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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE ECONOMIC SURPLUS AND NEO-MARXISîl: A FURTHER REVISION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

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DOCTOR OF PHILOSOPHY

BY

JAMES RONALD STANFIELD

Norman, Oklahoma

1972

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THE ECONOMIC SURPLUS AND NEO-MARXIS.'l:
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The author wishes to acknowledge that, as is the case for ali human endeavor, this study is the product of that peculiar tension between cooperation and competition which is the life process. Robinson Crusoe could no more have penned this study than he could comprise a meaningful social and economic system. Nomination is neither possible nor necessary. Each comrade in cooperation and competition no doubt knows his influence on what follows more certainly than does the author.

July 5, 1972

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CHAPTER I

THE ECONOMIC SURPLUS

Statement of Purpose and Procedure The majör purpose of this study is to contribute to that body of literatüre known as neo-Marxism. The economic surplus concept lies at the heart of this literatüre. This study attempts to derive an operational definition of the economic surplus and to estimate its magnitude for the 19291970 period. This time series is then employed to evaluate the majör v;ork of neo-Marxism, Monopoly Capital. [1]

The procedure is to approach the economic surplus from the output side. The surplus is defined as the difference between potential output and essential consumption. Essential consumption is the sum of personal essential consumption and social essential consumption. Chapters II and III contain the conceptual foundations of these consumption elements. Chapters IV and V are devoted to estimating their magnitudes for the 1929-1970 period.

Paul A. Baran and Paul M. Sweezy, Monopoly Capital: An Essay

Monthly Review Press, 1966).

on the American Economic and Social Order (New York

Potential output is that output attainable if ali factors of production were fully employed. In practice, it is the sum of actual output and some estimate of the gap or unutilized aggregate capacity. Chapter VI contains the conceptual basis for the estimates of potential output set forth in Chapter VII.

Chapter VIII is the concluding chapter of the study. It contains, first, a composite summary of the procedures involved in earlier chapters. Second, three central hypothe- ses of neo-Marxism are evaluated in light of the eviaence of the current study. Finally, such implications as are appro- priate are drawn from the current study. ■

The evaluation of Monopoly Capital involves three hypotheses set forth by Baran and Sweezy. These are, one, that the economic surplus increases through time both absolutely and as a share of national income; two, that the share of the surplus which seeks investment outlets increases through time; and, three, that monopoly capitalism is incapable of absorbing this rising investment-seeking portion.

The first hypothesis, the rising surplus, is uninter- esting given the definitions employed in the current study. Baran and Sweezy are concerned with the question of distribu- tive income shares. The rising surplus is significant if cast- in terms of distributive shares. However, the current study defines the surplus as the difference between potential

output and essential output. In this context, the rising surplus signifies little more than the occurrence of technological change.

The second hypothesis, the rising investment-seeking portion of the surplus, is tested by, first, summing total essential consumption and nonessential personal consumption. Second, this sum is subtracted from potential output to approximate the investment-seeking portion of the surplus. The serial behavior of this sum relative to the surplus contradicts the Baran and Sweezy hypothesis.

The third hypothesis, the lack of sufficient absorption capacity, is equivalent to a downward trend in the operating rate of total capacity. This is tested by the serial ratios of actual to potential output. The lack of any insistent downward movement in this series contradicts the Baran and Sweezy hypothesis.

The fundamental theoretical point of the evaluation of Monopoly Capital is that Baran and Sweezy fail to sufficiently deny the applicability of the competitive law of value. They recognize rising selling costs and other activities which are inconsistent with competitive capitalism. However, they continue to eguate labor income with necessary costs of production, Moreover, they regard ali government expenditures as part of the surplus. Such treatment ignores the reality of a vzorld characterized by big labor, big government, and big business. These repositories of power are not subject to the price system. Rather, they subject the price

system to their own ends. Finally, a significant portion of essential consumption is governmentally supplied social consumption.

The Relevance of the Economic Surplus

The economic surplus is a derivative of Marx's concept of surplus value. Surplus value is the difference between the value produced by a worker in a given period and the share of that value necessary for the maintenance of the worker and the Capital stock. Since, in a competitive situation, a commodity exchanges at its cost of production, the worker is paid only his cost of subsistence no matter that he produces in excess thereof.

The surplus concept central to neo-Marxism and the current study is related to that of surplus value. It is related in that it emphasizes the difference between a given output and the cost of producing that output. However, it is not identical to surplus value because it does not assume that the competitive law of value is operative. That is, it is felt that the emergence of imperfect competition, trade unions, and an interventionist government have altered the face of capitalism and the nature of the surplus concept.
The importance of this change is the theme of Chapter VIII of this study. To be very brief at this point, this evolu- tion of capitalism necessitates the search for the surplus in terms of output rather than in terms of income.

The distinguishing characteristic of the surplus in the

neo-Marxist literatüre is therefore not its representation of surplus or unearned income shares. Rather, it is the element of social choice available as to the manner in which the surplus is to be employed.

> The surplus of an economy in any given year represents the excess of potential total production över socially essential production in that year. . . . What basically distinguishes socially essential production from the surplus is that the former represents a first and largely unavoidable charge on the output of a society — without vhiciı it would begin to decay — whereas the latter is that part of its productive capacity that a society has soıtıe potential freedom to allocate among competing alternatives.[2] [3]

Therefore, the question of income shares is interesting only to the degree that it affects the manner in which this social choice is made.

The surplus concept is fundamental in much of economic anthropology and economic history. It is used to explain the emergence of specıalized labor and cıtıes.

> In the prevailing explanation of the origin of social stratification and the emergence of full-time special- ists . . . , technological progress is pictured as leading to the production of economic surpluses.
> These are thought of as providing the biosocial precondition for the diversion of man-power from 'necessary' or 'subsistence' to specialized, culture-building activities. . . .[4]

---

[2] Thomas E. Weisskopf, "The Problem of Surplus Absorption in a Capitalist Society," in The Capitalist System, edited by Richard C. Edwards, Michael Reich, and Thomas E. Weisskopf (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972), p. 366. The distinction between necessary and surplus production is beautifully illustrated by Joan Robinson, Freedom and Necessity: An Introduction to the Study of Society (New York: Vintage Books, 1971).

[3] See, for example, V. Gordon Childe, What Happened in History? (Baltimore: Penguin Books, 1946) and Social Evolution (London: Watts and Company, 1951).

[4] George W. Wilson, "An Essay on the History of Economic Thought," in Classics of Economic Theory, ed. by George W. Wilson

George Wilson employs the surplus concept to interpret economic history and the history of economic thought. That is, an interplay is found between the extant attitudes toward the surplus and its size and growth.[5] Weisskopf continues the passage quoted earlier by pointing out the ext.ent to which the size and the use of its surplus determines the character of a society.

> in a very significant sense, the nature of a society is revealed by the manner in which it disposes of its surplus. Societies are different to the extent that they make different choices about how to use [their resources]. But there is little choice to make about the provision of essential consumption. . . . There is a real choice to make only about the use of the surplus. The surplus could be used to provide additional (nonessential) consumption for some or ali the people; it could be used to invest in expanding the productive capacity of the economy; it could be used in fighting wars, in building palaces or churches; it could go unused if leisure were substituted voluntarily or involuntarily for the full use of productive capacity. In various parts of the world, and in various historical periods, different societies have been characterized by the different ways in which they have used their surplus.[6]

Thus, the surplus concept is also instrumental in the typification of economic systems. Historically, this

4 Marvin Harris, "The Economy Has No Surplus?," American Anthropologist, LXI (April, 1959), 185.

question of the form of the economic surplus has been closely related to distributive shares. Thus, control of the surplus in feudal society is endowed in the income of the rentier as in early capitalism such control rests in the profits of capitalists. In a collectivized society, the surplus takes the form of a social fund to be administered by those who hold power in the extant institutional configu- ration. Of course, the existence of such a social fund is in itself not sufficient to assure democratic socialism.

(Bloomington, Indiana: Indiana University Press, 1964), pp. 9-36.

Sfeisskopf, "The Problem of Surplus Absorption in a Capitalist Society," p. 366.

The fund may be administered by democratic or elitist or totalitarian decision-making. Here açc.in the r.eo-Marxist must look beyond the nominal form of the surplus to its aetual control and content.

Economic Surplus: Conceptually

The economic surplus concept to be used herein is very nearly that of Baran's "potential economic surplus." In fact, if Baran's original definition of potential economic surplus is taken to be his view, there is no significant difference involved.

> Potential economic surplus [is] the difference between the output that could be produced in a given natural and technological environment with the help of employable produetive resources, and what might be regarded as essential consumption.
>
> This . . . refers to a different quantity of output than what would represent surplus value in *Marx's sense. On the one hand, it excludes such elements of surplus as . . . essential consumption of capitalists, . . . essential outlays on government administration and the like; on the other hand, it comprises what is not

> covered by the concept of surplus value — the output lost in view of underemployment or misemployment of productive resources.[7]

The stipulation that reference is made to Baran's original definition is necessary inasmuch as he strays somewhat in the course of his argument, particularly in the confusing discussion of productive,- unproductive, necessary, and unnecessary labor. Thus, scientists, physicians, artists, and teachers do "not fail under [Baran's] definition of unproductive labor." Yet, they are supported from the economic surplus. And this is supposed to make sense because, as Marx said, "Labor may be necessary without being productive.

Quite probably, the surplus concept Baran has in mind is the one found in a later work done in collaboration with Paul Sweezy. There, economic surplus is given an introductory "briefest possible definition [as] the difference between what a society produces and the costs of producing it."[3] If this is the case, then some of the Services of scientists, artists, physicians, and teachers would appear to be costs of production. So also would a portion of government expen- ditures. For a portion of ali these activities is necessary for the consumption of the population and for the static reproduction of the

---

[7] Paul A. Baran, The Political Economy of Growth (New York: Monthly Reviev; Press, 1957), pp. 23 and 23n. (Italics in original)

[8] Ibid., p. 33.

[9] Baran and Sweezy, Monopoly Capital, p. 9.

productive plant. For example, a portion of education expenditures is necessary to allow consumption at the socially judged minimal level and to reproduce the v;orker, i.e., his children, at his level of skill. Of course, a portion of educational Services is investment, i.e., intended to enhance productive capacity rather-than to merely reproduce it. And, of course, investment is properly considered an element of the economic surplus. Similarly for other expen- ditures, including those for health Services and road construc- tion, there arises a distinction between essential consumption and investment — not to mention waste and nonessential consumption, which are also to be observed.

As has been said, the economic surplus is defined herein as the difference betv;een potential output and essential consumption (real costs of production) . Potential output includes not only output actually attained but feasible output not attained due to unemployment and excess capacity. Essential consumption includes essential personal consumption and essential social consumption. Essential personal consumption is the aggregate guantity sufficient to provide the entire population with that level of consumption judged mini- mally adeguate by society. Essential social consumption includes two elements, social overhead and Capital consumption. Social overhead is that portion of government expenditures which is necessary to reproduce the existing productive capacity. Since essential personal consumption is a cost of production, this

includes those expenditures which are necessary parts of consuraption or necessary to consume essen- tial consumption. For exaınple, the use and enjoyment of (not the earning of an income to buy) the minimal level might presuppose a certain educational level or a certain road network. Capital consumption is, of course, the "true" rate of wear and tear of Capital resources. It is the amount of investment necessary to maintain the existing output capacity. This includes elements other than private investment. Public investment in roads and the like which are necessary for production and which experience wear and tear should also be depreciated. Similarly, a portion of educational expenses is for the replacement of manpower at existing skill levels. Finally, some allowance must be made for the social cost of natural resource depletion.

Economic Surplus; Empirically

Empirically, the procedure follows in a relatively straightforward fashion from the concept. This is not to deny, of course, the familiar compromise between conceptual precision and empirical practice. This compromise is proba- bly somewhat more in evidence than is usual since the data available are cast in categories not altogether commensurate with those herein in guestion. And, of course, collection of primary data is not a relevant alternative. Joseph Phillips stresses the data incommensurability problem especially in

reference to the national income and product accounts collected by the Office of Business Economics of the U.S. Department of Commerce.[8] In this regard, the invisibility of sales effort expenditures and the unreliability of depre- ciation figures in these accounts are outstanding examples. The problem is certainly not absent in data from other sources. The personal consumption budget concept eventually adopted, prepared by the Bureau of Labor Statistics of the U.S. Department of Labor, cast as it is in terms of market prices and income requirements, includes elements which are not considered (essential) costs of production. These elements include such things as property incomes, govemment revenues, and selling costs which are embodied in market prices and must therefore be deleted.

It should be helpful at this point to compare the approach of the present study with that of the only other work known to this author which attempts to measure the eco- nomic surplus in systematic fashion. That is the work by Phillips mentioned above. Conceptually, Phillips is working on the base set down by Baran and Sweezy in the text of Monopoly Capital. He thus includes ali govemment expendi- tures in the economic surplus whereas in the current study a portion of these expenditures is treated as essential costs of production. Phillips is unable to incorporate meaningful

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^Joseph D. Phillips, "Estimating the Economic Surplus," in ibid., appendix, p. 369.

estimates of two components of Baran and Sweezy's economic surplus, although some figures are presented to indicate their raagnitude. One of these is the loss of output due to unemployment which is included in the present study in coup- let with excess capacity. The other is the penetration of the productive process by the sales effort in such phenomer.a as planned obsolescence. No attempt is ır.ade to incorporate this element into the present estimates. Like the present study, Phillips delegates excess depreciation charges and an array of commercial and institutional costs to the economic surplus.[9]

The principal procedural difference between the present study and that of Phillips stems from the two sides of measuring aggregate economic activity. Phillips approaches estimation of the surplus from the income side. He totals property incomes, excess depreciation charges, government expenditures, and wastes in the business process to arrive directly at an estimate of the economic surplus. In the present study, the approach is more closely related to the output side of the ledger. Essential consumption, both personal and social, is estimated as the first step. Then, after estimating potential output, essential consumption is subtracted therefrom to arrive at an estimate of the economic surplus. And, most important of ali, property incomes and government revenues are treated as transfer payments in the present study. This in effect means that they are eliminated from both potential output and essential consumption

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[11] Ibid., pp. 370-384.

prior to the calculation of the surplus.

CHAPTER II

DEFINITION OF PERSONAL ESSENTIAL CONSUMPTİON

In attempting to measure essential consumption, one is faced with a familiar problem dual. On the one hand, there is the difficulty of expressing the concept in a theoretically meaningful manner. On the other hand, there lies the inevi- table compromise between theoretical substance and empirical (especially quantitative) substance. In this ciıapter and the next, the essential consumption concept is derived and given guantifiable expression. In Chapters IV and V, serial sta- tistics are presented estimating the magnitude of essential consumption for the period 1929 to 1970.

Conceptual Budgets

Subsistence Minimum

■ There are a variety of concepts v/hich come to mind in association with the term (personal) essential consumption. Probably the rnost common is that of the subsistence minimum which permeates ali of classical economics. The subsistence minimum in classical economic Science is the "natural" or long- run normal price (or wage) for labor under competitive conditions. In a famous passage, Ricardo shows the social content of the concept by defining it as

> . . . that price v/hich is necessary to enable the labourers . . . to subsist and to perpetuate their race, without either increase or aiminution.[10]

Similarly, Marx spoke of subsistence as the "value of labour power" which is the

> . . . labour-time necessary for the production and . . . reproduction [of a given labour-pov/er which has] ... a definite guantity of the average labour of society incorporated in it. Labour-power exists only as a capacity, or power of the living individual. Its production . . . presupposes his existence. [Hence,] the production of labour-power consists in [the] reproduction . . . or maintenance [of the individual laborer]. For his maintenance he requires a given guantity of the means of subsistence . . . the value of labour-power is the value of the means necessary for the maintenance of the laborer.[11]

The subsistence minimum wage is then that wage which will just allow or induce the laborer to maintain himself and his family. If the actual v/age is sufficiently belov; this minimum, the worker and his family may starve and become suscept- ible to disease. Short of this, the wage may be insufficient to allow the worker to marry and reproduce himself. This, of course, implies a distinction between a wage allowing only physiological existence and a wage proviaing induce- ment to procreate.

This distinction rests vnolly on the relativity of the subsistence minimum. As Ricardo observes, the necessary sub- sistence minimum includes "those comforts which custom ren-

---

David Ricardo, "Principles of Political Economy and Taxation," in Classics of Economic Theory, ed. by George W. Wilson (Bloomington: Indiana University Press, 1964), p. 275.

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Kari Marx, Capital: A Critigue of Political Economy, Vol. I (New York: International Pubİishers, 1967), pp. 170-171.

ers absolute necessariesi.e., "the natural rate of wages" affords "moderate comforts."[12] And, says Ricardo:

> It is not to be understood that the natural price of labour, estimated even in food and necessaries is absolutely fixed and constant. It varies at differ- ent times in the same country, and very materially differs in different ccuntries. It essentially depends on the habits and customs of the people.[13]

Marx is even rcore explicit,

> . . . the number and extent of [the laborer's] so-called necessary wants, as also the modes of satisfving them, are themselves the proauct of historical development, and depend therefore to a great extent on the degree of civilisation of a country, more particularly on the con- ditions under which, and conseauently on the habits and degree of comfort in v/hich, the class of free labourers has been formed. [Contrary] to the case of other commodities, there enters into the determination of the value of labour-power a historical and moral element. [14]

Thus, in the words of Baran, the

> . . . v/ants of people are complex historical phenomena reflecting the dialectic interaction of their physio- logical requirements on the one hand, and the prevail- ing social and economic order on the other.[15]

Yet, it should be noted that this historical and cultural relativit^ of the subsistence minimum need not rob the concept of substance. As both Marx and Baran are quick to point out, despite this lack of temporal or spatial fixity,

> ... in a given country, at a given period, the average quantity of the means of subsistence necessary for the labourer is practically known.[7]

---

12 Ricardo, "Principles of Politıcal Economy and Taxation," p. 276.

^Ibid., p. 277.

14 Marx, Capital, Vol. I, p. 171.

^Paul A. Baran, The Political Economy of Growth (New York: Monthly Review Press, 1957, 1968), p. xvi.

And, whether living standards are in general low or high, it is possible to make

> ... a judgment on the amount and composition of real income necessary for what is socially considered to be [a] decent livelihood.[8]

Other Minimum Consumption Concepts

Other concepts of minimum consumption standards or levels,[9] such as those defining minimum auantities for efficiency or for health and decency or those defining the pov- erty line, either add nothing to the classical subsistence

[7] Marx, Capital, Vol. I, p. 171.

[8] Baran, The Political Economv of Growth, p. 30.

[9] It ıs convenıent to note here the dıstinction between a "Standard" and a "level." The level (or plane or scale) relates to an actual çuantitv of consumption or some other entity. The Standard relates to a norm or abstract quantity, whether empirically or ideally derived. See L. L. Bernard, "Standards and Planes of Living," Social Forces, VII (1928-1929), 115ff, or J. S. Davis, "Standards and Content of Living," American Economic Review, XXXV (March, 1945) , 2-3 and 7-8.

Standard for present purposes or are special cases thereof in the broad, relative interpretation accepted herein. An efficiency Standard represents a guantity of consumption that a family group must have if its members are to function as productive and useful members of society.[16] The appeal of such a Standard is the presumption that it can be set by objective, "hard" scientific judgment rather than by social or ethical values.[17] A strong case can be made for such a Standard vis-a-vis underdeveloped countries since large seg- ments of the populace in such countries hover around physical subsistence levels.[18] However, such a Standard in this case is a special case of the classical subsistence Standard.

The "degree of civilization" (read economic progress) is simply not high enough to support significant relative or psychological factors for more than a small fraction of the population. Moreover, such a Standard neglects a high degree of interaction between the Standard of consumption and the nature of the efficiency in guestion. That is, the guestion "Efficient for what?" is in part determined by the Standard

12

Hugo E. Pipping, Standard of L-iving: The Concept and Its Place in Economics (Helsingfors, Finland: Societas Scientarium Fennica, 1953) , pp. 126ff.

^Richard L. î-leier, Science and Economic Developnent: New Patterns of Livina (2nd ed.; Cambridge, Mass.: MIT Press, 1956), p. 162.

See for exampie Meier's argument, ibid., pp. 156-176.

or level of consumption.[19] Further, relative considerations inevitably enter the picture to some degree as when efficiency is lowered by a feeling on the part of workers that their tools or consumption levels are inferior to those elsewhere.[20]

Consumption standards pertaining to the minimum consumption level necessary to maintain a family in "health and decency" possess even less claim to conceptual separability. Begging the guestion as to the possibility of setting nonrela- tive standards for health, there seems to be little doubt that "decency" is a thoroughly relative concept, imbedded as it must be in the moral sensibilities of society. And, given this relativity, there remains no ground upon which to demand conceptual distinction from the classical Standard as inter- preted herein.

Most of the comments made concerning the above two standards apply with equal force to standards defining the "poverty Üne." From the ongoing debate concerning relative and absolute poverty, it seems clear that relative poverty is simply more relative than absolute poverty, the latter be- ing relative to some degree. Ethical and social judgments concerning the relation of the individual to society and vice versa remain a iarge element in determining what poverty is. Stili, present purposes aside, there is some justification for separating the poverty Standard from the classical subsistence Standard. The former relates mainly to those employed or lov/ly employed and the latter to those normally or averagely

---

19 Pipping, Standard of Living, pp. 127-128.

20 Thomas Nixon Carver, Principles of National Economy (Boston: Ginn and Co., 1921), p. 579.

employed. Hence, for many purposes such as dealing with the social problem of the lowly or nonemployable, the poverty Standard has relevance; Present purposes considered, hov/ever, the poverty Standard has little to offer.

Finally, no systematic treatment of so-called "maintenance" standards is necessary. Such standards obviously beg the guestion "What is to be maintained?" To answer the question with substance is to reply subsistence, efficiency, health and decency, or kindred concepts.

Empirical Budgets

Investigations aimed at establishing minimum necessary quantity or cost budgets have progressed in relation to eco- nomic development. Helen Lamale notes that before 1860, there was little or no interest in measuring income adequacy or in the budgets necessary to determine such adeguacy.[21] In the forty years after 1860, interest in budget standards arose and emphasized physical subsistence minimums. These budgets were based on consumer surveys of families with minimum incomes.

By the turn of the century, two influences had devel oped upon budget studies. First, s.cientific knowledge had progressed sufficiently to allow stipulation of minimum nec-

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Helen H. Lamale, "Changes in Concepts of income Adeguacy Över the Last Centurv,'[1] American Economic Review/Supple- ment, XLVII (Hay, 1958) , 292. The research on the Continent by Frederick Le Play and E. Ducpetiaux, and their student Ernst Engel, is no doubt to be excepted from Ms. Lamale's survey. See U.S., Department of Labor, Bureau of Labor Sta- tistics, Workers' Budgets in the U.S.: City Families and Single Persons, 1946 and 1947, "Family Budgets: A Historical Survey," by Dorothy S. Brady, Bulletin 927 (Washington, D.C.: Government Printing Office, 1948), pp. 41-42.

essary quantities for food and later for housing. The initial impact of this factor was the shift to so-called "ideal budget standards which were set without recourse to actual consumer expenditure surveys. In such budgets, the intent was to determine minimum consumption levels on purely "hard" scientific fundamentals. With the general growth of wealth in the United States, however, a second influence developed: the explicit inclusion of a social or psychological factor in minimum budgets. Thus, in the three decades prior to the Great Depression, there were developed numerous budgets designed to quantify "health and decency," "fair American," or "minimum comfort" budgets.[22] After a minör setback in the Depression, this "social" conception of budgets gained and has held full sway. The fusion of the "ideal" or scientific standards and the empirical consumer expenditure surveys has been the common methodology in the post-World War II period.[23]

Generally, these empirical studies, which set out to provide quantity and/or cost budgets, do not intend to corre- spond with the conceptual standards. discussed above. The empirical budgets are freguently motivated by a particular social or

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For surveys, see National Industrial Conference Board, Family Budgets of American Wage-Earners: A Critical Analysis, Research Report No. 21 (New York: The Century Co., 1921), pp. 1-50. Bureau of Applied Economics, Inc., Standards of Living: A Compilation of Budget Studies, revised edition, Bulletin No'. 7 (Ivashington, D.C., 1921) . Hans Staehle, "Annual Survey of Statistical Information: Family Budgets," Econometrica, II and III (October, 1934, and January, 1935), 349-362 and 106-118, respectively.

23 This brıef hıstorıcal discussion relies in the main upon the references listed in Footnote 15, this chapter.

political purpose rather than by theoretical curi- osity. Quantitative budget types have been widely used in measuring costs of living and its changes and in aiding in the determination of v;age and welfare levels. The budgets reviewed below are limited to those of the United States af- ter 1929.[24] Further, the discussion here is limited to defi- nition of the Standard of consumption contents of these budgets. Serial data on quantities and costs are presented as needed in Chapter IV.

WPA Maintenance Budget

The VJorks Progress Administration's "maintenance" budget is for an "unskilled manual worker's" family consisting of the husband, wife, a son age thirteen, and a daughter age eight.[25] This budget "provides not only for physical needs but also gives some consideration to psychological values." The budget provides for an "adequate diet at minimum cost," as defined by the Bureau of Home Economics, and a four- or five-room house or apartment in "at least a fair State of repair [with a private] indoor bath and toilet." Clothing and household furnishings are provided "with some regard for social as well as materiai needs." Numerous miscellaneous expenses such as carfare, "simple leisure time activities," gas, ice, electricity, and a daily newspaper are included in the budget. The budget is described as being not so liberal as a "health and decency"

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24 For a detailed sumnary of several nationwide and local studies in the 1900-1929 period, see the National Industrial Conference Board's Research Report cited in Footnote 16, this chapter. The survey by Staehle, cited in the same footnote, contains a number of budget studies for countries other than the U.S.

No. 21 (Washington, D.C.: Government Printing Office, 1936).

budget, but providing more than a "minimum of subsistence" living. Further, it is said that the maintenance budget does not approach "a satisfactory American Standard of living" in that such a Standard would include "an automobile, better housing and eguipment, a more varied diet, and preventive medical çare [as well as] provision . . . for future education of children and for economic security through saving."[26]

[19] U.S., Works Progress Admmıstratıon, Division of Social Research, Intercitv Differences in Costs of Living in March, 1935, 59 Cities (Nashinçton, D.C.: Government Printing Office, 1937), p. xiii. The budget is given in detail in U.S., Works Progress Administration, Division of Social Research, Quantitv Budgets for Basic Maintenance and Emergencv Standards of Living, by Margaret L. Stecker, Research Bulletin Series I,

BLS City Workers' Family Budget

The longest serially running budget is the City Workers' Family Budget (CWFB) prepared by the Bureau of Labor Statistics for a city worker's family of four (husband, age thirty-eight; wife, age thirty-six; son, age thirteen; and daughter, age eight).. The original CWFB for 1946-1947 is described as being neither a "subsistence" nor a "luxury" budget, but a "modest but adequate" one. It was designed to estimate

> [6] - . the dollar cost required to maintain [the specified] family at a level of adequate living — to satisfy prevailing standards of what is necessary for health, efficiency, the nurture of children, and for participation in community activities.[27]

The budget represents scientific standards of adequacy in

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[26] U.S., Works Progress Admmıstratıon, Division of Social Research, Intercitv Differences in Costs of Living, pp. xiii-xiv.

[27] U.S. , Department of Labor, Bureau of Labor Statistics, Workers' Budgets in the U.S.: . . . , 1946 and 1947, p. 3.

areas such as food, housing, and medical çare, modified within acceptable adequate ranges by actual consumer expenditures. The budget was prepared with the assistance of the Bureau of Human Nutrition and Home Economics of the ü.S. Department of Agriculture and the Bureau of Research and Statistics of the Social Security Administration, according to standards set by the National Research Council's Food and Nutrition Board, the American Public Health Associatıonˈs Committee on the Hygiene of Housing, and the Federal Public Housing Administration. Data on consumer expenditures

collected in the period 1929-1941 and checked in 1944 were used to determine the content of the budget within the accepted range.[28] [29]

The Bureau of Lahor Statistics discontinued pricing the original CWFB in October, 195ı, since the quantities and qualities of goods and Services therein v.[7]ere based on stan- dards prevailing prior to 1941. An interim CWFB was published in 1960 which revised the content of the original budget to reflect the level of living prevalent in the 1950s. The interim budget did not involve a revision of the modest but adequate concept nor of the type, size, or composition of the representative family. The same agencies as before advised as to the scientific standards for food and housing, and the method for choosing specified goods meeting these standards remained that of surveying actual consumer expen- ditures. And, as before, these expenditure patterns were used to determine guantities where scientific standards were not available. The primary consumer expenditure data used were that of the 1950 Bureau of Lahor Statistics study. The BLS estimated that of the 40 percent increase in the cost of the budget between 1951 and 1959, more than half reflected rising living standards, the rest being due to rising prices.[2]

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28 Ibid., pp. 1, 3, 4, 9, and passim.

29 Helen H. Lamale and Margaret S. Stotz, "The interim City VJorkers' Family Budget," Monthly Lahor Review, LXXXIII (August, 1960), 785-791.

A more complete revision of the CWFB was published in 1967. Again, no change was made in the basic "modest but adequate" concept, in the representative family composition, nor in the method of combining scientific standards and con- sumer expenditure patterns. The revised budget was meant to reflect norms of living extant in the 1960s, cuid expendi- ture studies of 1961-1962 were used. One change in format was the. inclusion of small towns, apparently those adjacent to the thirty-nine majör metropolitan areas. This being the case, no substantial inconsistency with earlier budgets is expected since the earlier budgets included suburban areas. Other changes reflect rising living standards. Homeovmer costs such as mortgage principal and interest payments, insurance, taxes, and maintenance costs were added. A higher percentage of families was assumed to own automobiles, more meals away from home were included, and meals at home were based entirely on the Ü.S. Department of Agriculture adequate diet at moderate cost plan rather than an average of the low and moderate cost plans as in the past. No esti- mate of the percentage of the total cost increase due to higher living standards is given.[30] Since 1967, the CWFB has been priced at three levels with the intermediate level cor- responding to the "modest but adeguate" concept.[31]

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30 Phyllis Groom, "A New City Wcrkers' Family Budget," ibid., XC (November, 1967), 1-8.

31 Jean C. Brackett, "New BLS Budgets Provide Yardsticks for Measuring Family Living Costs," ibid., XCII (April, 1969), 3, 5, and 7.

27
Social Security Administration Near-Poverty Line Budget

Of relatively recent origin are the poverty line budgets asseınbled by the Social Security Administration's Division of Research and Statistics. Of interest here is the "near-poverty" budget which is based upon the United States Department of Agriculture's adequate diet at minimum cost "low-cost[lt] plan rather than the "poverty budget" based upon the USDA's "economy" food plan. The latter is 75 per- cent to 80 percent of the basic low-cost plan. The method used by Ms. Orshansky in deriving the poverty line is to estimate from consumer surveys the proportion of income go- ing to food, then to use this proportion and the cost of the low-ccst food budget to estimate the total budget nec- essary for families of various sizes and compositions.[32]

The provisions of this budget are rather stringent. The skill at household management reguired to stretch the budget to attain the adequate food seems to be extraordinary. At the low-cost level, 90 cents per day per person in 1963 prices is allowed for food. There is no provision in the budget for meals away from home nor even milk or coffee to supplement a brown-bag lunch.[2 7]

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2 6 Mollie Orshansky, "Counting the Poor: Another Look at the Poverty Profile," Social Security Bulletin, XXVIII (Janu- ary, 1965), 5-6 and 7-9. See also other references to Ms. Orshansky's work listed in the bibliograpny.

27 Orshansky, "Counting the Poor," 10-11.

Although the Social Security Administration budget shares some characteristics with the Bureau of Labor Statistics budget, most notably the methodological fusion of scientific and social judgment, it is clearly less suited than the latter for present purposes. Primarily, this is due to the conceptual difference involved, although the wider scope of data collec- tion by the BLS is also a compelling factor. The SSA budget does not reflect social judgment as to what is "normal" or "Standard." It is a minimum for aberrant people, not for the mainstream even of manual labor's society. It is for the lumpenproletariat perhaps, but not for the proletariat. It is a stop gap budget to provide enough in the short run to enable a long-run answer to be developed for a pressing social problem. It cannot be accepted as the essential Standard of consumption for a nation so opulent as the United States.

Selection of the BLS Budget

The Bureau of Labor Statistics City Workers' Family Budget, i.e., the "modest but adequate" Standard of living budget, is the budget concept to be used for personal essential consumption. Aside from the convenience element involved in its availability and its methodological scope, this budget seems to reflect the spirit of the subsistence minimum as defined in the writings of Ricardo, Marx, and Baran, if allowance is made for the degree of civilization of the United States. Provision for an adeguate Standard of

living seems reasonable in light of the wealth of the United States. The budget meets the test of objectivity in both the aspects of the BLS methodolgy. On the one hand, the budget provisions for food and housing meet available scien- tific criteria for adequacy. On the other hand, inasmuch as the content of the budget is based as well on actual consumer expenditures, it reflects prevailing social judgment as to the customary levels of adequacy.

If anything, the budget may be considered too liberal in its provisions since it is ostensibly more than a minimum subsistence Standard of living. However, if subsistence is given the broader, relative interpretation as it is herein, this objection seems invalid. There is ample evidence that the budget is intended to reflect a minimum budget in terms of prevailing social judgment.

> The budget was designed to represent the estimated dollar cost reguired to maintain [the specified] family at a level of adequate living — to satisfy prevailing standards of what is necessary. . . .
>
> [The budget represents] the annual cost of a worker's family budget which includes the kinds and quantities of necessary goods and Services, according to standards prevailing in the large cities of the U.S.[33]
>
> [The intention of the budget is to measure] the cost at current prices in large cities of family living which [meet] American standards of what is reguired.

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p. 3.

29Ibid., p. 4.

U.S., Department of Labor, Bureau of Labor Statistics, VJorkers[1] Budgets in the U.S.: . . , , 1946 and 1947,

The budget therefore should represent the necessary minimum v/ith respect to items included and their quantities as determined by prevailing standards of what is needed for health, efficiency, nurture of children, social participation, and the maintenance of self-respect and the respect of others.[34]

Although the level of living represented by the budget cannot be briefly described by words having scientific precision yet, the concept of a necessary minimum is a reality. Judgment is constantly being expressed as to what is necessary. . . . When it is said that the budget recommended is intended to cover the rrecessarv minimum, 'necessary' is to be given the common inter- pretation as including what will meet the conventional and social as well as biological needs. It represents what men commonly expect to enjoy, feel that they have lost status and are experiencing deprivation if they cannot enjoy, and what they insist upon having. Such a budget is not an absolute and unchanging thing. The prevailing judgment of the necessary will vary with the changing values of the community, with the advance of scientific knowledge of human needs, with the pro- ductive power of the community and therefore what people commonly enjoy and see others enjoy.[35]

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[34] Ibid., p. 6.

[35] Ibid., p. 7.

CHAPTER III

DEFINITION OF SOCIAL ESSENTIAL CONSUMPTION

General Social Overhead

Social Balance

Conceptually, the magnitude of public goods and Services to be considered general social overhead is that which represents essential costs of production. This implies essence in two ways. First, the public expenditure in ques- tion must be necessary in the sense of being a socially nec- essary cost of production for a given level of consumption. Second, the given level of consumption must itself be necessary in the sense of just maintaining the current productive capacity. That is, to be essential, a government expenditure must represent not simply a necessary adjunct to private consumption, but a necessary adjunct to essential private consumption.

John Kenneth Galbraith effectively demonstrates that there is some more or less definite level of public production (read consumption) which is a requisite complement to a given level of private production (read consumption).[36]
Essentially, Galbraith extends the older conception of complementarity, balance, or proportionality of production in

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^John Kenneth Galbraith, The Affluent Society (Boston Houghton-Mifflin, Co., 1958), Ch. XVIII.

different production compartments[37] to include production in the public sphere. This complementarity can be direct, as when the operation of a given quantity of motor vehicles necessitates a certain road and traffic regulation network. Or, it can be more subtle, as when a given style of living, including a certain mode of production and degrees of leisure or mobility, necessitates certain levels of education, order maintenance, and other social Services.

Galbraith is concerned with showing that a general complementary relation exists. Hence, such specific examples as he notes are just that, examples to demonstrate his general principle. Moreover, he is concerned with the neces- sary public complements to private consumption in general and does not seek to differentiate essential and nonessential consumption. His examples thus lack the thoroughness and characteristics necessary to be of service for current pur- poses, notwithstanding thereto the importance of his general principle of social balance.

2 For an extended dıscussion of proportionality, as among the different lines of production and as between ag- gregate production and consumption, which is based upon and includes extensive bibliographic references to the works of Marx and later Marxists, see Paul M. Sweezy, The Theory of Capitalist Development: Principles of Marxian Political Economv (New York: Monthly Review Press, 1942 and 1968), Ch. X.

Functions of the State in Economic Theory

Classical Theorv *

Before meeting directly the problems involved in the

present concept of social overhead consumption, it is neces- sary to digress momentarily to review the functions of the State in the history of economic theory. A convenient and impregnably defensible starting point for such a review is classical economics and Adam Smith. Smith States that there exist four areas in which government expenditure is neces- sary.[38] The first three are the basic functions of government: defense of the sovereign territory, maintenance of a System for internal order and justice, and provision of such public works and institutions which cannot be profitably undertaken by the private sector. The fourth necessary expense, uphold- ing the dignity of the sovereign, is not a function in Smith's view but is nevertheless necessary.

The expenditures related to defense, order, and the dignity of the government are relatively specific and straight- forward and reguire no discussion. Smith's third basic function is less direct, containing the subfunctions facilitation of commerce and education of the populace. Under the facilitation of commerce, Smith subsumes a variety of specific activities: construction and maintenance of roads, bridges,
canals, and harbors; operation of monetary and postal systems; and the "protection of trade in general" by maintaining International relations and customs agencies. Education of the people includes public education for the children of the com- mon classes and the "chiefly" religious instruction of people of ali ages. ■

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38 Adam Smith, "An Inguiry into the Nature and Causes of the Wealth of Nations," in Classics of Economic Theory, ed. by George W. Wilson (3loomington: Indiana University Press, 1964) , pp. 149-158.

The most important characteristic of Smith's view of the public function is not any set of the specific activities he mentions, but the potential malleability of his basic functions. This is especialiy true of the third function of providing

> . . . those public institutions and those public works, which, though thev may be in the highest degree advantageous to a great society, are, however, of such a nature, that the profit could never repav the expence to any individual or small number of individuals, and which it therefore cannot be expected that any individual or small number of individuals should erect or maintain.*

Although Smith may have had some more or less definite minimal set of activities in mind, his statement in general terms is subject to broad interpretation should a need for such arise. [39]

This was sensed by the younger Mili. He notes the two common necessary government interventions given in abstract treatises, protection from force and fraud, then lists several others to demonstrate the overly restrictive nature of the abstract intervention classes.[40] After enumerating such com- mon, and unobjectionable, governmental activities as adminis- tration of property, record keeping, enforcement of contracts, providing çare for the irresponsible, coining money, maintain- ing roads, and prescribing standaras of weight and measure, Mili conjectures that the list might be expanded indefinitely. He concludes that not only is it impossible to draw a defini- tive list for government

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^Ibid., p. 153.

^As is shown below in the discussion of modern theory, the modern camp is of two lineages from Smith. The libertarian tradition clings to Smith's specificity and the government as a necessary evil to be minimized implication. The modern liberal school of thought emphasizes Smith's general principle of intervention where the market fails.

^John Stuart Mili, "Principles of Political Economy," in Classics of Economic Theory, ed. by Vîilson, pp. 374-378.

functions through time and space, but also that no general principle is possible save that of expedience.

The classicists clearly held some type of minimum theory in regard to the functions of government. The most generally held interpretation of this minimum is that the classicists were convinced of the theoretical adeguacy of the natural order concept and the efficacy of laissez-faire eco- nomic policy. This is the root of divergence between the two great sides of modern economic thoug'nt: the libertarian tradition that embraces laissez-faire and views government as a necessary evil to be minimized, and the modern liberal tradition which grants a greater role to government in providing the necessary institutional setting for social optimization.

The other possible interpretation is that the classicists' minimum government function view corresponds to their subsistence, necessary costs of production view of private production. This interpretation would that Smith sought to define the long run minimally adeguate functions that the government must provide. Whether or not this is a valid interpretation of the classicists, it is similar to the role of government that is sought in the present study.

Modern Theory

Neoclassical economic thought is largely devoid of systematic treatment of the government's role in society. Thus, the seminal and colossal work of neoclassicism, Marshall's Principles of Economics, contains only scattered references to government

functions such as the undertaking of large risks and the provision of education, health, and [41] sanitation Services.[8] Similarly, Pigou in his A Study in Public Finance devotes only a very few pages to the question of government spending., concerni.ng himself primarily with considerations of taxation.[9]

Despite this lack of direct treatment, neoclassicism does contain important elements for the development of the theory of government functions. On the one hand, these elements surround Marshall's tax-bounty analysis, as later reformulated by Pigou and refined by Lerner in the terminology of social and private benefits and costs. On the other hand, implications for the government's role flow from Marshall's treatment of external economies and the anomaly of decreasing cost industries under perfect competition, as later developed into theories of alternative competitive structures by Sraffa, Robinson, and Chamberlin.[10] These two areas of thought thor- oughly undermined the microeconomic basis of the vulgar laissez-faire harmonliehre, and replaced it in actual if not theoretical practice with a more or less active role for government in maintaining the appropriate institutional setting.

g Alfred Marshall, Principles of Economies (9th vari- orum ed.; New York: Macmillan Co., 1961), Vol. I, pp. 443n-

41 The conspicuous absence of reference to the institutionalist, instrumentalist, and political economic thought of such writers as Clarence Ayres, Adolph Lowe, and John Kenneth Galbraith in what follows should be explained at the outset. These writers, despite their differences with those reviewed here, largely approach the question of government functions on similar grounds. Thus, for the present purpose of defining social consumption, they add nothing to the following in specific areas of government action, despite their very different policy proposals.

444n and 717-718.

9 See Paul A. Samuelron, "Aspects of Public Expendi- ture Theories," Review of Ec.nomics and Statistics, XL, no. 4 (1958), p. 332.

■^See Mark Blaug, Economic Theory in Retrospect (revised ed.; Homevrood, Illinois: Richard D. Irwin, Inc., 1968), pp. 368-373 and 381-396.

In combination with the repudiation of Say*s Law, the macroeconomic harmonliehre, by the Keynesian Revolution, these developments forged a schism in the classical liberalisin camp. On the one side of this cleavage of chronologically modern thought is the conservative, libertarian tradition closely associated with the "Chicago School." This strand of opinion continues the interpretation of the classical minimum government functions as being the minimization of a necessary evil. Thus, Milton Friedman, in listing the functions of government consonant with its "role in a free society," largely reiterates the list of specific functions provided by Adam Smith.[11]

On the other side of modern thought, modern liberalisin, is to be found the general formulation of Smith on the government's role following the line of Mili's expediency principle. This strand of opinion, which has come to dominate the ideology and economics of the corporate State, unanimouslv assumes the posture of providing justification for various public functions or interventions.

As such, ali of these approaches either flow into or out of Richard A. Musgrave's classic trichotomy of the govern- ment's functions into allocative, distributive, or stabiliza- tion interventions.[12] Thus, the government intervenes to

^Milton Friedman, Capitalism and Freedom (Chicago: University of Chicago Press, 1962), Ch. II.

12 Richard A. Musgrave, The Theory of Public Fınance: A Studv in Public Economv (New York: McGraw-Hill Book Co., 1959), Ch. I.

secure adjustments in the pattern of resource allocation which are made necessary or desirable by market imperfections, decreasing production costs, externalities, divergences between public and private risk or time preferences, social wants, or merit wants.[42] Again, the government intervenes to secure adjustments in the pattern of income distribution to accord such distribution with social consensus as to equity and efficiency. Finally, the government intervenes to secure adjustments in the aggregate level of economic activity in order to sustain the neo-Keynesian macroeconomic trilogy of high employment, high economic growth, and relatively stable wage and price levels.

Musgrave's justly famous multiple theory of budget determination is important not so much for adding any specific functions to the governmental realm — his examples are ali well known to the readers of Smith, Pigou, Keynes, and Lerner — but for his assimilation and theoretical refinement of that which went before and the elasticity of his constructs for that which follows him. His precise articulation and classi- fication of the justifications for intervening with the political ballot box to adjust the solution of the economic ballot box, or to provide a solution when the market affords none, lend an air of dignity and

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42 Musgrave's formulation could no doubt be improved by recognition of externalities in general as being involved in ali his intervention cases; but this is not of relevance here.

legitimacy in the thorny atmosphere of public activity in a society of predominantly laissez-faire mentality. The nomenclature of social wants wherein the exclusion principle is inoperative, or of merit wants wherein the market is overly or underly stingy, is far more elegant than Smith's lack of profit motivations for individuals or Lerner's cumbersome equations of marginal private and social costs.

Moreover, in his elegance, Musgrave provides a quantum leap in generality. His schema are sufficiently abstract to be stretched to encompass an indefinitely wide range of activities into the government sphere. For example, it is conceptually valid that the government do anything under the proviso of the highly elastic merit want principle; ali that is necessary is that empirical evidence be presented that social consensus affords a positive or negative value on some good or service beyond the valuation given by the market mechanism. And, in contrast to the compromising mood of Mili's expediency principle, ali this is accomplished without sacrificing the dignified aura of precision and legitimacy.

Thus, the contemporary zeitgeist as to the State*s role is thoroughly transformed. A clearer example of ideological adjustment to the objective socio-historical conditions is difficult to find.[43]

312-322.

Frederick Engels, The Origin of the Family, Private Property, and the State, in Selected Works: In One Volüme, by

Marxist Theorv

It remains now but to survey the Marxist theory of the State before stock can be taken as to the instrumentality of this digression for present purposes. This survey is, of necessity, brief because the Marxists have largely neglected government functions in general for one particular government function. The Marxist theory of the State derives fundamentally from Engel's work on the origin of the State. That is, with the breakdown of primitive, classless communism and the rise of class society, antagonisms arose between the various classes. Thus, historical forces vere created which produced the State as an instrument to moderate these class antagonisms.

*'These developments are dealt with in numerous places. For example, in addition to the majör works of Galbraith, Baran, and Sweezy, see Michael D. Reagan, The Man- aged Economy (New York: Oxford University Press, 1963); Andrew Shonfield, Modern Capitalism: The Changing Balance of Public and Private Power (New York: Oxford University Press, 1965); Clark Lee Ailen, "Economic Freedom and Public Policy," in Economic Systems and Public Policy: Essays in Honor of Calvin B. Hoover, ed. bv Robert S. Smith and Frank T. de Vyver (Durham, North Carolina: Duke University Press, 1966), pp. 3 18; Max E. Fletcher, "Liberal and Conservative: Turn and Turnabout," Journal of Economic Issues, II (September, 1968),

Corollary to this theorem of its origin, the State is seen as the executive arm of the ruling class. This sharply differentiates the Marxist theory of the State as power broker from the "bourgeois" theory of the state as a more or less neutral mechanism for resolving conflicts of interests within society. Thus, the State in Marxist theory is not a neutral, exogenous social force, but an instrument of class struggle internal to the

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Kari Marx and Frederick Engels (New York: International Publishers, 1968).

model of social processes.[44]

This said, there is little that remains of the Marxist theory of the State insofar as the functions of government are concerned. In driving home the point that the state is an instrument of class struggle, Marxist thought largely ignores the state functions which are necessary costs of pro- duction more or less independently of the class struggle. Independently does not, of course, deny interaction of social - consumption and class struggle. For, albeit that the existent set of class relations influences the guantity and guality of social essential consumption, the point is that, however, variable, such consumption exists.

It is curious that writers so convinced of the neces- sity of socialism neglect the necessity of social consumption. Thus, one reads Capital to find the state largely reduced to the arena of struggle for shorter work hours or other indus- trial relations legislation.[45] [46] [47] Nor are correctives to be found in modern Marxist thought, orthodox or revisionist.

John Strachey analyzes the State largely in terms of its be- ing an arena in which ensues popular, representative struggle for higher wages and job security.[18] Ralph Miliband focuses largely on the class politics of controlling opinion and policy.[19] This approach is not altered by Paul Sv/eezy in his classic restatement of Marxist economic theory,[20] nor in the

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[45] ^See Sweezy, Theory of Capitalist Development, Ch. XIII.

Kari Marx, Capital, Vol. I (New York: International Publishers, 1967), Part* 3, Ch. X.

recent reformulation thereof in collaboration with Paul Baran.[48] It is especially instructive to compare Baran's analysis of the State, cast completely in the familiar class struggle terms, with his statement concerning essential con- sumption wherein he explicitly refers to "essential outlays on government administration and the like."[49]

None of this is meant, of course, to denigrate the work of these authors, nor the importance of the class struggle aspects of the State in society. Rather, the point is

18 John Strachey, Contemporary Capitalism (New York: Random House, 1956).

19 Ralph Miliband, The State in Capıtalıst Society (New York: Basic Books, 1969), Ch. IV and passim.

20 Sweezy, Theory of Capitalist Development, Ch. XIII.

21 Paul A. Baran and Paul M. Sweezy, Monopoly Capital: An Essay on the American Economic and Social Order (l'Jev; York:

that in a body of literatüre so enamored with necessary so- cial costs of production and the economic surplus in excess thereof, one expects, indeed must demand, that attention be given to costs of production which arise in the public sector.

General Social Overhead in this Study

Monthly Review Press, 19 66) , Ch. VI.

49 Paul A. Baran, The Politıcal Economy of Growth (New York: Monthly Review Press, 1957), pp. 23n and 92ff.

The above review of literatüre should make it obvious to the reader that little direct aid is available therefrom for the present purpose of defining and measuring essential government functions. None of this literatüre is oriented toward the social overhead concept as envisioned herein. Yet this concept is an indispensable component of costs of production viewed as that consumption just adequate to maintain extant productive capacity. Thus, the necessary course of action is to develop afresh such a concept and a mode of estimating its magnitude.

Conceptual and Empirical Problems

A proper starting point for this task is to survey the problems to be encountered in fulfilling it. These problems may be explicated by contrasting the measurement of social consumption with that of personal consumption. In the latter area, there is a well-established conceptual and empirical base — most notably the Bureau of Labor Statistics series. The City Workers' Family Budget is based upon two sources of information: scientific and social judgments as to necessity or minimum adeguacy.

In the social consumption area, there is, first, no established scientific bases as to necessity. It is doubtful that information is plausible for social consumption that would correspond to the "hard" scientific or physiological standards available for food consumption, except possibly in matters of public health.

Second, it is not possible to use prevailing social judgment directly to determine minimally adequate levels of social consumption. One difficulty in this regard is the difficulty of enumerating objective criteria for ascertaining social judgment on such matters. There is no clear-cut mea- sure of choice in the political system which corresponds to the decisions expressed in the market. Consensus of collec- tive opinion is not so easily measured as is the sum of individual private opinions on a particular good or service.

However, this problem is not insurmountable. Actual levels of legislative appropriations are measurable and could be taken to represent prevailing consensus in the absence of adeguate, direct popular opinion surveys. This involves over- looking the imperfections of political mechanisms and substi- tuting a level for a Standard, but could be used so long as these limitations were expressed.

But a second difficulty is not so tractable. For the most part, social judgment as expressed in consumer expendi- ture surveys involves opinions as to magnitudes of current consumption. By contrast, many public goods and Services

involve substantial degrees of future orientation. That is, they assume the character of investment in that they are to enhance the quality of the future.

This distinction is not absolute. Some private consumption expenditures are future oriented by subjective intent and/or objective results. Thus, Theodore Schultz views private expenditures on education, health, migration, and even food and shelter, as significant investment elements.[2] Schultz is not using investment in the present sense as that which increases productive capacity. Otherwise, he surely would not have viewed the level of food consumption, a main- tenance cost, as investment.[50] Clearly, qualitative or quantitative improvements in food may be investment, but not a static level of food. The distinction being made is, of course, that concern presently focuses on what is commonly called net investment v;hereas Schultz seems to have reference to gross investment.

No doubt there are net investment elements in private consumption expenditures. However, the City Workers' Family Budget is rather stringent on such items — for example, the moderate Standard budget for spring, 1967, contains a provi- sion of $55.50 for school and college expenses, including

23 Theodore W. Schultz, "investment in Human Capital," American Economic Review, LI (March, 1961), 1-5.

50 These dıstinctions arıse, however involutely, in the review works by B. F. Kiker, "The Historical Roots of the Concept of Human Capital," Journal of Political Economy, LXXIV (October, 1966), 481-499, and Human Capital: In Retrospect (Columbia, South Carolina: Bureau of Business and Economic Research, 1968).

"books, supplies, tuition, fees, ete."[25] It thus seems a minör limitation to proceed without the consumption/investment distinetion in the private sector, although retaining it is a necessary element in the public sector.

Procedure

The estimating procedure for essential public expenditures must then take the level of such expenditures as a Standard, and adjust this magnitude according to the consumption/investment distinetion. Not ali government expenditures are subject to this distinetion. Some represent in toto, or very nearly so, current social consumption. For example, expenditures for general government administration and civilian safety are essentially "used up" in the current period. Some other expenditures, notably transfer payments and defense expenditures, are neither essential consumption nor investment. Stili others, such as research and develop- ment financing, are to be regarded as purely investment.

Thus, the consumption/investment distinetion does not come into play in cases involving püre consumption, essential or nonessential, or püre investment.

Only for the remainder of public expenditures, primarily in the areas of health, education, and public works, [51]

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[51] U.S., Department of Labor, Bureau of Labor Statistics, 3 Standards of Living: For an Urban Family of Four Persons, Bulletin 1570-5 (Kashington, D.C.: Government Prıntmg Office, 1968), p. 65.

is the consumption/investment distinction relevant. In ali these cases, estimation is hampered due to the lack of a Capital budget for the public sector. Hence, it would be exceedingly difficult to approach the problem directly, attempting to differentiate government expenditures by their character, that is, to differentiate between expenditures which are to provide current Services and expenditures on buildings and the like which yield Services through time.

Thus, the problem is herein approached from the output side. In the case of roads and public Utilities, proportionality is assumed to exist between their necessary level and the level of total output. Therefore, ratios measuring the change in GNP through time are used to assign expenditures in these areas to consumption and investment. In the case of education, ratios measuring changes in the size and level of educational attainment of the labor force are used to make this assignment. Finally, in the case of expenditures for health and hospital Services, ratios indi- cating changes in the level of hospital use are employed to make the assignment.

Capital Consumption

The second element of essential social consumption is Capital consumption. Conceptually, Capital consumption is straightforward. It is the decrease of usefulness incurred by the productive plant through use and the passage of time.
In annual terms, it is the amount of the Capital stock used up or consumed in production during the year.

> For instance, if a . . . machine lasts for 10 years, it is plain that during that working period its total value is gradually transferred to the product of the 10

> years. .
>
> As regards the means of production. what is really consumed is their use-value. ... .

Further, although the eventual useful life of an individual piece of Capital cannot be known in advance, its expected use ful life can be known. For just as the impossibility of predicting the life span of individual human beings does not prevent the use of actuarial principles,

> So it is with the instruments of labour. It is known by experience how long on the average a machine of a particular kind will last.[2 7]

Capital Consumption in Contemporary Capitalism

However, upon a change in focus to the search for an empirically operational definition of Capital consumption in contemporary capitalism, one encounters a severe loss of the directness characteristic of the concept in the abstract. First of ali, the prominence of technological change causes obsolescence and replacement of Capital goods prior to the end of their useful life. This creates a conflict between püre durability, the retention of capacity for productive use [52] and technological durability, the capacity for efficient productive use relative to alternative Capital.

Nor is obsolescence a simple concept. To the contrary, as Royall Brandis demonstrates, there are not only a variety of forms

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52 Marx, Capital, Vol. I, pp. 203 and 207.

^Ibid., p. 203.

of technological obsolescence, but also several forms of purely social and economic obsolescence.[53] [54] The latter are instances wherein a Capital good "wears out" due to such things as demand shifts or demographic changes, not because it is less efficient than an alternative, but because a decline in the need for its output occurs.

It is not at ali clear whether the criterion for delineating the useful lifetime of a capital good is physical durability, technological durability, or economic durability. Indeed, the guestion probably revolves entirely around the circumstances of analysis. Thus, if the analysis concerns business behavior, that psychological wasteland, economic or even financial lifetimes may be entirely appropriate.

It is clear, however, that much economic obsolescence could be avoided via improved social planning. This follows largely from the fact that production carried out under a rational plan would practically solve the disproportionality problem. Capacity would be established sectorally and geo- graphically in coordination with the socially planned budget, not according to the profit expectations of a myriad of independent decision-makers. Thus, the phenomenon noted by Steindl of capacity expansion in the face of declining utili- zation of capacity and other forms of "competitive waste" would be avoided.[55] Economic

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[54] Rovall Brandis, "Obsolescence and Investment," Journal of Economic Issues, I (September, 1967), 169-172.

[55] J. Steindl, Maturity and Stagnation in American Capi-

obsolescence is therefore prop- erly considered a surplus element in the current context.

Under a rationally planned System, technological obsolescence could be increased or decreased. The rational planning of scientific and technological development and in- plementation involves social judgments on a variety of factors which are not knowable a priori. However, from the vantage point of essential Capital consumption, technological obsolescence must be viewed as capacity-increasing investment and therefore excluded from necessary costs of production. Thus, in the current paper, the view of Frankel that a Capital good's "durability" or physical life is appropriate for depreciation purposes is accepted.[56]

This conceptual acceptance done, however, the problems caused by the various types of obsolescence are not completely removed. For economic and technological obsolescence, to the extent that they precede physical obsolescence, deny the experience upon which Marx depended for the determination of the average useful lifetimes of Capital goods.[57] In short, if usable

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talism (Oxford: Basil Blackwell, 1952), pp. 4-14. See also the classic, but stili highly useful, unintentional indictment of the anarchism of capitalist production in the four-volume Brookings Institution studv: Edwin G. Nourse and Associates, America^ Capacity to Produce (Washington, D.C.: Brookings Institution, 1934); Maurice Leven, Harold G. Moulton, and Clark Warburton, America[1] s Capacity to Consume (VJashington, D.C.: Brookings Institution, 1934); Harold G. Moulton, Ir.come and Economic Progress (tvashington, D.C.: Brookings Institu- tion, 1935); and Harold G. Moulton, The Formation of Capital (Washington, D.C.: Brookings Institution, 1935).

56 Marvin Frankel, "Obsolescence and Technical Change," American Economic Review, XLV (June, 1955), 299ff.

57 See Baran and Sweezy, Monopoly Capital, pp. 99-100.

machines are replaced after ten years of use, there is no basis of repeated experience for ascertaining whether their physical lifetimes number eleven, twenty, or thirty years.

There are additional problems encountered in accounting practices which are embodied in the aggregate Capital consumption estimates made by the Office of Business Economics. In his attempt to measure "real depreciation in the USA," the Soviet economist Golanskii emphasizes the infamous productive/unproductive distinction:

> . . . American statistics, ignoring the distinction between productive and unproductive spheres, include in depreciation of fixed Capital the wear and tear on dwellings and other buildinçs and property which do not participate in production.[58]

This distinction between productive and unproductive Capital is, of course, not employed in the current paper. Instead, costs of production herein involve the essential/nonessential distinction. Thus, for example, depreciation on dwellings is at least in part a cost of production.

This leads to the question as to the necessity of various fixed capital. No direct attempt is made to deplete depreciation on nonessential capital stock. Rather, the de- letion is made indirectly when the essential consumption estimates are adjusted for surplus elements in market prices. Thus, the costs of production in such areas as advertising, public relations, and finance are to be deleted from essential consumption. Moreover,

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[58] M. Golanskii, "Methods Employed to Recalculate the National Income of the U.S.A.," Problems of Economics, II (March, 1960), 57-63.

depreciation charges in such areas are relatively low owing to their labor intensive nature.

Other problems related to current accounting practices are the use of original cost rather than replacement cost, the distortion of the time distribution of depreciation by legal changes, the inclusion of some capital expenditures in current expenses, and the lack of a capital budget in the public sec- tor. The overall effect of these problems must surely be

[33] These problems are variously discussed in the literatüre. See, for example, the following: Robert Eisner, "Depreciation Allowances, Replacement Reguirements, and Growth," American Economic Review, XLII (December, 1952) , 820 and 831, and "Depreciation Under the New Tax Law," Harvard Business Review, XXXIII (Januarv-February, 1955), 66-74; National Bureau of Economic Research, A Critigue of the U.S. Income and Product Accounts, Studies in Income and Nealth, [59]

toward an overstatement of depreciation for a given year.[60] The only one tending toward understatement is the use of original cost in a period of upward price movement. Aside from.the theoretical issue of whether original or replacement cost is the proper point of concern,[61] the magnitude of this effect is surely offset by the ten&encies toward overstatement. The treatment of price and tax

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Vol. XXII (Princeton, N.J.: Princeton University Press, 1958), especially 77-80, 85-91, 252-263, and 431-447; and U.S., Department of Commerce, Office of Business Economics, U.S. Income and Output (Washington, D.C.: Government Printing Office, 1958), pp. 115ff.

[60] Allan H. Young, "Alternative Estimates of Corporate Depreciation and Profits: Parts I and II," Survey of Current Business, XLVIII (April, 1968), 17-28, and (May, 1968) , 16-28.

[61] Eisner, "Depreciation Allowances, Replacement Requıre- ments and Growth," pp. 820 and 831, challenges the traditional view that the use of original cost is a distortion.

law changes is clarified in the procedural discussion immediately below, and the problem of the government's Capital budget is waived herein.

As for Capital outlays charged to current expense, the Office of Business Economics estimates such outlays and their depreciation for eguipment with a life expectancy in excess of one year and for certain exploration expenses associated with natural resources exploitation. Hence, the problem is negiected herein as being relatively insignificant.

Procedure for Estimating Essential Capital Consumption

The procedure adopted to estimate Capital consumption concentrates mainly on avoiding the distortion caused by legal changes. The method and data provided by Allan H. Young[62] are used. Young uses several alternative methods for estiraating depreciation. The one used herein is the one designated "historical cost, straight Üne, F service lives." "Historical cost" refers to original cost and "straight line" to one of several accounting methods for the treatment of depreciation. The term "F service lives" refers to the schedule of service lives of Capital goods, as periodically published by the Internal Revenue Service. For ali years, the one used by Young for the description in question is the revised edition of 1942.[63]

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62 Young, "Alternative Estimates of Corporate Depreciation and Profits: Parts I and II."

63. U.S., Treasury Department, Internal Revenue Service, Bulletin F (revised January, 1942), Income Tax, Depreciation,

Young's data include only nonfinancial corporations, omitting other businesses and residential structures. There- fore, to get figures relevant to the current study, his fig- ures for nonfinancial, corporate depreciation are first divided by the Office of Business Economics' nonfinancial corporate depreciation figures. Then, this ratio is applied to the total depreciation figures of the Office of Business Economics to estimate the relevant depreciation figures.

This procedure is subject to several limitations. For one, there is evidence that the Bulletin F service lives are somewhat less than actual service lives — although there is also contrary evidence.[64] Moreover, due to technological and economic obsolescence, actual service lives may be assumed to fail short of physical service lives, the concept deemed appropriate herein. Also, it may be expected that the service lives of residential structures are greater than those for corporate Capital goods. To offset these overstate- ment tendencies to some degree, original cost rather than replacement cost figures are used. Stili, however, the depreciation figures so derived run far higher than those derived by Golanskii and Phillips, even after the latter are adjusted to include depreciation on "unproductive" Capital. The author views these depreciation estimates as one of the weakest points in the current study.

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and Obsolescence, Estimated Useful Lives and Depreciation Rates (Nashington, D.C.: Government Printing Office, 1942).

64 Young, "Alternative Estimates of Corporate Depreciation and Profits: Parts I and II," Part II, pp. 18-19.

Preservation of Natural Resources

The treatment of natural resources depletion is particularly difficult both conceptually and empirically. There is sentiment for retaining the classical view that natural resources are free and derive such productivity as they embody, at least in the value sense, from the labor and Capital necessary to discover and extract them. On the other hand, in the face of growing ecological concern, this view is subject to interpretation or misinterpretation as involving singular negligence tov-ard a crucial social problem. The Office of Business Economics practice of including depletion requirements in profits rather than Capital consumption may be construed as reinforcing the classicists' view, although the understandable admixture of concept and convenience in- volved precludes definiteness in this interpretation. [65] For present purposes, the depletion allowances affordea to business firms are not appropriate. These allow- ances are totally legal constructs, devoid of basis upon any social consumption concept. Nor are these allowances retrieved for purposes of adjustment. Rather, public expen- ditures for the conservation and development of natural and agricultural resources are deemed as the appropriate proxi- mate magnitudes of social consumption. For ease of presen- tation, data on these public expenditures are presented with general social overhead, rather than with Capital consumption.

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and 487-504.

39 For cogent literatüre on the problems of treating depletion allowances, see the various authors in National Bureau of Economic Research, A Critigue of the United States Income and Product Accounts, especially pp. 93-94, 264-266,

CHAPTER IV

ESTIMATION OF PERSONAL ESSENTIAL CONSUMPTİON

BLS City Workers* Family Budget The Bureau of Labor Statistics City Vîorkers [66] Family Budget embodying the "modest but adeguate" Standard of liv- ing is the budget concept to be used in estimating personal essential consumption.[1] This budget was priced by the BLS several times in the 1946-1970 interval. The average cost of the "goods and Services" or the "faraily consumption" expenditures portion of the budget is given in Table 1. The average costs for 1946-1959 are computed directly by taking the mean of the BLS data. Those for 1966-1970 use the average provided by the BLS under the description "urban United States." However, the figures as given by the BLS for total family consumption have been adjusted to delete the increased budget costs due to allowance for homeovmer- ship. These increased costs include items such as property taxes, interest, and insurance[67] which are not essential.

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^"For the reasons for this choice, see Chapter II, above.

67 Phyllis Groom, "A New City Norkers' Family Budget," Monthly Labor Review, XC (November, 1967), 1-2.

CITY WORKER'S FAMILY BUDGET, SELECTED DATES, 1946-1970 (in current dollars)

TABLE 1

Goods & Services	Average Cost for		Adjusted Average
March, 1946	$2,517	34 large cities	$2,536
June, 1947	2,970	"	2,912
October, 1949	3,244	"	3,178
October, 1950	3,388	"	3,319
October, 1951	3,713	"	3,635
Autumn, 1959	5,165	20 large cities & suburbs	5,069
	Family Consumption		
Autumn, 1966	$6,851	30 metropolitan & non-metropolitan areas	$6,789
Spring, 1967	6,747	"	6,827
Autumn, 1968	7,138	"	7,218
Spring, 1970	7,673	"	7,753

[a]Source: U.S., Department of Labor, Bureau of Labor Statistics, Workcrs' Budgets in the U.S.; City Families and Single Persons, 1946 and 1947, Bulletin 927 (Washington, D.C.: Government Printing Office, 1948), pp. 28-30, and Handbook of Labor Statistics, 1950 Edition, Bulletin 1016 (Washington, D.C.: Government Printing Office, 1950), p. 122. Eunice M. Knapp, "City Workers' Family Budget for Octo- ber, 1951," Monthly Labor Revlew, LXVI (May, 1952) , 521. Helen H. Lamale and Margaret S. Stotz, "The Interim City Workers' Family Budget," ibid. , LXXXIII (August, 1960), 787 and 803. Phyllis Groom, "A New City Workers' Family Budget," ibid., XC (November, 1967), 3. Jean C. Brackett, "Wew BLS Budgets Provide Yardsticks for Measuring Family Living Costs," ibid., XCII (April, 1969), 8 and 12. Elizabeth Ruiz, "Spring 1970 Cost Estimates of Urban Family Budgets," ibid., XCIV (January, 1971) 60.

Also, this procedure retains a consistency with earlier budgets which will prove necessary when the personal consump- tion figüre is adjusted for surplus elements in market prices. The method for deleting the homeowner costs for 1966 and 1967 is to subtract the shelter costs for renter families from the shelter costs for ali families, and then to subtract this difference from the family consumption total.[68] For 1968 and 1970, rough figures were obtained by applying the ratio of the change in total housing cost in 1967 to total housing cost in 1967 to the 1968 and 1970 total housing cost figures.

The adjusted average cost column includes additions and deductions from the BLS figures. For 1946-1959, the BLS included a category "gifts and contributions" in its goods and Services budget. This category amounted to 2.7 percent of the total cost of goods and Services in 1946-1951[69] and 2.4 percent in 1959.[70] This category includes ali gifts to members outside the family and ali contributions to religious or charity organizations.

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68 See U.S., Department of Labor, Bureau of Labor Statistics, City Workers' Family Budget: For a Moderate Living Standard, Autumn, 1966, Bulletin 1570-1 (Washington, D.C.: Government Printing Office, 1967), p. 9. Jean C. Brackett, "New BLS Budgets Provide Yardsticks for Measuring Family Living Costs," Monthly Labor Review, XCII (April, 1969) , 8. Elizabeth Ruiz, "Spring 1970 Cost Estimates for Urban Family Budgets," ibid., XCIV (January, 1971), 60.

69 U.S., Department of Labor, Bureau of Labor Statıstıcs, Workers* Budgets in the United States: City Families and Single Persons, 1946 and 1947, Bulletin 927 (Washington, D.C.: Gov ernment Printing Office, 1948), p. 40.

70 Helen H. Lamale and Margaret S. Stotz, "The Interim City VJorkers* Family Budget," Monthly Labor Review, LXXxm (August, 1960), 801.

Although a case can be made for inclusion of customary personal gift-giving in essential consumption, there is no case for including church activities and only a weak case for charity activities. Therefore, since no evidence is available concerning the proportion of personal gift-giving in the total, the entire category is excluded from the adjusted average cost. Such an adjustment is unnecessary for 1966 and after since the category is separated from family consumption in the BLS data.

The BLS in ali cases treats the occupational expenses item as a separate figüre. These expenses are judged essential and are included in the essential consumption figüre. For 1946-1951, the occupational expense aadition is $22;[6] for 1959, it is $28;[7] and for 1966-1970, it is $80.®

In two years adjustments were made to align the figures with later BLS methodological procedures and corrections. For 1946, $65 has been added to reflect such

g U.S., Department of Labor, Bureau of Labor Statistics Workers' Budgets in the United States: . . . , 1946 and 1947, p. 40.

7 Lamale and Stotz, "The Interim City Korkers[1] Family Budget," p. 787.

g U.S., Department of Labor, Bureau of Labor Statistics City Workers' Family Budget: . . . , Autumn, 1966, p. 9. U.S. Department of Labor, Bureau of Labor Statistics, 3 Standards of Living for an Urban Family of Four, Bulletin 1570-5 (Washington, D.C.: Government Printing Office, 1969), p. 15.

a methodological change,[9] and for 1966, a deduction of $142 is necessary for the same reason.[12]

In ali cases, the BLS presents separate figures providing for life insurance premiums, income and capitation taxes, and employee social security, disability, and unemployment assessments. These have been-omitted herein. Such of the Services provided by these fees as are judged necessary will be included in the social overhead element of essential social consumption. It would thus be double-counting to include them at this juncture. Finally, sales taxes and other turnover charges and a variety of surplus elements imbedded in market prices remain in the figures to this point and are deleted in Chapter V.

V7PA Maintenance Budget

Prior to 1946, when the Bureau of Labor Statistics first priced the CWFB, there is no readily available budget series which is commensurate v;ith the CWFB in both the modest but adequate provision and the spatial and temporal scope of the BLS studies. The Keller Committee budgets are rather near the BLS budget conception, but they are limited

9 See U.S., Department of Labor, Bureau of Labor Statistics, Handbook of Labor Statistics, 1950 Edition Bulletin 1016 (Mashington, D.C.: Government'Printing Office, 1950), p. 122n.

Jean C. Brackett, "New BLS Budgets Provide Yardsticks for Measuring Family Living Costs," Monthly Labor Review, XCII (April, 1969), 16.

geographically to San Francisco. The WPA maintenance budget shares the scope of the CWFB through time and space, especi- ally so since the BLS cooperated in pricing the budget in 1935 and 19 37 and priced it alone for several years t'nereafter.

However, the maintenance concept of the WPA budget is clearly more stringent in its provisions t'nan the CWFB. In 1943, the last year that the WPA budget was priced, its 33-city average v/as $1,59 3, whereas only three years later the first CWFB pricing averaged $2,536 for thirty-four cities. A relatively small percentage of this change is attributable to price changes insofar as the BLS Consumer Price Index is an appropriate guide. Nor can the change in any part be attributed to secularly increasing social judgment as to what is necessary. Both budgets are based in large part on consumer expenditure studies prior to 1941, and a change in scien- tific judgment concerning food adeguacy was incorporated into the maintenance budget by the BLS as early as 1941.[71]

These same factors which make it clear that a concep- tual change is involved in the 1943 to 1946 cost differential contain a saving feature. That is, they allow a rough adjust- ment to be made upon the WPA budget so that the modest but adequate Standard can be approximated for the dates that the maintenance budget v/as priced. This follows from the implica- tion that the cost differential of the 1943 and 1946 budgets

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U.S., Department of Lahor, Bureau of Lahor Statistics, Handbook of Lahor Statistics, 1941 Edition, Bulletin 694 (Wash- ıngton, D.C.: Government Printing Office, 1941), p. 99.

is due to price changes and conceptual upgrading. Therefore, the differential remaining after adjustment for price changes is due to the conceptual revision. Both budgets were priced in March of the respective years. The Consumer Price Index for March, 1943, was 122.9 and for March, 1946, 130.4.[72] Hence, bv forming a ratio of 122.9 to 130.4 and multiplying this ratio by the March, 1946, budget cost of $2,536, the approximate figüre for the CWFB in 1943 is found to be $2,389. By forming a ratio of the $2,389 figüre to the 1943 mainte- nance budget cost of $1,593, an adjustment factor of 1.4997 is determined. This factor rounded to 1.5 is then multiplied by the maintenance budget cost for other years to approximate the CWFB for those years.[73] The average cost of the maintenance budget for available dates and the adjusted average cost for these dates is presented in Table 2. For convenience, the personal essential consumption figures at the modest but ade- quate Standard are brought together in Table 3. It is worth reiterating that these figures contain surplus elements such as taxes, property incomes, and business wastes whicn are deleted in Chapter V.

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72 U.S., Department of Labor, Bureau of Lahor Statıstıcs, Handbook of Labor Statistics, 1950 Edition, p. 100.

■^As a test, the 9 8.1 CPI for the year 1935 and the 139.5 CPI for 1946 were used with the respective budget costs to derive an adjustment factor by the same method. These figures yield a factor of 1.4896 which is judged not significantly different.

TABLE 2

VJPA MAINTENANCE BUDGET, SELECTED DATES, 1935-1943
(in current dollars)[a]

Date	Average Cost	Location Description	Adjusted to CWFB
March, 1935	$1,197	59 cities	$1,796
March, 1937	1,275	31 cities	1,913
December, 1938	1,253	31 large cities	1,880
June and December, 1939	1,277	33 large cities	1,916
March, 1941	1,302	33 large cities	1,953
June and December, 1942	1,535	33 large cities	2,303
March, 1943	1,593	33 large cities	2,390

[a]Source: U.S., VJorks Progress Administration, Division of Social Research, Intercity Differences in Costs of Living in March, 19 35, 59 Cities, Research Konograph 12 (VJashington, D.C.: Government Printing Office, 1937), pp. xix and 10. Faith M. VJilliams, "Living Costs in 1938," Monthly Labor Reviev/, XLVIII (.March, 1939) , 535. "Estimated Intercity Differences in Cost of Living, June 15, 1939," ibid., L (November, 1939), 1166. "Estimated Intercity Differences in Cost of Living, December 15, 1939," ibid., LI (April, 1940), 572. "Estimated Intercity Differences in Cost of Living, June 15, 1942," ibid., LV (September, 1942), 572. "Intercity Differences in Cost of Living, December, 1942," ibid., LVI (April, 1943), 746. "Estimated Intercity Differences in Cost of Living, March 15, 1943," ibid., LVII (October, 1943), 804— 805. Also, U.S., Department of Labor, Bureau of Labor'Statis- tics, Handbook of Labor Statistics, 1941 Edition, Bulletin 694 (VJashington, D.C.: Government Printing Office, 1941), p. 99.

In ali cases, $46.40 has been deducted for life insurance premiums, $15.40 for contributions, and 0.2 percent of the total budget for income and capitation taxes — see U.S., VJorks Progress Administration, Division of Social Research, Intercity Differences in Costs of Living in March, 1935, 59 Cities, pp. 6, 86, and 160.

TABLE 3

ADJUSTED CITY fîORKER'S FAMILY BUDGET FOR A FOUR— PERSON FAMILY, SELECTED YEARS, 1935-1970 (in current dollars)[a]

Year	Average Cost	Year	Average Cost
1935	$1,796	1949	$3,178
1937	1,913	1950	3,319
1938	1,880	1951	3,635
1939	1,916	1959	5,069
1941	1,953	1966	6,789
1942	2,303	1967	6,827
1943	2,390	1968	7,218
1946	2,536	1970	7,753
1947	2,912		

[a]Source: Tables 1, 2, and text·

Adjustments for Family Characteristics

Eguivalencies for Families of Different Sizes

The CWFB and the WPA maintenance budget represent a specified family consisting of four: husband; v;ife; son age thirteen, and daughter age eight. In addition, for the CWFB, the husband and wife are specified to be age thirty-eight and thirty-six, respectively. Hence, some adjustment must be made for families of other sizes. In the earlier literatüre on consumer budgets, this adjustment was usually viewea in terms of "expenditure units" or "adult male eguivalences."[74] For

74 See Nev/ell H. Comish, The Standard of Living: Elements of Consumption (New York: Macmillan Co., 1923), p. 76, or Royall Meeker, "What is the American Standard of Living?," Monthly Labor Review, IX (July, 1919), 5.

example, the Bureau of Labor Statistics used the follov/ing food consumption equivalences in its studies around 1920:[75]

Male,
15 years or över..... 1.00 equivalent adult male
Female,
15 years or över.....90
Children,
11 to 14, inclusive.....90
Children,
7 to 10, inclusive.....75
Children,
4 to 6 , inclusive.....40
Children,

under 4.....15

However, more recent practice has skipped this intermediate stage concentrating on food requirements and developed equivalences for families of different sizes for ali expenditures. These total budget eguivalencies are based on consumer expenditure survevs. The BLS derived an adjustment scale for the original CWFB. By this scale, a family of two persons re- quires 66 percent of the four-person CWFB; a family of three, 84 percent; a family of five, 114 percent; and a family of six, 128 percent.[76] [77] This scale is based on the consumer expenditure surveys which were used to determine the CWFB through 1951. Kolko estimates the percentage of the CVJFB needed by a family of seven or more to be 140 percent. As he points out, however, this percentage is on the conservative side since the average family size of the group is eight members.[17] For one-person families, the figüre of 46 percent derived by the BLS by one of its methods, although not corroborated

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75 Comish, The Standard of Living, p. 76.

^U.S., Department of Labor, Bureau of Labor Statistics Handbook of Labor Statistics, 1950 Edition, p. 121. For method see U.S., Department of Labor, Bureau of Labor Statistics, Vforkers[1] Budgets in the United States: . . . , 1946 and 1947, pp. 50-51.

by the alternative method, may be taken as approximately correct.[78]

A revised scale was later published based on the BLS consumer expenditure survey of 1950. By this scale a two- person husband and wife family, both aged thirty-five to fifty- five requires 66 percent of the basic CWFB; a three-person family, husband and wife aged thirty-five to fifty-five, child aged six to sixteen, requires 87 percent of the CWFB; and a five-person family, husband and wife aged thirty-five to fifty- five, oldest child aged six to sixteen, requires 120 percent of the CWFB.[79]

Thus, the scale published by the BLS applicable to the CWFB from 1966 distinguishes between the budget needs of families v/ith different characteristics. In particular, sex of head, age of head, and age of children are used to define

17 Gabriel Kolko, Mealth and Power in America (New York: Praeger Publishers, 1962), p. 157, n. 6.

18 U.S., Department of Labor, Bureau of Labor Statis- tics, Workers' Budgets in the United States: . . . , 1946 and different family types.[80] [81] Undoubtedly, these distinctions are important for specific purposes such as assaying the needs of the elderly or of low-income families. However, for the gross type of estimation involved in the present study, these differences due to sex and age

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1947, p. 51.

79 Lamale and Stotz, "Interim City Workers[1] Family Budget," 789-790.

(Washington, D.C.: Government Printing Office, 1968), pp. 14ff. The scales for elderly families are presented in a separate publication. U.S., Department of Lahor, Bureau of Labor Statistics, Three Budgets: For a Retired Couple in Urban Areas of the United States, 1967-1968, Bulletin 1570-6 (Washington, D.C.: Government Printing Office, 1970).

81 See Mollie Orshansky, "Children of the Poor," Socıal Security Bulletin, XXVI (July, 1963) , p. 313, and "Counting the Poor: Another Look at the Poverty Profile," Social Security Bulletin, XXVIII (January, 1365), pp. 14-17.

appear insignifi- cant and safely ignorable. Only the adjûstment for family size need be used.

The more recent method based upon consumer expendi- ture surveys for total expenditures rather than the adult •male equivalency practice is adopted herein. For each period, 1929-1951, 1952-1959, and 1960-1970, the eguivalence scale reflecting BLS current practice is used.

For 1952-1959, since percentages are not available for six- or seven-person families, these must be estimated. In the pre-1952 scale, the increase from a four- to a five- person family and from a five- to six-person family is the same (14 percent). This relation is arbitrarily assumed to prevail for the later scale as well, and the increase of

[20] U.S., Department of Lahor, Bureau of Lahor Statıs- tics, Revised Eguivalence Scale: For Estimating Eguivalent Incomes or Budget Costs bv Family Type, Bulletin 1570-2

20 percent from a four- to a five-person family is used as the difference between a five- and a six-person family. Likewise, the ratio of the change from five to six persons and the change from six to seven or more persons in the earlier scale (.85) is used to estimate the percentage for seven or more persons in the later scale. Hence, the per- centages for six and for seven or more persons are 140 percent and 157 percent respectively. For one-person families,

48 percent (72 percent of the tv/o-person budget) is used following what Mollie Orshansky alludes to as "recent BLS practice."[82]

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[82] Orshansky, "Counting the Poor," p. 9.

For 1960-1970, of the various figures given by the BLS, those adopted are for the family having a husbana age thirty-five to fifty-four, wife, and oldest child age six to fifteen.[83] These family types correspond most closely to the ones used in the earlier eguivalence scales. For convenience, the percentages to be used for ali three periods are drawn to- gether in Table 4.

Farm and Nonfarm Residency

In deriving budget standards it is common practice to adjust the nonfarm cost of the budget for those residing on

[83] U.S., Department of Labor, Bureau of Labor Statis- tics, Revised Eguivalence Scale, p. 14.

TABLE 4

PORTION OF THE FOUR-PERSON CWFB NECESSARY FOR FAMILIES OF OTHER SIZES, THREE TIME PERIOD DIVISIONS, 1929-1970 (in percent)[a]

Family Size	1929-1951	1952-1959	1960-1970
One	46%	48%	38%
Two	66	66	61
Three	84	87	83
Five	114	120	115[b]
Six	128	140	130[b]
Seven or More	140	157	

[a] For derivation procedure and references, see text.

[b] For six or more persons

farms. A large part of this adjustment rests on income in kind on the farm in the form of nomegrown fooa and housing provisions.[84] [85] The remaining portion of the adjustment reflects different living requirements, consumption standards, and price differentials.[2] [5] For the use made of the budget concept in this study, no adjustment for the income in kind phenomenon is necessary. The level of purchasing power in terms of money income of the farm subgroup is not of interest here. Rather, the search is for a measure of essential

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[84] See Orshansky, "Counting the Poor," 9-10, and "Who's îvho Among the Poor: A Demographic View of Poverty," Social Security Bulletin, XXVII (July, 1965), 9-10.

[85] See Nathan Koffsky, "Farm and Urban Purchasing Pov/er," National Bureau of Economic Research, Studies in income and Wealth, Vol. XI (New York: National Bureau of Economic Research, 1949), pp. 155-156, 172, and passim.

consumption in aggregate terms to relate to the level of gross production. And, the Office of Business Economics' production statistics includes estimates of farm income in kind. Further, the portion reflecting differential living standards is of dubious value. For one thing, there is a danger in comparing budget costs of different living standards which dates at least to Irving Fisher's "ideal index number."[2] And, it is apparent from Koffsky's discussion that much of this Standard of living differential rests upon a lower level of living on the farm.[86] [87] The only substantive reason for adjustment appears to be price differentials beyond those reflecting differential consumption standards. No adjustment is attempted for this factor herein. Judging from the rela- tive size of the farm population and the price differentials which exist, this apparently places only a very minör guali- fication on the present analysis.

Personal Essential Consumption- in Current Market Prices

Estimates can now be derived for personal essential consumption at market prices for the selected years in the 1929-1970 period. Tables 5 through 9 contain the data used in the estimation procedure. Table 5 shows the number of

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[86] Ibid., p. 154.

[87] See especially his discussions of clothing, p. 163, and housing, p. 167.

TABLE 5

POPULATION RESIDENCY CHARACTERISTICS^ SELECTED YEARS, 1940-1968
(in millions;

Date	Households by Number of Persons per Household							Number of Quasi-Households
	1	2	3	4	5	6	7 or more	
April, 1940	2.7	8.6	7.8	6.3	4.0	2.4	3.0	0.5
April, 1949	3.4	11.5	10.2	8.1	4.4	2.3	2.2	0.5
March, 1950	3.9	12.4	10.0	7.9	4.6	2.3	2.3	0.4
March, 1960	6.9	14.6	9.9	9.3	6.1	3.0	2.9	0.4
March, 1966	9.0	16.6	9.9	9.4	6.2	3.4	3.4	0.4
March, 1967	9.1	16.7	10.3	9.5	6.2	3.5	3.5	0.5
March, 1968	9.7	17.3	10.5	9.6	6.3	3.6	3.5	0.5

[a]Source: U.S., Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, no. 26 and no. 33, Population Characteristics (Washington, D.C.: Government Printing Office, 1950 and 1951), pp. *12* and I"3 and 12 and 14, respectively. Also, U.S., Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, no. 106, no. 164, no. 173, and no. 191, Household and Family Characteristics (Washington, D.C.: Govern ment Printing Office, 196.1, 1967, 1968, and 1969) , pp. 13, 11, 14, and 78, respectively.

households containing various nuıtıbers of persons for various years in the period. The Bureau of the Census' household category is used rather than its family category. A household is defined as a number of persons who live and eat together as a unit.[88] This functional point of view is more appropriate for present purposes than one stressing familial or legalistic relationships.

Also shown in Table 5 is the population in units which the Bureau of the Census regards as "quasi-households" or, in later usage, "group quarters." These are units in which there is no identified household head, being for the most part institutions such as prisons and sanitariums. Neither the number of these quasi-households nor the population therein are included in the household category.

Table 6 contains estimates of the number of households by size for the years in which personal essential consumption budgets are available. These estimates are taken directly from Table 5 or, where necessary, computed from Table 5 by straight-line interpolation. The number of quasi-households is estimated through 1959 by dividing the population in such units by seven, and for 1966-1970 by dividing by six. These numbers are then included under the descriptive headings seven or more persons and six or more persons, respectively.

2 8 See U.S., Department of Commerce, Bureau of the Census, Household and Family Characteristics: March, 1968, (Wachmgton, D.C.: Government Prmtıng Office, 1969), p. 4.

Current Population Reports, Series P-20, no. 191,

TABLE 6

NUMBER OF HOÜSEHOLDS BY SIZE, SELEÇTED YEARS, 1935-1970 (in millions)

Year	1	2	3	4	5	6	7 or more[a]
1935	2.3	7.0	6.5	5.3′	3.8	2.5	4.0
1937	2.5	7.7	7.0	5.7	3.9	2.4	3.8
1938	2.5	8.0	7.3	5.9	3.9	2.4	3.7
1939	2.6	8.3	7.5	6.1	4.0	2.4	3.6
1941	2.8	8.9	8.1	6.5	4.0	2.4	3.4
1942	2.9	9.2	8.3	6.7	4.1	2.4	3.4
1943	2.9	9.6	8.6	6.9	4.1	2.4	3.2
1946	3.2	10.5	9.4	7.5	4.2	2.3	3.0
1947	3.3	10.8	9.7	7.7	4.3	2.3	2.9
1949	3.4	11.5	10.2	8.1	4.4	2.3	2.7
1950	3.9	12.4	10.0	7.9	4.6	2.3	2.7
1951	4.2	12.6	10.0	8.0	4.8	2.4	2.8
1959	6.8	14.4	9.9	9.2	6.0	2.9	3.2
1966	9.0	16.6	9.9	9.4	6.2	7.2[c]	NA
1967	9.1	16.7	10.3	9.5	6.2	7.5[c]	NA
1968	9.7	17.3	10.5	9.6	6.3	7.6[c]	NA
1970	10.5	18.0	11.1	9.8	6.4	7.9[c]	NA

Taken directly or via interpolation from Table 5.

[a] Includes "guasi-households."

[b] Six or more person households, including "quasi-households."

[c] Table 7 contains the CWFB cost for familie? of various sizes in the relevant years. These estimates are computed directly from the CWFB cost for a four-person family (Table 3), and the percentages of this budget required for families of other

sizes (Table 4).

TABLE 9

Table 8 shows the estimated aggregate essential consumption at market prices for the selected years. These figures are computed by multiplying the number of households of a given size (Table 6) by the necessary budget cost for that given size (Table 7). Summing these figures for households of various sizes yields estimates of aggregate personal essential consumption at market prices ranging from $53.1 bil- lion in 1935 to $400.1 billion in 1970. In Table 9, personal essential consumption is estimated for the remaininç years in the 1929-1970 period by interpolation and price change ratios from Table 8.

COST OF ADJUSTED CWF3 FOR FAMILY ÜNITS OT VARIOUS SIZES, SELECTED YEARS, 1935-1970 (in current pricesj

Year	Budget Cost by Persons in Family						
	1	2	3	4	5	6	7 or more
1935	$ 826	$1,185	$1,509	$1,796	$2,047	$ 2,299	$2,514
1937	880	1,263	1,607	1,913	2,181	2,449	2,678
1938	865	1,241	1,579	1,880	2,143	2,406	2,632
1939	881	1,265	1,609	1,916	2,184	2,452	2,682
1941	898	1,289	1,641	1,953	2,226	2,500	2,734
1942	1,059	1,520	1,935	2,303	2,625	2,948	3,224
1943	1,099	1,577	2,008	2,390	2,725	3,059	3,346
1946	1,167	1,674	2,130	2,536	2,891	3,246	3,550
1947	1,340	1,922	2,446	2,912	3,320	3,727	4,077
1949	1,462	2,097	2,670	3,178	3,623	4,068	4,449
1950	1,527	2,191	2,788	3,319	3,784	4,248	4,647
1951	1,672	2,399	3,053	3,635	4,144	4,653	5,089
1959	2,433	3,346	4,410	5,069	6,083	7,097	7,958
1966	2,580	4,141	5,635	6,789	7,807	8,82 6[b]	NA
1967	2,594	4,164	5,666	6,827	7,851	8,875[b]	NA
1968	2,743	4,403	5,991	7,218	8,301	9,38 3[b]	NA
1970	2,946	4,729	6,435	7,753	8,916	10,079[b]	NA

Derived froıtı Tables 3 and

TABLE 9

4. ^For six or more persons.

TABLE 8

AGGREGATE PERSONAL ESSENTIAL CONSUMPTION IN CURRENT MARKET PRICES, SELECTED YEARS, 1935-1970 (in billions)[a]

	Aggregate Essential Consumption for Each Household Size							
Year	1	2	3	4	5	6	7 or more	Total
1935	$ 1.90	$ 8.30	$ 9.81	$ 9.52	$ 7.78	$ 5.75	$10.06	$ 53.1
1937	2.20	9.73	11.25	10.90	8.51	5.88	10.18	58.7
1938	2.16	9.93	11.53	11.09	8.36	5.77	9.74	58.6
1939	2.29	10.50	12.07	11.69	8.74	5.88	9.66	60.8
1941	2.51	11.47	13.29	12.69	8.90	6.00	9.30	64.2
1942	3.07	13.98	16.06	15.43	10.76	7.08	10.96	77. 3
1943	3.19	15.14	17.27	16.49	11.17	7.34	10.71	81.3
1946	3.73	17.58	20.02	19.02	12.14	7.47	10.65	90.6
1947	4.42	20.76	23.73	22.42	14.28	8.57	11. 82	106.0
1949	4.97	24.12	27.23	25.74	15.94	9.36	12.01	119.4
1950	5.96	27.17	27.88	26.22	17.41	9.77	12.55	12 7.1
1951	7.02	30.23	30.53	29.08	19.89	11.17	14.25	142.2
1959	16.54	48.18	43.66	46.63	36.50	20.5 8	25.47	237.6
1966	23.22	68.74	55.79	63.82	48.40	63.55?	NA	323.5
1967	23.61	69.54	58.36	64.95	48.68	66.56	NA	331.7
1968	26.61	76.17	62.91	69.29	52.30	[illegible]	NA	358.6
1970	30.93	85.12	71.43	75.98	57.06	79.62	NA	400.1

[a]Derived from Tables 6 and 7.

b

For six or more person household.lds.

TABLE 9

AGGREGATE PERSONAL ESSENTİAL CONSUMPTION IN CURRENT MARKET PRICES, ANNUALLY, 1929-1970 (in billions)[a]

Year	PEC	Year	PEC	Year	PEC
1929	$66.5	1943	$ 81.3	1957	$213.6
1930	64.8	1944	83.2	1958	225.5
1931	59.0	1945	85.0	1959	237.6
1932	53.0	1946	90.6	1960	249.9
1933	50.2	1947	106.0	1961	262.2
1934	52.0	1948	115.6	1962	274.5
1935	53.1	1949	119.4	1963	286.8
1936	53.8	1950	127.1	1964	299.1
1937	58.7	1951	142.2	1965	311.4
1938	58.6	1952	154.1	1966	323.5
1939	60.8	1953	166.0	1967	331.7
1940	61.5	1954	177.9	1968	358.6
1941	64.2	1955	189.8	1969	379.4
1942	77.3	1956	201.7	1970	400.1

^his table is derived from Table 6 by using either ratios of price changes or straight üne interpolation. The latter method tends to create less distortion during periods of stably trending prices and significant population growth. It is used for the period after 1951. The price changes method is used prior to 1951 due to the up and down price movements and the lack of any blank space on the order of that of 1952-1958. The Consuner Price Index used is that of the U.S., Department of Labor, Bureau of Labor Statistics, Changes in Cost of Living in Large Cities in the United States, 1913-41, Bulletin 699 (VJashington, D.C.: Government Printing Office, 1941), p. 43, and Handbook of Labor Statistics, 1950 Edition, Bulletin 1016 (Nashington, D.C.: Government Printing Office, 1950), p. 100.

CHAPTER V

ESTIMATION OF SOCIAL ESSENTIAL CONSUMPTION

Essential Social Overhead Consumption Püre Social Overhead Consuraption As explained in Chapter III above, several items of governınent expenditure are for ail practical purposes exhausted in the year of provision. That is, they are nec- essary to maintain or support the extant productive capacity but do not increase this capacity.

Included in this category are the provision of general government adıninistration, conduct of International affairs, maintenance of civilian safety, sanitation, and postal systems, and support of resource preservation[89] [90] and recreation facilities. The relevant figures for 1952-1970 are shown in Table 10. These are taken directly from a num- ber of Survey of Current Business issues. Purchases of goods and Services figures are used thus omitting transfer payments and overlapping expenditures due to intergovernmental transfers.

■*Tt should be remembered that the natural resources
90 tem is included here for convenience. See Chapter III above.

TABLE 10
PÜRE SOCIAL OVERHEAD CONSUMPTION, ANNUALLY, 1952-1970 (in billions of current dollars)[a]

	General Government and International Affairs		Civilian Safety, Sanitation, and Postal Services		Resource Preservation and Recreation		
Year	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
1952	$1.64	$ 1.57	$0.86	$ 2.77	$1.51	$0.92	$ 9.3
1953	1.43	1.66	0.64	2.84	1.31	0.63	8. 5
1954	1.37	1. 84	0.41	3.15	1.29	1.05	9.1
1955	1.54	1.98	0.54	3.40	1.03	1.16	9.7
1956	1.58	2.23	0.67	3.74	1.47	1.33	11.0
1957	1.49	2.61	0.63	4.04	2.08	1.50	12.4
1958	1.55	2.91	0.78	4.37	2.38	1.62	13.6
1959	1.62	3.23	0.62	4.69	1.91	1.74	13.8
1960	1.99	3.35	0.73	5.02	2.61	1.98	15.7
1961	2.05	3.57	0.93	5.37	2.34	2.16	16.4
1962	2.27	3.88	0.93	5.66	2.35	2.13	17.2
1963	2.50	4.25	0.73	6.07	2.48	2.45	18.5
1964	2.80	4.89	0.85	6.57	2.40	2.66	20.2
1965	2.93	5.81	0.90	6.97	2.41	2.63	21.7
1966	2.70	5.94	1.11	7.56	2.80	2.86	23.0
1967	2.6 0	7.02	1.29	8. 32	2.91	3.35	25.5
1968	2.69	9.05	0.96	9.49	2.58	3.67	28.4
1969	3.31	10.10	1.27	10.35	2.41	4.11	32.6
1970	3.82	10.70	2.33	12.28	2.84	4.31	36. 3

Source:

a .S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929--1965, Statistical Tables (Washington, D.C.: Government Printing Office, 19 66) , pp. 60-69 ; Survey of Current Business, L (July, 1970), 33, and LI (July, 1971), 29-30.

Surpluses of government enterprises have been subtracted and subsidies added when they occur in a relevant category.

The omission of personal transfers and the inclusion of subsidies warrants a word of explanation. Personal consumption is already included by using budget cost and popula- tion estimates. Therefore, it would be double-counting to include transfer payments which are to provide income for personal consumption. However, the subsidies presumably have the effect of keeping consumer prices lower. Therefore, the subsidies do not appear in the personal consumption estimates.

Prior to 1952 this convenient breakdown is not avail- able for government expenditures. Therefore, estimates must be made for these years. The method for doing so herein is first to compute the average ratio of püre social overhead consumption to nondefense government purchases of goods and Services for the 1952-1970 period. Then, this ratio is applied to nondefense purchases for the 1929-1951 period to estimate püre social consumption.

From Table 11, the ratio of püre social overhead expenditures to total nondefense purchases is found to average 26.6 percent for the 1952-1970 period. This percentage is applied to nondefense purchases in Table 12 to arrive at estimates for püre social consumption for the 1929-1951 period.

For years prior to 1939, the Department of Commerce does not divide government purchases as to defense or nonde- fense. However, Francis M. Bator estimates defense purchases

TABLE 11

GOVERNMENT PURCHASES OF GOODS AND SERVICES, ALL LEVELS, ANNUALLY, 1952-1970 (in billions of current dollars)[0.]

Ye ar	Total Purchases	Nondefense Purchases	Püre Social Overhead Purchases	Ratio
1952	$ 74.66	$ 28.73	$ 9.3	0.324
1953	81.65	32.98	8.5	0.258
1954	74.80	33.60	9.1	0.271
1955	74.20	35.64	9.7	0.272
1956	78.58	38.25	11.0	0.288
1957	86.12	41.90	12.4	0.296
1958	94.16	48.26	13.6	0.282
1959	97.01	50.96	13.8	0.271
1960	99.62	54.68	15.7	0.287
1961	107.63	59.80	16.4	0.274
1962	117.12	65.54	17.2	0.262
1963	122.48	71.72	18.5	0.258
1964	128.91	78.92	20.2	0.256
1965	136.23	86.08	21.7	0.252
1966	156.81	96.13	23.0	0.239
1967	180.08	107.74	25.5	0.237
1968	199.56	121.54	28.4	0.234
1969	209.71	131.30	32.6	0.248
1970	219.39	144.04	36.3	0.252

[a] Source: Table 10 and U. S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables

3; Survey of Current Business, L (July, 1970), 17, and LI (July, 1971) , 13.

PÜRE SOCIAL OVERHEAD: CONSUMPTION, ANNUALLY, 1929-1951
(in billions of current dollars;

Year	Total Purchases	Nondefense Purchases	Püre Social Consumption Purchases
1929	$ 8.50	$ 7.80	$2.1
1930	9.20	8.44	2.2
1931	9.22	8.41	2.2
19 32	8.09	7.22	1.9
1933	8.05	7.13	1.9
1934	9.78	8.80	2.3
1935	10.01	8.98	2.4
1936	11.97	10.88	2.9
1937	11.86	10.72	2.9
1938	12.98	11.78	3.1
1939	13.33	12.08	3.2
1940	14.00	11.79	3.1
1941	24.77	11.02	2.9
1942	59.59	10.23	2.7
1943	88.56	8.82_	2.3
1944	96.54	9:. 11	2.4
1945	82.28	8.77	2.3
1946	27.01	12.27	3.3
1947	25.11	16.04	4.3
1948	31.55	20.82	5.5
1949	37.85	24.58	6.5
1950	37.90	23.81	6.3
1951	59.13	25.54	6.8

[a]Source: U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables (Washington, D.C.: Government Frinting Office, 1966), pp. 2-3. For 1929 1938, nondefense purchases are interpolated using Bator's estimate of defense spending for 1929. Francis M. Bator, The Question of Government Spending: Public Needs and Private to Wants (New York: Harper and Brothers, 1960), p. 138.

have been $0.7 billion in 1929.[91] This figüre is used for 1929 and for interpolation to estimate the defense and nondefense distribution of government purchases for the 1930-1938 period.

Mixed Social Consumption and Social Investment

As explained in Chapter III above, some categories of government expenditures contain both consumption and investment elements. As shown in Table 13, there are three such categories to be considered: expenditures for transportation and public Utilities, education, and health and hospitals.

For these three categories, rough arbiters are devised to assign expenditures to either consumption or investment. In ali three instances, a lack of information and, more importantly, the existence of lags between the year of expenditure and the year of production prevent the assign- ment from proceeding on a year-to-year basis. Hence, the period is arbitrarily divided into two subperiods, 1929-1950 and 1950-1970. Ratios using the first and last year of each subperiod are used for each year therein.

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91 Francis M. Bator, The Question of Government Spending: Public Needs and Private Wants (New York: Harper and Brothers, 1960), p. 138.

TABLE 13

GOVERNMENT PURCHASES OF GOODS AND SERVICES, MIXED CONSUMPTION AND INVESTMENT ITEMS, ALL LEVELS, ANNUALLY, 1952-1970 (in billions of current dollars)[a]

Year	Transportation and Utilities	Education[D]	Health and Hospitals[0]
1952	$ 5.21	$ 8.35	$ 3.30
1953	5.53	9.37	3.36
1954	6.25	10.64	3.34
1955	6.84	11.93	3.53
1956	7.45	13.04	3.86
1957	8.41	14.17	4.32
1958	9.46	15.97	4.69
1959	9.91	17.24	5.09
1960	9.96	18.71	5.42
1961	10.90	20.67	5.83
1962	11.02	22.12	6.27
1963	11.80	24.15	6.66
1964	12.62	26.69	7.27
1965	13.69	29.06	7.81
1966	14.63	35.18	8.67
1967	16.04	39.54	9.95
1968	17.39	43.83	11.05
1969	17.68	48.53	12.08
1970	19.05	54.14	12.77

[a]Source: U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1965 , Statistical Tables (tvashing- ton, D.C.: Government Printing Office, 1966), pp. 60-69; Survey of Current Business, L (July, 1970), 33, and LI (July, 1971), 29-30.

K ,

"Inciudes purchases of goods and Services mcurred m the provision of educational, health, and hospital Services through the Veterans Administration.

Transportation and Public Utilities

There exists no reliable basis for assigning transportation to consumption or investment on a physical quantity basis. The data available on road mileage are sketchy and unreliable, especially prior to 1939.[92] Moreover, no reliable data are available on municipal road ırıileage prior to around 1950, and it is not possible to infer such mileage from highway extension and access roads which enter municipal limits.[93] Data on the growth of air transport volumes are similarly scarce prior to 1946. [94]

The method of assignment used involves changes in constant dollar GNP. The rationale for this procedure is that of technical proportionality. Given some increase in physical production, it may be supposed that a roughly pro- portionate increase occurs in the facilities for transport- ing this produce. Also, since several means of transport are involved, there is some room for technical change and varying proportions in this assumption, for example, the shift from rail to air transport.

Since reliable data do not exist for physical volumes of public Utilities output, they are included with transpor- tation

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92 Charles L. Dearing, American Highway Policy (Washington, D.C.: Brookings Institution, 1941), pp. 113-114.

93 ■ Norman Hebden and Wilbur S. Smith, State-City Relationships in Highway Affairs (New Haven: Yale University Press, 1950), pp. 11-12, 12n.

94 Personal letter from Ms. Lmda Kloster, Information Services, Air Transport Association, dated, March 10, 1972.

and the proportionality assumption applied to them as well. The fact that the assumption is somewhat more dubious in this instance is mitigated by the small volüme of expendi- tures net of revenue for public Utilities.

Transportation and public utility expenditures are given in column one of Table 13. Transportation includes highway, air, and v;ater transport expenditures; public Utilities include expenditures for transit, electricity, water, and gas Services. In ali cases, only purchases of goods and Services and subsidies are used. Transfer payments are excluded. Moreover, surpluses of ÇOVv*. nıutin t enterprises in the relevant categories, especially electric Utilities, are subtracted from the purchases figüre.

GNP in 1958 dollars egualed $203.6 billion in 1929, $355.3 billion in 1950, and $720.0 billion in 1970. Hence, 57.3 percent of expenditures in the 1929-1950 subperiod are assigned to consumption and 49.3 percent in the 1950-1970 subperiod. The volumes assigned to social consumption in this fashion for 1952-1970 are shovm in column one of Table 14.

Education

The second category of mixed consumption and invest- ment is found in the area of expenditures for education. These expenditures are assigned to consumption or investment

TABLE 14

SOCIAL ESSENTIAL CONSUMPTION FOR MIXED CATEGORIES, ANNUALLY, 1952-1970 (in billions of current dollars)[a]

Year	Transportation and Utilities	Education	Health and Hospitals	Total
1952	$2.57	$ 4.83	$1.83	$ 9.23
1953	2.73	5.42	1.86	10.01
1954	3.08	6.15	1.85	11.08
1955	3.37	6.90	1.96	12.23
1956	3.67	7.54	2.14	13.35
1957	4.15	8.19	2.40	14.74
1958	4.66	9.23	2.60	16.49
1959	4.89	9.96	2.82	17.67
1960	4.91	10.81	3.01	18.73
1961	5.37	11.95	3.24	20.56
1962	5.43	12.79	3.48	21.70
1963	5.82	13.96	3.70	23.48
1964	6.22	15.43	4.03	25.68
1965	6.75	16. 80	4.33	27.88
1966	7.21	20.33 ,	4.81	32.35
1967	7.91	22.85	5.52	36.28
1968	8.57	25.33	6.13	40.03
1969	8.72	28.05	6.70	43.47
1970	9.39	31.29	7.09	47.77

For derivation procedure, see text.

via changes in the educational attainment of lahor force participants. The reasoning involved is that the size and educational levels of the lahor force at the beginning of a period are part of the productive plant and must be maintained. This maintenance is, of course, a part of essential consumption. However, any increase in the size or level of educational attainment of the lahor force is to he considered investment. The lahor force is used rather than the population as a whole because educational expenditures on those persons not enter- ing the lahor force are properly considered a part of the surplus.

Total governmental purchases of goods and Services related to education are given in column two of Table 13. Expenditures for educational Services provided via the Veterans Administration are included. Transfer payments are omitted since the hudget for personal consumption includes educational expenses.

The civilian lahor force was 49.2 million in 1929, 62.2 million in 1950, and 82.7 million in 1970.[95] The median school years completed for the population as a whole was 8.6 in 1940,[96] 9.3 in 1950, and 12.1 in 1970. By multiplying the median completion figüre by the lahor force size for each year, an index representing educational attainment of the labor force is formed. The ratios of this index for 1929 to 1950 (.731) and for 1950 to 1970 (.578) are then used as the consumption portion for each year

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^Milton H. Spencer, Contemporary Economics (New York: Worth Publishers, Inc., 1971), hack fly page.

96 The figüre for 1940 is used in lieu of the unavaıl- able 1930 figüre.

in each subperiod. Column two of Table 14 shows essential social consumption for edu- cation for the 1952-1970 period.

Health and Hospitals

The final category involving elements of both consumption and investment is that of health and hospital Services. As with education, there is no mandate for assign- ment in this category according to changes in real GNP. That is, there is not sufficient reason to assume proportionality between health Services and real output. Therefore, assign- ment in this category is made on the basis of changes in hospital admissions. Total hospital admissions were approximately 7.16 million in 1931,[97] 16.75 million in 1950, and 30.19 million in 1969.[98] Assignment ratios on this basis are 0.427 for 19291950 and 0.555 for 1950-1970. Column three of Table 14 gives essential social consumption for health and hospital Services for 1952-1970.

1929-1951

As noted above in regard to püre social consumption, the convenient breakdown on government expenditures is not available prior to 1952. Estimates of expenditures in the 1929-1951 period for the three mixed consumption and invest- ment categories are derived by the same method as in the püre consumption case. The

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Personal letter from Ms. Sharyn Biliş, Staff Associate, Division of Hospital Public Relations, American Hospital Association, April 4, 1972.

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U.S., Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1971 (Washington, D.C.: Government Printing Office, 1971), pp. 5 and 70.

percentage share of nondefense pur- chases of goods and Services for the three categories is assumed to be the same for 1929-1951 as for 1952-1970. From Table 15, the average percentage share in the 1952-1970 period for transportation and public Utilities is computed to be 17.1 percent, for education 33.9 percent, and for health and hospitals 9.7 percent. These percentages are translated into dollar estimates for these items in the 1929-1951 period in Table 16. The assignment percentages derived above are applied to these magnitudes in Table 16 to arrive at social consumption estimates. In ali cases, the year 1950 is included in the 1950-1970 period.

Essential Capital Consumption

As discussed in Chapter III above, the estimates of essential Capital consumption are based upon the work of Allan H. Young.[10] The procedure is to first form ratios of

[10] Allan H. Young, "Alternative Estimates of Corporate Depreciation and Profits: Parts I and II," Survey of Current Business, XLVIII (April, 1968), 17-28, and (May, 1968), 1S=W. ■

TABLE 15

GOVERNMENT PURCHASES OF GOODS AND SERVICES, SELECTED CATEGORIES, ALL LEVELS, ANNUALLY, 1952-1970 (in billions of current dollars and as percent of nondefense purchases)*

Year	Nondefense Purchases	Transportation and Utilities		Education		Health and Hospitals	
1952	$ 28.73	$ 5.21	18.1%	$ 8.35	29.1%	$ 3.30	11.5[1]
1953	32.98	5.53	16.8	9.37	28.4	3.36	10.2
1954	33.60	G.25	18.6	10.64	31.2	3.34	9.9
1955	35.64	6.84	19.2	11.93	33.5	3.53	9.9
1956	38.25	7.45	19.5	13.04	34.1	3.86	10.1
1957	41.90	8.41	20.1	14.17	33.8	4.32	10.3
1958	48.26	9.46	19.6	15.97	33.1	4.69	9.7
1959	50.96	9.91	19.4	17.24	33.8	5.09	10.0
İ20U	54.68	3.36	18.2	18.71	34.2	5.42	3.9
1961	59.80	10.90	18.2	20.67	34.6	5.83	9.7
1962	65.54	11.02	16.8	22.12	33.8	6.27	9.6
1963	71.72	11.80	16.5	24.15	33.7	6.66	9.3
1964	78.92	12.62	16.0	26.69	33.8	7.27	9.2
1965	86.08	13.69	15.9	29.06	33.8	7.81	9.1
1966	96.13	14.63	15.2	35.18	36.6	8.67	9.0
1967	107.74	16.04	14.9	39.54	36.7	9.95	9.2
1968	121.54	17.39	14.3	43.83	36.1	11.05	9.1
1969	131.30	17.68	13.5	48.53	37.0	12.08	9.2
1970	144.04	19.05	13.2	54.14	37.6	12.77	8.9

[a]Source: Tables 11 and 13.

TABLE 16

ESTIMATES OF GOVERNMENT PURCHASES FOR MIXED CATEGORIES AND AMOUNTS ASSIGNED TO ESSENTIAL CONSUMPTION, ANNUALLY, 1929-1951 (in billions of current dollars)[a]

Year	Transportation and Utilities		Education		Health & Hospitals		Total Assigned to Social Consumption
	Estimate	Social Consumption	Estimate	Social Consumption	Estimate	Social Consumption	
1929	$1.33	$0.76	$2.64	$1.93	$0.76	$0.32	$3.01
1930	1.44	0.83	2.86	2.09	0.82	0.35	3.27
1931	1.44	0.83	2.85	2.08	0.82	0.35	3.26
1932	1.23	0.70	2.45	1.79	0.70	0.30	2.79
1933	1.22	0.70	2.42	1.77	0.69	0.29	2.76
1934	1.50	0.86	2.98	2.18	0.85	0.36	3.40
1935	1.54	0.88	3.04	2.22	0.37	0.37	3.47
1936	1.86	1.07	3.69	2.70	1.06	0.45	4.22
1937	1.83	1.02	3.63	2.65	1.04	0.44	4.11
1938	2.01	1.15	3.99	2.92	1.14	0.49	4.56
1939	2.07	1.19	4.10	3.00	1.17	0.50	4.69
1940	2.02	1.16	4.00	2.92	1.14	0.49	4.57
1941	1.88	1.08	3.74	2.73	1.07	0.46	4.27
1942	1.75	1.00	3.47	2.54	0.99	0.42	3.96
1943	1.51	0.87	2.99	2.19	0.86	0.37	3.43
1944	1.56	0.89	3.09	2.26	0.88	0.38	3.53
1945	1.50	0.86	2.97	2.17	0.85	0.36	3.39
1946	2.10	1.20	4.16	3.04	1.19	0.51	4.75
1947	2.74	1.57	5.44	3.98	1.56	0.67	6.22
1948	3.56	2.04	7.06	5.16	2.02	0.86	8.06
1949	4.20	2.41	8.33	6.09	2.38	1.02	9.52
1950	4.07	2.01	8.07	4.66	2.31	1.28	7.95
1951	4.37	2.15	8.66	5.01	2.48	1.38	8.54

[a] For derivation procedure, see text.

Young's straight line, historical cost, F service lives depreciation series for nonfinancial corporations to the Office of Business Economics* depreciation series for these corporations. Then, these ratios are applied to the Office of Business Economics* series for total Capital consumption to arrive at estimates of essential Capital consumption. These operations are summarized in Tables 17 and 18.

Total Essential Consumption and the Adjustment for Surplus Elements Imbedded in Market Prıces

In Table 19, personal essential consumption and social essential consumption are combined to form total essential con sumption in current market prices. There remains in these estimates of total essential consumption a variety of surplus elements. These are imbedded in the structure of market prices in such a way as to prohibit their direct exclusion in the manner of excluding payroll taxes, life insurance premiums and governmental transfer payments. The method for dealing with these imbedded surplus elements is first to form a ratio of their sum to GNP for a given year. Then, this proportion is deleted from the total essential consumption estimate for that year. These operations are summarized in Tables 20 through 24. In Table 24, the final estimate of total essential consumption is given and converted to 1958 prices.

TABLE 17

ALTERNATIVE DEPRECİATİON MEASURES, NONFINANCIAL CORPORATIONS, ANNUALLY, 1929-1970 (in billions of current dollars;

Year	Straight Line[D] Depreciation	Office of Business Economics Ratio	Depreciation
1929			
1930			
1931			
1932			
1933			
1934			
1935			
1936			
1937			
1938			
1939			
1940			
1941			
1942			
1943			
1944			
1945			
1946			
1947			
1948			
1949			
1950			
1951			
1952			
1953			
1954			
1955			

$ 4.4	$ 4.1	1.07
4.6	4.2	1.10
4.5	4.2	1.07
4.5	3.9	1.15
4.3	3.7	1.16
4.2	3.6	1.17
4.1	3.5	1.17
4.1	3.5	1.17
4.3	3.6	1.19
4.4	3.7	1.22
4.4	3.7	1.19
4.4	3.7	1.19
4.5	4.1	1.12
4.7	5.0	0.94
4.6	5.3	0.87
4.5	6.0	0.75
4.6	6.3	0.73
4.9	4.6	1.07
5.5	5.7	0.96
6.4	6.8	0.94
7.4	7.8	0.95
8.5	8.6	0.99
9.5	10.0	0.95
10.5	11.2	0.94
11.4	12.8	0.89
12.1	14.5	0.83
13.1	16.8	0.78

Year	Straight Line[u] Depreciation	Office of Business Economics Depreciation	Ratio
1956	$14.3	$18.3	0.78
1957	15.6	20.2	0.77
1958	16.7	21.2	0.79
1959	17.7	22.6	0.78
1960	19.1	24.0	0.80
1961	20.4	25.1	0.81
1962	21.8	28.8	0.76
1963	23.4	30.4	0.77
1964	25.1	32.2	0.78
1965	27.2	34.5	0.79
1966	29.9	37.0	0.81
1967	32.9	40.7	0.81
1968	35.5	44.2	0.80
1969	3 8.7	48.3	0.80
1970	42.1	52.8	0.80

[a]This table is based upon the methods and data of Allan H. Young, "Alternative Estimates of Corporate Deprecia- tion and Profits: Parts I and II," Survey of Current Business, XLVIII (April, 1968), 17-28, and (May, 1968), 16-28. Addi- tional data used are from the update of Young's calculations, "Alternative Estimates of Corporate Depreciation and Profits, 1965-70," ibid., LII (January, 1972), 34-35.

^This is one of several depreciation measures used by Young. It is based upon "historical [original] cost" and the service lives of the 1942 Bulletin F of the Internal Revenue Service.

TABLE 18

ESSENTIAL CAPITAL CONSUMPTİON-, ANNUALLY, 1929-1970
(in billions of current dollars)

Year	Office of Business Economics Capital Consumption	Essential Capital Consumption
1929	$ 7.9	$ 8.5
1930	8.0	8.8
1931	7.9	8.5
19 32	7.4	8.5
1933	7.0	8.1
1934	6.8	8.0
1935	6.9	8.1
1936	7.0	8.2
1937	7.2	8.6
1938	7.3	8.9
1939	7.3	8.7
1940	7.5	8.9
1941	8.2	9.2
1942	9.8	9.2
1943	10.3	9.0
1944	11.0	8.3
1945	11.3	8.2
1946	9.9	10.6
1947	12.2	11.7
1948	14.5	13.6
1949	16.6	15.8
1950	18.3	18.1
1951	21.2	20.1
1952	23.2	21.8
1953	25.7	22.9
1954	28.2	23.4

TABLE 18 — Continued

Year	Office of Business Economics Capital Consumption	Essential Capital Consumption[0]
1955	$31.5	$24.6
1356	34.1	26.6
1957	37.1	28.6
1958	38.9	30.7
1959	41.4	32.3
1960	43.4	34.7
1961	45.2	36.6
1962	50.0	38.0
1963	52.6	40.5
1964	56.0	43.7
1965	59.6	47.1
1966	63.9	51.8
1967	68.9	55.8
1968	74.5	59.6
1969	81.1	64.9
1970	87.6	70.1

[a]Source: U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1965, Statistical Tables (Washington, D.C.: Government Printing Office, 1966), pp. 12-13; and Survey of Current Business, L (Julv, 1970), 19, and LI (July, 1971), 15.

^Computed by applying the ratios from Table 17 to the Office of Business Economics Capital consumption series.

TABLE 19

TOTAL ESSENTIAL CONSUMPTION IN CURRENT MARKET PRICES, ANNUALLY, 1929-1970 (İn billions)[a]

Year	Personal	Püre Social	Mixed Social	Capital	Total
1929	$ 66.5	$ 2.1	$ 3.0	$ 8.5	$ 80.1
1930	64.8	2.2	3.3	8.8	79.1
1931	59.0	2.2	3.3	8.5	73.0
1932	53.0	1.9	2.8	8.5	66.2
1933	50.2	1.9	2.8	8.5	63.0
1934	52.0	2.3	3.4	8.0	65.7
1935	53.1	2.4	3.5	8.1	67.1
1936	53.8	2.9	4.2	8.2	69.1
1937	58.7	2.9	4.1	8.6	74.3
1938	58.6	3.1	4.6	8.9	78.1
1939	60.8	3.2	4.7	8.7	77.4
1940	61.5	3.1	4.6	8.9	78.1
1941	64.2	2.9	4.3	9.2	80.6
1942	77.3	2.7	4.0	9.2	93.2
1943	81.3	2.3	3.4	9.0	96.0
1944	83.2	2.4	3.5	8.3	97.4
1945	85.0	2.3	3.4	8.2	98.9
1946	90.6	3.3	4.8	10.6	109.3
1947	106.0	4.3	6.2	11.7	128.2
1948	115.6	5.5	8.1	13.6	142.8
1949	119.4	6.5	9.5	15.8	151.2
1950	127.1	6.3	8.0	18.1	159.5
1951	142.2	6.8	8.5	20.1	177.6
1952	154.1	9.3	9.2	21.8	194.4
1953	166.0	8.5	10.0	22.9	207.4
1954	177.9	9.1	11.1	23.4	221.5
1955	189.8	9.7	12.2	24.6	236.3
1956	201.7	11.0	13.4	26.6	252.7
1957	213.6	12.4	14.7	28.6	269.3
1958	225.5	13.6	16.5	30.7	286. 3
1959	237.6	13.8	17.7	32.3	301.4
1960	249.9	15.7	18.7	34.7	319.0
1961	262.2	16.4	20.6	36.6	335.8
1962	274.5	17.2	21.7	38.0	351.4
1963	286.8	18.5	23.5	40.5	369.3

TABLE 19 — Continued

Year	Personal	Püre Social	Mixed Social	Capital	Total
1964	$299.1	$20.2	$25.7	$43.7	$388.7
1965	311.4	21.7	27.9	47.1	408.1
1966	323.5	23.0	32.4	51.8	430.7
1967	331.7	25.5	36.3	55.8	449.3
1968	358.6	28.4	40.0	59.6	486.6
1969	379.4	32.6	43.5	64.9	520.4
1970	400.1	36.3	47.8	70.1	554.3

[a]Source: Tables 9, 10, 12, 14, 16, and 18

MISCELLANEOUS GOVERNMENT REVENUE, ALL LEVELS, ANNUALLY, 1929-1970
(in billions of current dollars)[a]

~~TABLE 20~~

Year	Indirect Business Taxes & Non-Taxes	Non-Payroll Personal Taxes & Non-Taxes	Employer Social Insurance Contributions	Year	Indirect Business Taxes & Non-Taxes	Non-Payroll Personal Taxes & Non-Taxes	Employer Social Insurance Contributions
	Indirect	Non-Payroll	Employer		Indirect	Non-Payroll	Employer
1948	$20.1	$2.4	$3.0	1969	$85.6	$15.0	$27.8
1949	21.3	2.5	3.5	1970	92.9	16.3	29.6
1934	7.8	1.1	0.1	1955	32.1	3.8	5.9
1935	8. 2	1.2	0.2	1956	34.9	4.4	6.8
1936	8.7	1.4	0.4	1957	37.3	4.9	7. 8
1937	9.2	1.4	1.2	1958	38.5	5.1	8. 0
1938	9.1	1.4	1.4	1959	41. 4	5.7	9.7
1939	9.3	1.4	1.5	1960	45.2	6.4	11.4
1940	10.0	1.4	1.6	1961	47.7	7.1	11.8
1941	11.3	1.4	2.0	1962	51.5	7.7	13.7
1942	11.7	1.6	2.3	1963	54.7	8.3	15.0
1943	12.7	1.6	2.7	1964	58.5	9.5	15.4
1944	14.2	1.7	2.9	1965	62.6	10.3	16.0
1945	15.5	2.0	3.8	1966	65.6	11.3	20.3
1946	17.1	1.9	4.0	1967	70.4	12.4	21.9
1947	18.4	2.2	3.6	1968	78.6	13.4	24.4

TABLE 20

Continued

Source: U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1970, Statistical Tables (Washing- ton, D.C.: Government Printing Office, 1966) , pp. 14-15, 52-53, and 54-55, and Survey of Current Business, L (July, 1970), 20, 29, and 30, and LI (July, 1971), 16, 25, and 26.

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TABLE 21

AND SALARIES IN SUEPLUS INDUSTRIES, ANNUALLY, 1929-1970 (in billions of current dollars)"

Year	Finance, Insurance, Real Estate	Advertising	Year	Finance, Insurance, Real Estate	Advertising
1929	$2.9	$0.9	1950	$ 5.8	$ 3.7
1930	2.7	0.8	1951	6.4	4.2
1931	2.5	1.0	1952	6.9	4.7
1932	2.1	1.0	1953	7.5	5.0
1933	1.9	1.0	1954	8.1	5. 3
1934	2.0	1.1	1955	8.9	6.0
1935	2.1	1.1	1956	9.6	. 6.4
1936	2.2	1.1	1957	10.3	6.7
1937	2.4	1.2	1958	10.9	6.7
1938	2.3	1.2	1959	11. 8	7. 3
19 39	2.4	1.3	1960	12.4	7. 8
1940	2.5	1.4	1961	13.3	7.7
1941	2.6	1.5	1962	13.9	8.0
1942	2.7	1.4	1963	14.7	8. 5
1943	2.8	1.6	1964	15. 8	9.2
1944	3.0	1.8	1965	16.8	9.9
1945	3.3	1.9	1966	18.0	10.8

TABLE 21 Continued

Year	Finance, Insurance, Real Estate	Advertising[b]	Year	Finance, Insurance, Real Estate	Advertising
1946	$4.1	$2.2	1967	$19.8	$11.0
1947	4.5	2.8	1968	22. 3	11.8
1948	5.1	3.2	1969	24.9	12.7
1949	5.3	3.4	1970	27.0	12.8

[a]Source: U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1970, Statistical Tables (Washington, D.C.: Government Printing Office, 1966), pp. 94-97, and Sur^ vey of Current Business, L (July, 1970), 39, and LI (July, 1971), 35.

^These figures are based on the approximate ratio (65 percent) of wages and and salaries to national income in the service industries. The ratio is applied to the advertising expenditures given in U.S., Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1971 Edition (Washington, D.C.: Government Printing Office, 1971), p"I 745. Some years were filled in via interpolation.

TABLE 21 Continued

SURPLUS ELEMENTS IMBEDDED IN MARKET PRICES, ANNUALLY, 1929-1970 (in billions of current dollars)[a]

Year	Mise. Gov't Revenue	Profits^	Net Business Interest	Personal Rental Income	Surplus Wages & Salaries
1929	$ 8.4	$ 22.1	$ 4.7	$ 5.4	$ 3.8
1930	8.6	17.9	4.9	4.8	3.6
1931	8.3	12.2	5.0	3.8	3.5
1932	8.0	7.5	4.6	2.7	3.1
1933	8.1	7.3	4.1	2.0	2.9
1934	9.0	10.5	4.1	1.7	3.1
1935	9.6	12.9	4.1	1.7	3.2
1936	10.5	15.4	3.8	1.8	3.3
1937	11.8	17.2	3.7	2.1	3.6
1938	11.9	15.0	3.6	2.6	3.5
1939	12.2	16.6	3.5	2.7	3.7
1940	13.0	20.6	3.3	2.9	3.9
1941	14.7	27.9	3.2	3.5	4.1
1942	15.6	36.1	3.1	4.5	4.1
1943	17.0	41.8	2.7	5.1	4.4
1944	18.8	42.3	2.3	5.4	4.8
1945	21.3	38. 3	2.2	5.6	5.2
1946	23.0	38. 3	1.5	6.6	6.3
1947	24.2	46.7	1.9	7.1	7.3
1948	25.5	57.6	1.8	8.0	8.3
1949	27.3	56.2	1.9	8.4	8.7
1950	29.9	65.4	2.0	9.4	9.5
1951	32.8	74.4	2.3	10.3	10.6
1952	35.5	73.6	2.6	11.5	11.6
1953	37.8	75.4	2.8	12.7	12.5
1954	38.2	76.2	3.6	13.6	13.4

TABLE 22 — Continued

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Ye ar	Mise. Gov't Revenue	Profits*[3]	Net Business Interest	Personal Rental Income	Surplus Wages & Salaries
1955	$41.8	$ 88.7	$ 4.1	$13.9	$14.9
1956	46.1	90.9	4.6	14.3	16.0
1957	50.0	93.7	5.6	14.8	17.0
1958	51.6	91.8	6.8	15.4	17.6
1959	56.8	104.8	7.1	15.6	19.1
1960	63.0	104.9	8.4	15.8	20.2
1961	66.6	107.2	10.0	16.0	21.0
1962	72.9	118.1	11.6	16.7	21.9
1963	78.0	124.3	13.8	17.1	23.2
1964	83.4	135.6	15.5	17.7	25.0
1965	88.9	147.8	17.8	18.3	26.7
1966	97.2	161.7	21.4	20.0	28.8
1967	102.7	163.1	24.4	21.1	30.8
1968	116. 4	174.9	26.9	21.2	34.1
1969	128.4	176.6	30.0	22.6	37.6
1970	138.8	175.1	33.0	23.3	39.8

^ables 20 and 21; U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1970, Statistical Tables (Washington, D.C.: Government Printing Office, 1966), pp. 12-13 and 14-15; Survey of Current Business, L (July, 1970), 19 and 20, and LI (July, 1971), 15 and 16.

^This includes corporate profits, Capital consumption, and 25 percent of the income of unincorporated enterprises. See Edward C. Budd, "Treatment of Distributive Shares," in A Critigue of the United States Income and Product Accounts, Studies in Income and Wealth, Vol. XXII, National Bureau of Economic Research (Princeton, New Jersey: Princeton Univer- sity Press, 1958), pp. 356-357; and Edward F. Denison, "Income Types and the Size Distribution," American Economic Review/Supplement, XLIV (May, 1954) , 256.

TABLE 23

RATIO OF SURPLUS ELEMENTS IMBEDDED IN MARKET PRICES TO GNP, ANNUALLY, 1929-1970 (in billions)[a]

Year	GNP	Surplus Elements	Ratio	Year	GNP	Surplus Elements	Ratio
1929	$103.1	$ 44.4	0.431	1950	$284.8	$116.6	0.408
1930	90.4	39.8	0.440	1951	328.4	130.4	0.397
1931	75.8	32.8	0.433	1952	345.5	134.8	0.390
1932	58.0	25.9	0.447	1953	364.6	141.2	0.387
1933	55.6	24.4	0.439	1954	364.8	145.0	0.397
1934	65.1	28.4	0.436	1955	398.0	163. 4	0.411
1935	72.2	31.5	0.436	1956	419.2	171.9	0.410
1936	82.5	34.8	0.422	1957	441. 1	181.1	0.411
1937	90.4	38.4	0.425	1958	447. 3	183.2	0.410
1938	84.7	36.6	0.432	1959	483.7	203. 4	0.421
1939	90.5	38.7	0.428	1960	503.7	212.3	0.421
1940	100.0	43.7	0.437	1961	520.1	220.8	0.424
1941	124.5	53.4	0.429	1962	560.3	241.2	0.430
1942	157.9	63.4	0.402	1963	590.5	256.4	0.434
1943	191.6	71.0	0.371	1964	631. 7	277.2	0.439
1944	210.1	73.6	0.350	1965	681.2	299.5	0.440
1945	211.9	72.6	0.343	1966	749.9	329.1	0.439
1946	208.5	75.7	0.363	1967	793.9	342.1	0.431
1947	231.3	87.2	0.377	1968	864.2	373.5	0.432
1948	257.6	101.2	0.393	1969	929.1	395.2	0.425
1949	256.5	102.5	0.400	1970	974.1	410.0	0.421

[a]Source: Tsble 22; U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1970, Statistical Tables (Washington, D. C . : Government Printing Office, 1966), pp. 2-3; and Survey of Current Business, L (July, 1970), 17, and LI (July, 1971), 13.

TABLE 24

TOTAL ESSENTIAL CONSUMPTION. ANNUALLY, 1929-1970
(in billions of current and 1958 dollars)

Year	$ Current	$ 1958	Year	$ Current	$ 1958
1929	45.6	90.1	1950	94.4	117.7
1930	44.3	89.9	1951	107.1	125.1
1931	41.4	92.4	1952	118.5	135.4
1932	36.6	91.0	1953	127.1	143.9
1933	35.3	89.8	1954	133.6	149.1
1934	37.1	87.9	1955	139.2	153.1
1935	37.8	88.7	1956	149.1	158.6
1936	39.9	93.7	1957	158.6	162.7
1937	42.7	96.0	1958	168.9	168.9
1938	42.7	97.3	1959	174.5	171.8
1939	44.3	102.5	1960	184.7	178.8
1940	44.0	100.2	1961	193.4	184.9
1941	46.0	97.5	1962	200.3	189.3
1942	55.7	105.1	1963	209.0	195.0
1943	60.4	106.3	1964	218.1	'"»AA A J
1944	63.3	10 8.8	1965	228.5	206.0
1945	65.0	108.9	1966	241.6	212.1
1946	69.6	104.3	1967	255.7	217.4
1947	79.9	107.1	1968	276.4	226.0
1948	86.7	10 8.9	1969	299.2	233.4
1949	90.7	114.7	1970	320.9	237.2

[a]Source: Tables 19 and 23; U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1970, Statistical Tables (Washington, D.C.: Government Printing Office, 1966), pp. 158-159; and Survey of Current Business, L (July, 1970), 47, and LI (July, 1971), 43.

CHAPTER VI

EXCESS CAPACITY, UNEMPLOYMENT, AND POTENTIAL OUTPUT

The next task of the current study is the estimation of potential output. Potential output may be viewed as the maximum feasible output attainable from the given social productive plant. The usual method of estimating potential output is to estimate the percentage utilization of productive capacity and then to adjust the actual output figüre accordingly.

Discussions of potential and full employment output and the gap or shortfall of actual output therefrom vary widely in character. However, two Central, usually exclusive, elements common to ali such discussions are underutilization of the Capital stock and unemployment of the labor force.

These two elements are usually viewed solely in quantitative terms; that is, the quantity utilized is compared to the quantity available. Such treatment ignores the more auali- tative elements involved, such as the underutilization of scale economies, wasteful product differentiation, planned obsolescence, and maiutilization of scientific and techno- logical knowledge. These latter elements have long been recognized in the underworld literatüre, but have not been systematically incorporated into mainstream economics nor had their impact subjected to quantitative measurement.[1] Indeed, it seems that the discipline has taken to heart the words of its paramount modern figüre:

> ... I see no reason to suppose that the existing System seriously misemploys the factors of production which are in use. . . . It is in determining the volüme, not the direction, of actual employment that the existing system has broken down.[2]

Thus, with no empirical leg to stand upon in this qualitative area, the current study is restricted to the traditional quantitatively oriented approach.

Excess capacity is usually used in reference to the physical Capital stock. To move from estimates of excess capacity to potential output, it is necessary to ascertain

Examples of the underworld treatment of these ele- ments are easy to find. See: Thorstein Veblen, The Theory of the Business Enterprise (New York: Charles Scribner's Sons, 1904), and The Vested Interests and the State of the Industrial Arts (New York: B. W. Huebsch, 1919), especially Ch. IV, "Free Income." Harold Loeb, Director, Report of the National Survey of Potential Product Capacity (New York: New York City Housing Authority, 1935), especially pp. xiv-xxiii and 207-247. Paul A. Baran, The Political Economy of Growth (New York: Monthly Review Press, 1957) , pp. 34-39 . Paul A. Baran and Paul M. Sweezy, Monopoly Capital: An Essay on the American Economic and Social Order (Nev; York: Monthly Review Press, 1966), Ch. V. An exception to the neglect of this area by orthodox economists which demonstrates the type of research needed is Franklin M. Fisher, Zvi Griliches, and Cari Kaysen, "The Costs of Automobile Model Changes Since 1949," Journal of Political Economy, LXX (October, 1962), 433-451.

2 John Maynard Keynes, The General Theory of Employment, Interest, and Money (Harbinger ed.; New York: Harcourt Brace and World, Inc., 1964), p. 379.

that unemployed lahor exists which could man the unused Capital. The present chapter reviews the concepts and estimates of excess capacity and unemployment and some of the potential output estimates derived directly or indirectly therefrom. This review is brief and selective. The follow- ing chapter deals with the

hasis adopted for estimating potential output and the estimates thusly derived.

Excess Capacity On the Definition of Capacity Capacity, and therefore excess capacity, is difficult to meaningfully define. This ambiguity stems from the juxta-position and interrelation of the social and technical factors involved. To illustrate, consider the three basic definitional points of view cited by Loeb from which capacity may be approached:

> The capacity of the existing plant with operation governed by existing customs and traditions.
>
> The capacity of the existing plant if production were limited solely by physical factors and knowledge (i.e., resources, man-power, and technology).
>
> The capacity of the nation to produce goods and Services if full advantage were taken of existing resources, man-power, and knowledge.[99]

The latter two are both technical in nature. They differ from each other in that the former is limited to the extant productive plant while the latter "substitutes for [the extant plant] a non-existent, yet possible plant." This possible plant would include the replacement of obsolete Capital at an optimum technical rate and the use of modern management methods. The first definition differs from the latter two in that social elements, such as the customary number of shifts and seasonal demand fluctuations, are used as an additional limiting factor upon capacity.

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[99] Loeb, Report of the National Survey of Potential Product Capacity, pp. xiv-xv.

The third definition is the more dynamic of the three encompassing scientific and technical advance into the defini tion of capacity. In Loeb's view, the "study of capacity from such a point of view would be a running inventory of our approach to perfection."[100] It is probably the concept Veblen has in mind when, possibly somewhat tongue in cheek, he estimates:

> . . . that under ordinary [peacetime] conditions of businesslike management, the habitual net production is fairly to be rated at something like one-fourth of the industrial community's productive capacity; presumably under that figüre rather than över.[101]

It is not clear from his argument whether or not Veblen*s net product excludes spurious output such as selling costs. At any rate, he does not undertake a systematic empirical study of the matter. In fact, he takes a dubious view on the possibility of such an undertaking given the "existing circumstances of ownership and control." And, whether or not Veblen held in mind a definition of this third type, no one purports to have made a quantitative study on such a basis.

In the study directed by Loeb, the second definition wherein capacity is limited by existing plant and technical feasibility was used. The objective of the study was:

> . . . to ascertain America*s capacity to produce goods and Services regardless of customary or institutional practices, which can be changed at will. [That is, to] indicate what the American people might expect to have for consumption, given the existing eauipment, if production were directed toward the satisfaction of the needs and wants of the population and limited only by our ’iesources, man-power, and knowledge.[102]

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100 Ibid., p. xv.

^Veblen, Vested Interests and the State of the industrial Arts, p. 81.

^Loeb, Report of the National Survey of Potential

The authors reccgnxze that the second definition sometimes distorts this objective, as when a technical bottleneck in the production process exists for which a remedy is readily available. Also, they note that some elements of custom enter in, notably in determining the hours of work for labor.[103]

The authors of the well-known Brookings Institution study utilized the first definition. Their definition of capacity is that output "attainable under the practical operating conditions which exist.ⁿ In the aggregate, this allows for "sustained simultaneous operation" which precludes supernumerary shifts and overtime. Their estimate is based upon customary workday hours, workweek days, and daily shifts.

The estimate of capacity is lowered to the extent of usual seasonal fluctuations of output and shutdowns for maintenance and repair. No attempt is made to incorporate ideal condi- tions nor to allow for the degree of utilization of scale economies, technology, or other such qualitative factors.

In fact, they explicitly limit themselves to underproducticn caused by insufficient aggregate demand:

> We are not attempting to calculate productive performances that might be brought about under ideal conditions but simply to measure how much more prod- uct we could turn out if the demand of the market were such as to keep our plant and labor employed as fully as they could be under accepted hours of labor and with proper standards of plant maintenance.[8]

More comments are made on the Loeb and Brookings studies below in relation to potential output. Enough has been said to this point to illustrate the differences involved in the three

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Product Capacity, pp. xvi-xvii.

[103]Ibid., p. xvii.

definitions of capacity. It is not at ali clear which basis is most suitable for present purposes. Stated extremely, the technical definitions strip the capacity concept of its social content and render it of dubious value to the analysis of production which is after ali a social process. Stated likewise, the custom oriented definition casts an aura of inscrutability around tradition, myth, and customary practice. This veil of their being the natural

g Edwin G. Nourse and Associates, America's Capacity to Produce (Washington, D.C.: Brookings Institutıon, 1934), pp. 21-28.

order of things robs the capacity concept of utility in the analysis of social change. This is particularly true in relation to the provision of a bench mark for comparison with actual practice and the formulation of normative pre- scriptions for social change. Apparently, the acceptable ground must lie somewhere in between these extremes, although just where therein the current author would be hard pressed to specify.

Fortunately, the choice is not for the author to make. Ali available studies, except the one directed by Loeb, implicitly or explicitly accept the customary basis of the Brookings study. For example, Donald Streever defines capacity as:

> The physical volüme of goods and Services that can [sic] be produced during a given period when pro- ductive facilities are utilized to their maximum under normal operating conditions. . . . The concept is intended to be practical and the normal workweek is therefore implicit. . . . The length of the work- week varies f'rom industry to industry. . . . Some industries are

> continuous process industries; others operate only one shift. What is important in the present context [is] the role of the normal workweek as a practical limit on production. . . . The concept of capacity [herein] is in agreement with the Brookings concept.[104]

Other writers interject the custom element more surreptitiously. Daniel Creamer purports to avoid the prob- lems of customary versus technical factors in his definition of capacity by using capital-output ratios:

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Donald C. Streever, Capacity Utilization and Business Investment (Urbana, Illinois: University of Illinois Bureau of Economic and Business Research, 1960), pp. 24-25.

> The approach here proposed is the analysis of the relationship of Capital to output. Such an analysis would avoid the technical problems inherent in the measurement of physical capacity. . . . The procedure suggested is to establish ... a fixed capital- output ratio for a benchmark year which independent evidence indicates was a period when capacity was virtually fully utilized.

Obviously, "independent evidence" cannot indicate full utilization of capacity if capacity remains undefined. Creamer's bench mark year and independent evidence is one of the peak periods of the postwar business cycle (1948). Essen- tially then, customary practices of the year 1948 are incor- porated into Creamer's analysis.

Finally, the McGraw-Hill method of viewing capacity as being in the eyes of the respondent undoubtedly incorpo- rates the custom element. The McGraw-Hill surveys simply ask the respondent business executive to State his plant's percentage change in capacity as "measured in physical volüme" during a given period and the percentage of total capacity utilized at a point in time. No definitions of capacity are provided.[105] Thus, the respondent is left to define workweek and similar factors upon which capacity rests. One may jus- tifiably suppose that past practice in such matters would weigh heavily in the respondent's deliberation.

Estimates of Excess Capacity

Daniel Creamer, Capital Expansion and Capacity in Postwar Manufacturing (New York: National Industrial Confer ence Board, Inc., 1961), p. 19.

[11] Ibid., p. 18.

Capacity utilization estimates are generally limited to manufacturing, sometimes including mining, since therein lies the bulk of Capital stock. The extensive Brookings study estimates capacity utilization ratios for manufacturing averaging 80 percent for 1925-1929 and 83 percent for 1929 alone. For mining, the estimate is 83.4 percent both for the 1925-1929 average and the peak year 1929.[106] As noted above, the Brookings study was based upon practically attainable and customary capacity rather than technically rated capacity. Also, completely idle plants were judged obsolete and omitted from the capacity estimate.

Donald Streever's study for manufacturing and mining covers the period 1920-1955. He takes the Brookings' 83 percent utilization rate as his bench mark. By assuming equal degrees of utilization in 1923 and 1948, he computes a "scaling factor" which is then applied to annual changes in the Capital stock to arrive at the change in capacity. By adding the change in capacity to the bench mark figüre, he arrives at an estimate of total capacity.[107]

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106 Nourse, America's Capacity to Produce, pp. 144, 301, and 307.

107 Streever, Capacity Utilization and Business Investment, p. 64.

Baran and Sweezy use Streever's capacity index and the Federal Reserve Board's index of industrial production[108] to compute a capacity utilization index for the 1920s and 1930s. For 1920-1929, this index ranges from a 1920 and 1923 high of 94 percent to a 1921 low of 65 percent. The average for 1920-1929 is 84.5 percent and,-for 1925-1929 , 85.6 percent. For 1930-1939, the index ranges from a 1932 low of 42 percent to 83 percent in 1937. The average for the 19301939 period is 63.4 percent.[109] Extending Baran and Sweezy's method through the 1940-1955 period yields a range from 136 percent in 1943 to 78 percent in 1949 and 1954. The average for 1940-1955 is 97.4 percent, for 1940-1949, 104.3 percent, and for 1950-1955, 85.8 percent. The percent- ages in excess of 100 percent indicate emergency, forced draft operating rates which exceed the normal full capacity rates.

It is interesting to note that such forced draft production did not occur during the Korean War. The capacity utilization index based on Streever's figures is 89 percent, 90 percent, 87 percent, and 88 percent for the four-year period 1950-1953. As Lewis H. Robb points out, this is in part due to the permanent warfare State established during the Cold War in which Pentagon policy has been to maintain permanent reserve capacity for military preparations.

Robb's capacity utilization index for 1952 is 55 per- cent. He assumes 100 percent utilization in 1943 despite noting

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^Ibid., p.64

■^Baran and Sweezy, Monopoly Capital, pp. 237 and 242.

idle capacity in that year due to the nonproportion- ality caused by the military buildup. He reasons that capacity increased by 60 percent in the 1943-1952 period based on the U.S. Department of Commerce estimate that a 50 percent increase occurred in the 1945-1952 period.

Robb discounts the forced draft argument which is often used to explain the failure of the Federal Reserve Board's production index to reach its 1943 level by 1952.
He reasons that the 1943 higher average weekly work hours and the entrv into the lahor force of those not normally employed is more than offset by the ten millions in the armed Services in 1943, the natural increase of the labor force by one mil- lion annually, and the productive increases of the postwar period.[110] [111]

Other capacity utilization indices are not directly comparable with those given above since they assume full utilization for some year in the early 1950s. Using the capital-output ratio method and assuming 100 percent utilization in 1948 and 1953, Daniel Creamer estimates a 1957 utilization rate for manufacturing of 89 percent.[17] In a later publication and using the same method for ali manufacturing except newspapers, Creamer estimates utilization rates of 97 percent in 1955, 91 percent in 1956, 88 percent in 1957 87 percent in 1958, 94 percent in 1959,

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Lewis H. Robb, "Industrial Capacity and Its Utilization," Science and Society, XVII (Fail, 1953), 319-324.

93 percent in 1960, and 92 percent in 1961.[112] Creamer's estimates in ali cases are for peak operation periods during the year.

A variety of authors derive a utilization index by using the ratio of the Federal Reserve Board's index of manufacturing production to the McGraw-Hill index of capacity. These indices vary somewhat according to the particular publication issue of the two agencies used. Later publication revisions and differences between calendar time operating ' rates account for these differences. Thus, Robert P. Ulin estimates capacity utilization rates of 100 percent for 1950, 94 percent for 1952, 82 percent for 1953, and 81 percent for 1954. [113] [114] William F. Butler's figures yield rates of 100 percent for 1950, 100 percent for 1951, 97 percent for 1952, 99 percent for 1953, 89 percent for 1954, 93 percent for

17 Creamer, Capital Expansion and Capacity m Postwar Manufacturing, p. 25.

18 Daniel Creamer, Recent Changes in Manufacturing Capacity (New York: National Industrial Conference Board, 1955, 89 percent for 1956, and 85 percent for 1957.[20] Baran and Sweezy estimate rates of 100 percent for 1952, 103 percent for 1951, 99 percent for 1952, 98 percent for 1953, 87 percent for 1954, 92 percent for 1955, 89 percent for

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Inc., 1962), Table A-6.

113 Robert P. Ulin, "Are We Buılding Too Much Capacity? Harvard Business Review, XXXIII (November-December, 1955), 42

1956, 85 percent fer 1957, 76 percent for 1958, 81 percent for 1959, 81 percent for 1960, 80 percent for 1961, 83 percent for 1962, and 83 percent for 1963.[115]

Finally, Alice Bourneuf computes the averages of the McGraw-Hill and F. de Leeuw capacity utilization indices. The McGraw-Hill index averaged 93 percent for 1949-1952, 89 percent for 1953-1955, 79 percent for 1956-1958, 76 percent for 1959-1962, and 84 percent for the entire 1949-1962 period. Professor de Leeuw's index averaged 87 percent for 1949-1952, 89 percent for 1953-1955, 83 percent fer 19561958, 84 percent for 1959-1962, and 85 percent for 1949-1962.[116]

Although this list could be expanded, it is long enough to indicate the general magnitude of excess capacity. Whether or not one can precisely distinguish eguilibrium and

20 William F. Butler, "Capacity Utilization and the Rate of Profitability in Manufacturing," American Economic Review/Supplement, XLVIII (May, 1958) , 24TI

disequilibrium excess capacity,[2 3] it is apparent that something on the order of 10 percent to 15 percent of capacity, conservatively defined, remains idle in peacetime conditions. Moreover, the entirety of this idle capacity is surely no accident. McGraw-Hill's respondents at year end 1954 were

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115 Baran and Sweezy, Monopoly Capital, p. 247.

116 Alice Bourneuf, "Manufacturing Investment, Excess Capacity, and the Rate of Growth of Output," American Economic Review, LIV (Septeraber, 1964), 622.

operating at an average rate of 84 percent of capacity and would have preferred an average rate of 89 percent.[2 4] Similarly, in September, 1958, they would have preferred a rate of 90 percent to their actual rate of 82 percent of capacity.[0 5]

Unemployment

The other side of the coin concerning the gap between actual and potentiai output is the lahor supply. Essentially, the guestion is whether or not unemployed manpower exists to operate the idle Capital capacity. It is not necessary to undertake an extensive review of available manpower vis-a-vis excess capacity since this was done in the Brookings study and corroborated by the study directed by Loeb and the later findings of Robb. [117] [118] [119]

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[117] See J. Stemdl, Maturıty and Stagnatıon m American Capitalism (Oxford, England: Basil Blackweil, 1352), pp. 4 14, for a thecretical discussion thereon.

[118] ^Ulin, "Are We Building Too Much Capacity?" p. 43.

[119] Butler, "Capacity Utilization and the Rate of Profitability in Manufacturing," p. 239.

Moreover, such an extensive search is unnecessary to deny any daim that labor shortages cause the excess capacity. This can be done by noting that the percentage of the labor force unemployed moves in phase with the percentage of excess capacity, not contrary to it. The average unemployment rate of the civilian labor force as of November 1 of each year was 4.5 percent for 1953-1955, 5.3 percent for 1956-1958, and 5.9 percent for 1952-1962.[26] Recalling from above that the excess capacity percentages for these years showed similar upward movement indicates that a labor shortage was not the cause for such movement.

Moreover, the official unemployment percentage understates the actual rate of those willing but unable to find work. Strand and Dernburg compute gap unemployment rates based on the estimated size of the labor force participating under high (3 percent) and low (4 percent) full employment conditions. The high full employment gap averaged 6.1 percent for 1953-1955, 6.8 percent for 1956-1958, and 9.2 percent for 1959-1962. The low full employment gap averaged 5.2 percent, 5.9 percent, and 8.3 percent respectively for the same periods.[120]

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[26] Kenneth Strand and Thomas Dernburg, "Cyclical Variation in Civilian Labor Force Participation," Review of Economics and Statistics, XLVI (November, 1964), 387.

[120] Ibid., p. 388.

Finally, that many of these unemployed may be structurally unemployed and lack the necessary skills for operating the unutilized Capital is a true but self-defeating argument. The textbooks, even the advanced ones, indicate that were the system functioning effectively, such disproportionality between requisite and available skills would be corrected. To explain excess capacity by denying that such correction is forthcoming is to admit that the disproportionality of the anarchist system of capitalist production inherently underutilizes its productive potential.

Potential Output

Early Studies

The Brookings Study

Potential output studies seek to estimate the level of production which would be forthcoming in a given period if full utilization, variously defined, of Capital and human resources were attained. The pioneering and most comprehen- sive works in the area are the Brookings Institution and Loeb studies. Both studies surveyed the degree of utilization of capacity in ali economic sectors and compared the underutilization of Capital capacity with available labor supply and possible technical bottlenecks to assure propor- tionality in their potential output estimates. The diver- gence of the two estimates is largely attributable to the approach used in measuring capacity.[28]

[28] See above, this chapter.

The Brookings study estimates the utilization of practical capacity for ali sectors, that is, agriculture, transportation, merchandising, and construction as well as mining and manufacturing, to have been 80 percent in 1929.[121] In seeking to ascertain whether or not labor was the limiting factor which prevented full utilization of capacity, the authors surveyed unemployed or underemployed labor in the various economic sectors. Consistent with their goal of determining "practically attainable" production, the authors did not seek to

> . . . present an idealized picture of the potential labor power which might be put to work if we had an improved scheme of economic organization, better labor management, stronger incentives for workers, or a perfect placement system. . . . We are attempting to measure the productive capacity of such labor as v:as at hand but was used to an amount less than it would have been able and willing to render if a larger demand had been forthcoming from the labor market.[122]

In other words, the authors did not seek to measure the volüme of labor which would have been available had full employment or a higher degree of proportionality in production been sustained. Even with this limited measure, however, the authors found sufficient available labor to meet the volüme needed for full capacity utilization of the productive plant.[123]

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121 Nourse, America's Capacity to Produce, p. 416.

122 Ibid., p. 406.

123 Ibid., p. 414.

In making their final estimation of potential output, the authors also allowed for aggregate disproportionality, bottlenecks, and obsolete equipment not previously excluded with idle plants. To do so, they defined full capacity as 95 percent of the practically'attainable capacity. With these "reasonable allowances for failures of co-ordination," their final estimate is that production in 1929 could have been at a minimum 19 percent greater than it actually was.[124] Applying this figüre to actual GNP in 1929 and converting to 1958 dollars yields an estimate of $242.5 billion for potential output in 1929.

The Loeb Study

The study directed by Loeb was similar in most respects to the Brookings study. Excess capacity was surveyed for ali sectors and matched with the available labor supply to assure that a labor shortage was not a limiting factor. There were, however, two majör differences. First, as discussed above, the authors used a more liberal, but not the most liberal, definition of capacity. Second, the authors used an estimate of actual consumer wants and needs in deriving their estimates of capacity. To do so, they used the results of consumer expenditure surveys to estimate the volüme of consumer demand for each sector which would have been forth- coming had the population possessed the reguisite purchasing

Ibid., pp. 416-422.

power. These "budget" items were then compared with productive capacity in the various lines of production. In those cases in which productive capacity exceeded the budget need, the capacity was deemed available for use in other areas.[33]

Since they used a capacity concept based on existing plant and methods of production, v/ithout allowance for technological change, replacement of obsolete equipment, potential labor force participants not participating, planned obsolescence, or other qualitative factors, the authors considered their budget capacity to be "a minimum estimate of practical capacity available for the production of desired goods and Services."

Their potential output figures amount to a potential 45 percent increase över actual output for 1929, a 59 percent increase in 1930, 75 percent in 1931, 101 percent in 1932, and 86 percent in 1944.[34] Applying these percentages to constant dollar GNP for the respective years yields potential outputs in 1958 dollars of $295.2 billion for 1929, $291.8 billion for 1930, $296.3 billion for 1931, $289.8 billion for 1932, and $263.2 billion for 1933. The significant figüre for comparison is the first which shows a potential output for 1929 över $50 billion greater than that implied by the Brookings study.•

33 Loeb, Report of the National Survey of Potential Product Capacity, pp. xxff. [125]

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125 Ibid., pp. xxii, 199-200, and 237-238.

During the hot wars period, 1940-1953, the attention of economists centered on the problems of conversion and re- conversion of resource allocation. Soon thereafter, however. the carryover progressive thought that produced the Employment Act of 1946 and the concern eventually evoked by the stagnation in the U.S. in comparison to the expansions in Western Europe, Japan, and the Soviet Union, combined to re- new interest in the level of economic activity and the rate of economic growth. In this surge of interest, although no inventories matching the scope of the two studies discussed above were conducted, there arose a variety of potential output and full employment estimates and concomitant short- falls, gaps, and deficits.

Keyserling's Estimates of Maximum Output

One of the earliest and most persistent analysts in this regard is Leon H. Kpyserling and his Washington-based organization, the Conference on Economic Progress. Whether or not he deserves the "growthmanship" charge so often lev- eled at him, there is no doubt that Keyserling has been extraordinarily tenacious and consistent in his advocacy of economic growth. In a series of monographs and articles throughout the 1950s and 1960s, he repeated his Central themes of maximum employment and growth, the shortfall there- from, and the social problems which could be ameliorated with the unused potential. Indeed, as late as 1968 and in the

face of growing doubt as to the efficacy of steadily increasing GNP in the area of solving social problems, he remains committed to economic growth as the "problem of . problems."[3 5]

Keyserling[1]s method throughout this period has been to first select a period when actual production roughly equaled potential production, then to compute the rate of growth necessary to maintain full employment by summing the percentage increases in productivity per worker and in the civilian labor force. His full employment criterion allows for frictional unemployment somewhere near 3 percent. His necessary growth rate represents a

> . . . sufficient annual rate of growth in G.N.P. to provide full use of growth in labor force, plant and productivity unaer conditions of maximum employment and production.[126 127 128]

Keyserling early on cautions that this method of estimating potential output yields conservative results. The rate of growth derived in this manner, in his opinion,

> . . . is ?. conservative estimate of the minimum growth in total output that would have been reguired to maintain full employment and full production. . . . It is not an estimate of our full ability to expand total output through the most effective use of our technology, and through the incentive to productivity generated by a full employment environment.[37]

üsing his "conservative" growth rate estimate, Keyserling

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126 Leon H. Keyserling, "The Problem of Problems: Economic Growth," in Social Policies for America in the Seventies: Nine Divergent Views, ed. by Robert Theobald (New York: Doubleday and Company, Inc., 1968), pp. 1-24.

127 Leon H. Keyserling, Two Top-Priority Programs to Reduce Unemployment (VJashington, D.C.: Conference on Economic Progress, 1963), p. 9.

has at various times estimated the cumulative shortfalls or "national economic deficits" for specified periods. For 1929-1953, he estimates a cumulative shortfall of $914 billion in 1953 prices. This estimate is based upon a 3.5 percent growth rate for potential output applied to the 1929 actual production level. The 3.5 percent rate is com- posed of a 2.4 percent productivity increase and a 1.1 percent labor force increase.[129]

üsing the same method, but incorporating changes in the productivity and labor force annual rates of increase, Keyserling computes a cumulative shortfall for 1953 to mid- year 1964 of $549.4 billion in 1963 prices.[130] This estimate was later revised to incorporate the latter half of 1964 and amounted to $590 billion, again in 1963 prices.[131] Later,

37 Leon H. Keyserling, Tov/ard Full Employment and Full Production: How to End Our National Economic Deficits (Washington, D.C.: Conference on Economic Progress, 1954), p. lln.

~^Ibid., pp. 3 and 6.

130 Leon H. Keyserling, Progress or Povertv (Washington, D.C.: Conference on Economic Progress, 1964), p. 99.

131 Leon H. Keyserling, Agriculture and the Public Interest: Toward a New Farm Program (Washington, D.C.: Conference on Economic Progress, 1965), p. 29.

another revision incorporated 1965 and 1966. He estimates the shortfall for 1953-1966 in 1965 prices to have been $700 billion.[132]

Keyserling utilizes this analysis to project the level of GNP required in some future year to assure full employment. Thus, he estimates that GNP by 1970 would have had to increase by $177 billion in 1965 prices över the ac- tual GNP of 1966.[133] Similarly, he estimates that full employment in 1975 would require a GNP of from $1,105 to $1,140 billion in 1965 prices.[134]

Finally, Keyersling expresses the shortfall or production deficiency for selected years as a percentage of maximum production. For 1953, this estimate was 0.3 percent; for 1955, 2.8 percent; for 1959, 9.4 percent; for 1962, 11.2 percent; and for 1963, 11.9 percent.[135] Applying these percentages to the Office of Business Economics' GNP figures in 1958 prices yields the following maximum output estimates: $414.0 billion in 1953; $450.6 billion in 1955; $525.3 billion in 1959; $596.6 billion in 1962; and $625.4 billion in 1963.

Knowles* Estimate of Potential GNP

Another set of potential output estimates is the one prepared by James W. Knowles for the Joint Economic Committee. Knowles originally covered the period 1909-1960, but later

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132 Keyserling, "The Problem of Problems," p. 5.

133 U.S., Congress, Senate, Commıttee on Government Operations, Full Opportunity and Social Accounting Act, Eearings, before a subcommittee of the Committee on Governmenü Operations, Senate, on S. 843, Part 2, 90th Cong., İst sess., 1967, p. 288.

134 Keyserling, "The Problem of Problems," p. 23.

135 Keyserling, Progress or Poverty, p. 99.

extended his estimates to 1965. His estimates are derived from a macabre econometric model involving potential and ac- tual labor inputs, average annual work hours, capital-labor ratios, average Capital vintage, and productivity ratios.

Knowles does not attempt to measure capacity output and acknowledges that his measure of potential output falls short of such output:

> . . . The potential is a measure of the optimum or best practice which it is believed the economy is capable of sustaining on the average, year after year, without running into serious instability of emplcym.ent. output,. or prices. It is, in a v;ord, a measure of what would be reasonably good performance of the economy, maintain- ing a stable relationship between output and capacity. ... No attempt vas made . . . to measure the ultimate capacity of the economy. It is clear only that it must be much higher than the measure of potential output arrived at in this study.[1*5]

An unemployment rate of 4 percent was used by Knowles in computing his estimates. This figüre was selected due to its use in past Joint Economic Committee staff studies and historical data which showed unemployment averaging 4 percent "in periods of high prosperity." A cyclical variable incor- porating demand fluctuations was also used in the model. This [136] limiting adjustment represents the "so-called mix effect" that demand shifts alter the volüme of potential output derivable from fixed stocks of Capital and labor due to changes in input proportions and output-input ratios. Finally, the volumes of the potential labor force, Capital stock, and age of the Capital stock assume their actual historical values. That is, no adjustment is made on

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136 . . .

U.S., Congress, Joint Economic Committee, The Potential Economic Growth in the United States, by James V,[7]. Knowles, Joint Committee Print, Study Paper 20 (Nashington, D.C.: Government Printing Office, 1960), pp. 6-7.

these factors to estimate what their volumes would have been had relatively full use of resources been continuously achieved.[137] Knowles' estimates of potential output, converted to 1958 prices, are presented in Table 25.

Department of Commerce Estimates of Potential GNP

The Bureau of the Census of the ü.S. Department of Commerce provides estimates of potential GNP in its publication, Business Conditions Digest. These estimates are derived by applying a trend line through the actual level of GNP in midyear 1955. The growth rates used in this trend line are 3.5 percent from 1955 to the fourth quarter of 1962, 3.75 percent from fourth guarter 1962 to fourth guarter 1965, 4 percent for fourth guarter 1965 to fourth guarter 1969, and 4.3 percent thereafter.[138] These growth .rates are based

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[137] Ibid., pp. 9, 12, 25, and 35.

[138] U.S., Department of Commerce, Business Conditions Digest (Washington, D.C.: Government Printmg Office, 1971), 55.

TABLE 25

KN0V7LES[1] ESTIMATES OF POTENTIAL GNP, SELECTED YEARS, 1929-1965 (in billions of 1958 dollars)[a]

Year	Potential GNP	Year	Potential <
1929	$199.2	1947	$317.3
1930	212.2	1948	324.6
1931	214.8	1949	338.3
1932	214.5	1950	350.6
1933	215.4	1951	364.5
19 34	217.9	1952	379.7
1935	222.7	1953	395.8
1936	227.7	1954	412.1
1937	234.0	1955	430.8
1938	241.4	1956	451.5
1939	248.5	1957	472.4
1940	255.6	1958	488. 3
1941	263.5	1959	509.0
1942	274.6	1960	523.8
1943	286.7	1961	543.0
1944	300.0	1962	562.4
1945	309.3	1965	622.2
1946	311.9		

[a]Source: For 1929-1960, U.S., Congress, Joint Economic Committee, The Potential Economic Growth in the United States, bv James W. Knowles, Joint Committee Print, Study Paper 20 (Washington, D.C.: Government Printing Office, 1960), p. 37. For 19611965, U.S., Congress, Joint Economic Committee, "Staff Memorandum on the Relationship of the Federal Budget to Unemployment and to Economic Growth," bv James W. Knowles, Report of the Joint Economic Committee on the January, 1961, Economic Report of the President (Washington, D.C.: Government Printing Office, 1961), p. 120.

on expected potential labor supply and productivity changes. The full employment criterion of 4 percent to 1969 and 3.8 percent thereafter follows the definition of the Council of Economic Advisers.[139]

Estimates of potential GNP derived from the Department of Commerce figures are given in Table 26. The Department of Commerce gives its estimates on a quarterly, constant 1958 dollar basis. For 1968-1970, the average of the four quarters given are used herein. Since no numerical values are given for years prior to 1968, these are approximated by the follow- ing formüla:

$$O = t \quad t-1 \quad O \quad 1 + r$$

where 0, and represent potential GNP for a given year ana the iminediately previous year respectively, and r represents the appropriate trend üne growth rate.

48 Committee for Economic Development, Further Weapons Against Inflation: Measures to Supplement General Fiscal and Monetary Policies (Nevz York: Committee for Economic Development, 1970), p. 35.

TABLE 26

DEPARTMENT OF COMMERCE ESTIMATES OF POTENTIAL GNP, ANNUALLY, 1952-1970 (in billions of 1958 dollars)[a]

Year	Potential GNP	Year	Potential GNP
1952	$395.0	1962	$557.1
1953	408.8	1963	578.0
1954	423.1	1964	599.7
1955	437.9	1965	622.2
1956	453.2	1966	647.1
1957	469.1	1967	673.0
1958	485.5	1968	699.9
1959	502.5	1969	727.9
1960	520.1	1970	758.4
1961	538.3		

[a]Source: See text.

CHAPTER VII

ESTIMATION OF POTENTIAL OUTPUT AND THE ECONOMIC SURPLUS

Selection of the Brookings Study The Brookings study is used herein as the hasis for potential output estirnates. It was selected in part due to its fame. Its widespread use by economists of various per- suasions affords it a great deal of credibility. This is especially true relative to the fascinating but obscure Loeb study. Moreover, since both the Loeb and Brookings studies purport to involve minimum estirnates, there is a rough logic involved in selecting the one with the lower estimate. The Brookings study is also a middle-range estimate falling between the estirnates of the Loeb study and the Knov/les study.

Aside from the credibility-by-fame factor, there is additional ground for selecting the Brookings study in lieu of the later studies. Like so much of the literatüre of that period of crisis, the Brookings study is very extensive in its scope and method. The Brookings authors surveyed ali branches of the economy as to the extent and degree of utilization of capacity. They matched the underemployment of Capital with labor availability in translating

their findings into aggregate terms.

Later studies are less complete. The estimates by Keyserling and by the Department of Commerce simply apply the sim of productivity and labor force percentage increases to actual output for some year. Aside from its lack of scope, this procedure implicitly assumes that potential output was attained in the base year. Thus, in computing the aggregate shortfall for 1929-1953, Keyserling uses the actual output of 1929 as representing full potential. This procedure con- flicts with the findings of both the Brookings study and the Loeb study that substantial excess aggregate capacity existed in 1929.

The Department of Commerce likewise assumes potential output to have been attained in 1955. Yet Strand and Dernburg estimate gap unemployment rates of 4.03 percent and 4.93 percent for November, 1955, as compared to an official rate of 4.15 percent.[1] Further, the excess capacity studies reviev;ed in the previous chapter of the present study show excess capacity rates of up to 17 percent for 1955.

The method employed by Knowles to estimate potential output to some extent avoids the simplicity charge. However,

[1] Kenneth Strand and Thomas Dernburg, "Cyclical Variation in Civilian Labor Force Participation," Review of Economics and Statistics, XLVI (November, 1964) , 388.

it is subject to question as a measure of attainable potential output. Knowles uses a 4 percent unemployment rate in his

estimations, assumes actual capacity utilization rates to be optimal, and allows economic obsolescence to limit potential output by incorporating the cyclical, demand- shift variable. Further, Knowles' estimates show actual output to have exceeded potential output in 1929. Again, the evidence to the contrary is too great for one to accept the premise that full potential production occurred in 1929.

Selection of Growth Rates

Having selected the Brookings' estimate of potential GNP in 1929 as the basis for estimating potential output, it remains to construct a time series on this base. This involves the selection of a rate of growth. This selection from the several alternatives is to some extent arbitrary.

One set of alternatives is based upon actual rates of growth. The several possibilities in this set stem from the time period selected. Growth rates prior to 1929 could be used on the basis that prior performance is an appropriate guide as to expected performance. Thus, the average annual rate of growth of Robert Martin's "realized income" for 19001929 amounting to 2.7 percent is a possible choice.[140] So also is the average annual rate of growth of GNP from 1913-1921 which totals 3.1 percent.[141] -

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Robert F. Martın, National income in the U.S., 1799—1938 (New York: National Industrial Conference Board, 1939), pp. 6-7.
(Washington, D.C.: Government Printing Office, 1971), p. 306.

Actual growth rates for the 1929-1970 period are also possible choices since the capacity to produce could be held to change roughly in accord with actual production. Thus, the average annual rates of growth for 1929-1950 of 2.9 percent and for 1950-1970 of 3.6 percent are plausible alternatives. Similarly, the yearly rates of growth of constant dollar GNP are readily computed and must be considered possible alternatives.

Another set of alternatives stems from the growth rates of the potential GNP estimates which are available. The familiar method of summing the percentage changes in productivity per worker and size of the labor force could be employed. Or, the growth rates computed from the potential GNP series of Knowles could be utilized.

Herein, the annual growth rates of Knowles' potential output estimates are applied to the Brookings' estimate for 1929 to arrive at serial estimates of potential output. These rates were selected by a process of elimination. The rates based upon performance prior to 1929 are significantly

U.S., Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1971 Edition lower than actual performance thereafter except for the Great Depression. Moreover, given the tremendous sociohistorical changes and statistical improvements after 192S, there is no clear warrant for using the rates prior to 1929.

The use of average annual rates, irrespective of the time period upon which they are based or whether actual or

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^Ibid., pp. 306-307.

potential output is in question, distorts the time distribu- tion of potential output. That is, a rate of growth of 10 percent for one year and 0 percent for nine other years is best presented as such rather than as a 1 percent annual change.

Finally, there is no clear reason for using actual growth rates to estimate potential output. Actual growth depends upon the degree of utilization of capacity as well as the volüme of capacity. Hence, to use the percent change in actual output as the percent change in potential output would confuse these two very distinct concepts.

Potential Output and the Economic Surplus, 1929-1970

The growth rates used to estimate potential output are given in Table 27. For the years 1929-1965, these rates are computed directly from Table 25 (Chapter VII) above. For 1966-1970, the rates are based on Knowles' middle-range projected rate of growth in potential output. The middle- range rate was selected because it is consistent with Knowles'

TABLE 27

ANNUAL RATES OF GROWTH IN KNOtîLES' POTENTIAL GNP, ANNUALLY, 1929-1970[3,]

Year	% Rate	Year	% Rate
1930	6.53	1951	3.96
1931	1.23	1952	4.17
1932	-0.14	1953	4.24
1933	0.51	1954	4.12
1934	1.16	1955	4.54
1935	2.20	1956	5.16
1936	2.29	1957	4.63
1937	2.72	1958	3.37
1938	3.16	1959	4.24
1939	2.94	1960	2.91
1940	2.86	1961	3.67
1941	3.09	1962	3.57
1942	4.21	1963	3.43
1943	4.41	1964	3.43
1944	4.64	1965	3.43
1945	3.10	1966	4.00
1946	0.84	1967	4.00
1947	1.73	1968	4.00
1948	2.30	1969	4.00
1949	4.22	1970	4.00
1950	3.64		

[a]Source: Table 25.

1929-1965 series. Knov/les projected a 4 percent annual rate of growth in potential from the 1959 potential for the 1959-1975 period. [5]

The potential output estinates for 1929-1970 are given in Table 28. These are, of course, derived by applying Table 27 growth rates to the Brookings' potential output estimate of $242.5 billion for 1929. For purposes of compari- son, actual GNP

figures are also presented in Table 28 and the ratios of actual to potential GNP in Table 29.

Since traditional Marxist surplus income elements do not represent resources available for production, they must be deleted from the output figures. The adjustment process is the same as that used above in Chapter V to adjust essen- tial consumption with one exception. The exception is that the surplus elements representing surplus industries are not deleted from the output figures because they do represent available productive resources. The implications of this process are elaborated fully in Chapter VIII. Tables 30 and 31 summarize the adjustment of the output figures. Table 32 contains estimates of the economic surplus for 1929-1970.

This table is, of course, the culmination of the empirical aspect of this study.

U.S., Congress, Joint Economic Committee, The Potential Economic Grov/th in the United States, by James W. Knowles, Joint Committee Print, Study Paper 20 (VJashington, D.C.: Government Printing Office, 1960) , p. 40.

TABLE 2 8

POTENTIAL GNP IN THE U.S. IN MARKET PRICES, ANNUALLY, 1929-1970
(in billions of 1958 dollars)[3.]

Ye ar	Potential GNP	Actual GNP	Ye ar	Potential GNP	Actual GNP
1929	$242.5	$203.6	1950	$427.5	$355.3
1930	258.3	183.5	1951	444.4	383.4
1931	261.5	169.3	1952	462.9	395.1
1932	261.4	144.2	1953	482.1	412.8
1933	262.7	141.5	1954	502.0	407.0
1934	265.7	154.3	1955	524.8	438.0
1935	271.5	169.5	1956	551.9	446.1
1936	277.7	193.0	1957	577.5	452.5
1937	285.3	203.2	1958	597.0	447.3
1938	294.3	192.9	1959	622.3	475.9
1939	303.0	209.4	1960	640.4	487.7
1940	311.7	227.2	1961	663.9	497.2
1941	321.3	263.7	1962	687.6	529.8
1942	334.8	297. 8	1963	711.2	551.0
1943	349.6	337.1	1964	735.6	580.0
1944	365. 8	361.3	1965	760.8	614.4
1945	377.1	355.2	1966	791.2	658.1
1946	380.3	312.6	1967	822.8	675.2
1947	386.9	309.9	1968	855.7	706.6
1948	395. 8	323.7	1969	889.9	724.7
1949	412.5	324.1	1970	925.5	720.0

[a]Source: Table 27; U.S., Department of Commerce, Office of Business Econonics, The National inecime and Product Accounts of the United States, 1929-1965, Statis- tical Tables (ttashington, D.C. : Government Printing Office, 1966), pp. 4-5; and Survey of Current Business, L (July, 1970),'17, and LI (July, 1971), 13.

TABLE 29

UTILIZATION OF AGGREGATE CAPACITY, ANNUALLY, 1929-1970[3]

Year	Actual ᴛ Potential GNP (in %)	Year	Actual ᴛ Potential GNP (in %)
1929	84.0	1950	83.1
1930	71.0	1951	86.3
1931	64.7	1952	85.4
1932	55.2	1953	85.6
1933	53.9	1954	81.1
1934	58.1	1955	83.5
1935	62.4	1956	80.8
1936	69.5	1957	78.4
1937	71.2	1958	74.9
1938	65.5	1959	76.5
1939	69.1	1960	76.2
1940	72.9	1961	74.9
1941	82.1	1962	77.1
1942	88.9	1963	77.5
1943	96.4	1964	78.8
1944	98.8	1965	80.8
1945	94.2	1966	83.2
1946	82.2	1967	82.1
1947	80.1	1968	82.6
1948	81. 8	1969	81.4
1949	78.6	1970	77.8

[a]Derived from Table 28.

TABLE 30

RATIO OF SURPLUS INCOME ELEMENTS IMBEDDED IN MARKET PRICES TO GNP, ANNUALLY, 1929-1970
(in billions of current dollars)

Year	Total	GNP	Ratio	Year	Total	GNP	Ratio
1929	$40.6	$103.1	0.394	1950	$107.1	$284.8	0.376
1930	36.2	90.4	0.400	1951	119.8	328.4	0.365
1931	29.3	75.8	0.387	1952	123.2	345.5	0.357
1932	22.8	58.0	0.393	1953	128.7	364.6	0.353
1933	21.5	55.6	0.387	1954	131.6	364.8	0.361
1934	25.3	65.1	0.389	1955	148.5	398.0	0.373
1935	28.3	72.2	0.392	1956	155.9	419.2	0.372
1936	31.5	82.5	0.382	1957	164.1	441.1	0.372
1937	34.8	90.4	0.385	1958	165.6	447.3	0.370
1938	33.1	84.7	0.391	1959	184.3	483.7	0.381
1939	35.0	90.5	0.387	1960	192.1	503.7	0.381
1940	39.8	100.0	0.398	1961	199.8	520.1	0.384
1941	49.3	124.5	0.396	1962	219.3	560.3	0.391
1942	59.3	157.9	0.376	1963	233.2	590.5	0.395
1943	66.6	191.6	0.348	1964	252.5	631.7	0.400
1944	68. 8	210.1	0.327	1965	272.5	681.2	0.400
1945	67.4	211.9	0.318	1966	300.3	749.9	0.400
1946	69.4	208.5	0.333	1967	311.3	793.9	0.392
1947	79.9	231.3	0.345	1968	339.4	864.2	0.393
1948	92.9	257.6	0.361	1969	357.6	929.1	0.385
1949	93.8	256.5	0.357	1970	370.2	974.1	0.380

[a]Source: Tables 22 and 23.

TABLE 31

GNP AFTER ADJUSTMENT TOR SURPLUS INCOME ELEMENTS, ANNUALLY, 1929-1970 (in billions of 1958 dollars)[a]

Year	Potential	Actual	Year	Potential	Actual
1929	$147.0	$123.4	1950	$266.8	$221.7
1930	155.0	110.1	1951	2 82.2	243.5
1931	160.3	10 3.8	1952	297.6	254.0
1932	158.7	87.5	1953	311.9	267.1
1933	161.0	86.7	1954	320.8	260.1
1934	162.3	94.3	1955	329.0	274.6
1935	165.1	103.1	1956	346.6	280.2
1936	171.6	119.3	1957	362.7	284.2
1937	175.5	125.0	1958	376.1	281.8
1938	179.2	117.5	1959	385.2	294.6
1939	185.7	128.4	1960	396.4	301.9
1940	187.6	136.8	1961	409.0	306.3
1941	194.1	159.3	1962	418.7	322.6
1942	208.9	185.8	1963	430.3	333.4
1943	227.9	219.8	• 1964	441.4	348.0
1944	246.2	243.2	1965	456.5	368.6
1945	257.2	242.2	1966	474.7	394.9
1946	253.7	208.5	1967	500.3	410.5
1947	253.4	203.0	1968	519.4	428.9
1948	252.9	206.8	1969	547.3	445.7
1949	265.2	208.4	1970	573.8	446.4

[a]Source: Tables 28 and 30.

TABLE 32

ECONOMIC SURPLUS, ANNUALLY, 1929-1970 (in billions of 1958 dollars)[3]

Year	Potential Surplus	Ratio to Potential Output	Actual Surplus	Ratio to Actual Output	Year	Potential Surplus	Ratio to Potential Output	Actual Surplus	Ratio to Actual Output
1929	$ 56.9	0.387	$ 33.3	0.270	1950	$149.1	0.559	$104.0	0.469
1930	65.1	0 . 420	20.2	0.183	1951	157.1	0.557	^ .5,4	0.486
1931	67.9	0.424	11.4	0.110	1952	162.2	0.545	. ′ 6	0.467
1932	67.7	0.427	- 3.5	-0.040	1953	168.0	0.539	123.2	0.461
1933	71.2	0.442	- 3.1	-0.036	1954	171.7	0.535	111.0	0.427
1934	74.4	0.458	6.4	0.068	1955	175.9	0.535	121.5	0.442
1935	76.4	0.463	14.4	0.140	1956	188.0	0.542	121.6	0.434
19 36	77.9	0.454	25.6	0.215	1957	200.0	0.551	121.5	0.428
1937	79.5	0.453	29.0	0.232	1958	207.2	0.551	112.9	0.401
19 38	81.9	0.457	20.2	0.172	1959	213.4	0.554	122.8	0.417
1939	83.2	0.448	25.9	0.202	1960	217.6	0.549	123.1	0.408
1940	87.4	0.466	36.6	0.268	1961	224.1	0.548	121.4	0.396
1941	96.6	0.498	61.8	0.388	1962	229.4	0.548	137.7	0.427
1942	103.8	0.497	80.7	0.434	1963	235.3	0.547	138.4	0.415
1943	121.6	0.534	113.5	0.516	1964	241.1	0.546	147.7	0.424
1944	137.4	0.558	134.4	0.553	1965	250.5	0.549	162.6	0.441
1945	148.3	0.577	133.3	0.550	1966	262.6	0.553	182.8	0.463
1946	149.4	0.589	104.2	0.500	1967	282.9	0.565	193.1	0.470
1947	146.3	0.577	95.9	0.472	1968	293.4	0.565	202.9	0.473
1948	144.0	0.569	97.9	0.473	1969	313.9	0.574	212.3	0.476
1949	150.5	0.567	93.7	0.450	1970	336.6	0.587	209.2	0.469

[a]Source: Tables 24 and 31. It should be noted that the column Potential Surplus contains the surplus concept that is employed throughout this paper. The actual surplus is presented here solely for the reader's convenience for comparison purposes. The actual surplus differs from this potential surplus only to the extent of the gap between potential and actual output. That is, essential consumption rather than actual consumption is the consumption concept used.

CHAPTER VIII

THE ECONOMIC SURPLUS AND NEO-MARXISM: COMPARISON AND CONCLUSIONS

Methodological Summary

Before comparing the foregoing to a number of neo-Marxist hypotheses, it seems advisable to summarize the method of this study. Emphasis is placed upon the product side of the national accounts ledger. The economic surplus is defined as potential output minus total essential consumption, the latter being the sum of personal essential consumption, essential social overhead consumption, and essential Capital consumption. The eiements comprising the economic surplus are nonessential personal, social overhead, and Capital consumption; social and private investment; the output of surplus industries; and the gap between actual and potential output.

The first step toward estimation of the economic surplus is the estimation of total essential consumption.
The data for this estimation are supplied in Chapters IV and V as summarized in terms of current market prices in Table 19. These serial estimates of total essential consumption are then adjusted to exclude surplus eiements imbedded in market prices. These adjustments are summarized in Tables 20 to 24.

These surplus elements within market prices are of two types. Type one contains surplus income elements:

profits, government revenues, rent, and interest. Type two contains the output of surplus industries: advertising, finance, insurance, and real estate.[142] For the adjustment of total essential consumption, the type one and type two surplus elements are summed, and their ratio to GNP for the respective years is used to make the adjustment.

Estimates of potential output and data on actual output are supplied in Chapters VI and VII, culminating in Table 28 which presents both in terms of market prices.
Here the question of adjusting these output series arises and with it the significance of the distinction between type one and type two surplus elements in the structure of market prices. The type two elements represent resources which could be used to produce (socially useful) output other (rather) than the sales effort and other middling activities. On the other hand, the type one elements are solely of income distributive interest. They do not represent productive resources which could be used to alter the size or composition of total output.[143]

This last may draw opposition. Such opposition would most likely stem from holdover visions of an idle rentier in feudal times or of industry/finance captains wheeling and dealing

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Since surplus income elements are included in the type one category, only wages and salaries of surplus industries are used in the type two category. There are some minör discrepancies involved, such as Capital and social overhead consumption in the surplus industries.

143 There could of course occur an indirect change in the size or composition of output given some shift in the distribution of income. However, due to the definition of personal essential consumption used, this phenomenon is not important herein.

in pecuniary dramae. Now, however, the number of people who live solely by such coupon-clipping activities is surely very small. Property income has become institutional- ized in large corporations and financial institutions.

Thus, the correspondence between surplus personal income and surplus output has been weakened. The search for the surplus must shift to those institutions vested with its movement. The important surplus institution is no longer the super-rich magnate but the surplus economic sectors such as advertising, finance, and other paper-shuffling activities.[144]

The upshot of ali this is that property incomes and government revenues are best treated as transfers. Thus, they are to be deleted from both output and essential consump- tion prior to subtracting for the economic surplus. Thus, whereas essential consumption is adjusted for both types of surplus elements in market prices, output is adjusted only for the type one elements.[145]

If the above is correct, an identical surplus should be derivable from the income side of the ledger by using procedures consistent with the output surplus concept. The crucial linkage is that of necessary income which unsurpris- ingly equals total essential consumption. That is, essential income is that inceme

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144 The author ıs reminded of the scene in the movie entitled Joe in which blue-collar Joe, viewing the multistory Office building, gueries the business executive as to the content of his work. The executive replies, "We move paper."

145 The type one adjustment is made because the surplus income elements would otherwise effect the serial distribution of the surplus.

necessary to purehase essential consumption. Thus, the income surplus would be the sum of personal disposable income minus personal essential consumption, gov- ernment revenue minus essential social overhead, nominal Capital consumption minus essential Capital consumption, and the potential/aetual output gap.

This, of course, yields surplus personal income which does not correspond to the output surplus, the difference being transfers. Property incomes are viewed as transfer payments also. That is, minimum consumption is viewed as a necessary social cost. The income necessary to purehase this output, where not provided as a necessary cost of produetion, is provided via transfer payments. These transfers may be effected by government fiscal mechanisms or by property income claims. Hence, to achieve the factor income surplus, i.e., that which corresponds to the output surplus, the ad- justment for surplus income elements would need to be made.

Monopoly Capitalism

Before comparing the findings of the current study with a number of neo-Marxist hypotheses, it is necessary to briefly compare the concepts and methods of the current study with those of the classic neo-Marxist study. [5] The basic difference between the present approach and that of Baran and Sweezy is the reluctance of the latter to suspend the primary role of the market and its law of value.

> Overall, monopoly capitalism is as unplanned as its competitive predecessor. The big corporations relate to each other [and to others] primarily through the market.

> . . . And since market relations are essen- tially price relations, the study of monopoly capitalism, like that of competitive capitalism, must begin with the workings of the price mechanism.[6]

What is of concern here is how this view affects Baran and Sweezy's approach to the economic surplus.[7] Baran and Sweezy use the same point of departure as is used in the current study. They early on regard the surplus as "the difference between what a society produces and the costs of producing it."[8] Moreover, Baran in an earlier book alludes to essential consumption for capitalists and to essential social consumption.[9] Ali this points to the total essential

5 Paul A. Baran and Paul M. Sweezy, Monopoly Capital: An Essay on the American Economic and Social Order (New York: Monthly Review Press, 1966).

^Ibid., p. 53.

7 For other ramıfıcatıons of this vıew, see Andreas G. Papandreou, Paternalistic Capitalism (Minneapolis: University of Minnesota Press, 1972) , pp. 80ff.

g Baran and Sweezy, Monopoly Capital,- p. 9.

9 Paul A. Baran, The Political Economy of Grov;th (New York: Monthly Review Press, 1957) , pp. 23 and 23n.

consumption definition employed in the current study. The essential consumption of ali persons in society is a neces- sary charge on society's output. Likewise, essential govern- mentally supplied goods and Services constitute such a charge.

Yet Baran and Sweezy relegate ali property incomes and ali government expenditures to .the economic surplus. As explained in Chapter III ahove, this treatment of government is inexplicable. The treatment of property incomes follows from

their approximation of the surplus as the difference between national income and the wages of productive workers, i.e., as property incomes.[146] Thus, they continue to view labor as exchanging for its cost of production. That is, they continue to apply the law of value of competitive capitalism.

However, Baran and Sweezy partially recognize the inoperability of the lav/ of value. Advertising and other such activities should be minimized in a competitive situation. Otherv/ise, since they cannot cut into the subsistence of the productive class, they cut into the unearned incomes of the dominant class. Why then have these activities grown so in the era of monopoly capitalism? Precisely because the law of value is not operative. Wages are not equal to subsistence, nor do the prices of property goods represent neces- sary ransom prices for the owners of these goods.

Ultimately, Baran and Sweezy pierce themselves upon this thorn by adding property incomes and nonessential output. This confusion and intermingling of the two sides of the national accounts is traceable to their desire to have the surplus represent two different magnitudes, unearned incomes and nonessential output.[147]

This quandary is avoided in the present study by defining the surplus as the difference between potential output and the share thereof necessary to reproduce the extant productive

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Raymond Lubitz, "Monopoly Capitalism and Neo-Marxism, in Capitalism Today, ed. by Daniel Bell and Irving Kristol (New York: Basic Books, 1970), p. 169.

^Ibid. , p. 170. See also Papandreou, Paternalistic Capitalism, p. 43.

capacity. The law of value is not assumed to be operative.[148] Thus, no a priori case exists for equat- ing costs of production with the wages of labor nor for equating surplus with property incomes.

The Neo-Marxist Hypotheses

Of the various speculations, theorems, and tendencies set forth by Baran and Sweezy concerning the laws of motion of monopoly capitalism, three are of Central importance. These are, one, that the surplus rises över time both

148 See Davıd Rıcardo, "Principles of Political Economy and Taxation," in Classics of Economic Theorv, ed. by George W Wilson (Bloomington, Indiana: Indiana üniversity Press, 1964) p. 243; and Paul M. Sweezy, The Theory of Capitalist Development: Principles of Marxian Political Economy (New York: Monthly Review Press, 1942, 1968), pp. 53ff.

absolutely and as a percentage of national income; two, that the investment-seeking portion of the surplus rises över time as a percentage of the surplus; and, three, that monopoly capitalism is incapable of absorbing this rising investment- seeking portion. The importance of these three hypotheses derives from their being the line of reasoning upon which Baran and Sweezy conclude that monopoly capitalism is inher- ently stagnationist and unable to supply the quality of life one can rightfully expect from so much potential abundance.

Each of these hypotheses is considered in turn vis-a-vis the evidence of the current study. In the process, the differences between the current approach and that of Baran and Sweezy are elaborated more fully. Also, the basis is established for the conclusions drawn in the final section of the study.

The Rising Surplus

Baran and Sweezy state that "there is a strong and systematic tendency for [the] surplus to rise, both absolutely and as a share of total output." Although formulated under the "first approximation" of the surplus as being egual to aggregate profits, the clear implication is that this "law" applies to more complex definitions of the surplus as well.[149]

Baran and Sweezy, Monopoly Capital, pp. 72 and 79.

A brief glance at Table 32 shows that the surplus as herein defined and estimated corroborates this thesis in both its absolute and relative dimensions. However, little should be made of this since the thesis itself is uninteresting un- der the definition of the surplus herein employed. Baran and Sweezy in the context of this hypothesis are obviously empha- sizing the distributive shares as between earned and unearned income aspect of the surplus. Herein, of course, the surplus is not viewed in this context. Viewed in the context of the difference between potential output and essential output, the rising surplus merely implies that technological change is increasing potential output faster than essential consumption is increasing.

Parenthetically, there are at least two issues which might make the hypothesis interesting. First, the rising surplus could be taken to imply increasing returns in the aggregate. However, one hardly needs so elaborate a technique to demonstrate the existence of technical change. Moreover, if one confines the returns to scale concept to a given tech- nology, the surplus concept is not applicable.

The rising surplus could also be taken to be a measure of the elasticity of essential consumption relative to rising potential output. That is, the rising surplus relative to output implies that a variant of Engel's Law applies to essential consumption. Since essential consumption is subject to secular evolution upward, this guestion is not a priori determined. However, this does not s uf fice to make the question interesting on an ordinal scale of alternative

research questions.

Also parenthetically, the defining away of the relative shares aspect of the surplus should not be interpreted as denying the importance either of the surplus in the analy- sis of class relations nor of the degree of inequality of income distribution. The dominant class stili appropriates the surplus to its own ends. That is, the surplus is stili used in a manner that protects the vested positions of power and prestige in the status guo. Moreover, the distribution of income remains clearly relevant in this distribution of power and prestige. The current analysis simply separates these two important sets of guestions rather than lumping them together as the surplus. On the one hand, the surplus measures the amount of output the use of which involves a large element of social choice. On the other hand, the guestion of the distribution of income and power concerns the manner in which this choice is made and the participants who dominate in this process.

The Rising Investment-Seeking Portion of the Surplus

The second of the neo-Marxist hypotheses under consia- eration maintains that the investment-seeking portion of the surplus tends to rise. Baran and Sweezy make an a fortiori case for this tendency based on the pattern of dividend distribution in the modern Corporation. They reason that since the dividend policies of these corporations cause a lag between the accumulation of the rising surplus and the distribution of this surplus into disposable income, then

even the capitalists spend ali distributed profits on consumption, the investment-seeking share of the surplus will rise.[150] [151]

This a fortiori case fails under the present definition of the surplus. That is, since nonessential consumption can be other than that of the capitalist class, it is possi- ble that this other consumption will offset the lack of increased capitalists' consumption relative to the total surplus.

It is possible, however, to perform a relatively simple test of the hypothesis. The difference between potential output and the sum of personal and social consumption can be safely construed as the investment-seeking por- tion of the surplus. It should be noted that the element of the surplus absorbed by surplus industries or nonessential social consumption is not considered in the argument at this point. Baran and Sweezy consider these elements after having demonstrated the rising investment-seeking portion as a first approximation.[1 5]

Table 33 contains serial data on total personal consumption and essential social consumption. The personal consumption series is, of course, adjusted for surplus elements imbedded in market prices before being summed with the social consumption series. Table 33 also shows the investment-seeking portion of the surplus and its ratio to the total surplus.

The evidence could hardly be more damaging to the neo-

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[150] Ibid., pp. 79-81.

■^That is, in later chapters 3aran and Sweezy approach the question as to whether enough of this investment-seeking portion can be wasted to avoid stagnation. See ibid., Chapters V, VI, and VII.

Marxist thesis. The ratio of the investment-seeking portion of the surplus to the total surplus has demonstrated a marked tendency to decline since 1929. Indeed, up to World War II, the investment-seeking share exceeded the (potential) surplus. This means, in effect, that a signifi- cant share of the population had a level of living below the essential consumption Standard.

The social implication of this negation is that the New Deal coalition and the neo-Keynesian ethic which have held sway in U.S. politics since the Depression, have indeed altered the face of capitalism. The increases in social overhead consumption[152] and the bolstering of private consumption have altered the investment/consumption balance.

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152 It should be noted that defense spending and the waste of surplus industries remain in the investment-seeking share to this point.

TABLE 33

THE INVESTMENT-SEEKING PORTION OF THE SURPLUS, ANNUALLY, 1S29-1970 (in billions of 1958 dollars)[3]

Potential Year	Output	Consumption	Investment-Seeking	Economic Surplus	Ratio
1929	$147.0	$ 87.1	$ 59.9	$ 56.9	1.053
1930	155.0	81.0	74.0	65.1	1.137
1931	160.3	79.4	80.9	67.9	1.191
1932	158.7	70.8	87.9	67.7	1.298
1933	161.0	70.7	90.3	71.2	1.268
1934	162.3	74.3	88.0	74.4	1.182
1935	165.1	78.7	86.4	76.4	1.131
1936	171.6	88.8	82.8	77.9	1.063
1937	175.5	91.3	84.2	79.5	1.059
1938	179.2	89.0	90.2	81.9	1.10 -
1939	185.7	94.1	91.6	83.2	1.10 -
1940	187.6	97.0	90.6	87.4	1.037
1941	194.1	103.8	90.3	3 6.6	0.935
1942	208.9	106.0	102.9	103.8	0.991
1943	227.9	113.5	114.4	121.6	0.941
1944	246.2	120.6	125.6	137.4	0.914
1945	257.2	129.3	127.9	148.3	0.862
1946	253.7	141.5	112.2	149.4	0.751
1947	253.4	142.3	111.1	146.3	0.759
1948	252.9	144.5	108.4	144.0	0.753
1949	265.2	149.0	116.2	150.5	0.772
1950	266.8	155.7	111.1	149.1	0.745
1951	282.2	161.7	120.5	157.1	0.767
1952	297.6	170.6	127.0	162.2	0.783
1953	311.9	179.1	132.8	168.0	0.790
1954	320.8	180.4	140.4	171.7	0.818

Ye ar	Potential Output	Consumption	Investment-Seeking	Economic Surplus	Ratio
1955	$329.0	$188.9	$140.1	$175.9	0.796
1956	346.6	196.1	150.5	188.0	0.801
1957	362.7	202.5	160.2	200.0	0.801
1958	376.1	207.1	169.0	207.2	0.816
1959	385.2	214.8	170.4	213.4	0.799
1960	396.4	223.0	173.4	217.6	0.797
1961	409.0	228.2	180.8	224.1	0.807
1962	418.7	236.7	182.0	229.4	0.793
1963	430.3	246.7	183.6	235.3	0.780
1964	441.4	260.0	181.4	241.1	0.752
1965	456.5	276.1	180.4	250.5	0.720
1966	474.7	294.7	180.0	262.6	0.685
1967	500.3	311.6	188.7	282.9	0.667
1968	519.4	329.8	189.6	293.4	0.646
1969	547. 3	350.9	196.4	313.9	0.627
19 70	573.8	364.8	209.0	336.6	0.621

[a]Source: Tables 19, 23, and 31; U.S., Department of Commerce, Office of Business Economics, The National Income and Product Accounts of the United States, 1929-1965, Statis- tical Tables (üashington, D.C.: Government Printing Office, 1966), pp. 4-5; and Survey of Current Business, L (July, 1970), 17, and LI (July, 1971), 13.

The Declining Operating Rate of Total Capacity

The final hypothesis to be considered concerns the degree of utilization of productive capacity. Specifically, it is held that the investment-seeking share of the surplus cannot be absorbed. Therefore, "the normal State of the monopoly capitalist economy is stagnation." Further, the operating rate of capacity will drift downward över time.[153] The authors do admit of offsetting tendencies such as mili- tarization and waste. But, however much they bemoan the meteoric .rise of these superfluous activities, the clear implication of the discussion is that these elements cannot rise apace with the capacity to produce.[154]

The test of this hypothesis is easily performed. The ratio of actual GNP to potential GNP is clearly a measure of the aggregate utilization of capacity. Such a ratio is given in seriatim in Table 29. Since there has been no persistent downward trend in the utilization rate, the hypothesis is apparently contradicted.

There are, however, a number of qualifications upon this conclusion. Most of these are discussed in a different context by Baran and Sweezy. They discuss the New Deal and the possibility that it has reached its limit and the defense revolution and its possible upper limit.[19] The argument is that these elements may have reached the limit of their

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153 Baran and Sweezy, Monopoly Capital, pp. 180ff.

[154]Ibid., Chapters V, VI, and VII,

capacity to protect monopoly capitalism from stagnation.

A less speculative qualification is contained in the data itself. The peak operating rates of capacity appear to be trending slightly downward. Coupled with the fact that the trough operating rates are trending upward, this implies that the increase in stability may have been purchased at the expense of a stable stagnation.[20] At any rate, and despite these qualifications, the operating rate of capacity appears unlikely to engender revolutionary fervor in the moderately distant future.

Conclusions and Recommendations

Throughout this study, particularly in the empirical estimation sections, the author has expressed his lack of complete satisfaction with some of the techniques and concepts employed. Such expressions are obviously

[19]Ibid., pp. 161ff and 213-217.

20 This seeming redundancy of phrase is necessitated by the confusion in the literature between the short run (cyclical) and the long run (secular) motions of capitalism. See, for further discussion and references, Howard J. Sherman, Radical Political Economy: Capitalism and Socialism from a Marxist-Humanist Perspective (New York: Basic Books, 1972), Chapter VII.

recommendations for further research. Thus, for example, in the areas of measuring depreciation, depletion$_r$ and social overhead ronsumption, the author suggests the inadeguacy of the current

State of affairs.

With these in mind, this concluding section can be restricted to the majör conceptual implications of the study. These, of course, relate to the body of literatüre consis- tently referred to as neo-Marxism. The fundamental theme of these implications is that Baran and Sweezy in their refor- mulation of Marxism are moving in a direction pregnant witn potential for important social analysis. Their view of the modern Corporation as the institutionalized capitalist and of the importance of waste in monopoly capitalism are examples of such movement. However, in these and other cases, Baran and Sweezy fail to travel far enough. They continue to ana- lyze the class situation primarily in terms of classical Marxism*s Moneybags and the subsistence-living proletariat. Hence, they fail to entertain the possible scenario of power- wielding technocrats and overfed workers.[155] This latter

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155 The classıc statement of this scenario is Thorstein Veblen, The Engineers and the Price System (Harbinger ed.; New York: Harcourt Brace and World, 1963). The modern statement is John Kenneth Galbraith, The New Industrial State (Boston: Houghton-Mifflin Company, 1967). For a comparison of these two along this üne of thought, see J. R. Stanfield, "Veblen[1]s 'Revolutionary Overturn' and The New Industrial State," Review of Social Theory, I (Summer, 1972), forthcoming.

scenario is at the heart of most recent radical social analysis which is steeped in the heritage of the young Marx.[22]

Thus, Baran and Sweezy fail to escape the traditional Marxist emphasis on quantitative cycles and secular stagna- tion of national output. They imply that limits exist upon the surplus absorption povzer of militarism and waste despite the empirical evidence to the contrary. This leaves them precariously close to the traditional Marxist notion that unemployment and material immizeration will eventually goad the proletariat into revolution.

To be an effective instrument of social analysis and change, neo-Marxism must give up this emphasis on guantitative aggregates. It must be recognized that the capitalist engine is not going to throttle itself in a crisis of under- production and underutilization of capacity.

> We do not predict that there will be any automatic breakdovm of capitalism, but rather assert that it will end through revolutionary struggles (as deter- mined in part by the economic conditions)....
>
> If capitalism were static and purely competitive . . . , then maybe there would be a long-run trend to under- consumption, worse and worse depression, and/or even- tual stagnation. [However, t]here is no observable trend to worse depressions since the 1930s. . . ,[156] [157]

Rather, the crisis is to be based upon qualitative founda- tions. It must be based upon a growing awareness of waste

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[156] Peruse, for example, the new journals, Review of Radical Political Economics and Upstart as well as the com- prehensive book by Sherman, Radical Political Economy.

Sherman, Radical Political Economy, pp. 94-95.

and irrationality which causes a lack of faith in the institutions of society and a displacement of those who man these institutions.

There are two important subsidiary implications of the above: the allocation problem must again become the paramount economic problem and the supersession of the market mechanism must be admitted. The neo-Marxist concern with the degree of waste in monopoly capitalism attests to the importance of the allocation question. So also does the increased degree of choice due to the widening range between output and necessary consumption.

However, in Marxist economics since its birth and in mainstream economics since the Keynesian Revolution, the majör concern of political economy has been the level of aggregate employment and output, not the composition of such. However, current techniques in this field seem more or less adequate for the task. That is, the technical ca- pabiiity exists through a bevy of monetary/fiscal mechanisms to maintain a chosen level of output. What is retarded is the techniques for choosing that level 2nd .its composition.[2 4]

Moreover, even to the extent that cne techniques of demand policy fail versus their dilemma of "stagflation" and resort is made to wage/price policy, the problem is alloca- tive in nature. For in the process of employing wage/price

Harry G. Johnson, "Fconomics and Everyday Life" (lecture delivered at the annual banauet of Omicron Delta Epsilon, Oklahoma Alpha Chapter, Norman, Oklahoma, April 21,

1972). "

Controls to secure acceptable aggregate results, the bas i s for any argument as to allocation via the invisible hand is destroyed. That is, if public policy is to assume the role of determining the degree of flexibility of prices, it must also assume responsibility for the allocation decisions such flexibility is supposed to determine.

This latter point makes it imperative that social analysis begin with the question of power rather than market/ price relations as do Baran and Sweezy. It must be recog- nized that monopoly capitalism is not so unplanned as its predecessor. That guite to the contrary, there exists c;ica- sive planning.[25] However much one wishes to distinguish democratic socialist planning from elitist or technostructural planning, denving the existence of the latter is an inapprc-- priate tactic.

The fact of planning is clearly true in relatıon fethe quantitative level of output. There is no doubt that the broad outlines of Galbraith's "management of specific demar.d[1]' and "regulation of aggregate demand" are a reality.[26] Eur- ther, the data of the current study show a narrowing of the gaps between the peaks of expansion and the troughs of

25 Aside from the works of Galbraıth and Papandreou referred to often above, two books by Michael Farrington make this point beautifully. See The Accidental Century (Baltimore: Penguin Books, Inc., 1966) and Toward a Democratic Left (Baltimore: Penguin Books, Inc., 1968).

26 Galbraith, The New Industrial State, especially Chapters XVIII to XX.

contraction and deny any marked guantitatively stagnationist tendencies.

The gist of the argument is that the market system should no longer be viewed as an impersonal allocator of resources. Rather, the market should be viewed as an instrument of planning.

> . . . Technically, but only technically, the market mechanism stili allocates resources to uses. [The underlying reality] can be understood best by reference to an example of a planned economy — where the planning authority relies on the market mechanism to allocate resources, but where, also, it substitutes its own preferences for those of the consumer. . . . Suppose now that insteaa of a public planning authority we are dealing with a huge Corporation in private hands that owns (directly or indirectly) ali productive units in the economy. Such a super-monopolist has no less povzer [than would the planning authority]....
>
> With this interpretat-ion, Galbraith's argument — that in the modern industrial State planning is superseaing the market — has an important and revealing meaning. . . .
>
> What is remarkable is that this valuable insight into the workings of contemporary capitalism is shared by so few.[27]

The impo'-t to which Papandreou alludes is simply that planning is a fact of life. The guality of modern society, be it nominally socialist or capitalist, hinges not on planning versus nonplanning, but on who plans, on what is planned, and on how the who plans the what. Galbraith sees the planning as technocratic and Papandreou as paternalistic. In both cases planning is elitist, and in both cases, many fac- tors of numan welfare are being omitted from the planning matrix.

Papandreou, Paternalistic Capitalism, pp. 78-80.

Thus# the problem reduces to one of control. Since power is inherently personal,[158] the question may be asked in terms of who Controls the market and the other instruments of planning, and what institutionalized process holds them accountable for using their power toward appropriate ends.

This is an allocation problem as well as a political problem. Since allocation is no longer primarily effected via the market, much of what passes in economics as the theory of allocation is irrelevant. A share of the income/control equation becomes irrelevant in this fashion. The one-to-one correspondence between income and market votes need not apply in the relation between income and political votes. Therefore, neo-Marxism must investigate the possibility that the techno- crat rather than Moneybags is dominant in the makeup of the dominant class.

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158 A. A. Berle, Power (New York: Harcourt Brace and World, 1967), especially, pp. 59-83.

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