comparison of alternative loan possibilities doesn't pose any problem if they differ only with respect to a constant interest rate level. The one with the lowest interest rate will be the most desirable one independently of value judgements and any prefictions

<sup>1/</sup> In practice, of course, the level of real capital stock obtained and the methods chosen to finance it should depend upon interest and other costs associated with having it.

Comparison of alternative loan possibilities, which are identical except with respect to a constant interest rate level and the presence or absence of various tie-in provisions, also is reasonably straightforward. The added costs, due to tie-in provisions, of obtaining the same real capital must be estimated for each alternative loan possibility. The sequence of payments that would be required to finance a given amount of real capital can then be calculated for each alternative. The alternative yielding the lowest level of interest and principal payments should be the preferred one independently of value judgements and predictions. 1/

Comparison of alternative loan possibilities which involve different patterns and periods of repayment poses some very difficult research problems. The trouble is that rational consideration of such alternatives depends in an important way on the external debt and equity finance structure of a country as well as on the magnitude and structure of its exports and imports in relation to the internal structure of its production and consumption.

Given large reserves and a low internal debt along with stable and relatively large exports and imports, a country understandably might choose to do most of its foreign borrowing on short term loans at relatively low interest rates. Capital financed in this way would have to be continuously or frequently refinanced but this might be easy to do. Given low reserves and a high external debt along with unstable and relatively small exports and imports, a country might be well advised to prefer long term debt at moderate or even high interest rates to short term debt at low interest rates. The need for large scale continuous refinancing associated with short term debt would continuously expose the country to the specter of not being able to meet its fixed foreign exchange commitments due to fluctuations in either its exports or its imports or due to a drying up of foreign credit associated with world events entirely beyond its control. Even in the absence of a foreign exchange crisis, such a country might suddenly find itself faced with very unpalatable demands from its creditors.

How much a country should be willing to spend in interest charges to minimize the risk of crises depends partly on value judgements, but it also depends on obtaining an assessment of the risks involved

If calculation of added costs due to tie-in provision cannot be done with negligible uncertainty, then value judgements concerning risk taking would be needed to deal rationally even with this simple problem.

and of how its external debt structure influences these risks. This is difficult to do because the magnitude of such risks depends on a large number of factors some of which are beyond its control. Research could help to establish the connection between such risks and the external debt structure of a country. However, the needed research is substantial and the degree of success which could be achieved is uncertain.

GHOrcutt:sg Enclosures

Econ. Apt Activ.

Mr. F. M. Tamagna

November 16, 1967

Guy H. Orcutt 93/0

Enclosed are several papers which may be useful in indicating the directions in which my interests have been centered during the last couple of years. This work, with the exception of the paper on experimentation, was undertaken before I had any idea of coming to the Bank and was prepared with different problems and different audiences in mind than those to which I now wish to address myself.

Probably my concern for achieving more effective testing of hypotheses and improved estimation of relationships will continue. On the other hand, I doubt that I will attempt to make any personal contributions in the areas of simulation, macro-model building, and mathematical economies.

Please do not feel that there is any need to comment on the enclosed or even do more than quickly leaf through this material. In due course I hope to produce something that relates to Bank problems and possibilities as I see them. When that happens, I will be most anxious to receive comments and guidance from my colleagues.

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Guy H. Orcutt

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Mr. Isaiah Frank

Guy H. Orcutt

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Mr. Bela Balassa

Guy H. Orcutt

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Mr. Dragoslav Avramovic

Guy H. Orcutt 9

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Mr. Benjamin B. King
Guy H. Orcutt

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Mr. Andrew M. Kamarck
Guy H. Orcutt AN.O.

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#### Enclosures

cc: Mr. Stevenson

Mr. de Vries

Mr. Sacchetti

Mr. Collier

Mr. Kalmanoff

Mr. Goreux

Mr. Please

Mr. Hawkins

Mr. Walstedt

Mr. Macone

Mr. Tiemann

Mr. Levy