

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: National Product in Wartime

Volume Author/Editor: Simon Kuznets

Volume Publisher: NBER

Volume ISBN: 0-87014-043-4

Volume URL: <http://www.nber.org/books/kuzn45-1>

Publication Date: 1945

Chapter Title: Front matter to "National Product in Wartime"

Chapter Author: Simon Kuznets

Chapter URL: <http://www.nber.org/chapters/c5465>

Chapter pages in book: (p. -9 - 0)

40 - 60 93

National Product
in
Wartime

Simon Kuznets

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

New York 1945

LC 103 mar

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Printed in the U.S.A. by the Academy Press; bound by H. Wolff, New York

Publications of the
National Bureau of Economic Research, Inc.

Number 44

National Product in Wartime

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Preface

WHEN carefully examined, estimates of national product¹ are seen to be compounds of statistical data of varying accuracy based upon assumptions concerning the purpose, value, and scope of economic activity. These assumptions must be kept clearly in mind since they affect the estimates and their meaning much more than do inaccuracies in the statistical data.

National product may be defined as the total net contribution of economic activity in a nation. But this definition cannot have a precise meaning, or the total a unique value, unless the underlying assumptions are specified. *Contribution* has meaning only in terms of definite ends. *Net* assumes a distinction between goods that satisfy the ends directly and those that serve them indirectly, through entering other, final, goods. Confining the concept to *economic* activity implies a distinction between it and activities that may satisfy the same ends but cannot be classified as economic. A *total* net contribution assumes some scheme by which qualitatively different final products are given comparable and additive weights. Finally, reference to the *nation* implies its separate entity, to whose ends, as postulated, economic activities are directed, rather than to those of mankind at large.

Specifying these underlying assumptions raises many thorny problems even in peacetime. As they have been discussed at length in the national income literature,² to deal with them here would be superfluous. We note merely that the problems arise largely from the conflict between the aim of the investigator and the recalcitrant nature of reality. The investigator desires and society needs estimates of national product comparable within a nation from period to period, between nations, and composed of comparable parts at

¹ The term is used here synonymously with national income in order to emphasize the real contents rather than the dollar aggregates in changing prices.

² See, among others, the author's *National Income and Its Composition* (National Bureau of Economic Research, 1941), I, Ch. 1, and the six volumes of *Studies in Income and Wealth* (National Bureau of Economic Research), particularly I, II, III, and VI.

any given time. Yet such estimates can be made only under assumptions that reduce to a common denominator the various sectors of an economy at any given time, or of the nation's economy at different times, or of the economies of different nations. The differences in these elements shift over time and across space. This complexity of observable reality compels the investigator to select one set of assumptions from among many concerning the purpose, value, and scope of economic activity. No matter what assumptions are adopted, so long as they are stable in space and time violence is done to the complexity and heterogeneity of the aspects of social activity that are essentially economic. Consequently, there is always room for disagreement whether a given set of assumptions is less or more applicable in view of the uses to which the estimates are to be put.

Obviously, a major war magnifies these conceptual difficulties, raising questions concerning the ends economic activity is made to pursue. It influences, partly through the effect on the ends and partly in other ways, the distinction between intermediate and final products and thereby between net and gross national product. It shifts markedly the boundaries of free market institutions, of government controlled activities, of the family and of other institutions. And it accentuates the degree to which national interest is permitted to determine the scope of national product.

We consider some of the conceptual problems in estimating national product raised or magnified by war, and attempt to apply the tentative solutions worked out in measuring changes in it during World Wars I and II. In Part I we discuss the interpretation of war output as a component of national product viewed as a sum of final goods, i.e., goods satisfying directly the purposes of economic activity. Does war production satisfy wants of ultimate consumers, in this case merged in an entity called the 'nation', and is it therefore on a par with the flow of consumer goods? Or should war output be classified under capital formation—investment needed to sustain or augment the capacity of the nation's economy to produce goods in the future? Should the aims served directly by war production—defense of the nation's social institutions or attainment of what is deemed its proper place in the world—be classified as themselves ends, on a par with the provision of consumer goods? Or should they be put first? Each position is

illustrated statistically, and the one singled out that seems most appropriate either for the shorter term of a major war or for the longer term that would span both peace and war.

In Part II the ways in which war and nonwar production is priced are contrasted. War and peace type products (or resources entering them) cannot be added into a national product total until the differences in their valuation due to differences in the institutional mechanisms that determine their respective market prices are corrected for. Though the problem is clear, its solution is far from easy. The statistical analysis, for the five years associated with this war, yields several variants, selection among which is necessarily a matter of judgment. But they suggest a basis for translating the economic experience of wartime, affected as it is by the circumstances of a concentrated effort to win a war, into terms comparable with peacetime, so that what has happened can be appraised and interpreted as part of the longer term changes that may persist in the foreseeable future.

In Part III changes in national product and in its chief components during World Wars I and II are compared. For each, five years are covered—1914-18 and 1939-43. Despite the differences in the character of the two wars, several striking parallels can be observed: in the growth of national product, in the increase in the share of war output, in the greater importance of manufacturing, in the distribution of income by type and by size. On the other hand, during this war the increase in national product and in the share of war output was bigger, the emphasis on manufacturing more conspicuous, and the shift in the distribution of income payments in favor of service incomes more striking. All these similarities and differences should help us to understand the nature of the readjustments that will have to be faced after this war.

One wishes that the conceptual problems could be resolved without recourse to alternatives and variants; and that statistical analysis would admit of unequivocal conclusions, which could then provide a firm factual basis for understanding what has happened and perhaps for considerations of policy. To the degree that the problems are not resolved and the statistical analysis yields several variants rather than a single estimate, this report is merely a half-way house from which we cannot as yet remove the scaffolding of alternative assumptions and estimates.

This is due only in part to inadequacy of data, which forces one to make various guesses instead of a single reliable estimate. It is due even more to a conscious allowance for the possible validity of different viewpoints and divergent assumptions. Confining oneself to a single viewpoint and to a corresponding single series of estimates would be convenient. However, as national product is a concept that implies answers to problems over which social philosophers have wrangled from time immemorial, the price might be too high.

In preparing this monograph, I have been aided by colleagues at the War Production Board and the National Bureau of Economic Research. To whatever work was done, on the subjects discussed here, while I was associated with the War Production Board, Frederick M. Cone, Loring Wood, and Jacob Grauman contributed much. In piecing out the estimates and making the analysis I have profited, as always, from the expert assistance of Lillian Epstein and Elizabeth Jenks. The ready cooperation of the Department of Commerce, in putting its estimates at our disposal and helping to interpret them, facilitated our task materially.

Suggestions by other colleagues and friends, particularly Thor Hultgren and Geoffrey Moore of the National Bureau staff, were of great benefit. Harold M. Groves and Oswald Knauth of the National Bureau's Board of Directors; Gerhard Colm of the Bureau of the Budget; Morris A. Copeland of the War Production Board; Everett E. Hagen of the Federal Reserve Board; and W. S. Woytinsky of the Social Security Board raised questions that led to other improvements. Martha Anderson has edited the manuscript with her customary patience and attention, bettering its style and making it more readable. To all these my hearty thanks.

Whatever elements of judgment are involved in the conclusions submitted below—and I have tried to identify these elements—are to be attributed to me as an individual observer and student, not as representing in any way either the War Production Board or the National Bureau of Economic Research; nor should these judgments be attributed to any of the colleagues and friends who commented on the manuscript.

SIMON KUZNETS

March 1945