EXHIBIT E

RESEARCH EXPERIENCE IN THE GOVERNMENT SERVICE

General Nature of the Research Work Undertaken

For several years I have been occupied in a study involving an examination of the economic processes through which technological advances are applied and the effects which the modes of application have on the volume and character of production, employment, and unemployment. The following are a few of the questions which we sought to answer: The extent to which recent technological changes have affected the amount of labor required per unit of product; some estimate of future trends in production and employment; to what extent did changes in industrial techniques affect overall labor supply, the labor supply of specific industries, specific areas, and specific occupations and skills; how technological developments have resulted in the growth of monopolies, and how these monopolies have used their control of plant and resources, research and patents to restrict the fullest growth of production.

The desirability of covering as wide a field as possible and of utilizing available resources of research material dictated the study of the major industries, manufacturing, mining, agriculture, and transportation. Within these groups a many-sided approach was undertaken to cover as diverse as possible a selection of types of technological change and industrial situation. Field surveys were made in agriculture with the help of the Department of Agriculture, in mining with the cooperation of the Bureau of Mines, in transportation with the cooperation of the Railroad Retirement Board. To help complete the picture a series of surveys were made of the Labor Market which focused on individual wage earners as they were affected by technological change. All in all 70 monographs embodying the results of these studies were published.

We are now completing our final study interpreting the results of our specific studies. Its tentative title is Technology, Production, and Employment. The table of contents of this study is attached to this application.

Specific Projects on Which I Worked

I collaborated on the study of Production, Employment, and Productivity in 59 Manufacturing Industries 1919 to 1939. The purpose of this report was to measure the degree to which the increased productivity of labor has in recent years reduced the amount of labor required to produce a given quantity of goods and on how widespread

these reductions have been. It is based on secondary statistical date and measures the changes in production, employment, and productivity that have occurred in 59 manufacturing industries during the post-war years.

The approach to the problem of measuring productivity is that the method of measuring must be made dependent on the purpose which the measure is to serve. One of the principal objectives was to inquire into the relationship between reemployment opportunities and changes in productivity. The methods used for the present study were developed out of specific questions formulated in the light of this objective. For the first time formulas for constructing index numbers of production and productivity were specifically designed for use in inquiries on employment opportunities. There also an attempt is made at an explicit formulation of the underlying assumptions and of the economic meaning of these special-purpose measures.

The construction of adequate measures of productivity was a considerable statistical task since the data that were available had originally been compiled for other purposes. An attempt was made to canvass as completely as possible all data on production, employment, and hours of work that could be discovered in published and unpublished sources.

I also collaborated on the study Trade-Union Policy and Technological Change. This is a study of those trade-union measures which were designed to cope with the immediate and direct effects of technological change on workers. These include those influences on skills, occupations, work loads, wage rates, tenure, and other conditions of employment which make themselves felt at the place and time where new techniques are introduced. I helped collect the material from various secondary materials particularly trade union publications and from interviews with trade union leaders, and helped to plan the use of these materials in the report proper.

During the past two years I have been collaborating with the Principal Economist in preparing the manuscript of the final report, Technology, Production, and Employment and seeing it through to completion. I have been developing and analyzing independently materials relating to several major sections of the report, interpreting results, and writing and rewriting several sections. I have been assisting in the organization of the report as a whole, in regard to content and methods of presentation.

I was directly responsible for the writing of one of the chapters of Part I of the final report (see Contents exhibit attached): Chapter B - Power Developments in Relation to Changes in Industrial Techniques. I was also responsible for five of the chapters in Part II: Chapter C - The Agricultural Industries; Chapter E - Power Production

as a Separate Industry; Chapter H- The Communication Industries, and Chapter I - Wholesale and Retail Trade, and Chapter J - The Financial Services. I collected much of the material and helped develpp a good part of the approach in Part IV - Technology and Changing Competetive Structure.

During most of this time I have had working under me as many as 10 research assistants, statistical clerks, and computers, and typists who assisted me in the preparation of my work. I had to plan and supervise the work for these people.

Knowledge of the Electrical and Machine Industry

I have made some industry studies of production, employment, and productivity for various sectors of the industry. I also studied the organization and control of the industry, its research and patent set-up, and its sundry pricing policies. Moreover, I believe that my general background of research into industry problems gives me a good basis for quickly understanding the problems of any particular industry.