

INCOME AND EMPLOYMENT

By

THEODORE MORGAN

*Instructor in Economics
Harvard University*

NEW YORK
PRENTICE-HALL, INC.

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To
MARK

PREFACE

This book is an essay in aggregative economics, with theory tied close to data of the United States. The subject matter falls naturally into three divisions: the measurement of income, production, employment, and average prices; the trend and determinants of production and productivity; and influences on and policies toward the level of employment.

I am grateful for effective criticism and encouragement from Professors W. L. Crum, John T. Dunlop, Gottfried Haberler, George N. Halm, Alvin H. Hansen, Wassily Leontief, Joseph A. Schumpeter, and Sumner H. Slichter. Each of them has on occasion given his time and attention to special problems as they arose. I am also indebted to Dr. Andreas Papandreou for useful discussions. Chapter XIII has been improved by the criticisms of Mr. John Greene and Dr. David Easton. Mr. Harlan Smith read the whole manuscript with scrupulous care; many a page has benefited from his comments. Dr. George Jászi and Professor A. G. Hart also read the entire manuscript, and influenced its development. I am deeply indebted to Professor Hart, who went over it at two stages. The final draft gives evidence of his thought and stimulus in both content and style. Professor H. H. Burbank has my sincere thanks for useful suggestions and for an arrangement of my teaching schedule which gave me time to work on the book when I most needed it. Finally, I am indebted to my brother Donald for having turned my thoughts toward the general field in which this book lies.

T. M.

CAMBRIDGE, MASS.
JUNE 9, 1947

TABLE OF CONTENTS

THE PLAN OF THE BOOK.....	1
I. THE NATIONAL INCOME.....	3
Certain exclusions from the national product..	4
Disposable income of individuals.....	5
The measure of net national production at factor prices: the national income.....	6
Net national income (or product) at market prices	9
Gross national income (or product) at market prices.....	9
Depreciation.....	11
The uses of national-income concepts.....	13
The gross national product.....	14
The net measures of income and production...	15
The earning and spending of income.....	16
The earning and spending of income, neglecting the place of government.....	16
The earning and spending of income—taking account of government.....	18
II. FLUCTUATIONS IN THE REAL NATIONAL INCOME: THE PROBLEM OF INDEX NUMBERS.....	22
Construction of an index of output.....	25
Construction of an index of prices.....	27
Criticism of the Consumers' Price Index.....	29
III. PRODUCTION AND EMPLOYMENT.....	31
The fluctuations of production and employment	31
Wartime output and peacetime output.....	33
The upward trend of the long run.....	34
Causes of variations in total production.....	35
Biased explanations of increased production...	37
Production, per capita and per worker.....	38
The productivity of labor.....	41
The prospects for increased productivity in peacetime.....	45
The optimum rate of technical progress.....	47

IV.	PRODUCTION AND PRICES.....	49
	Wholesale and retail prices.....	49
	Production and prices—description.....	51
	How we should expect prices to behave as produc- tion changes.....	51
	An increase of demand when much unemploy- ment exists.....	52
	An increase of demand when there is moderate unemployment.....	53
	An increase of demand when there is already full employment.....	54
	Graphic representation of the relation between total production and prices.....	55
	The effect of a drop in total demand.....	56
	Production and prices in the long run.....	57
V.	THE MAIN CONSTITUENTS OF TOTAL PRODUCTION.....	58
	The long run trend for major industries.....	58
	Interrelationships of industries in 1939—Leontief's input-output table.....	60
	Short run changes in output of particular indus- tries.....	62
	Elasticity of supply.....	63
	Long run elasticity of supply.....	64
	War experience—expansion of output in par- ticular industries.....	65
	Changes in demand.....	66
VI.	THE COST OF UNEMPLOYMENT AND THE AIM OF FULL EMPLOYMENT.....	68
	The cost of unemployment.....	68
	The meaning of full employment.....	72
	When is a person unemployed?.....	73
	The total working force.....	75
	Employment estimates and unused productive capacity.....	76
	Kinds of unemployment.....	77
	Acceptable full employment.....	78
VII.	WHAT CAUSES CHANGES IN EMPLOYMENT?.....	82
	Total expenditure.....	82
	The level of prices.....	84
	The mobility of labor and the location of industry.....	84

VIII.	CONSUMPTION EXPENDITURE.....	85
	Consumption expenditure by income groups.....	87
	Particular channels of consumption expenditure.....	87
	Total consumption by income groups.....	90
	The relation of consumption to income—the consumption function.....	90
	The behavior of the total consumption function..	91
	The consumption-income pattern when national income shifts from one sustained level to another.....	91
	The consumption-income pattern—a lag of consumption changes behind income changes?	95
	The secular consumption-income pattern—the relation of consumption to income over the course of decades.....	96
	Other influences on consumption.....	97
	Secular “underconsumption”?.....	100
IX.	INVESTMENT EXPENDITURE.....	101
	Kinds of investment (or capital formation).....	101
	The incentive to invest—the marginal efficiency of capital and the rate of interest.....	102
	Influences on the marginal efficiency of capital.....	104
	The rate of interest.....	109
	How important is the rate of interest?.....	110
	Investment in the interwar years.....	111
	“Long waves” in prices—the Kondratieff cycle..	116
	The onset of the Great Depression of the 1930's..	118
	A more detailed explanation of booms and depressions.....	121
	Fluctuations within a range of relatively high and relatively low employment.....	124
	The cumulative process.....	125
	The leverage effect of changes in spending.....	126
	The multiplier effect.....	127
	The time required for multiplier effects.....	128
	The total of leakages.....	128
	The multiplier effect of a continued injection of new expenditures.....	129
	The stability of the multiplier.....	131
	The acceleration effect.....	132
	Types of acceleration effects.....	133
	The stability of the acceleration effect.....	134
	Conclusion.....	135

X.	GOVERNMENT EXPENDITURE	136
	The earning and spending of income	136
	The trend of expenditures for goods and services, 1909-1946	139
	How the United States met the problem of unem- ployment, 1930-1940	141
XI.	SOME DOUBTFUL ANALYSES AND PROPOSALS	147
	Special views on the cause of unemployment	147
	Say's law	147
	The argument that general unemployment is caused by rigid wages	149
	Do savings inevitably cause unemployment?	153
	Proposed remedies for unemployment	154
	Stamped money	154
	A social dividend	156
	Hundred per cent reserves	158
XII.	THE EMPLOYMENT PROSPECT FOR 1950	161
	Our capacity to produce in 1950	161
	Purchasing power in 1950	164
	Secular stagnation?	166
XIII.	BASIC PROBLEMS OF EMPLOYMENT	169
	A summary	169
	Democratic freedoms and full employment	171
	Freedoms and free enterprise	172
	Employment policy and the division between free enterprise and public enterprise	173
	The social values of free enterprise	174
	Huge scale business, monopoly, and free enter- prise	177
	The formation of policy	180
	Special policy considerations	181
XIV.	THE ENCOURAGEMENT OF CONSUMPTION	185
	Secular and cyclical policy	191
XV.	THE ENCOURAGEMENT OF INVESTMENT	192
	The social atmosphere	192
	Taxes	194
	A note on equality	198
	Monetary policy	200
	Special measures	204
	International monetary and financial coopera- tion	206

Measures to combat monopolistic restriction of output.....	207
Secular and cyclical policy.....	209

XVI. FISCAL POLICY..... 211

Basic reasoning on government finance, and employment.....	213
Allocation of resources and government expenditures.....	215
Quantitative aspects of the budget.....	218
The assumption that private investment is unchanged.....	221
The national budget.....	223
Qualitative aspects of the budget.....	223
Secular and cyclical policy.....	230
The burden of public debt.....	231
Views on public debt.....	232
Opinions on the British debt.....	232
United States views on the public debt.....	233
The trend of public and private debt.....	234
The nature of the burden of public debt.....	235
The rate of increase of public debt.....	237
The burden of a large public debt.....	238
The effect of a large public debt on private investment.....	239
Policy toward a huge and increasing public debt.....	241

XVII. THE STABILITY OF PRICES AND WAGES..... 245

The harmfulness of inflation.....	247
Catastrophic inflation.....	248
The aim of short run stability of average prices..	249
Interrelationships of prices.....	251
The long run movement of average prices.....	253
Employment and the control of the price level...	254
Price control in wartime.....	256

XVIII. THE MOBILITY OF LABOR AND THE LOCATION OF INDUSTRY..... 259

The mobility of labor.....	260
Measures to increase labor mobility.....	262
The location of industry.....	265

CHARTS

1. Production and employment in the United States, 1909-1946.	32
2. Real gross national product per year, 1879-1938.	34
3. Real income per capita, 1799-1946.	38
4. Hours of average factory work required to earn income enough to buy certain articles.	39
5. Production per worker, 1913-1944.	41
6. Output per man-hour, all manufacturing, 1909-1939, and 24 selected nonmunitions manufacturing industries, 1929-1944.	42
7. Output per worker in agriculture, 1904-1944.	44
8. Production, retail prices, and wholesale prices in the United States, 1909-1946.	50
9. The price level, and the level of production and employment.	55
10. Estimates of the labor force, employment, and unemployment in the United States, 1929-1945.	69
11. Average outlay of nation's consumer units for major categories of disbursements at different income levels, 1935-1936.	88
12. Disposable income and net savings of individuals, 1921-1940.	92
13. Disposable income and consumer expenditures, 1921-1940.	93
14. Gross investment and its constituents.	112
15. The simple multiplier process.	129
16. The multiplier process following repeated injections of new expenditures.	130
17. Total income: its sources and its disposition.	137
18. Gross national product and its constituents, 1909-1946.	140
19. Money supply related to gross national product.	200
20. Interest on the Federal debt shown as a per cent of the national income.	236
21. Examples of variety in wholesale price behavior, 1926-1937, by months.	252
22. Wholesale prices, all commodities, 1749-1944.	255
23. Wholesale prices in World War I and World War II, all commodities.	257

TABLES

1. Percentage of working population in various industries..	58
2. Input-output relationships, 1939.....	61
3. Prices and outputs by industries, 1929-1932-1937.....	62
4. Average outlay of American families for consumption and savings, by income bracket.....	89
5. Federal budgets.....	219
6. The national budget.....	223
7. Price movements in basic products, 1936-1937-1938.....	253

THE PLAN OF THE BOOK

THE nineteenth century viewed depression as Mediaeval Europe viewed the plague—as an inevitable accompaniment of this life, to be borne with resignation. It is unlikely that we shall in the future retain the tolerance toward depression we showed in the past century. There are a number of reasons. Our common sense rejects that some men should rust in idleness while they and others lack goods. We have been impressed by how completely we have employed our labor force during wartime and by how well we have produced as principal supply center of the United Nations. We have seen fascist states and Soviet Russia obtaining full employment of their resources, although their productivity has been lower than our own and their people have yielded up kinds of freedom we prize. Our own political parties have of course generously accepted praise or dispensed blame for boom and collapse; and so disposed us to look upon depression as controllable. Finally, there are co-operating sentiments of personal apprehension, humaneness, and prudence at work—apprehension lest we should ourselves be impoverished and jobless, humane concern lest others be so, and prudent fear lest social decay and hate rot away the foundations of our society.

The question is not whether we are to seek effective action against depression. The only question is whether we are going to have policies set into effect *after* a crisis is upon us, so that the action will be hastily planned and hastily put into action—and so relatively ineffective—or whether we are going to have a program and facilities set up ahead of time to avert or meet the day of need. Recent advances in technical economics justify a tempered optimism: We can do the job if we set about it.

The chief purpose of this book is to present plainly, but with all important qualifications, the problems and policy alternatives faced by the United States economy in maintaining productive and high employment. Chapters VI to XVI deal primarily with the maintenance of employment.

High employment is an aim in itself because of the morale and educational values of work; but it is not the basic aim of the economic system. The basic aim is the highest production reasonably possible of those goods and services which best satisfy human wants; and high employment is best looked on as a means to, and a by-product of, this high production. Hence we are concerned throughout the book with production and productivity. As soon as we speak of production in the whole economy (or of income which is its money equivalent) we face the problem of measurement, which is the subject of Chapters I and II. The following chapters, III to V, discuss special aspects of total production—changes in total production and in productivity, production and price levels, and the behavior of certain main constituents of total production.

We start out, therefore, with the measurement of production and income; continue with a survey of changes in production and productivity; and spend the last part and bulk of the book on the problem of maintaining effective high employment.

CHAPTER ONE

THE NATIONAL INCOME

THE purpose of production is the fulfillment of human wants. Our wants for food, clothing, shelter, amusement, medical attention—for everything that ministers to us from birth to death—are met, more or less adequately, by the goods and services produced in the economy.

It would be possible to measure the national product by making a detailed list of the great variety of things produced: bathtubs, toy whistles, nitric acid, beauty "facials," spark plugs, research studies, beefsteaks, and so forth; but this procedure would be most awkward. Our tabulation would require many volumes, and even so would give no plain and compact impression to those desiring a general notion of how well our economy was functioning. It might be possible, instead, to measure much of the national output by weight (pounds, tons) or by volume (cubic feet or cubic yards). But such measures would badly represent the significance for human consumption of such goods as diamonds and gravel, mercury and milk, electric motors and cotton textiles; and they would be unable to measure services, that is, labor time, devoted to fulfilling human wants.

The most useful common measure of the vast pile of goods and services that makes up the national output in any period of time, say a year, is the *money value* of those goods and services. We can define the national product of a given year as the money value of economic goods and services produced in that year—that is, the money value of all products of business and government activity—of extraction (as in mining, forestry, fishing, and agriculture), manufacturing, transportation, trade, and direct services to consumers. We may sometimes feel that money value is an inadequate measure of how well goods and services satisfy the wants of the society, but it is much the best of the measures which we might use.

The national product can be calculated for any time period we find convenient—for a month, a quarter year, or, most commonly, for a year.

Certain exclusions from the national product

We cannot in our estimate of the national output include all satisfaction-giving activities of the residents of a country. The attempt to do so would mean attempting to measure the worthwhileness of life as a whole, rather than of its economic aspects only. And as we tried to value activities and products that are never bought or sold, such an attempt would also involve us in extremely doubtful estimates. How much is the satisfaction worth which we obtain from an afternoon of fishing or of tinkering with the car? How much are the services of the housewife worth to her family? How much is our work worth which we spend on the rose bed and in mowing the lawn? With very few exceptions,¹ then, estimates of the national output include only goods and services which appear for sale on the market. Services rendered within the family and many other satisfaction-giving activities are excluded.

But not all activities carried on for economic gain are included in the national output. We shall need to exclude certain activities which can be pretty clearly agreed on as unproductive: theft, bootlegging, smuggling, racketeering, drug peddling, gambling, and the like. Gifts and philanthropic contributions of all sorts will be excluded, since the recipients of gifts have presumably not made any contribution to the national output in exchange for them. Such contributions are simply transfers from one income recipient to another.

How shall we consider *capital gains*—that is, gains from selling property at a higher figure than one paid for it? One might buy a house for \$8000 and sell it for \$9000, or one might buy a share of stock for \$90 and sell it for \$105. The seller is, of course, better off (if the prices of things which he buys have not risen equally). But production of goods and services has not taken place: the society has no more houses or capital equipment at its disposal than before the transactions took place. Our figure for the national product is in-

¹ One major exception is the output produced by government and not sold: both services (the army and navy, research reports, police, harbor maintenance, flood control, and so forth), and goods (highways, bridges, products of government munitions plants, and so forth). There are certain other exceptions. Dr. Kuznets in his estimate includes only three other items which are not sold: goods retained by producers for their own consumption (such as the portion of their crops farmers consume at home); payments made in goods or services by enterprises to ultimate consumers; and the rental value of homes occupied by their owners (since this is a service supplied by the house). *National Income and Its Composition, 1919-1938*, Chap. I, New York: National Bureau of Economic Research, 1941.

tended to measure the productive activity of the economy. Hence, we exclude capital gains from our calculation.²

In summary, estimates of national output exclude "noneconomic" activities (especially the services of housewives), certain nonproductive activities, and certain elements outside the regular processes of production. Every statistician concerned with estimating national output must make decisions with respect to borderline cases. His decisions will hinge partly on his own or the prevailing social philosophy as to what is *productive* economic activity, and partly on the kinds and reliability of data available. Hence, a statistician's estimate will not be an objective statement of fact, such as a surveyor's estimate of the acreage of a plot of ground, but will rather be in the nature of an appraisal in which there is an appreciable subjective element. Nonetheless, there is usually fairly close agreement between different careful estimates; for example, between Kuznets' data for the United States and Department of Commerce data (whose concepts we are mainly following below).

It turns out that there are not one, but several measures of production and of income in a nation, each of them being useful for special purposes.

Disposable Income of Individuals

A natural starting point is to notice that in any period of time—three months, a year, or any other period for which we want to measure income—a certain quantity of *income payments* are made to individuals. Of these, roughly two thirds in an ordinary year consist of payments to employees for mental and manual work. The remainder is divided about equally between payments to the self-employed (farmers and business and professional men, whose incomes arise both from their work, and from the use of property); and payments made specifically for the use of property, in the form of interest, dividends, rents, and royalties.

The mental and manual work, the land, the equipment and buildings—even, in a sense, the money lent out—all these resources used in production are often called the *factors of production*; and payments made to the owners of these resources are *payments to the factors of production*.

² A different decision might be made for certain kinds of capital gains (arising from changes in consumer tastes and externally caused changes in conditions of production). But defining *production* to include these would mean introducing an uncertain and extraneous element into the measure of output. Cf. Kuznets, *op. cit.*, pp. 12-15.

Some of the income payments to individuals must be paid out in income taxes and in other personal taxes and fees to the Federal, state, and local governments. The remainder is called the *disposable income of individuals*. Part of this disposable income is spent on consumption goods and services; what is left is said to be *saved*.

The division of income payments in 1939, which is increasingly being regarded as a typical prewar year, was as follows:

IN BILLIONS OF DOLLARS

Total income payments to individuals	70.8
<i>minus</i> personal income taxes, and other payments	3.1
<i>equals</i> disposable income of individuals	67.7
<i>minus</i> consumer expenditures	61.7
<i>equals</i> net savings of individuals	6.0

The Measure of Net National Production at Factor Prices: The National Income

The total of all incomes *created* by persons providing services and supplying resources used in production is called *the net national income*, or simply *the national income*. The government, as well as business, produces goods and services—police protection, research reports, labor conciliation services, protection by the army and navy, and so forth—and the payments the government makes to its employees and to persons from whom it buys other factor services, make up a part of the national income.

The total income payments to individuals which we have discussed, and *income created* (which is the national income) are two different things. To get from the first to the second we need to make four adjustments:

1. Some payments are made for which no productive service is rendered in return. These are called *transfer payments*. Suppose a taxpayer earns \$10,000 in the course of a year and that the government takes \$1000 in taxes from him to spend on veterans' allowances. This means that income payments of \$11,000 have now been received by this taxpayer and some veteran. But only \$10,000 of income has been created through the service rendered to the productive process by the taxpayer in question or by his property. To get from income payments to income created, we must, therefore, subtract the amount of transfer payments. Among such payments are not only veterans' allowances, but also pensions, relief, and social-insurance payments.

2. An adjustment must also be made for contributions to social-

insurance funds, which have been adding up to substantial amounts in recent years. These contributions are deductions from income created in the productive process, before income payments are made. Hence, they must be added in as we move from income payments to income created.

3. Part of the income created in the economy is siphoned off by the Federal and state governments as income and excess profits taxes on corporations, and so does not immediately become income payments.

4. Finally, corporations will retain any remainder of income created by, but not passed on to, suppliers of factor services, as *corporate net savings*.³

For 1939, the adjustments which must be made to income payments to individuals in order to obtain the national income are as follows:

IN BILLIONS OF DOLLARS

Income payments to individuals.....		70.8
<i>minus</i> transfer payments.....		2.4
<i>plus</i> contributions to social insurance funds.....		2.0
<i>plus</i> corporate income and excess profits taxes.....		1.5
<i>plus</i> corporate net savings.....		.4
<i>equals</i> the net national income ⁴		72.3

We have defined the net national income as the total of incomes created by persons supplying services or resources used in production. But income arises in production only when production is carried on. For every dollar's worth of income paid to or accruing to someone, a dollar's worth of goods or services is produced. A gap cannot exist between value of product and incomes created.⁵ And so when we have calculated the net national income, we have in the same process calculated the value of net production in the economy, measured at the prices paid to the resources or factors used in production. The national income is, therefore, two things: (1) the

³The savings of partnerships and proprietary businesses are considered to be made out of income payments to the individual proprietors. Likewise, the income taxes paid by proprietors are considered like income taxes on other private individuals, a deduction to be made out of income payments to individuals.

⁴The concept of net national income used by the Department of Commerce prior to 1947 excluded corporate income and profits taxes, putting them together with *indirect business taxes* (page 9). The 1947 revision follows the procedure given above.

⁵This analysis does not imply that people necessarily receive what they deserve. Some may be underpaid, some overpaid. It simply is an accounting relationship: all income created in production is due out to those who have claims on productive enterprises.

total of payments made to or accruing to the factors of production, and (2) the measure of net production at factor cost.

The sense in which we speak of the national income as measuring *net production at factor cost* will become clearer as we discuss below two other measures of income and production. But the central notion behind *net* is an everyday sort of concept. When we speak of a man's income being \$3000 a year, we mean that he could spend that amount during the year, and still be as well off at the end as he had been at the beginning. His income is the maximum he can spend on his consumption needs without dipping into his capital (that is, without drawing down his savings account or selling some of his stocks or bonds, or selling other property or letting it run down).

Just so for the whole economy. The net production of the whole economy in a year is the flow of goods and services which can be drawn off and consumed without leaving the economy any less productive than it had been (that is, without decreasing, on the whole, the quantity of factory buildings, machinery, goods in process, and so forth, which will be used to produce output during the next year).

If we were calculating this net production by taking a census of the output of the economy, evidently we should need to make a deduction from the total output of all enterprises to allow for the goods which are used up in the course of producing other goods. Most businesses will use up in the course of production some of the output of other businesses. An electric power plant, for example, will use up coal and other raw materials in the process of generating electricity. If we add into our figure for national product both the value of the electricity produced and the value of the coal used up (which is the output of a coal-mining business somewhere in the economy), we shall be counting the value of the coal twice, and so emerge from our figuring with a mistakenly high estimate of national output.

The solution is to count in national product only the net *value added* by each business. In other words, from the value of output of each business (measured at factor prices, and after an allowance for depreciation of plant and equipment is taken out), we must subtract the value of the supplies purchased from other concerns and used up in production. But the difference between net value of output of any one business and the value of its purchases from other businesses makes up the funds available for income payments to individuals having claims on the firm, plus social-security taxes,

corporate-income, and excess-profits taxes, and corporate savings⁶—in other words, the main components, as we have already seen, of the net national income. If we sum up this net *value added* for all businesses of the economy, and add in the payments made by government to the factors which it employs (page 6), then we have exactly what we have already called the net national income. This is an alternative way of arriving at the concept of national income.⁷

Net National Income (or Product) at Market Prices

The goods produced in the economy come on the market for sale.⁸ But they are sold at prices which exceed the incomes paid to or accruing to the resources used in production. The difference is due to the indirect taxes (sales, excise, property, and others) imposed by government.

Suppose that the employees, individual suppliers of raw materials, and owners of a business had paid or had accruing to them in return for their services \$100,000 at the end of a year. This is the output of the business valued at the prices paid to the factors. But if the government levies a tax of \$15,000 on the commodities produced, it is for \$115,000 that the goods sell in the market. The output of the business valued at market prices is \$115,000. If we add up market valuations of production over the whole economy, we have *net national income (or product) at market prices*. For 1939, the figures are:

IN BILLIONS OF DOLLARS

Net national income (or product) at factor costs.....	72.3
<i>plus</i> indirect taxes.....	8.9
<i>equals</i> Net national income (or product) at market prices..	81.2

Gross National Income (or Product) at Market Prices

For certain purposes it is desirable to have a measure of *gross* income or product in the economy, in contrast with the net measures we have used up to now.

1. Suppose we add up the *sales* of all business enterprises, adding in any increases in inventories, since these also represent a part of the production of business. From this total we will make no de-

⁶The income taxes of unincorporated business and the savings of unincorporated business are included within income payments to individuals.

⁷With only slight changes, this reasoning would hold for the gross measures of income we discuss below.

⁸With some exceptions (page 4).

duction for depreciation of plant and equipment or for other reserves. But as before we will avoid the double counting involved, for example, in counting the coal consumed in an electric power plant in addition to the electricity produced, by deducting for purchases from other businesses in the economy. Our resulting figure gives us income from sales (plus inventory changes) for all businesses in the economy. It is a *consolidated income statement*, and is identical with the total we should get if we combined all businesses in the economy into one, and had that one present an income statement for its total sales, adjusted for inventory changes. We can think of our figure as a measure of the gross sales or income of private businesses or as a measure of the gross expenditure for the production of private businesses or, finally, as a measure of the gross production of private businesses.

2. But production is also carried on by government agencies. They produce, we know, goods such as munitions of war, and services like harbor maintenance and sewage disposal. Part of the expenditure of government will be for the output of private businesses, and so is already counted in above. The remainder of its expenditure for output consists of payments to employees of the government and to other individual suppliers of resources to it—that is, to the factors of production directly hired by government. We can think of it as the cost value of government production.

When we add together gross business sales and the cost value of government production, we have a total which is called *gross national expenditure* or *product* or *income*.

What relationship has this gross national product or income at market prices, to the net national product or income at market prices which we arrived at above? They are evidently alike in that both are measured at the prices paid for commodities on the market (rather than at the prices paid to factors). They are also alike in that both include all the income created by the services of the factors of production.

The difference lies in the depreciation and other reserves set up by businesses.⁹ These reserves are covered by sales of businesses, but still are not included in the constituents of net national product at market prices: indirect taxes and the income created by the factors of production. Hence, they must be added to net national income at market prices in order to get gross national income at market prices as we have defined it. In 1939, the relationship was:

⁹ There are, in addition, certain minor adjustments.

IN BILLIONS OF DOLLARS

Net national income (or product) at market prices	81.2
<i>plus</i> depreciation and other reserves and adjustments	7.5
<i>equals</i> gross national income (or product) at market prices	88.6

Depreciation

Among the reserves we have mentioned, depreciation is much the most important. During any period in which production is going on, the buildings and equipment of businesses are gradually wearing out, rusting, or becoming obsolete. A country is not free to use up all its (gross) production except at the cost of growing steadily poorer in capital equipment: hence, at the cost of steadily lessening effectiveness in employing its labor force and natural resources. The same argument holds for each of the individual businesses, which all together produce the output of the economy. Each must make good the loss in value of its equipment and resources that results from production, else it will eventually find its plant and equipment worn out and obsolete. On the money side, this means that if businesses dispose of all the proceeds of sales by paying the funds out in taxes and in incomes to the factors of production, the capital facilities of the business will eventually be found to have become worthless, with no funds available for replacing the lost value.

Businesses must, therefore, set aside depreciation reserves and certain other reserves for occasional, uncertain expenses, such as bad debts. The reasoning is plain, but the calculations of the correct amount of depreciation reserve to set aside turns out to be a very difficult matter.

Evidently, *capital losses* ought not to be considered a part of depreciation. Catastrophes of various sorts—fire, earthquake, bombing in wartime, riots, and the like—cause destruction of the capital equipment of a country. Shifts in consumer demand may make some capital equipment valueless or reduce its value. Some of these events occur fairly regularly in the experience of thousands of businesses, and can be insured against. Sure insurable losses are then a normal experience in production, and will enter our accounts as part of the costs of production. But the remainder of these events is not part of the regular and organized processes of production. Just as we have above (page 4) excluded from counting in the national product capital gains (which arise from events

external to the ordinary productive activity of the economy), so ought we similarly to exclude capital losses from being counted as depreciation. But firms will need to accumulate reserves against such uncertain events, and these reserves will reduce the net funds actually available for payment of taxes and for distribution as incomes.

How much depreciation reserves proper ought a firm, for its own purposes, to set aside? The problem in its simplest form is that of accumulating funds just sufficient to replace capital equipment at the end of its useful life. If the farmer's tractor is expected to last 10 years, we could argue that he ought to set aside approximately $\frac{1}{10}$ of its purchase price every year. But the estimate of the useful life of the tractor might be wrong: it might have worn out at the end of eight years, or after 12. Nor is the *physical* life of the tractor alone a matter of doubt. The tractor may be *economically* obsolete long before it is worn out. If new and efficient machines become available, the farmer may decide to replace his tractor with a new type at the end of five years. And the turn-in value of his old tractor will have dropped sharply when better models appeared on the market. Furthermore, is the new efficient tractor to be valued, in view of its greater contribution to production, at $1\frac{1}{4}$ or $1\frac{1}{2}$ or some other multiple of the older type?

Even if the type of capital equipment has not changed (so that we need not worry over the problems of obsolescence and the essentially unsolvable problem of comparing quantities of unlike equipment), there is still the possibility that prices of new capital facilities might go up or go down. The firm would then find it had accumulated too little or too much reserve to make good depreciation.

Hence, the decisions by businesses as to the correct amount of depreciation and other reserves to put by involves a high degree of judgment, and of guessing about the future. Conservative accounting policy allows rather generously for depreciation and capital loss. Businessmen sometimes set aside larger reserves still in order to increase the assets of the business. On the other hand, in depressions businessmen may often pay out more than current net earnings (that is, eat into reserves), especially in order to prevent control of the business from passing into the hands of others.

There are always the unforeseeable, or partly unforeseeable, causes of capital loss which we have noted above. It appears, on the whole, that the value of capital facilities would probably

shrink¹⁰ if businesses did not have savings to draw on, in addition to their depreciation and other reserves (particularly when prices are rising, and hence the cost of replacing capital equipment is also rising).

The depreciation and other reserves which appear in national-income data are not necessarily those which a firm would decide was best for its own purposes. The government assesses taxes on the incomes of corporations, and what the income of a corporation is depends in part on how much reserves it had put aside out of its earnings. Hence, the government cannot permit firms to decide, for the purpose of minimizing taxes, how much reserves to set aside. The rules for the calculation of these reserves are laid down in the tax laws of Congress, as these laws are interpreted by the Bureau of Internal Revenue and by the courts.

During World War II, the allowance for these reserves rose much higher than before because of the larger volume of plant and equipment subject to depreciation, the rule that defense facilities could be considered valueless after five years, and the higher level of mining output (which meant that higher reserves against the depletion of the mineral resources were justified).

It is, then, the legally permitted reserves which appear in national-income statistics, as in the 1939 data given above. But whether or not the total of these legally permitted reserves might seem, from an economic point of view, to be too high or too low, they still must all together make up the gap between net national income at market prices and gross national income at market prices. The reserves are set aside out of total sales of businesses, and are not included in any of the components of net national income at market prices.

The Uses of National-Income Concepts

We have emerged from our inquiry with three measures of production, income, or expenditure (we can use the terms interchangeably): (1) gross national product or expenditure at market prices, (2) net national product or income at market prices, and (3) net national product or income at factor prices. Finally, we have (4) disposable income of individuals, which is not a measure of production.

¹⁰ Cf. Fabricant, Solomon, *Capital Consumption and Adjustment*, New York: National Bureau of Economic Research, 1938, and Villard, H. H., *Deficit Spending and the National Income*, Chap. 2, New York: Farrar & Rinehart, 1941.

If we are concerned only with percentage changes, it often does not matter greatly which of these measures we use, since they are usually highly correlated with each other. But if we are concerned with amounts, or amounts of change, then it is important to distinguish among them.

The gross national product

1. The gross national product has three special uses.

(a) For short-term studies of perhaps a decade or less, gross national product is a useful, perhaps the most useful, measure of a country's production. In such a short period, the total of *all* goods and services produced may carry the most significance. The fact that some of this gross output must eventually go to make good depreciation can be partly or entirely neglected. Our buildings and equipment must be replaced eventually, but not necessarily now.

(b) The gross-national-product concept of the Department of Commerce, which we have followed, measures the revenues from sales of all businesses taken together (with adjustments for inventory changes) plus the cost value of government production. Hence it is also a measure of gross or total expenditure by all spending agencies for produced goods and services: by all consumers, businesses (which buy plant, equipment, and inventories), and government bodies. An especial usefulness arises through including in our measure of national product these gross expenditures of business and the total expenditures of government. (Both of these can be figured on a smaller or net basis;¹¹ and they are both so taken in the net-product-at-factor-prices concept.) It is useful to take them "gross" if we feel—as we do—that they are, so figured, strategically important variables for explaining short term changes in the economy. The gross-national-product concept arises inherently out of the view that these are variables of crucial importance.¹²

(c) We possess no acceptable measure of the total of all transactions in which money figures in the economy—the total of all payments, gifts, and loans—although we know this total is several times larger than the value of the gross national product. Nevertheless

¹¹ The expenditures of businesses for plant, equipment, and inventories can be taken net (after an allowance for depreciation and depletion is subtracted) rather than gross (p. 17); and the expenditures of both businesses and government can be figured at the factor costs of goods and services purchased rather than at market prices.

¹² This reasoning follows that of Dr. Simon Kuznets, *National Product in Wartime*, New York, National Bureau of Economic Research, 1945, pp. 27-31; and *National Income, A Summary of Findings*, New York, National Bureau of Economic Research, pp. 117-121.

a series for all transactions, with which to compare the flow of money in the economy, would be very useful. The gross national product is the most significant stopping point between net national income and total transactions, and, in reasoning about monetary matters, can often be used as a substitute for the latter.

The net measures of income and production

The net income or product at market prices and the net income or product at factor prices both take into account the obvious fact that plant and equipment are wearing out as production proceeds. Therefore both concepts fit the basic meaning of income in an economy as the maximum that can be used up out of production without the economy's becoming poorer in productive capacity.

2. Net income or product at market prices values production at the prices confronting the buyer in the market place, and so best represents the changing situation of buyers of goods. It is, therefore, the best measure of production to use in questions concerned with the trend of economic welfare.¹³

But net national income at market prices includes within it *indirect taxes*. And whether the government gets its revenues from indirect taxes or from other sources bears little relation to the part government takes in production. More exactly, indirect taxes bear little relation to the value of government services facilitating production by private businesses, as compared with the value of direct production by government of final goods and services.¹⁴

3. Therefore, for matters concerned with the productivity of resources of the economy, net national income at factor prices is the preferable tool. For example, if we want to see what possibilities exist for shifting resources from one use to another, or to measure the contribution of different industries, or to consider the problem of inequality of income, we shall be concerned with aspects, or components, of the net national income at factor prices (or simply, the national income).¹⁵

4. We still have to consider one measure, not indeed of production, but of income. This is disposable income of individuals. It is the money income (with minor qualifications) that individuals

¹³ However, nothing is said in this measure, taken by itself, of the proportions of different kinds of goods and services available, nor of the distribution of purchasing power. And, as we have seen, "noneconomic" kinds of production are excluded from measurement.

¹⁴ See pages 18-19.

¹⁵ Cf. Hicks, J. R., "The Valuation of Social Income." *Economica*, 1940.

actually receive; and so is the most significant total to use when we want to carry through a psychological inquiry relating the incomes of individuals to their consumption expenditures and their savings.

The Earning and Spending of Income

Several useful relationships are implicit in our national-income measures. The presence of government expenditures and taxes in the economy introduces a complication, but this we temporarily neglect.

The earning and spending of income, neglecting the place of government

Expenditures for the production of the economy can be divided into two classes: expenditures for goods and services which are *not* used in any further production, and expenditures for goods which *are* used in future production. The former we call *consumption* goods and services (food, clothing, haircut, recreation equipment, and the like). The latter are called *investment*, or *capital*, goods.

The only purpose of investment goods is to aid in the eventual production of consumption goods and services.

1. The largest proportion among investment goods is *fixed capital*, which consists of buildings and equipment of various sorts—drill presses, open-hearth furnaces, factory buildings, railroad engines and tracks, cement mixers, calculating machines, and so forth.

2. An addition to inventories (stocks of raw materials or goods in process or finished products) is like an addition to fixed capital in that labor and other resources have gone into the inventories, and in that eventually the inventories will become available in some form as consumption goods and services. In both cases, labor and other resources have been employed, without obtaining any immediate increase in the quantity of consumer goods and services available.

3. Net exports, which means value of exports minus value of imports, is similar to investment¹⁶ at home: we are using labor and other resources to build up a claim on foreigners, which claim can in the future be transformed into consumption goods and services. The debt that the foreigner owes us can be turned eventually, for

¹⁶ We use the word *investment* always to mean *real*, or *physical*, investment—that is, the purchase of the kinds of currently produced output mentioned above. It does not mean financial, or monetary, investment, which is the purchase of securities, or of goods whose production was completed during some past period.

example, into imported woolens and wines. In somewhat the same fashion, a miller's inventory of wheat becomes transformed into flour, and finally into bread; and the railroad's locomotives become transformed, over their life span, into ton-miles of transportation.

Since we have divided all of production into the two divisions of consumption and investment, all the incomes earned in production must arise from these same two sources: from consumption expenditure and investment expenditure.

Income equals Consumption plus Investment.

Income can be disposed of in two ways: it is spent on consumption goods and services (this is the consumption expenditure we have already listed above), or else it is not spent on consumption goods. We call that part of income which is not spent on consumption *savings*. Hence,

Income equals Consumption plus Savings.

Since the national income is equal both to consumption plus investment, and to consumption plus savings, it must be that savings always equals the value of investment:

Savings equals Investment.

If we consider as investment the total production of investment goods in the course of any period (say, a year), we have what is called *gross investment*. Suppose that from this gross figure we subtract those investment goods which serve to replace other investment goods that have completely depreciated—that is, become worn out or obsolete. The remainder is *net investment*, the net addition to the economy's supply of investment goods resulting from the production of the year.

Our above reasoning to the effect that savings always equals investment holds whether we are speaking in terms of gross investment and gross savings or in terms of net investment (gross investment minus investment goods that have become worn out and obsolete) and net savings (gross savings minus depreciation allowances).¹⁷

We can demonstrate this equality between savings and investment in a different way. We will speak in terms of net savings and net investment. Our savings over any period of time consist of

¹⁷ Gross or net investment, and gross or net savings, may have negative values as well as positive.

the value of the additions we have made to our property during that time. Property takes three forms: money, securities, and physical goods. But money is either a security (the note of a bank or of the government), or a physical good (gold, silver, copper). We are left with only two categories. Securities, in turn, are debts owed by one person or institution to another, and for every dollar's asset in the form of a security which someone holds, someone else owes a dollar. Hence, *within* the economy, securities cancel out to zero. But if there has been trade with foreigners, and on balance the people of the economy are owed more (less) by foreigners, this portion of the securities does not cancel out.¹⁸

We are left with physical goods and the excess of exports over imports. Our net savings have turned out to be (1) the value of the increase in the physical goods of the country—additions to plant and equipment, additions to inventories of goods, plus (2) any addition that may be made to claims on foreigners. But the sum of these two is what we have already called net investment.

The earning and spending of income— taking account of government

The simple equality between savings and investment, which we have derived above, is complicated by the existence of government taxation and government expenditure for output. We might, of course, class government taxes together with savings, since taxes are like savings, a part of income not spent on consumption. Similarly, we might add government expenditures to private (or nongovernment) consumption and investment expenditure, wherever they seem to fit best.¹⁹

There are two objections to this procedure:

1. Much of government expenditure cannot be classified under any single one of the possible headings:

(a) expenditure for the direct production of consumption goods and services;

(b) expenditure for services rendered to private businesses, thereby facilitating their production of consumption goods and services;

¹⁸ This reasoning follows in part that of Hicks, J. R., *Value and Capital*, Oxford: Clarendon Press, 1939, p. 182.

¹⁹ However, we should need to exclude from net national product at factor prices a part of the expenditures of government for production, since a part is neither for consumption nor investment, but only serves to facilitate the production of output by private businesses.

(c) expenditure for the direct production of investment goods; and

(d) expenditure for services rendered to private businesses, thereby facilitating their production of investment goods.

If we were compelled to value total output at market prices as either consumption or investment, we should logically want to add in (a) and (b) with private consumption, and (c) and (d) with private investment.

But we meet major difficulties when we try to make such a classification. We will not have much trouble with classifying public expenditure on park service, band concerts, and museum guards. This is pretty clearly consumption. And it will be reasonable to classify expenditure on government buildings as investment. Department of Agriculture research reports are a service facilitating the production of (mainly) consumption goods and services by business. There are other fairly clear cases. But the bulk of government expenditure for output does not fit comfortably under any one heading. The services of night policemen on their beats are partly a protection to consumers, and partly a protection to stores and factories (that is, a service facilitating production). The administration of justice, the maintenance of the army and navy, the activities of the State Department, the support of education—these are also partly services to consumers, partly public investment, and partly services rendered to private businesses. Therefore, it appears prudent to avoid the unsolvable question of how to classify government expenditures, and instead to list them as a separate item in total expenditure for output.

2. Furthermore, the motives of consumers who buy consumption goods and services and the motives of business men who mainly do the investing are different from the motives that lead government bodies to make given expenditures. Similarly, taxes are a compulsory drain on incomes, and differ in this respect from the voluntary savings of individuals and businesses. The logic behind the decisions is different. And so for this reason also it seems best to list government expenditures and taxes separately.

If we take account of government separately, the sources of earned income become: private consumption expenditures, private investment expenditures, and government expenditures. The income so earned is disposed on: consumption expenditures, savings, and taxes. Properly defined, these include *all* the sources and *all* the channels of spending of income. There is no room for a gap anywhere.

Since

$$\begin{array}{l} \text{Consumption} \\ \text{plus savings} \\ \text{plus taxes} \end{array} \quad \text{equals} \quad \begin{array}{l} \text{Consumption} \\ \text{plus investment} \\ \text{plus government expenditure,} \end{array}$$

and since the consumption on both sides of the equation is identically equal:

$$\begin{array}{l} \text{Savings} \\ \text{plus taxes} \end{array} \quad \text{equals} \quad \begin{array}{l} \text{Investment} \\ \text{plus government expenditure,} \end{array}$$

this can be put into the form:

$$\begin{array}{l} \text{Savings} \\ \text{plus taxes} \end{array} \quad \text{equals} \quad \begin{array}{l} \text{Investment} \\ \text{plus government expenditures} \\ \text{minus taxes.} \end{array}$$

Whenever the expenditures of government run ahead of tax revenues, the government is to that extent running a deficit and must obtain the extra funds from borrowing. Since government expenditures *minus* taxes is the government deficit,²⁰ the last equation can be read:

$$\begin{array}{l} \text{Savings} \\ \text{plus taxes} \end{array} \quad \text{equals} \quad \begin{array}{l} \text{Investment} \\ \text{plus government deficit.} \end{array}$$

The earning and spending of income in 1939

The relationship between the earning and spending of income can be illustrated from United States statistics. The data below are for 1939, and are given in gross terms.²¹

DISPOSITION OF INCOME		SOURCES OF INCOME	
(In Billions of Dollars)			
Consumption expenditures	61.7	Consumption expenditures	61.7
	6.4	Durable goods:	6.4
		(House furnishings and equipment, automobiles and accessories, home rent and upkeep)	
	32.6	Non-durable goods:	32.6
		(Food, beverages, tobacco, clothing, shoes, accessories, miscellaneous)	

²⁰ Under *government* is included not only the Federal government, but also the state and local governments. The deficit may, of course, be negative as well as positive—that is, there may be a surplus.

DISPOSITION OF INCOME, (Cont.)		SOURCES OF INCOME, (Cont.)	
(In Billions of Dollars)			
	22.7	Services:	22.7
		(Transportation, recreation, medical care)	
Gross Savings:	13.7	Private gross investment:	10.9
Net savings of individuals	6.0	Construction	3.6
Net savings of corporations	.4	Producers' durable equipment	5.5
Depreciation and other reserves, etc.	7.3	Inventory change	.9
		Net exports	1.0
		Government expenditures:	16.0
Taxes:	13.5	Federal, defense	1.4
Personal taxes, fees, etc.	3.1	Federal, nondefense	6.5
Corporate income and excess profits taxes	1.5	State and local	8.1
Indirect business taxes	8.9		
Adjustments:	-.3		
less transfer payments	2.4		
plus social-security contributions	2.0		
plus rounding error	.1		
	88.6	Gross National Product	88.6

This can be rearranged to show the relationship between savings, investment, and the deficit of government bodies:

IN BILLIONS OF DOLLARS			
Gross Savings	13.7	<i>equals</i> Gross Investment	10.9
		plus deficit	2.5
Adjustments:		Federal, state, and local expenditures	16.0
Transfer payments, social-security contributions, and rounding error	-.3	minus taxes	13.5
Adjusted gross savings	13.4	Gross investment plus deficit	13.4

² If we subtracted from gross savings and from gross investment in 1939 an allowance for depreciation and so forth (7.3 billion dollars), we would still have equality between adjusted *net* savings and net investment *minus* the deficit. Both sides would now equal 6.1 billion dollars.

Detailed items may not add up to subtotals because of rounding errors.

CHAPTER TWO

FLUCTUATIONS IN THE REAL NATIONAL INCOME: THE PROBLEM OF INDEX NUMBERS

THE national income (that is, net production valued at factor prices) rose greatly from 1939 to 1944. By data of the Department of Commerce, this rise was from 72.3 billion to 175 billion dollars, or to 242 per cent of the 1939 level. Variations in the national income have, of course, gone on continuously in the past. In 1932, output reached its low point of the great depression, 40.4 billion dollars; in 1929, it had been 84.7 billion dollars. In the short depression of 1921, the national income was 51.7, and in 1920 it had been 69.5 billion dollars.¹

The national output consists, we have seen, of a vast collection of goods and services whose quantity is measured by the convenient common measure of money. This is much the best measure obtainable of the mass of unlike goods and services produced in the economy, but it introduces problems when we compare, as above, the national output of one year with that of another. If prices generally in the United States in 1944 had been 242 per cent of their level in 1939, then the real, or physical, output of goods and services would not have changed appreciably between the two years. But if prices had remained the same, then real output (or income) would have more than doubled. The two cases differ drastically with respect to standard of living or production for war or other purposes.

The change in the figures for national income from year to year is, therefore, due in part to change in the quantities of goods and services produced (or, as we say, a difference in real, or physical, income), and in part to change in the prices of these goods and services. If we want to compare the real incomes (or outputs) of dif-

¹The available data exclude corporate income and excess-profits taxes from the national income for the years preceding 1929.

ferent years, we must try to eliminate the distortion introduced by changes in prices.²

Another kind of complication sometimes appears: the *kinds* of goods and services produced in one year may differ appreciably from the kinds produced in other years in which we are interested. The problem of comparing the real incomes of different years, therefore has three elements: (1) *the kinds of goods and services produced*, (2) *the outputs of individual goods and services*, and (3) *the prices of the goods and services*.

The problem would be easy if the same kinds of goods and services were produced in one year as in the other and if all outputs of individual goods and services had changed in the same proportion. If, for example, the output of every good had increased by 50 per cent, then no matter what various price changes had taken place, we would still say that the real national income had risen by 50 per cent.

The problem becomes somewhat less easy if the same kinds of goods and services are produced and if outputs are changing in different proportions, even though all prices change in the same proportion. If all prices had doubled, we could simply divide the value of output in the second year by 2 in order to have a figure for real output to compare with the output of the first year. We should need to remember, of course, that our figure simply represents an *average* tendency: that probably, whereas the outputs of some goods were increasing, outputs of others were remaining constant, and others still were decreasing. (Despite the vastly increased output during World War II, we will remember that we had in 1944 precious little gasoline for civilian use, no household refrigerators, no radios or washing machines.)

Simple conditions, which would make it possible to give an unqualified meaning to output comparisons, never in fact exist. The kinds of goods and services are always changing to a greater or lesser extent, and we are compelled to make a tacit or explicit decision as to how many Farmall tractors equal one M-4 tank. Or, if we are looking over a longer period, we must ask ourselves how many tallow candles equal one 40-watt electric bulb or how many surreys

² Ideally, we might calculate a measure of outputs by figuring what the output of two separate years would be worth at the prices for *each commodity* of some one year: we should then completely eliminate the complication of price changes. Our calculations would give us a kind of average for the changes in output of the different commodities. Seldom do we have the data to carry through this sort of calculation. We are usually forced to do the job indirectly, in a way which does involve the measurement of price changes.

with fringed tops equal one Plymouth coupé.³ The outputs of some goods are likely to be increasing, others remaining approximately stable, and still others falling. And usually the prices of some goods will be rising while the prices of others are stationary or falling.

The further we get from simple conditions (that the same kinds of goods and services are produced in one case as in the other, and that all prices, or still better, all outputs are changing in the same proportion) the less meaning can be attached to any figures purporting to compare outputs of two periods. (1) Only a vague significance can be attached to a figure pretending to compare the quantity of national output of 1944 with that of 1800: the goods and services had changed too drastically for us to be able to compare their *quantities*. One had better try to describe the differences in words, rather than put down a figure which looks plain but in fact carries little meaning. There is even much difficulty in comparing the output of the 1930's with that of the war period, since the kinds of output we produced in peacetime were considerably different from those of the war years.

(2) In addition, the greater the difference in output changes for individual goods, the less representative is any single measure, or *index*, of the general change in output. Suppose that output changes for different commodities were 200, 160, 20, 0, -20, and -60 per cent. A simple average of these changes is 50 per cent. But the truth about the change lies rather in their diversities, than in any single average figure. The average is not very representative, or typical.

(3) Similarly, the greater the differences in price movements, the less representative is any single figure for the *average* price movement, which figure we must use when we try to eliminate the influence of price changes.

Indexes of output carry the clearest significance, we conclude, when they compare periods in which nearly the same types of goods and services are produced, when all types of output are changing in rather similar proportions, and when prices are changing in rather similar proportions. These conditions are usually met when indexes are constructed for the same country, and for years not far apart. Output measures are in such case highly useful tools for indicating the productive performance of the economy.

³ This same problem arises when comparison is attempted between the outputs (or prices) of two countries which produce and use unlike commodities. How many pounds of rice equal one bushel of wheat? How shall we value a thinly built cottage for use in the tropics, as compared to a stout New England house, built to prevail against winter storms?

Construction of an Index of Output

The data which are available and which we can use in constructing an index of the national output are the national income (value) figures for different years, and measures of relative prices.

We can best illustrate the logic of constructing an output index by speaking in terms of one commodity. We are concerned with the years 1939 and 1944. We assume we can obtain value, but not quantity, data for that commodity in the two years (in analogy with available national income data). Value is equal to price (P) times quantity (Q):

$$\text{Value of output 1939} = P \text{ 1939} \times Q \text{ 1939.}$$

Similarly for 1944:

$$\text{Value of output 1944} = P \text{ 1944} \times Q \text{ 1944.}$$

A comparison of the real income (or output) of the two years can be made by valuing the outputs of both years at the price of some one year. That one year (sometimes called the *base year*) might be 1939 or 1944 or an average of the prices of the two years or even some third year. Usually little difference results in the final measure if the conditions of the years in question are similar. Suppose we use 1939 as our base year.

The outputs of 1939 and 1944 valued at the price of 1939 would be:

$$\begin{array}{ccc} \text{(1)} & & \text{(2)} \\ P \text{ 1939} \times Q \text{ 1939} & \text{and} & P \text{ 1939} \times Q \text{ 1944} \end{array}$$

This is the comparison which we wish to make. The first of these figures, (1), is already given to us in the value of output for 1939. The other figure, (2), can be calculated. We have already, in the figure for value of output in 1944, $P \text{ 1944} \times Q \text{ 1944}$. If we can find a way to measure the ratio of prices of 1939 and 1944, we can calculate (2). For:

$$\frac{P \text{ 1939}}{P \text{ 1944}} \times P \text{ 1944} \times Q \text{ 1944} = P \text{ 1939} \times Q \text{ 1944.}$$

In the left side of the equation, the P 's 1944 cancel out, leaving us the figure we want.

In strict analogy with this, we can construct an index of national output. Our national income (or output) data are value figures, giving us the sum of prices times quantities for each year. We also possess measures of average price changes in the whole economy.

The net national income of 1944, valued at prices of 1944, was 175 billion dollars. We want to calculate what the national income of 1944 would be worth, valued at prices of 1939. To make this adjustment, we should like, ideally, to have a price index of the constituents of national income (consumption, net investment, and government expenditure), each valued at factor prices just as national income is measured at factor prices. We lack such an index for these years. As a close substitute, we use an index of consumption goods (rather than of all output), valued at market prices (rather than at the prices paid to factors).⁴

Consumption-goods prices rose by about 36 per cent between 1939 and 1944.⁵ Then the ratio of prices in the two years is 100 to 136. Our calculation is:

$$\frac{100}{136} \times 175.0 = 128.7.$$

We estimate the national income for 1944, at 1939 prices, to be 128.7 billion dollars. The real national income (or output) increased (in 1939 prices) from 72.3 to 128.7 billion dollars, or by 78 per cent. If we set 1939 equal to 100 per cent, output increased from an index of 100 to 178.

We can summarize our calculations as follows:

IN BILLIONS OF DOLLARS

	1939	1944
Net national income (or output) (current prices)	72.3	175
Index of prices (1939 = 100)	100	136
Real national income (or output) (1939 prices)	72.3	128.7
Index of real income (1939 = 100)	100	178

⁴We can be confident that the use of a consumption-goods index will not lead us far astray, though we cannot trust our final result to be exact. Consumption is the dominantly important item in net output, and the adjustment for prices at which goods are sold, as compared with prices paid to factors, is a minor one. Furthermore, there is reason to expect that the price changes of investment goods and government services will correlate with the price changes of consumption goods. These are both influenced in major degree by the movement of wage rates, and back of wage rates, both as cause and consequence, lie changes in the price of consumption goods and services.

⁵Based on the Bureau of Labor Statistics Consumers' Price Index, adjusted in accordance with the conclusions of the Mitchell Committee. Cf. Hagen, Everett E., *Review of Economic Statistics*, p. 46, May, 1945.

We conclude that in order to get a comparison of quantities of real output, we divide current values of output by the index of average prices. (Above, to obtain a measure of real output, we, in effect, divided 72.3 billion dollars by 1, and 175 billion dollars by 1.36.)

In these calculations, we have made use of an *index of prices*. Our next problem is to consider how a price index can be calculated.

Construction of an Index of Prices

Just as an output index is a measure of the average change which takes place in outputs, so a price index, which we need in order to construct our output index, is a measure of the average change which takes place in prices.

The difficulties we face in our calculation of a price index are these:

1. First, it is never possible to have in our index *all* the prices which exist in the country—prices in every hamlet, for every variety of good, and for every day of the year. Even when we wish to construct an index for a particular class of goods, such as cost-of-living items or agricultural products or chemical products, it is seldom possible to get all the *relevant* price quotations which exist in the period of time with which we are concerned. We are forced to take a sample. The sample should be as large as possible, and—once again we have occasion to use our best judgment—it should be as representative as possible. The Bureau of Labor Statistics includes, in the calculation of its index of wholesale prices, quotations for 889 commodities taken from communities throughout the country.

2. A second difficulty we face in constructing an index of prices is that the commodities produced in the economy and those appearing in our sample are not of equal importance. We must try to have them affect our final index in accordance with their relative importance—that is, we must *weight* them sensibly. As an example of the trouble we get into when we neglect to weight samples reasonably, consider the following: Suppose that the price of wheat had doubled from 1939 to 1944 and that the price of wine had halved:

	1939	1944
Wheat (bushel)	\$1.00	\$2.00
Wine (quart)	1.00	0.50
Total	<hr/> 2.00	<hr/> 2.50
Price index, taking 1939 = 100	100	125

Our price index shows a rise of 25%. . . . But suppose, instead of measuring wine by the quart, as above, we measure it by the gallon. Then our index can be calculated as follows:

	1939	1944
Wheat (bushel)	\$1.00	\$2.00
Wine (gallon)	4.00	2.00
	5.00	4.00
Total	5.00	4.00
Price index, taking 1939 = 100	100	80

Something has gone wrong. There has been no change in the facts of the two situations, yet one index shows a price rise of 25 per cent. the other shows a price drop of 20 per cent. Our two calculations should lead to the same result, but they go marching off in opposite directions.

What has happened is that we have given different relative weights to the two commodities. Wine, whose price fell, was less important in the first calculation than in the second. The difference in the emphasis ascribed to wine was sufficient to alter the movement of the whole index.

The problem of weighting is present, explicitly or implicitly, whenever we construct an index. It is essential that it be solved consciously, with the best judgment that we can muster, not left to chance. (In 1893, the Senate Committee on Finance presented a price index in which, among other items, wheat appeared once and pocketknives 25 times, because there happened to be prices obtainable for those varieties of knives. In consequence, price changes in pocketknives were given 25 times as much chance as price changes in wheat to influence the movement of the final price index—a result which the compilers of the index certainly never intended.)

The two problems of constructing price indexes which we have surveyed, sampling and weighting, are to some extent interrelated. The inclusion of a commodity in the sample implies that we judge that commodity to be of sufficient importance to be given some weight.⁶

We illustrate below the construction of a price index of the "cost of living." For the sake of simplicity only three commodities are

⁶ There are, in addition to these concerns, other technical and mathematical problems of calculation, into which we do not go here, such as the choice of a base year or period; and whether the index should be constructed as a simple average, or an average of reciprocals, or as a geometric mean.

included. Before calculating such an index, we must find out the typical budget, or basket of provisions, for which the consumer spends his income. The quantity of each item appearing in the basket determines the weight, or relative importance, we are giving to that item. We then calculate how the cost of that basket would have changed in one year (1939), as compared with some other year (1944).

Commodity	1939			1944	
	Quantity (weight)	Price	Value	Price	Value
Potatoes.....	1 peck	\$0.50	\$0.50	\$0.75	\$0.75
Milk.....	4 quarts	.15	.60	.16	.64
Meat.....	2 pounds	.40	.80	.50	1.00
Total.....			1.90		2.39
Price Index (taking 1939 = 100)			100	126	

Criticism of the Consumers' Price Index

The possible faults of a price index are illustrated by the charges levied in 1944 against the Bureau of Labor Statistics' Consumers' Price Index.⁷ These charges were brought forward by the labor representatives of the 1943 President's Committee on the Cost of Living, and were generally supported by the national labor unions, A. F. of L., and C.I.O. The arguments of the unions for higher wages would, of course, have been strengthened by official acceptance of a cost-of-living index that rose steeply during the war. The BLS index had risen 23.5 per cent between January 1941 and December 1943. The labor report charged that the average cost of living had in fact risen 43.5 per cent. The main faults of the BLS index, it was said, were its neglect to consider the following:

1. Underreporting of prices by stores and a large rise in prices of important goods not included in the index.
2. Disappearance of low grades of goods and deterioration in the quality of goods priced.
3. Large retail-price increase in smaller cities not covered by the index.

These criticisms are, in effect, either that the prices collected were not a fair sample of the prices that actually existed for goods of equal

⁷ Formerly called *Index of the Cost of Living of Wage Earners and Lower-Salaried Workers in Large Cities*.

quality, or that the weighting given to the collected prices became unrepresentative during the war years. A technical committee, with Wesley C. Mitchell as chairman, set up to investigate the charges, found that they had some, but very limited, validity. The Committee concluded that the BLS index should have risen in that period by 3 to 5 per cent more than it did, not by the 20 per cent more argued for in the labor report.

CHAPTER THREE

PRODUCTION AND EMPLOYMENT

THE present chapter is concerned with three problems: what in fact have been the changes in past years in total production in the United States; what have been the causes of these changes; and what are the prospects for increased production in the future?

The Department of Commerce has issued estimates of the national income extending back to before World War I. The data are given in terms of current dollars—in other words, at the prices actually existing in the successive years. We can calculate an approximate measure, 1909-1941, of real or physical product (real income) by dividing each of the main classes of production entering into the national income by an index of its price level, and adding together for each year the subtotals so achieved.¹

The Fluctuations of Production and Employment

The resulting measure of total production (Chart 1), shows a large rise during the years of World War I, a drop to a low in 1921, a continuous rise during the 1920's (save for the year 1924), until a maximum was reached in 1929. Thereafter, a drop was precipitous to the low of 1932, followed by a gradual increase to 1937. Output fell considerably in 1938, but rose thereafter to the unprecedented heights of World War II.

Usually, changes in employment parallel the changes in production. Over the course of the whole period of 35 years, however, production was rising relative to the quantity of employment—in other words, the *productivity* of the average worker was rising.

The only source from which we as members of the economy obtain goods and services is from what we produce—from the output of the economy. These abstract figures of rise and fall conceal millions of

¹ For 1942-1946, see footnote, page 32.

² We should remember, in looking at this real product series, that the more unlike the prices and kinds and quantities of particular goods produced in any two years, the less meaningful will be any single figure pretending to compare their total production.

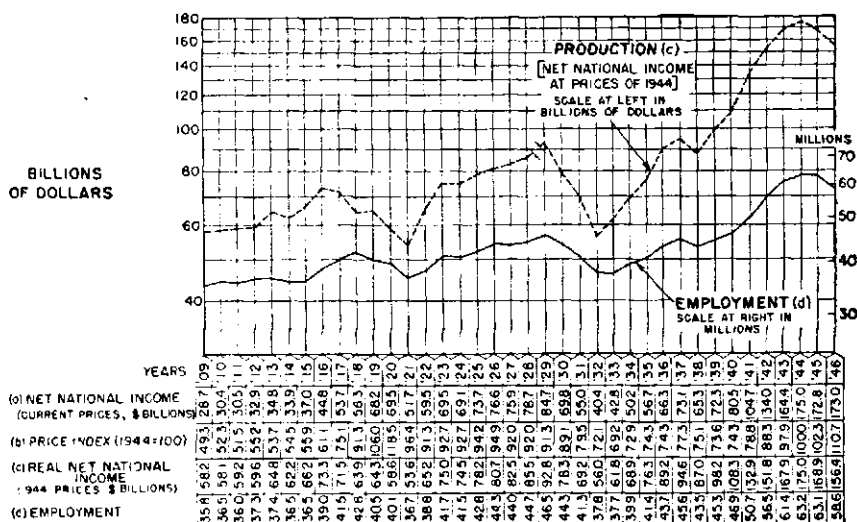


CHART 1

Production and Employment in the United States, 1909-1946

Sources of data: Line (a). Reproduced or calculated from Department of Commerce data as published in *Basic Facts on Employment and Production*, Senate Committee Print No. 4, 79th Congress, 1st Session, p. 12; and *Survey of Current Business*, February 1946, p. 7; April 1946, p. 14; February 1947, p. 7. Corporate income tax liabilities for 1946 from *Economic Report of the President*, House Document No. 49, 80th Congress, 1st Session, p. 38. Due to lack of data, income and excess profits taxes on corporations are excluded from the net national income before 1929. The difference at the joining point is not great: \$1.4 billions in 1929, and \$0.9 billions in 1930.

Line (b). For 1909-41 this is an implicit price index resulting from comparing national income in current dollars with national income in constant dollars, deflation being made on a product basis. From unpublished data of the Department of Commerce, used by permission. For 1942-1946, an index of retail prices, based on Bureau of Labor Statistics data but adjusted in accord with the conclusions of the Mitchell Committee. See E. Hagen, in the *Review of Economic Statistics*, May 1945, p. 45.

Line (c). Calculated by dividing (a) by (b). This series is least accurate during and after World Wars I and II, due to drastic changes in prices and types of products.

Line (d). Data for 1909-1944, from the Bureau of the Census of the Department of Commerce, in *Basic Facts on Employment and Production*, p. 6. Data for 1945-46, from the *Economic Report of the President*, p. 50.

hopes fulfilled or disappointed with respect to consumption and employment. They represent a car which could or could not be bought; a house that could be built or could not be afforded; medicine and hospital care which was obtained or was not available; a suit of clothes bought or foregone; churches, jails, schools, or post offices built—or else they portray idle men who might have been producing these goods. The figures indicate the productivity which enabled us to be the central arsenal of munitions and other supplies, and a crucial force in the winning of two world wars. They portray an expanding sense of well-being in numberless families through the possession and enjoyment of goods previously beyond their reach; and they mirror in the 1930's the search of millions of men for work that did not exist.

Wartime output and peacetime output

Our achievement during wartime of a net product rising in 1944 to 175 billion dollars of goods and services is sometimes presented as a norm of what we ought to be producing in peacetime with the same labor force and technical conditions. For example, the 1944 total is contrasted with the 72.3 billion dollars of output of 1939. This comparison is misleading.

1. For one thing, there was, as we have seen, a price rise of 36 per cent between 1939 and 1944. If we valued the output of 1939 at the price level of 1944, the change is only from 98.3 to 175 billion dollars. 2. Secondly, during the war years we were running our economy under forced draft, at a level we should not desire for ordinary peacetime years. (a) We attracted into the labor force nearly seven million emergency workers, old people on the verge of retirement or already retired, servicemen's wives, and boys and girls who would normally have been in school. Many of these people have left the labor force with the conclusion of the war. (b) We increased our hours of work in manufacturing from an average of 38 hours a week in 1939 to 45 in 1944. Some war plants adopted the 12-hour day, 7-day week. To retain these long hours would be to return to the standards of a quarter century ago. (c) Some of our war production was attained at the expense of future output. We depleted our petroleum reserves, and dug deep into Lake Superior iron-ore deposits. We also reduced specialized training for peacetime pursuits: the postwar years are being handicapped by a deficiency of doctors, scientists, engineers, and teachers. (d) Beyond a certain point, increased production from an economy can be ob-

tained only at the cost of multiplying controls. Over 134,000 directives, orders, and proclamations were issued during World War II by all divisions of the government. During peacetime we have not tolerated for long the controls of the Office of Price Administration, War Production Board, War Manpower Commission, and other authorities.

The upward trend of the long run

Within this rather short period which we are surveying, the fluctuations in output associated with prosperity and depression (with high and low employment) stand out conspicuously. We note the high points of 1917, 1929, 1937, and 1944; and the low points of 1921, 1932, and 1938. For still shorter periods (say for 1929-1937, or 1937-1943, or 1918-1924), the dominant importance of output fluctuations correlated with employment changes is unmistakable.

Over the whole period, there is a clear tendency for output to rise. If we should stop our series with 1938 or 1939 (eliminating the

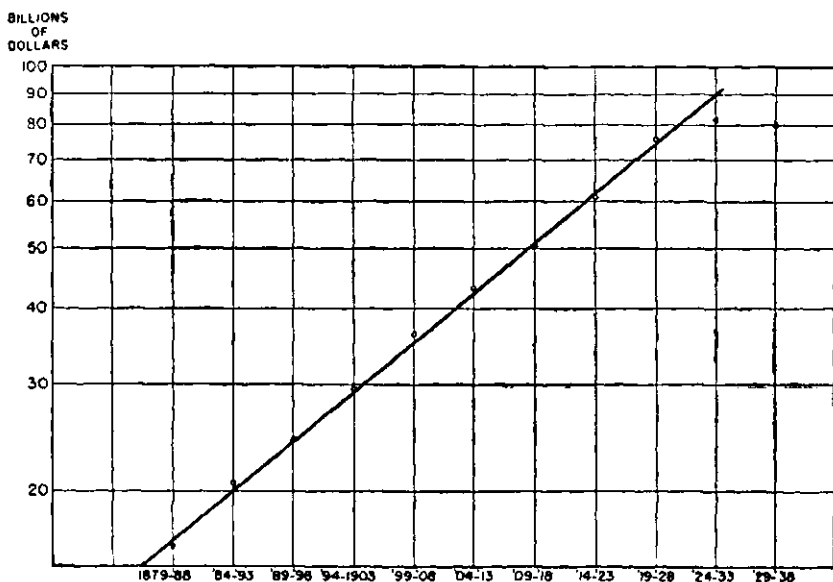


CHART 2

Real Gross National Product per Year, 1879-1938 (1929 prices)

Source: Simon S. Kuznets: *Uses of National Income in Peace and War* (National Bureau of Economic Research, Occasional Paper No. 6, March 1942).

In order to minimize error originating from scantier and less accurate data of the past, averages are presented for overlapping 10-year periods.

boom years of World War II), the rising trend would be much less emphatic, because the great depression of the 1930's would then come at the end of our series. But even so, a line drawn through the average of the output figures would slope upward.

Estimates covering a longer period of time show an emphatic upward trend, although the figures become less reliable in the earlier years, and, as we have seen before, there is obstinate difficulty in comparing periods far apart, when *kinds* of goods produced are much different. The *qualitative* difference between the outputs of 1870 and the outputs of today is just as important as the *quantitative* difference which alone is measured by an index number: in 1870 there were no radios, plastics, telephones, synthetic textiles, automobiles, hard-surfaced roads, electric motors, mechanical refrigerators, or airplanes.

If, however, we can neglect this qualitative difference, or hold it in the back of our minds, we may see that the Kuznets series, 1879-1938 (Chart 2) portrays a doubling of the *real* gross national product every twenty years, or an annual rate of increase of 3.5 per cent. The last two points on the figure, which are lower than the trend, give evidence of the wastage of resources in idleness during the great depression of the 1930's. In 1929, the gross national product (Department of Commerce data, 1944 prices) measured a little over 100 billion dollars; by 1950, if the long-term trend continues, it will be about 200 billion dollars.

Causes of Variations in Total Production

The total production of the economy is dependent on how much work we put into productive activities and how productive our work is. The latter depends on the intensity of effort and the average skill of the working force, the quantity of natural resources and of capital equipment utilized, and the level of techniques and organization.

The initiative and general effectiveness of *management* (which is one type of work) are a pervading and powerful influence in all the above. The decisions of management are immediate determinants both of the amount of labor hired and of the efficiency with which that labor can produce in cooperation with natural resources and equipment.

1. As the population has grown in past decades through excess of births over deaths and through immigration, more people have become available for labor. However, output depends not on the

total labor force available, but upon the amount of labor actually used in production. This, in turn, depends on the numbers of persons employed (charted above) and the average number of hours of labor which they put in. Chart 1³ shows that when employment changes, output usually changes also in the same direction and in approximately the same proportion. Where there is divergence, the explanation must lie either in changed hours of work put in or in one or more of the other elements described above.

2. Output depends also upon the intensity of effort, and the average skill of the working force. Society attempts to encourage diligent effort by promising higher income, prestige, security, more interesting and varied work, and so forth, to those who produce effectively. The average skill of the working population has been increasing, and this has been a persistent influence toward higher output. Improvements in education for productive purposes normally have their effect with a considerable lag, as newly trained individuals in growing numbers find their way into the working force. The concentrated training programs of wartime, covering millions of persons in their most productive years, should have a continued stimulating effect on output throughout the next several decades.

3. An increase (decrease) in the *quantity of natural resources and of capital equipment utilized* will, other things being equal, lead to an increase (decrease) in quantity of output. If rich mineral or other resources are discovered, each worker has more to work with and will tend to increase his output. Or if each worker has, on the average, more tools and machinery at his disposal, he will tend to be more productive.

4. *Improvements in technique* can be divided into two kinds: better types of capital equipment, and better methods of organizing production. Spurgeon Bell, in his study *Productivity, Wages, and National Income*, concluded that by far the most important element in influencing the productivity of labor (that is, output per man hour) is not quantity of capital equipment, but its *quality*. Changes in quantity and changes in types of capital equipment are, in fact, not easy to disentangle from each other. It is hard to find cases where a change in the quantity of equipment takes place without a change in its type, or quality. Suppose one is employing a worker in mixing concrete and would like to raise his output considerably. It would not be very useful to give him two shovels instead

³ P. 32.

of one. A better stratagem would be to give him a small cement mixer—that is, change the kind of capital equipment and add to its quantity at the same time. One major cause of increased output since the beginning of this century has been the remarkable increase (15 per cent per year) in the quantity of electric power in use. This can be viewed as both quantitative change (a simple increase in the quantity of powered equipment) and qualitative change (an increased flexibility and versatility in the available power).

Output per worker may be increased also by improved organization of production—for example, by installing an assembly line, or by introducing a better bookkeeping system or a better employee training program, or by increased specialization among firms.

It is not possible to say *in general* which of the above four causes of changed output are the most important. For one reason, our statistical methods are not able to separate with sureness four elements which are always operating jointly; and for another reason, it is clear that their relative importance differs widely, depending on the time and the point of view. At a time of much unemployment (1921, 1932, and 1938), it is evident that the most hopeful path to higher output lies through increasing employment. In the long run, causes which raise the productivity of labor—increases in incentives and skills, increases in the quantity of capital equipment, and advances in techniques—come into their own.

Biased explanations of increased production

It is worth while noting how special-interest groups look to one or another of these causes of increased productivity in the effort to emphasize their own importance. Labor groups often are inclined to press their case for higher pay on the grounds that higher skills are being required or that men are being worked harder (the speed-up). Investors, who are disposed to urge lower taxes on higher-income groups which do the bulk of the saving (and so provide funds for lending to businesses with which to buy equipment), may explain increased output by an increase in the quantity of capital equipment.⁴ Engineers and business managers seem inclined to explain output rises in terms only of improved capital instruments or organization.

⁴ This is the argument in the pamphlet issued by the Committee for Constitutional Government called *Raising the Workingman's Standard of Living*, and in other publications issued by this Committee.

Production, Per Capita and Per Worker

Over the course of past decades, the population, as well as the production, of the United States has been growing. The increasing output has been divided among more people. Production per capita is evidently a much closer measure of the standard of living than a simple figure for total production. Chart 3 below shows the approximate trend of production (real income) per capita during the past century and a half, though once again we caution against ascrib-

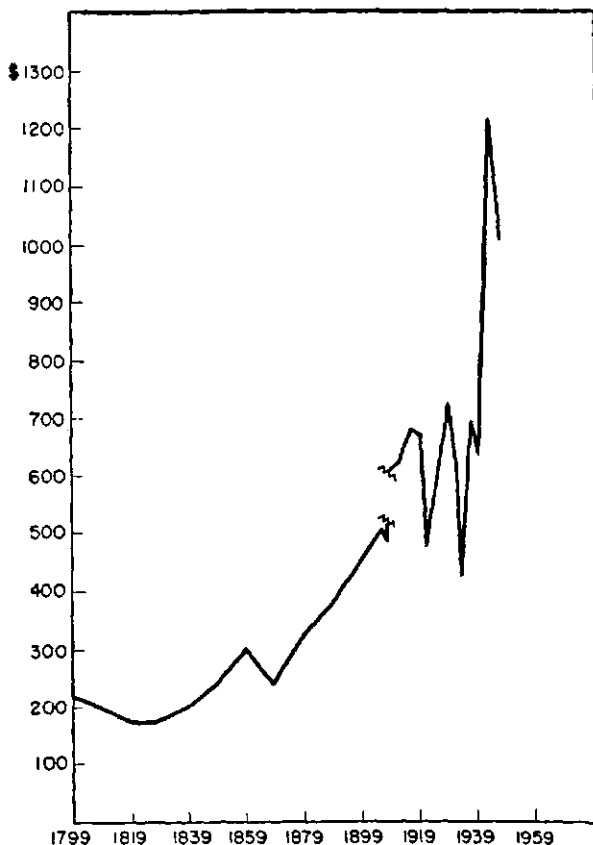


CHART 3

Real Income per Capita, 1799-1946

Sources: The data for 1799-1908 are from the study by Robert F. Martin, *National Income in the United States, 1799-1938*, pp. 6, 7. (New York: National Industrial Conference Board, 1939). The data for this earlier period are not closely comparable with those for 1909-1946, which are calculated from Chart 1, page 32 above.

ing much meaning to comparisons made over so long a period. The chart is chiefly useful in showing comparisons over brief homogeneous periods, for example, twenty to thirty years of peace.

This rise in real income can be exemplified by considering how many hours of time an average factory worker had to work, in 1914 and 1938, to buy certain common articles. In 1914, he had to work 11.5 hours to earn enough to buy his felt hat; in 1938, 3.2 hours. To buy work shoes, he formerly had to work 9.3 hours; later, 3.3 hours.

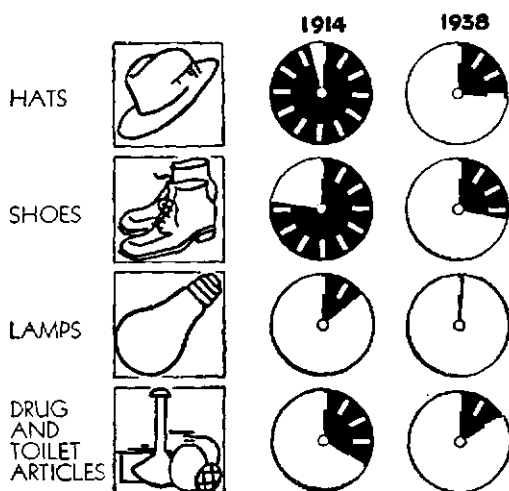


CHART 4

Hours of Average Factory Work Required to Earn Income Enough to Buy Certain Articles

Source: By permission, from *Machinery and the American Standard of Living*, p. 47. Machinery and Allied Products Institute, Chicago.

The real cost of a 60-watt light bulb dropped from 1.7 hours to 0.2 hours; and of a typical collection of drug and toilet articles, from 4 hours to 2 hours (Chart 4). A typical automobile would have cost about 4500 hours of average factory work in 1914. 2000 hours in 1938. The typical washing machine which previously cost the average worker 187 hours of work, later cost 62 hours.⁵ and so forth. The comparison is the more striking because light bulbs, automobiles, washing machines, and numberless other articles were vastly improved in quality during this space of 24 years.

Comparison of the real income per member of the working popu-

⁵ *Op. cit.*, p. 45.

lation of the United States with that of other nations of the world, attempted by Colin Clark from data of the middle 1930's, suggests that we are the second most productive nation of the world. The data below are for some of the principal nations of the world in four groups according to their level of productivity. The figures are average weekly incomes in dollars, at the purchasing power of the dollar 1925-1934.⁶

New Zealand	\$32.80 per week
United States	28.70
Great Britain	24.60
Australia	23.40
Germany	15.90
Sweden	15.50
France	12.30
Italy	7.70
U.S.S.R.	7.30
Japan	6.50
India (roughly)	3.80
China (roughly)	2.20

The rise in United States production per capita which we have illustrated above took place side by side with a continued decline in the length of the working day. Before the 1830's, the hours in manufacturing were the same as in agriculture, which set the pattern: in summer, 14 to 16 hours a day, with two hours or less time out for meals; and in winter, 9 to 12 hours, with an hour or less for meals. By 1870, a 10-hour day was usual in the crafts, but 11 to 14 hours was the rule which prevailed in such less skilled occupations as cotton milling and transportation. The hours worked per week probably averaged a little under 70. In 1940, working hours in factories averaged 38 per week. By that time as compared with 1870, some 20 to 30 hours had been added to the leisure time of employees.⁷

Further additions to real welfare have originated from compulsory education, which delays the beginning of full-time work for the

⁶Clark, Colin, *Conditions of Economic Progress*. London: Macmillan and Co., 1940. The weekly figures we give are calculated from data on pp. 42, 57, and the Table facing p. 148. They are of course no more than approximations. The comparisons are based on a 48 hour week, and the "working population" includes both employed and unemployed. Hence the productive capacity of the United States is much underestimated, because about one-eighth of the working force was unemployed at the time the data were collected.

⁷Somers, Harold M., "The Performance of the American Economy since 1860," in *The Growth of the American Economy*, p. 778. Williamson, Harold F., ed. New York: Prentice-Hall, Inc., 1944.

average young person until age 16 or 18; from increasing average length of life, which had been 30 to 40 years at the beginning of the nineteenth century, and by 1946 was about 65 years; and from social-security legislation, which has diminished somewhat the menaces of sickness, disability, unemployment, and dependent old age.

The Productivity of Labor

Production per capita is a measure of the real income which is on the average available for consumption. For some purposes, it is more useful to look to average output per employed worker, or to the *productivity of labor*. The productivity of labor can be measured in terms of product per worker per year or product per man hour. The former can be calculated for the whole economy by dividing the national product by the number of employed persons (Chart 5 below). Production is valued at the prices of 1944:

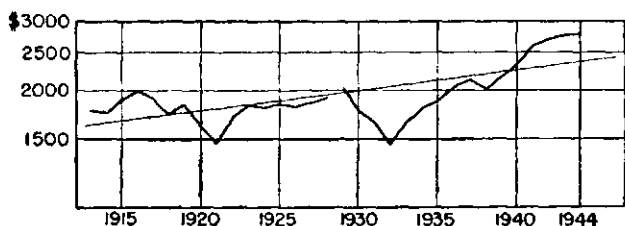


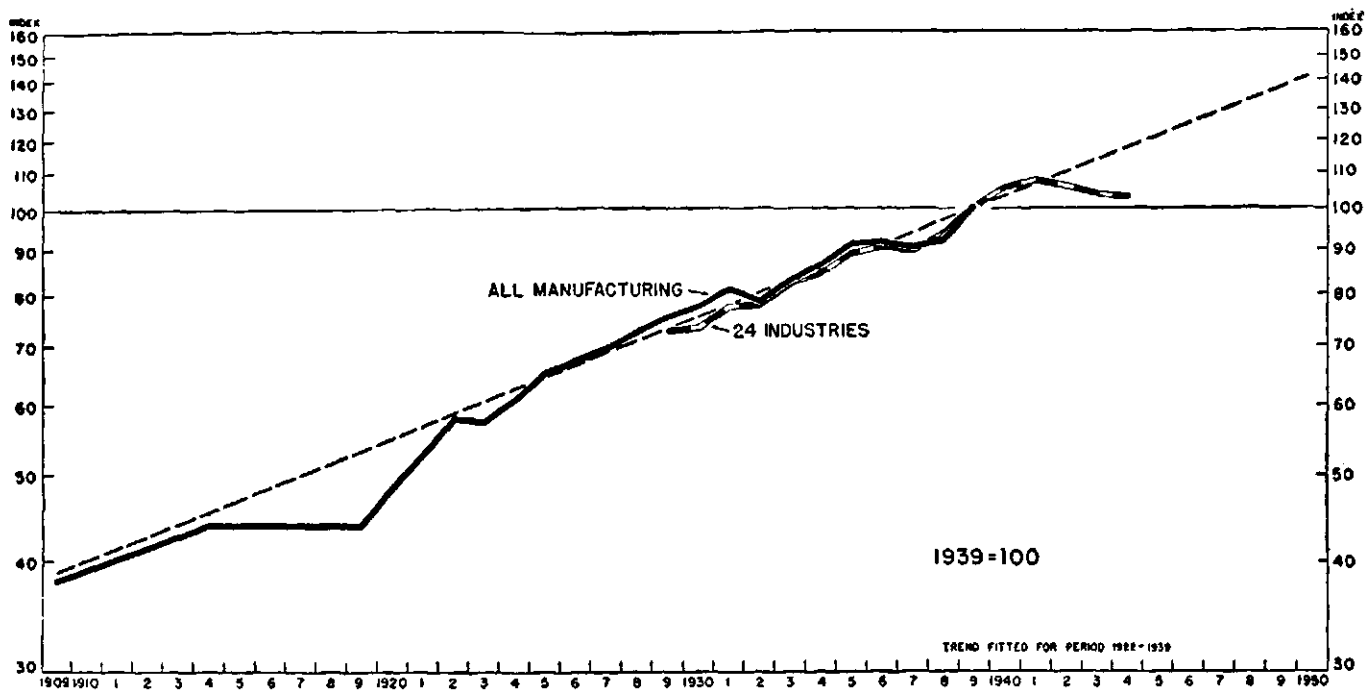
CHART 5

Production per Worker, 1913-1944 (prices of 1944)

Production per worker has followed a clear upward trend, the rise per year averaging 1.2 per cent. During years of depression, there is a decline owing to reduction in hours worked per week.

Over the whole of industry, production per *man hour* has increased nearly without interruption since 1909. In manufacturing, the average rate of increase has been between 3 and 3½ per cent a year (Chart 6).

Production per man hour in mining has risen during the last 20 years at the rate of 3 per cent per year, almost as rapidly as in manufacturing. Continuous improvement in mining practices, including increased mechanization, has more than offset the depletion of the richest ores and the increased difficulty of reaching ores. Productivity increased more rapidly than the trend around 1931, when lowered total output discouraged the working of any but the richest ores. During World War II, the necessity of working low-



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CHART 6

Output per Man-Hour, All Manufacturing, 1909-1939 and 24 Selected Nonmunitions Manufacturing Industries, 1929-1944

Basic Facts on Employment and Production, page 7. It is difficult to compare the productivity of "munitions" industries in wartime with their peacetime record because of the drastic change which takes place in types of goods produced. Hence during the later years, 24 nonmunitions industries are represented separately.

grade ores decreased productivity in lead and zinc mining and in certain other nonferrous metal-mining industries. But other mining industries maintained productivity at a high level by postponing development work (which for the time being returns *no* product).

Productivity in railroad transportation also has risen at the rate of nearly 3 per cent a year. More powerful engines and better roadbeds, which in turn mean longer trains and faster schedules, have been a continuing influence toward this advance. During World War II, at the same time that there was a tremendous increase in traffic, productivity jumped 50 per cent.⁸ The main cause then was fuller loading of cars. During the first several years after the end of World War II, productivity will probably be found to decrease, because of an increased volume of maintenance and repair work. But gradually, as equipment is modernized, productivity should again increase.

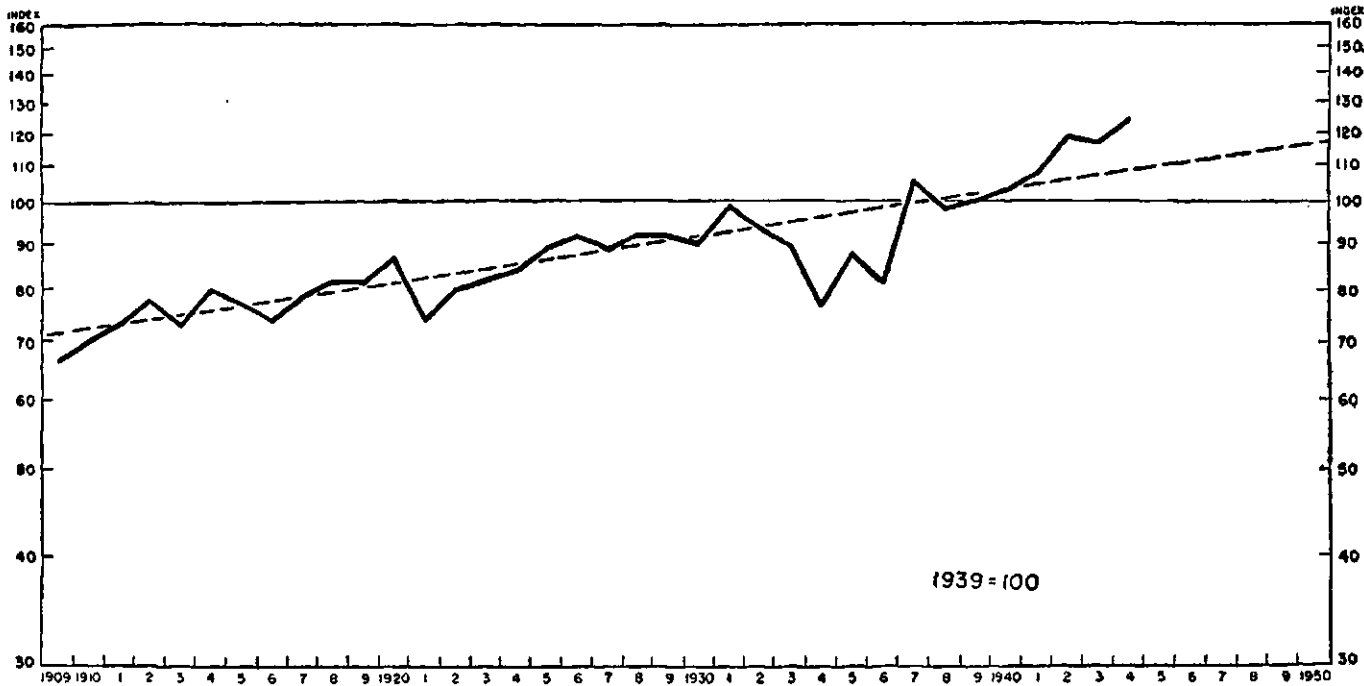
In agriculture, output per worker varies considerably from year to year, but the long-term trend has been upward at the rate of 1.2 per cent a year.

This upward trend reflects the combined influence of increasing capital equipment and rising techniques. The farmer has come to possess more cultivators of specialized types, more reapers, more tractors, and so forth, and this equipment has been improved in quality. The farmer has, in addition, come to utilize better varieties of plants and animals (hybrid corn, disease-resistant types of wheat, improved breeds of cattle) and more effective methods of cultivating the soil (crop rotation, contour plowing, scientific fertilization).

The fluctuations in agricultural productivity year by year are very considerable. One main cause is varying weather conditions. A second is the tendency of workers to migrate into unproductive *subsistence* farming in time of depression, and to leave agriculture for other occupations in time of prosperity. The farmers who remain on the farms in good times as well as bad are on the average the more productive group. Hence, the number of workers in agriculture correlates more highly with the general state of employment opportunities in the nation than with the total output of agricultural commodities.

The 24-per-cent increase of productivity during 1939-1944 is emphatic evidence of the extent to which farmers can be induced to

⁸ 1939 to 1944.



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CHART 7

Output per Worker in Agriculture, 1909-1944

Source: *Basic Facts on Employment and Production*, p. 10.

raise their production under the combined incentives of higher prices, government guarantees, and patriotism.

The prospects for increased productivity in peacetime

Our wartime experience does not provide a clear indication of the peacetime prospect. Evidence from the munitions industries is especially ambiguous.

A basic difficulty is that in the munitions industries the kind of product changed drastically between peace and war. How many alarm clocks equal one time fuse? How many radios equal one radar set?

Another difficulty arises from the development of new products and frequent revision of types in production. While a firm is getting ready to produce a new product—that is, is getting out blueprints, tooling up, and overcoming bottlenecks in its production line—productivity drops to zero. And when, as a result of war experience, the demand is for improvements of products, productivity sinks. The Willow Run plant turned out Liberator bombers during World War II, but, complained Bricker of the Ford Motor Co., “The Army wanted a change in the model every morning. How . . . could we get mass production?”⁹

A third difficulty in trying to compare wartime productivity in the munitions industry with its past or future peacetime productivity is that low cost is not an object in wartime. The government sought to keep costs down through cost-plus-fixed-fee contracts and through renegotiation to limit profits. Nevertheless, low money cost was not an objective of moment compared with the overriding importance of winning the war at a low cost in *lives*. Atom bombs at 1 billion dollars each might turn out to be cheap from this point of view.

The last two points we have listed suggest that wartime costs—and man hours put in per unit of product—were relatively high in the munitions industries. But they do not afford grounds for predicting peacetime productivity because of the incomparability of war- and peacetime products.

If we seek a clue to future productivity from the nonmunitions-manufacturing industries, we find that the data show a rise after 1939 of some 7 per cent by 1941, then a moderate decline of 4 per cent by 1944. But these nonmunitions industries were also subject

⁹ Quoted from *Fortune* magazine, p. 178, January 1946, by courtesy of Charles R. Walker and the Editors of *Fortune*.

skilled occupations with lower pay, or forcing them to undergo retraining and perhaps to move to new locations. The linotype, following its introduction in the 1890's, made obsolete the skills of hand type setters. The Owens automatic bottle machine replaced skilled hand blowers. The continuous rolling mill introduced into the steel industry during the 1920's enabled a single mill to turn out with 125 men a quantity of sheet steel formerly produced by 4500 men in 96 mills. The community as a whole is more productive and has a higher real income in consequence of the technical advance; but individual workmen often find the same change a disadvantage, or even a lifelong tragedy.

The economy can minimize this human cost through establishing retraining programs and through facilitating the movement of labor from surplus areas to areas where its skills are needed. But it cannot altogether eliminate the human costs of progress. The existence of such cost indicates that the optimum rate of technical progress is not that rate which is best from an economic point of view only, but a somewhat lower rate. At this lower rate, the less rapid increase of real income is compensated for by decreased human costs.

CHAPTER FOUR

PRODUCTION AND PRICES

THE level of total production and the rate of change of that level have a systematic relationship to the average price level of an economy.

Wholesale and Retail Prices

We plot in Chart 8 the data of the Bureau of Labor Statistics for wholesale and for retail prices, together with the series we have used before for net production in the United States. Wholesale prices are those paid by businessmen for commodities bought in quantity; retail prices are those which retail sellers charge for consumers' commodities. (But the indexes do not measure the prices of the *same* goods at different stages of the productive process, as we might ideally desire. The prices are not only for different stages, but also for different commodities.)

Wholesale prices show a greater percentage variation than retail prices: they rise higher and fall lower. One element in the explanation of this fact is the greater extent of rigid (unchanging or slowly changing) pricing in manufacturing, transportation, and the retail trades, whose charges make up the difference between wholesale and final retail prices. This rigid pricing is explained by monopolistic factors: the prevalence of conventional prices and other forms of monopolistic pricing in the given fields. A change in demand for retail goods tends to force price changes back upon the more nearly competitive suppliers of basic wholesale goods—farmers, raw material producers, and others—rather than upon retailers, transporters, or manufacturers of finished products.

Another element in the explanation of the difference in price movements is that the demand for retail goods is relatively stable as compared with the demand for goods at wholesale, where fluctuations of demand for capital goods are extreme. We eat bread fairly regularly through prosperity and depression, but steel is a prince-or-pauper industry.

If we compare the levels of wholesale and retail prices over the whole period, we notice that retail prices were higher relative to wholesale prices after 1920 than they had been during 1914-1920. The explanation partly lies in the price collapse of 1920-1921 in agricultural commodities and other raw materials. Another element in

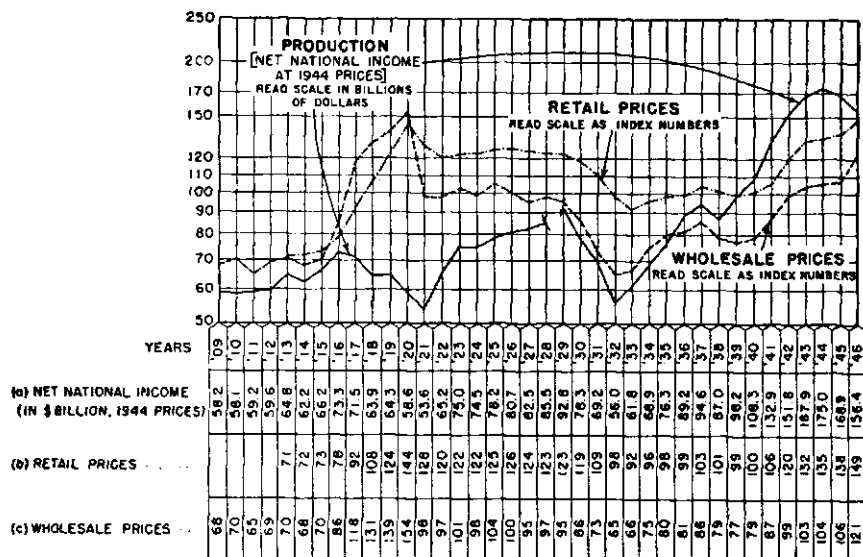


CHART 8

Production, Retail Prices, and Wholesale Prices in the United States, 1909-1946

Line (a). Data from Chart 1, p. 32.

Line (b). This is the "Consumers' Price Index" (formerly called the "cost of living" index) of the Bureau of Labor Statistics. Data from *Basic Facts on Employment and Production*, p. 16, and *Survey of Current Business*, p. S-4 of the February 1946 and January 1947 issues. For 1940-1946 the index is corrected in accord with the conclusions of the Mitchell Committee. The index is on the basis of 1935-39 = 100, and figures are rounded to the nearest whole number.

Line (c). Bureau of Labor Statistics data, from *Basic Facts on Employment and Production*, p. 17, and *Survey of Current Business*, loc. cit. 1926 = 100, and figures are rounded to the nearest whole number.

the explanation can be found in the growth, in goods near consumption, of more elaborate packaging, of increased services in retailing, and of other aspects of monopolistic competition. We no longer, for example, buy our crackers, salt, and sugar from the grocer's barrel, but in boxes under brand names; and perhaps the store delivers to us. But the different composition of our two indexes—the circumstance that different commodities are included in the one than

in the other—makes it hazardous to reason closely about the cause of their relative movements.¹

Production and Prices—Description

How do prices change as production falls and rises? We look especially at wholesale prices, since they are more sensitive. In general, we find that production and prices move together, a rise in the one being associated with a rise in the other, and a fall with a fall. But the correlation is not nearly so close as that between production and employment. The very great price rise of World War I continued to its maximum *after* the war. Prices broke, and dropped abruptly during the short depression of 1921. They rose a bit as output increased toward 1925 or 1926, and then fell a little even though production kept on increasing to 1929. The movements of production and prices agree more closely after 1929 than before.

How We Should Expect Prices to Behave as Production Changes

The prices of individual commodities are determined by the influence of supply and demand. Neglecting the complications introduced by monopolistic policies, as distinct from those of competition, we can reason as follows: (1) If the quantity of goods supplied to the market increases (or if demand for them decreases), prices tend to fall. If potatoes are harvested in abundance some year, consumers will be persuaded to buy them up only if their price drops below its previous level. (2) If, instead, the quantity demanded increases (or if supply decreases), prices tend to rise. If the public comes to be convinced of the merits of those washing machines which wash, rinse, and dry clothing automatically, the manufacturers of the machines realize that they can charge higher prices for them, and still sell a large volume.

In the short run, when it is difficult to introduce new resources into a field, a rise in prices owing to an increase in demand tends to be associated with only a moderate rise in output. In the longer run, factories will be expanded and new factories built in such a field, and as supply on the market grows, prices will fall below their previous level. The manufacturer of our automatic washing machine will soon find other manufacturers entering into competition with him. They develop or obtain the use of an effective design and

¹ On the price movements of different types of commodities, see the elaborate study of Mills, Frederick C., *Prices in Recession and Recovery*, especially pp. 431 ff. New York: National Bureau of Economic Research, 1936.

purchase and set up the necessary machinery. Eventually as supply increases, producers are forced to lower their prices in order to sell their outputs. In the converse case of a drop in prices due to a fall in demand, individual producers (seeking the maximum profit possible under the new conditions) will decrease their supply on the market. As time goes on, some of the producers will shift over into more attractive fields (perhaps by the hard road of bankruptcy), and output declines further. Prices will then rise somewhat from their previous level. We can describe both of these situations by saying that supply is less *elastic* (that is, output responds less to a given change in price) in the short run than it is in the long run.

Prices of individual goods, then, are determined by the conditions of supply and demand. We are now concerned with explaining average prices—that is, prices of all goods and services in the economy. Nevertheless, the basic explanation remains the same: supply and demand conditions still determine average prices over the whole economy. But now we need to speak of supply *as a whole* and demand *as a whole*, or of aggregate supply and aggregate demand.

An increase of demand when much unemployment exists

Suppose that a large percentage of labor and other resources in the economy is unemployed. (In 1932 and 1933 about one quarter of the working force was unemployed.) Prices are apt to be sagging downward, especially in the more purely competitive fields of agriculture and raw-material production. In some areas, however, where there is much monopolistic insulation from competition and where labor unions have been able to maintain their wage rates, prices will be falling little or not at all.

In this situation, suppose that businessmen suddenly find that they can sell more of their products. Aggregate effective demand, that is, total money demand, has increased. The increased demand might have originated in several possible sources. It might have come from consumers' deciding to save less and spend more for consumption goods: they might even draw on their past savings. It might have come from businessmen's decisions to buy more investment goods, in the form of buildings, equipment, or inventories of raw materials. It might have come from more government spending for war or peacetime purposes.² Finally, the increased demand

² In every case, we must assume that this increased buying is not offset by decreased buying elsewhere in the economy. For example, the increased government spending

might have originated in more buying by foreigners, perhaps in anticipation of war abroad or because of crop failure.

Since there is heavy unemployment, it will be easy for employers to hire more resources at approximately current prices: unemployed labor is abundant, hours can be lengthened for people who are working part-time, raw materials can be obtained readily, and plants which had been running at only a fraction of capacity can expand quickly.

Some employers may, as they expand their output, find that their efficiency of production is diminishing, but this is not likely if they had been operating their plants at relatively low volume. Usually, firms will find average efficiency rising as they expand output of their plants toward planned capacity.

Taking into account both these influences—prices of labor and other resources, and efficiency of production—we should not expect average costs to rise with rising output. As an over-all result, since output (supply) can be expanded readily without higher costs, prices are not apt to rise appreciably.³ The effect of the increased demand will be almost entirely to increase output, hardly at all to increase prices.

We can find illustrations of this in the periods of the past when unemployment was greatest. In the years 1921-1922 when unemployment was 11 and 7 per cent, respectively, of the working force, output rose considerably while wholesale prices were almost constant. In the years 1932-1933 when about 25 per cent of the working force was unemployed and in 1938-1940 when unemployment varied between 19 and 15 per cent, output rose considerably while prices rose little or even fell a bit. (Unemployment of labor is an approximate, but useful, indication of idle equipment and abundant raw materials.) It is evident that output can increase much when there is heavy unemployment without a significant rise in prices. This is what our reasoning leads us to expect.

An increase of demand when there is moderate unemployment

Suppose there is only moderate unemployment of labor and other resources, and that total demand increases. Some firms will still be able to expand readily if they happen to be in localities where more

must not be offset by decreased spending by consumers or businessmen because of taxes on either of these groups or because businessmen have become alarmed by the government policies or gloomy about future business prospects.

³ Unless certain special influences to be discussed below happen to be important.

unemployed labor is available than is true generally, if they have idle equipment or can readily intensify the use of their equipment, and if they have easy access to more raw materials.

Other firms, however (since unemployed resources are rather scarce), will find it necessary to pay higher prices in order to obtain more labor or more raw materials: they must bid them away from other firms who are also in the market to buy them. Many firms will find efficiency diminishing as they try to force a larger output out of a given factory, office, farm, or mine. They are overloading the plant, pushing it beyond the point of maximum efficiency. Since the costs of these two groups of firms are higher with larger output, they will not increase their outputs unless they are induced to do so by the offer of higher prices. Finally, firms who have a considerable amount of monopoly power (that is, who feel themselves insulated against inroads of competitors in their fields) will be encouraged by the increased demand to raise their prices.⁴

Hence, if demand increases in an economy where there is moderate unemployment of resources, output will rise—unemployed resources will be put to work, and those already employed will be used more intensively. And prices will rise also.

In the somewhat longer run (as we have seen above), prices are apt to recede from the point reached shortly after demand increased. For one reason, resources will flow into competitive fields where output is especially short and prices are especially high. Capital equipment will be built and installed in such businesses; mineral resources will be surveyed further and mines extended; and workers will train themselves for occupations where wage offers are relatively high. For a second reason, imitators are apt to encroach on fields where monopolies have kept prices especially high.

In Chart 8, such periods when unemployment was moderate, and demand, output, and prices were all increasing, appear in 1914-1915, 1922-1923, and 1940-1941.

An increase of demand when there is already full employment

Suppose there is approximately full employment of all resources of the economy: all the normal labor force is at work, many of them working overtime, and we have perhaps drawn into the working force people who ordinarily would not be working—old people, school boys, and housewives. We are making as full use as is rea-

⁴ See, however, pp. 62-63.

sonably possible of the natural resources and capital equipment of the nation. And then demand increases still further.

The only possible effect is for prices to rise sharply. In fact, they will rise in the same proportion as demand increases. If demand rises by 20 per cent, prices must rise by 20 per cent. Output cannot rise appreciably if we are already making full use of all our productive resources, and people can spend more funds on the output of the economy only if that output is sold at higher prices. Manufacturers, retailers, and farmers, too, faced with such a booming demand, will raise prices with pleasure. They can sell their entire output at higher prices as readily as at going prices. And employees, both in and outside labor unions, will find demand for their services urgent and will be able to secure higher wage rates.

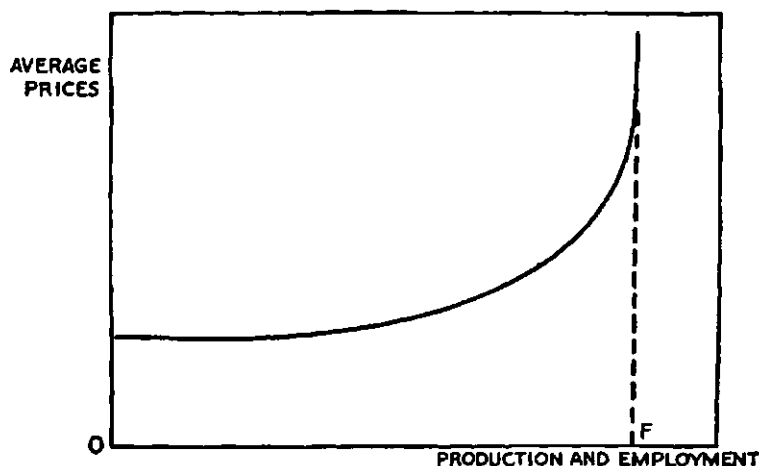


CHART 9

The Price Level, and the Level of Production and Employment

Graphic representation of the relation between total production and prices

It is possible to summarize graphically (Chart 9) what we have just said about the relation of production and prices. It should be remembered, however, that our graph will portray only average changes: it will blur the details in which sometimes will lie our special interest.

We will assume, in the chart, that the efficiency with which the economy utilizes resources remains approximately the same during the period of expansion we are considering. Hence, we can plot the

movement of production and employment together: when employment rises, production rises in the same proportion.⁵

Prices are charted on the left, from a very low level at 0 to a very high level as we move upward. Output and employment are at a very low level at 0, increase to the right until all resources are employed (output is, therefore, at a maximum) at *F*.

As demand increases from a very moderate quantity, we should expect production and employment to increase much, prices little. As demand increases further, the effect is more and more on prices, less on production and employment. Finally, at full employment of resources, production can increase no further, and any increase of aggregate demand will increase prices only.

The effect of a drop in total demand

A decline in demand means that businessmen cannot find buyers for their current output at current prices. The volume of production, prices, or both, must drop. Some asymmetry between our former case of increasing demand and this case of declining demand is introduced by the fact that, whereas businessmen are glad to see prices rise and wage earners are glad to see wage rates rise, both groups resist so far as they can the fall of prices and wage rates. Often, the resistance is bitter, accompanied by rising social antagonism. Prices, therefore, tend to be more flexible in an upward, than in a downward, direction. England had little success in the attempt to deflate prices during 1925-1930; nor had France any greater success through the middle 1930's. The German effort in 1930-1932 heightened social conflict and helped pave the way for the Nazis.⁶

As demand drops, businessmen who have some degree of monopolistic power try to maintain their prices and reduce output instead.⁷ Labor unions attempt to maintain their standard rates. (But just as businessmen may give confidential discounts, workers may, in fact, accept less pay than they are officially supposed to receive by

⁵ Efficiency will, however, diminish (output rises by a smaller proportion than employment of resources) if the productive equipment of the economy comes to be overloaded or kinds of products are changing rapidly or the effort or hours of labor diminish. This divergence is one cause of higher prices as full employment is approached.

⁶ Australia, on the other hand, furnishes an exception. There, in 1932, a 25 per cent cut in wages was accomplished successfully. The United States in 1929-1932 went through a wholly unintended drastic price drop, paralleled only by Germany: wholesale prices here fell 32 per cent and retail prices, 20 per cent. We should not want to go through the experience again, if we could avoid it.

⁷ See below, pp. 170-172.

union rules.) Farm groups, coal-mine associations, and others converge on Washington in pursuit of special legislation to maintain their prices.

The greater the amount of unemployment of resources, however, the more difficult it is to maintain the prices of the past boom period. Prices will tend to drop the most in those areas where there is the greatest proportion of competitive, as opposed to monopolistic, pricing; and where there is the greatest proportion of unemployed labor, business managers, capital equipment, and natural resources. These productive resources (or their owners) are willing to accept lower rates of return in order not to remain unemployed. And so the level of prices of the whole group is forced downward.

Production and prices in the long run

In the longer run, an influence is operative which we have neglected so far. Techniques and organization will, in a progressive economy, improve in time: better types of equipment and more effective ways of organizing production will come into use. Hence, from any fixed quantity of resources, a larger output is produced. Production, per worker, or per unit of equipment, or per acre of land, rises. Then, with a larger supply of goods and services coming on the market (if effective demand remains unchanged), prices will decline.

In a progressive economy like our own, such improvements in techniques may have significant effects during the course of only a few years: they are likely to be dominantly important over the course of scores of years and of centuries.

Of course, other influences than technical progress will in the long run operate to help determine output and prices. The population (more exactly, the working force) may grow or decline, and its average skill and effort may change. New natural resources may be discovered (and technical change may cause them to be revalued), or existing resources may be depleted. The quantity of capital equipment used in production may increase or decrease. All these factors will influence prices by altering supply of goods and services on the market. Total demand may also change as a reflection of a changed money supply available in the economy, changed buying habits of consumers, changed prospects confronting businessmen, or changed spending and taxing policies of government.

CHAPTER FIVE

THE MAIN CONSTITUENTS OF TOTAL PRODUCTION

AT THE time the United States became independent, agriculture was by far the dominant industry. Such manufacturing as there was seemed to Alexander Hamilton at the time a "vast scene of household industry." The picture has changed much since then.

The Long Trend for Major Industries .

It is convenient, following Colin Clark, to divide production into three main divisions: primary industry, consisting of agriculture, forestry and fishing; secondary industry, covering manufacturing, mining, and building; and tertiary industry, consisting of commerce, transportation, communication, and services. We do not have trustworthy estimates of output going back many decades into the past, but it is possible to measure the relative importance of these industries by numbers of employees as far back as 1820 (Table 1):

Table 1
Percentage of working population in various industries*

	<i>Primary</i> Agriculture Forestry Fishing	<i>Secondary</i> Mining Manufacturing Building	<i>Tertiary</i> Commerce Transport Communication Services
	%	%	%
1820.....	72.3	12.3	15.3
1840.....	68.8	14.9	16.1
1860.....	60.2	19.9	19.8
1880.....	49.4	25.5	25.0
1900.....	37.4	29.0	33.5
1920.....	26.7	33.2	40.0
1935.....	25.4	28.8	45.8

* Clark, Colin, *Conditions of Economic Progress*. London: Macmillan and Co., 1940, p. 185. From census data presented by Whelpton, in *Journal of the American Statistical Society*, vol. xxi, p. 339. The data for 1935 exclude unemployed persons who were attached to these industries.

The percentage decline in primary industry is found in all countries where productivity is increasing. As average output grows, a smaller proportion of our energies needs to be put into agriculture and like industries, which produce goods for which our demand is rather quickly sated as supply increases. The average person in the United States was eating about the same volume of food just before World War II as he had in 1870, but was buying five times as much manufactured products. During this period, the number of farmers increased only 60 per cent, whereas the number of factory workers rose about 400 per cent.

The available data indicate also that every country, as its productivity rises from a low level, moves toward a point where secondary industry is relatively largest. Beyond this point, tertiary industry keeps on growing until it is dominant. This point of maximum industrialization was attained in the United States by 1920; it was reached earlier in a number of other technically advanced nations.¹

The pull which over the course of decades draws men into secondary and tertiary industries is mainly the likelihood of obtaining higher average incomes there than in primary industry, though more attractive working conditions and living conditions may also be factors. Colin Clark estimates the average incomes in 1935 of persons employed in the three industries as follows:

<i>Primary</i>	<i>Secondary</i>	<i>Tertiary</i> ²
\$688	\$1728	\$2456

Labor is more productive of value in the latter two industries;³ incomes are decidedly higher; and labor tends to flow into them. But men change their occupations with reluctance: noneconomic ties and the risks of taking a leap into different work are a drag on migration into remunerative and expanding occupations. Many of them will simply follow in their fathers' footsteps. Some of the others will interpret the long-run decline of an old industry as merely temporary bad times.

The tendency of migration away from agriculture to equalize urban and rural wage rates is more than offset by the circumstance

¹ Clark, Colin, *Conditions of Economic Progress*, London: Macmillan and Co., 1940, p. 7.

Op. cit. p. 342. The incomes are measured in terms of the average purchasing price of the dollar during the period 1925-1934.

³ It is worth noticing that an increase in physical productivity in an industry (say, agriculture) will lead to a drop in value productivity, if the increased output can be sold only at considerably lower prices.

that so many more children are born in the country than in the city: the rural net reproduction rate is about double the urban rate.⁴

Interrelationships of Industries in 1939—Leontief's Input-Output Table

The bulk of the statistics at our disposal relating to the behavior of the economy measure one specific characteristic; for example, the output of #1 Northern wheat, the price of steel channel beams, or the hourly wages of ship fitters. Only in the last three decades have there been careful attempts to measure certain totals, or aggregates, which appear strategic in measuring or interpreting overall performance of the economy. Dr. Simon Kuznets, the Department of Commerce, and other groups have, as we have seen, estimated such aggregates as gross national income, net national income, total consumption, and total investment.

Neither of these two types of data portray the *interrelationships* of the individual industries and groups of the economy. But it is possible to show in one table (a) the distribution of the outputs of various sectors of the economy—business enterprises, households (which supply services), government agencies, and so forth; and correspondingly, (b) from what sources the input used by each of these units was obtained.

Table 2 is a simplified presentation of such an input-output table for the United States in 1939.

One may read the table in this fashion: each sector of the economy listed on the left and reading down supplied goods and services of the given values to the other sectors of the economy listed at the top and reading across. For example, the agriculture and foods industry produced an output valued at 17,059 million dollars. Of this total, an amount of goods valued at 555 million dollars was bought by the minerals and manufacturing industries; 643 million dollars was bought by the transport and trade industries; 14,522 million dollars was bought by consumers (households).

We can look upon the relationships in a reversed fashion: the inputs of the sectors listed at the top came, in the indicated quantities, from the sectors listed at the left. The Government, for example, bought goods to the amount of 559 million dollars from the

⁴ Looking to the balance of births and deaths, the rural population of the United States was in 1930 tending to increase by 54 per cent in a generation; the city population was tending to decline in the ratio of 14 per cent. *The Problems of a Changing Population*, p. 134. National Resources Committee, 1938.

minerals and manufacturing industry, paid its employees (households) 7,897 million dollars, and so forth.

Of the total input of any sector the proportions which come from each supply sector (including households, which supply labor) change only slowly over time. The relations indicated among the units of the economy by such a table, therefore, furnish a useful

Table 2
Input-Output Relationships, 1939*
In Millions of Dollars

	I	II	III	IV	V	VI	
	Agriculture and Foods	Minerals and Manufacturing	Transport and Trade	All Other Industries and Inventories	Government	Households	Total Outputs
I Agriculture and foods...	....	555	643	1,330	9	14,522	17,059
II Minerals and manufacturing....	1,329	....	2,730	16,265	559	12,152	33,035
III Transport and trade...	2,261	5,977	....	1,653	100	689	10,680
IV All other industries and inventories....	9,103	13,410	1,817	....	7,435	34,562	66,327
V Government...	1,073	384	32	9,712	....	2,594	13,795
VI Households...	4,167	14,212	2,548	40,024	7,897	....	68,848
Total inputs....	17,933	34,538	7,770	68,984	16,000	64,519	

* Calculated from data of the Bureau of Labor Statistics, Postwar Division of the Employment and Occupational Outlook Branch.

guide to the relationships we should expect within the moderately close future.⁶ Analysis of these actual interrelationships can lead to prediction of changed size of output and changed distribution of outputs and of inputs of specific industries, in response to changes in over-all employment, or to transition from war to peacetime production. A table showing total outputs of different industries, without

⁶ Cf. Leontief, Wassily, "Economic Statistics and Postwar Policies," in *Postwar Economic Problems*, pp. 163-64. Harris, Seymour E., Ed., New York: McGraw-Hill Book Co., 1943.

any indication of the channels of use of those outputs, omits the detail of interconnections which an input-output table can present.

Such a table can be developed in as little or as much detail as we like. We might class separately households, and all other "industries" including government. Or we might have 50 or 90 or more

Table 3

Price and Outputs by Industries, 1929-1932-1937*

Industry Group	Percentage Drop 1929-32			Elasticity of Supply	Percentage Rise 1932-37			Elasticity of Supply
	Total De- mand	Prices	Out- put		Total De- mand	Prices	Out- put	
1. Motor vehicles	77%	12%	74%	6.2	66%	2%	64%	32.0
2. Agricultural imple- ments	86	14	84	6.0	101	9	84	7.6
3. Cement	62	16	55	3.4	44	20	24	1.2
4. Iron and steel	80	16	76	4.8	100	20	67	3.4
5. Auto tires	56	25	42	1.7	57	27	24	0.9
6. Leather products	45	33	18	0.6	64	29	27	0.9
7. Petroleum products	47	36	17	0.5	66	21	37	1.8
8. Textile products	56	39	28	0.7	54	24	24	1.0
9. Food products	45	39	10	0.3	23	24	-1	-0.04
10. Agricultural com- modities	55	54	1	0.02	47	36	8	0.2

* The percentage changes in prices and output are from the National Resources Committee: *Structure of the American Economy*, Table XXII, p. 386 of Volume 1. The figures for percentage change in demand are approximate, being calculated from the given price and output data. Elasticity of supply is calculated. The original sources of data are the Bureau of Labor Statistics index of wholesale prices, and Federal Reserve Board indexes of output. Percentage changes are calculated on 1929 as a base.

It is useful to remember that whereas total real output had about recovered by 1937 to the level of 1929 (the round figures in billion dollars are (1929) 93, (1932) 58, and (1937) 95), current money value of net output had not recovered (the corresponding figures in billion dollars are 85, 40, and 73).

divisions, depending on the data available and on our purpose. We have, therefore, in such input-output relationships a bridge between the whole economy, and as many subdivisions as we wish.

Short Run Changes in Output of Particular Industries

When demand for the output of a firm or of an industry declines (that is, when buyers are unwilling at some given price to buy as large a quantity as they previously bought) there are, as we have seen, two effects: price tends to decline and output tends to decline.⁷ But in some industries, the main effect of the decreased demand is to reduce prices (output not being much affected); in other industries

⁷ The total demand (money spent) for a commodity is price times output. If the price of wheat is \$1 a bushel, and 1,000,000 bushels are sold, then total expenditure on wheat must be \$1,000,000.

the main effect of the decreased demand is to reduce output (prices not being much affected).

The preceding table ranks ten industries approximately in order, from those in which prices move least flexibly as demand falls and rises to those in which prices move most flexibly.

The effect of a drop in demand tends to be least on price, and most on output, in those industries (motor vehicles, agricultural implements, cement, iron, and steel) in which the monopolistic element is strong—that is, where products are highly differentiated and where a large proportion of output is produced by only a few firms. Monopolistic policy tends to dominate the selling of goods the production of which involves much manufacturing, and which are ready, or nearly ready, for sale to the ultimate consumer. The price of bread at retail, for example, tends to change very little when demand changes; the price of wholesale bread tends to vary more; the price of flour is still more sensitive; and the price of wheat is most sensitive of all.

Among the more purely competitive industries where the effect of the demand decline is mainly on price (in our list, agricultural and food products, and textiles) are those which supply raw materials, nondurable goods, and standardized commodities in general.

Parallel results usually occur when demand is increasing. Where the monopolistic element is strong, the main effect is on output, and prices rise only moderately. Where the competitive element is strong, output tends to rise less, prices more. We should particularly notice this because it is often casually argued that monopolistic industries hike prices upward enthusiastically when demand revives. But the evidence is that prices tend to be inflexible in that area both in downswing and upswing.

Elasticity of supply

We have calculated in Table 3 what we have called, somewhat loosely, the *elasticity of supply* of each industry over the periods indicated. We use this as our measure of flexibility of prices—that is, of how much on the average output changes when we have a small change in prices. Elasticity of supply is defined as

$$\frac{\text{percentage change in quantity}}{\text{percentage change in price}}$$

For example, the average elasticity of supply for motor vehicles 1929-1932 is $\frac{1}{4}$, or 6.2.

If, when there is a 1 per cent change in price, quantity of output changes by more than 1 per cent, supply is called *elastic*. If, when there is a 1 per cent change in price, quantity changes by less than 1 per cent, supply is said to be *inelastic*. It will be noticed that (with one exception) supply for the first five industries in both decline and revival is elastic: prices change relatively little, output relatively much. The supply of the last five industries is (with two exceptions) inelastic—above all for food products and agricultural commodities where output changes little but prices are fluctuating widely.

It should be noticed, as we look to the elasticities of supply of particular industries that "other things were *not* equal." For example, when demand dropped for agricultural implements, it is not true that demand for motor vehicles remained constant. Demand was, at this time, declining for all commodities. If demand for motor vehicles and other commodities had been maintained, then some of the resources used in agricultural-implement production would have been transferred to the production of motor vehicles and other goods. This transfer would have involved some of the labor, raw materials, and machinery which could no longer find full time employment in the implement industry or could find it only at lower returns. Output of agricultural implements would have contracted still more, and price less. In brief, elasticity of supply would have been greater under the new conditions.

Elasticity of supply would tend, likewise, to be greater for an industry whose demand was increasing if demand for the output of other industries remained unchanged, because resources would transfer to some extent from the latter industries to the former.

Long-run elasticity of supply

The dates which we have been looking at are for short periods only—three years of decline in demand, five years of rise of demand. It is by no means sure that we should find that the industries which in the short run have the most inflexible prices (greatest elasticity of supply) would similarly have inflexible prices in the long run. Sometimes that is true. Steel rails, as an extreme example, sold for \$28 a ton from 1901 to 1916, and for \$43 a ton from 1922 to 1932, with output varying widely within these periods. But the prices charged by other monopolistically competitive industries have changed greatly over the decades. In the automobile industry, the jalopy which we bought for \$2,000 in 1920 had by 1939 been im-

proved into the effective car which we could buy for \$900. The chemical industry is one of the most tightly disciplined (that is, most monopolistic) of United States industries, but prices of chemicals during 1920-1939 fell 54 per cent.

The explanation probably lies mainly in a tendency we have already discussed: that the greater the number of years we are considering, the greater the extent to which resources tend to flow into a field where prices are kept high relative to costs (where profits are large), and away from a field where costs are rising and demand shrinking. Eventually, as businessmen set up to produce substitutes in a field or migrate away from it, the changed output of the industry has its effect on prices.

We can, therefore, repeat a previous conclusion: that in all industries (monopolistic as well as competitive) supply is more elastic in the long run than in the short run.

War experience—expansion of output in particular industries

During our recent war experience, the incentive of price rises toward getting an increased supply from industry was (outside of agriculture and other special fields) of secondary importance. The price of steel plate and glass plate had not, after 52 months of war, risen at all, but output had multiplied greatly. The price of pig iron rose only 15 per cent over a period when the output of alloy steels was rising 433 per cent.⁶ The main explanation of increased production in war industries and essential civilian supply industries lay in the controls of the War Production Board and the effective cooperation of industry with those controls. The essential measures were those of priorities and allocations, which channeled supplies of raw materials to the most essential industries. Other measures checked the building up of inventories of raw material in the warehouses of individual plants, mobilized idle supplies, and encouraged conservation procedures (such as standardization of end products and elimination of "frills").

The situation in 1941 of sample companies in lead mining illustrates the diversity of obstacles to expansion, and the diversity of possibilities of expansion. The information was given in response to inquiries made by the Truman Committee.

⁶ Output of 1944 compared with that of 1938. Data from Senate Hearings on Extension of the Price Control Act, p. 1567, and Third Annual Report of the Truman Committee. Quoted in Harris, S. E., *Price and Related Controls*, pp. 277-279. New York: McGraw-Hill Book Co., 1945.

1. Federal Mining and Smelting, and American Mining and Smelting: "A 1-cent increase in price would increase production 10 to 20 per cent in 6 months."
2. Combined Metals Reduction Co.: "Price increase would not result in higher production because we are now working all marginal ore bodies."
3. Shattuck Denn Mining Corp.: "Higher price would increase ore from small mines sent to our mill. Our own mine now operating to capacity."
4. Silver King Coalition Mines Co.: "Mining of submarginal ores will be discontinued unless price rises."
5. Dayrock Mining Co.: "By spending \$20,000, we could increase production within 30 days by 20 per cent. Within 90 days, the maximum increase could be 40 per cent, at an expense of \$75,000."
6. Sherman Lead Co.: "By spending \$50,000, we would increase production within 60 days by 50 per cent. The mine now is being operated at its greatest economic rate of production. Any increase in output will involve an increase in cost and a lesser return to stockholders. . . . To achieve a substantial fraction of 50 per cent possible increase, sixth- and seventh-day weekly operation is required. Such overtime at time and one half (will cause) production under present prices to be obtained at a loss."
7. Shenandoah-Dives Mining Co.: "An adequate price increase would add 5 per cent to output within 90 days; and would increase production at least 20 per cent with additional development calculated."
8. Triumph Mining Co.: "No material increase possible with price increase until new tunnel and mill are completed."⁷

Changes in Demand

In Table 3, the changes in total expenditure (demand) vary considerably from one group of commodities to another. In 1929-1932 while the total expenditure on agricultural implements was dropping by 86 per cent, demand for food products and leather products was declining by only 45 per cent. And in the five following years, while demand doubled for iron and steel and agricultural implements, it rose by about a half for textiles and agricultural commodities, and by only a quarter for food products.

Part of the explanation clearly lies in the rigid prices of the former commodities in both periods. If prices of a good do not drop in depression, buyers tend to shift away from buying that good. They may buy more of other goods whose prices have dropped greatly. In revival, buyers will tend to buy more of those goods whose prices rise little.

But this is often an incomplete explanation. Will a man who is discouraged from buying steel *I*-beams by their high price be induced thereby to buy more wheat? It seems doubtful. The shift of demand from one commodity to another is only one element in

⁷Special (Truman) Committee Investigating the National Defense Program, Report No. 480, part 5, pp. 216-19.

explaining changing expenditures on those particular commodities. The other element is that total (or aggregate) demand for all commodities was declining in 1929-1932, and rising in 1932-1937. The following chapters will be concerned with this basic problem of changes in total demand.

CHAPTER SIX

THE COST OF UNEMPLOYMENT AND THE AIM OF FULL EMPLOYMENT

IN THE last several decades, there have been wide variations in the degree to which we have utilized the resources of the nation. In many of these years, production could have been increased considerably if we had made effective use of more of our resources.

The Cost of Unemployment

Over the years 1930-1939, an average of 18 per cent of our working force was unemployed, or nearly one man in five (Chart 10). Suppose we had instead enjoyed reasonably full employment. How much would our output have increased? We might argue that it would have increased by less than the proportion of the newly employed to those previously employed, because the unemployed, with many exceptions, were those who were less effective and less regular. On the other hand, there was much part-time employment among those who are listed as employed—people working half a day instead of a whole day, or three or four days a week only. Also there was much so-called *concealed unemployment*. This we define as a *bad allocation of labor* due to general unemployment¹ in the society—the employment of people in tasks requiring less skill and ability than those for which they are fitted. Many a mechanic sought refuge from depression back on a subsistence farm, and lawyers and scholars operated filling stations. In addition, through fear of unemployment, men slow down their work in time of depression; and unions stipulate for “make-work” rules—for full crews, stand-by musicians, maximum width of paint brushes, a limit on the number of bricks to be laid a day, and for rewiring of factory-assembled switchboards.

Setting these arguments against one another it seems conservative to estimate that the national output might have risen by at least

¹ See pp. 77-78.

the percentage increase in employment which was possible. At reasonably full employment we could, during the 1930's, have made use of the services of 49 million persons, rather than the average of 42 million, and net output might have risen by about 16 per cent, or by 124 billion dollars of goods and services (valued at prices of 1944).² These lost goods and services are nearly equal to our total production in 1941, a year of unprecedented high output.

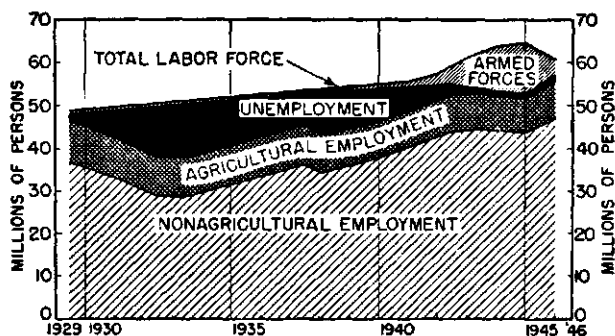


CHART 10

Estimates of the Labor Force, Employment, and Unemployment in the United States, 1929-1945

Sources: Through 1944, from *Basic Facts on Employment and Production*, p. 2. Data for 1945, from the *Economic Report of the President* (House Document 49, 80th Congress, 1st Session), p. 50.

The unemployment data for the preceding several decades are less reliable; and they likewise do not take account of part-time unemployment and of concealed unemployment. But they point to the conclusion that the proportion of people unemployed was usually small.³ Still earlier, in the nineteenth century, the United States experienced prolonged periods of bad times (pages 116-118).

²The calculation is as follows. The average labor force during these 10 years was, by Bureau of Labor Statistics estimates, 51.4 million. We assume that at reasonably full employment 5 per cent, or 2.6 million, of the labor force would, on the average, have been out of work owing to personal or frictional causes (see pp. 77-78), leaving the average number of employed at 48.8 million. This is an increase of 15.9 per cent over the average actual number of employed, 42.1 million. If total output in the decade had risen similarly, it would have been 904 instead of 780 billion dollars, or larger by 124 billion dollars.

³That this is an extremely conservative estimate is evidenced by the rise in output under pressure of wartime incentives. In 1944, real output rose to 175 billion dollars (prices of 1944), or 122 per cent above the annual average for the decade of the 1930's.

⁴See the *Economic Record*, March 20, 1940, of the National Industrial Conference Board.

To the extent that we should, at higher levels of output, have used up resources which are not perishable and which are available to us in limited quantity, the loss through unemployment is not permanent. The resources remain at our disposal, and (assuming they are not made obsolete by some future technical advance) we will utilize them at some future date.

But labor time gone to waste is gone forever: its output is irretrievably lost. Time is our ultimate scarce resource.

In addition to the plain loss of time, there is an inevitable deterioration of skills, as men are away from their trades for months and years, and perhaps are forced to take other, lower-rated jobs:

"I was an apprentice engineer and during the depression (1931) I was laid off. I got the offer of my job back but I was working then as a labourer and getting 30 s. a week. I just couldn't go back to my apprentice's wage of 15 s. I'm sorry now that I didn't."⁴

"I have given up all hope of getting back to . . . my original work. I feel very keenly the loss of my trade union positions and the pity I receive from people who knew me. I feel sometimes like a hunted animal whose holes have been stopped up."⁵

Training for trades and professions diminishes during depression. Young people are discouraged from beginning a period of apprenticeship or schooling which will lead only to unemployment. One may as well be unemployed without the training. And union policies reflect the opposition both of unions as a whole, and of their unemployed members in particular, to starting new apprentices when skilled men of long service are out of work. In union contracts with employers, the proportion of apprentices to skilled workmen is often specified. Of a sample of union contracts negotiated before 1929, 12 per cent specified one or fewer apprentices to 10 skilled workmen, but 41 per cent specified this among contracts dated 1935-1940.⁶ Diminished training means that the working population has a lower average level of skill, and, hence, that the economy will be less productive in the future owing to the lessened effectiveness of labor.

We have not yet mentioned what is probably the most important

⁴ *Disinherited Youth*, a survey made by the Carnegie United Kingdom Trustees during 1936-1939, p. 13. Quoted in Beveridge, Sir William, *Full Employment in a Free Society*, p. 246. New York: W. W. Norton and Co., 1945.

⁵ By an unmarried mechanic, in *Memoirs of the Unemployed*, p. 154. London: Gollancz, 1934.

⁶ Slichter, Sumner H., *Union Policies and Industrial Management*, p. 36. Washington: Brookings Inst., 1941.

of all the losses brought about through unemployment: this is the psychological cost, the cost in morale. A person who wants and cannot find an employee suffers inconvenience. A person who wants and cannot find a job suffers disaster—not only lack of income with the privation and train of petty and major humiliations which that may involve, but also a verdict that he has within him no contribution which the economy values. Once he is convinced that he is “no good,” then the verdict becomes in large measure true: he is unlikely to show the effort and confidence which are the first requisites of success. Even if there is adequate unemployment insurance, idleness demoralizes.

Beyond the unemployed themselves are their families, who are blocked from their chance of living rounded and expanding lives, constrained within a narrowing circle of humiliations and privations. It takes a very unusual person to overcome so unsympathetic an environment. All too generally the individual is seized by a deepening sense of frustration and bitterness.

“Any long spell of unemployment leaves you with little to be proud of and much to be ashamed of. Our child is still too young to realize that it is her mother who works. We carefully keep her from knowing it. . . . You have no life when you have no work; there are so many things you cannot do and so few that you may. . . . It is the work we want as much as the money.”⁷

“When Mr. C. lost his job at Winchester’s, his wife was successful in getting a job there, and he did the housework. He did not mind until the neighbors made fun of him. They saw him working outside the house. He and she have never quarreled over the housework, but she felt very badly when she saw how miserable he was, and when she is home she protects him from the criticism of the neighbors by making certain that he engages in no domestic duties at which they will see him.”⁸

“Even if Mr. Leventhal gets a job on WPA again, . . . he will work just to keep the family going. They will have no opportunity to save and build up any security for their old age. With the employment situation in his trade what it is, there is little likelihood of his finding a job in private industry. Mrs. Leventhal says that she worries a great deal about her children’s future.”⁹

“My chief trouble is the monotony of a long spell of unemployment. We are willing to forego replacements in the home, even new clothes, although our present ones cannot last much longer. But monotonous and insufficient food and having nothing to do . . . kill a man’s interest in life. . . . Perhaps I miss cigarettes most and I hate being chained to home most. There is no substitute for work.”¹⁰

⁷ By a skilled wire drawer in *Memoirs of the Unemployed*, p. 180-81.

⁸ Bakke, *Citizens Without Work*, p. 183. New Haven: Yale University, 1940.

⁹ Ginzberg and Associates, *The Unemployed*, p. 135. New York: Harper and Brothers, 1943.

¹⁰ By a skilled millwright in *Memoirs of the Unemployed*, p. 105.

The Meaning of Full Employment

What is meant by the phrase *full employment*? We look first to employment of resources other than labor—natural resources and capital equipment. Ought we to set as a goal that every vein of coal should be mined, every deposit of copper or lead exploited, every acre of land cultivated, every machine and every tool put to use? We know as a matter of common sense that such an objective would be foolish.

“It doesn’t pay” to work the poorest ores; some land isn’t worth cultivating; it’s best to junk worn-out or obsolete machinery.

Such submarginal resources will not return a product which covers the cost of the other factors which we use with them.¹¹ We shall get a larger product by using those other factors more thickly (or more intensively) on better quality resources. It is sensible to leave thin and inaccessible strata of coal unmined and obtain our coal from richer deposits closer to market. If 100 men plus equipment can extract 90,000 tons of coal per year from poor deposits, but if these men and the equipment, used on available richer veins, can produce 180,000 tons per year, the first deposits can justifiably be left unworked. Likewise, it is sensible to leave barren and distant farm lands uncultivated; and instead get our agricultural supplies from the richest land, close to markets. And it is reasonable for a society to junk equipment in good working order, if new, more efficient equipment appears which can produce a greater output from a given input of labor and other resources (including in input the resources required for building the new machines).

If, therefore, we rank in order the resources of the society other than labor, from the best to the poorest, we shall always come to a margin, below which it is not worth while to use them. Idleness of such poor, or submarginal, resources is not a token that the economy is ineffective in utilizing its factors.

Does the same reasoning hold for labor? As we go down the scale from persons who, from a combination of professional and psychological qualities, are very effective, to those who are less and less so, we come eventually to those who are so inefficient and unreliable that their contribution to production is not equal to a minimum wage. That people are so ineffective is often avoidable, and no

¹¹ The cost of those factors (more exactly, their *opportunity cost*) will be measured by the returns they earn in the best available other uses. Hence, their returns from being employed on submarginal resources will by definition not cover their cost.

other investment of the economy is so well justified as that effectively directed toward diminishing disease, toward nurturing physical vigor and mental balance, and toward increasing the skills of the population. Nevertheless, seriously handicapped people are among the population. Should such people be left unemployed in a well-organized society?

Our social ethics, by reason of religious and other motives, require that we aim at maintaining a decent minimum standard of life for all members of the population, whether or not they are able to contribute effectively to the social product. The cost of maintaining the individual is hence a fixed cost from the point of view of the whole economy. This cost continues whether or not the individual works; and therefore it is not relevant to the question of whether or not he should be at work.

The issue then becomes whether the workers in question can, in some job or other, add *anything* to the output of the economy. The answer is nearly invariably "Yes." The blind man who weaves baskets, the man who wipes windshields at the filling station, and the man who picks up papers in the park with his spiked stick, all add something to the social output. If we consider in addition the educational value of congenial work toward better skills, and its therapeutic value toward better psychological adjustment, we must conclude that there are few among even the drastically handicapped, who would not be of greater use to the society at work than idle. Practically all of us can through our work make *some* contribution to the general good.

When is a person unemployed?

Some persons are idle without being unemployed. A man living on interest from his investments is not said to be one of the unemployed. Similarly, we do not consider as unemployed people who are on vacation, or who are ill, or are disabled, or are going to school. Neither are housewives to be considered unemployed. These people are not in "gainful work" *voluntarily*: they are unable to carry on gainful work, or else do not want a job.

Our concern is not with these, but with the *involuntarily* unemployed: people able to work and wanting work, but still without jobs. But just as the phrase *able to work* is subject to a wide range of doubt, so also is *wanting to work*. Wanting work is a matter of degree, varying in accordance with many influences: the pay rate;

type, and location of a job in question; working conditions; family responsibilities; other income available to the family; state of indebtedness; the difficulty, expense, and embarrassment involved in getting a job; and so forth. There evidently are blurred edges to the concept of "unemployed," and possibility of varying classifications.

We might look at a particular case: Suppose a skilled mechanic who had been working at \$1.50 an hour, is offered a job in his trade at 75 cents an hour. If he refuses to take the job, shall we consider him a sluggard, voluntarily idle? Suppose our mechanic is offered a job as soda clerk. If he refuses to give up his trade, in which he has been trained and perhaps spent years of work, to accept relatively unskilled work, shall we consider him lazy and not an honest member of the unemployed? Suppose he is offered a job, acceptable in itself, but 30 miles away from his home? Shall we insist that he move himself and his family (if he has one); or commute by bus or train two or more hours a day, or perhaps buy a car?

The decision as to whether or not a person is unemployed is, therefore, difficult to make in many borderline cases. The rule of reason must apply. If he is able to work, is seeking work, and is not offered any job at all, we will certainly call him unemployed. And even though he is offered a job, if the offer seems unreasonable in view of the circumstances, we will still call him unemployed—that is, involuntarily unemployed, not merely an idler.¹²

The concepts of unemployment set up by states or by unions administering unemployment benefits may easily go astray in special cases. Certain Indians in northern Michigan are accustomed to act as guides during the summer, and hunt and fish during the winter. But in the winters of the 1930's, they fell under the legal classification of "unemployed," and gladly accepted unemployment benefits. The story is told also of two farmers in Germany whose sons worked for them. One day they became aware of the opportunity offered by the law. Each hired the other's son, and then after a time fired him. The sons went back to work for their own fathers as before; but they now by legal definition were unemployed, and so were entitled to draw benefits. Rules defining unemployment evidently must be carefully drawn to minimize undesired inclusions or exclusions.

¹² There are social scientists who have declared that a man is not unemployed if there is any job available at any rate of pay, anywhere in the society. Such a viewpoint defines away the problems really involved.

The total working force

The number of persons unemployed is the difference between the total working force (the total number of persons able to work and seeking work) and the total of employed persons.

The total working force is not necessarily any fixed proportion of the total population. In recent years, the working force has increased by more than the total population because the population increase has been concentrated in the 20-to-24-year, productive, age groups. Nor, in any given year, is the working force a fixed number of persons. Over 5 million persons in the United States are undecided as to whether or not to look for jobs. Many of the workers who are auxiliary earners for the family fall into this classification. If the main income earner of the family loses his job or takes a pay cut more of these people will want jobs: the labor force increases. Professor Slichter estimates that about 10 million families in the United States, or one in three, have more than one income earner. Another marginal group is to be found among the 2 million young people who enter work in normal years. Many among these must make a doubtful decision whether to take a job or to continue in school a bit longer. And also many of the 2 million people above the age of sixty-five who are working must make close decisions on whether to retire, or to continue working a year or so longer.¹³

More of these hesitant people will be attracted into looking for jobs and accepting jobs, if there are job opportunities available where pay rates are attractive, where hours of work are convenient (especially important for housewives), where work is clean and light, and the location close at hand. Improvement in *working conditions* is, therefore, an influence toward increasing the size of the working force.

An increase in the number of jobs *available* has a two-fold influence: on the one hand, it induces people to look for work who previously considered their chances too poor to justify the fatigue, embarrassment, and expense of job-hunting. On the other hand, some people will withdraw from the labor force when the primary earner of the family obtains a job or receives an increase in wages. A change in the demand for labor, therefore, causes offsetting movements both into and out of the labor force.¹⁴

¹³ Estimates of Slichter, Sumner H., "More Job Givers Wanted." *Fortune*, p. 160, October 1945.

¹⁴ The argument we have given in the above two paragraphs can be reversed: there is a reciprocal influence between jobs available and the labor force. We have said

As a consequence of these influences, the labor force has a decidedly varying total and is composed, in some measure, of different individuals from month to month. In the course of a year, some 10 to 15 million persons join the work force at least temporarily; hence, if the work force averages 60 million, some 70 to 75 million people have been at work during at least part of the year. Seasonal fluctuations are wide: 3 to 4 million more people are usually in the work force in midsummer than in midwinter. In January, 1945, the civilian work force was 51 million, in July 55.2 million—a difference of over 4 million.¹⁵ Because of offsetting movements into and out of the work force over the cycle, the seasonal variations are larger than the cyclical variations.

Employment estimates and unused productive capacity

The best sources which we have for employment and unemployment data are the Census returns of 1940, 1930, and before; and the current *Monthly Report on the Labor Force*, also of the Census Bureau.¹⁶ The monthly surveys obtain their data from a carefully stratified sample of the whole population—about 25,000 households in 123 counties throughout the nation. But all estimates have their particular deficiencies. The monthly reports understate the amount of unused labor power in the country:

1. They include as employed those people who worked only part time. Some of the farmers, businessmen, and professional men listed as employed hardly worked at all, but were included because of their status—that is, because they had a business at which they

above, in effect, that the numbers and kinds of jobs available help to determine the numbers (and kinds) of persons in the work force. It is equally true that the numbers and kinds of jobs employers are willing to offer depend on the numbers and kinds of workers available.

¹⁵ Bureau of the Census data in *Survey of Current Business*, October 1945, p. S-9.

¹⁶ In the monthly surveys, the labor force is defined to include all persons in the population of age 14 or over who report themselves:

(1) At work on a private or government job, including the self-employed and unpaid family workers;

(2) With a job but not at work because of vacation, illness, labor disputes, bad weather, or temporary layoffs with definite instructions to return within 30 days of layoff;

(3) Not at work but actively seeking work;

(4) Not at work and not actively seeking work because of indefinite layoff or one lasting longer than 30 days, temporary illness, or the belief that no work is available in the community or in their line of work.

Individuals listed under (1) or (2) are classified as "employed." those listed under (3) or (4) as "unemployed." All other persons over 14 are classified as "not in the labor force"—mainly housewives, students, and those too old or otherwise unable to work. (Source: *Labor Force Definition and Measurement*, pp. 10-11, Bulletin 56, 1947, of the Social Science Research Council.)

might be working. Many of the part-time employed would wish to work more if acceptable jobs could be obtained without too difficult a search. Part-time work has become in our economy a main institutional device to alleviate the pressure of unemployment.

2. Some of the potential workers are not classified in the work force at all. These are people who are not at work, and not actively seeking work; but who would try to find jobs if the search were not so arduous, or if jobs with better wages and working conditions were available.

3. Concealed unemployment (the employment of people in jobs where they are less productive than in the jobs they could obtain if employment opportunities were greater) is necessarily omitted from the statistics.

There is a counterinfluence in that some people withdraw from the labor force when conditions improve, but this is a minor factor compared with those given above.

Kinds of unemployment

What types of unemployment exist in our society? We exclude from our count of the total work force those people who are "unemployable" by reason of drastic physical or mental handicap, though we ought to remember that this, too, is a relative term, and that during World War II, when demand for labor was intense, ways were found to fit the blind, the deaf, and those otherwise handicapped into jobs suiting their abilities. They were often, in the stimulus of being found useful and needed in the society, very adequately effective in those special jobs.

However, in the labor force, as usually defined, will be people who may not be visibly handicapped, but are so in fact. These are people of limited mechanical ability or general intelligence, "hard to get along with," unreliable, spiritless or lazy, or given overmuch to drink. These marginal workers add up to 2 per cent or more of the work force;¹⁷ and though they are useful in casual and emergency work, they will be unemployed a considerable proportion of the time.

In addition there is *frictional unemployment*. Some industries are seasonal. Farming, canning, lumbering, construction, the Christmas trades, and so forth, reach their seasons of maximum output and then contract during the remainder of the year. Others,

¹⁷ Estimate of Slichter, Sumner H., in *Problems of Definition and Measurement of Employment*, unpublished manuscript.

such as the buggy and silk industries, may decline over a number of years, and so release workers. And a certain proportion of people are always, for one reason or another, leaving their jobs and seeking work elsewhere. Even in good times, it is likely that a person unemployed for any reason will require a week or several weeks before he finds a new job which he will accept. If a declining industry in a given area leaves a surplus of workers unemployed and in low-paying and subsistence work, months or even years may pass before they gradually migrate to take jobs elsewhere, or until new industries appear in the vicinity of their homes.

People are very reluctant to move far from their homes. Labor flows far more readily from one occupation to another than from one location to another. If a shipbuilding plant is expanding and offering high wages, many a local clerk, barber, and janitor will take a job there; but usually not many, even of those in ship-construction trades, will move themselves and their families to the plant from a long distance away.

This frictional unemployment, arising from the fact that the right man is not in the right place at the right time, can be separated logically from *general unemployment*, which is widespread unemployment over most of the area of the economy and in most occupations. It is the problem of general unemployment which is the chief concern of this book.

Acceptable full employment

What should be understood by the term *full employment*? We mean that business sales of goods and services plus the output of government have attained approximately the nation's capacity to produce.

The basic determinant of the nation's capacity to produce is its labor supply: this is the fundamental datum on which estimates of maximum production must be based.¹⁸ If there is much unemployment, then the economy could produce more. If, on the other hand, the nation is making use of all the labor force reasonably available, with adequate incentives and with appropriate allocation of all re-

¹⁸ This is obviously true in the short run when all the factors which affect labor's productivity (natural resources, capital instruments, techniques) are approximately fixed. It is true even in the long run if we are thinking of the maximum that could be produced in view of given consumption needs. But it is, of course, also true that if we had more resources, or capital instruments, or better techniques, then production would be larger from a given labor force.

sources including labor, then the economy is running at its maximum capacity.

We do not, however, mean by full employment that potential sales of goods and services are so high (that is, money outlay is so great) that there will always be more vacant jobs than unemployed men. If money outlay for goods and services were so large that this was usually true, inflationary pressures to raise wages and prices would be tremendous. Unions and individuals could easily obtain higher wages or their equivalent in better ratings. Raw-materials producers and farmers would find the prices of their products booming; and even monopolistic industries (where prices, we remember, tend to be rigid) would find incentive and opportunity to keep edging their prices upward. Average efficiency of production would decline as firms pushed their plants beyond planned capacity. Furthermore, with such extremely heavy demand, it would be difficult for firms to go bankrupt. If the least effective businesses are not weeded out by bankruptcy, the average effectiveness with which the economy uses its resources falls—another cause for higher prices.

There is even a possibility—if unions are disposed to press strongly for higher wages, and monopolistic businesses are able to, and do, follow inflationary pricing policies—that prices would tend to rise sharply when employment, viewed from the standpoints of potential output and the human costs of unemployment, is still unbearably low.

When strong inflationary pressures exist, the government can sit on the lid of prices only precariously, with the utmost difficulty. We know from war and postwar experience how quickly pressure builds up against the maintenance of price ceilings. The situation is unstable. It is especially unstable in a democracy: legislators want to get re-elected as much as employees and businessmen want to have higher incomes.

Nor is price control the only sort of control needed. When prices are held down in competitive industries, demand is greater than supply;¹⁰ and for important articles of consumption, the government will be forced, in the interest of fair distribution, to institute a

¹⁰ This is not necessarily true in monopolistic areas. Dr. Galbraith's experience in the Office of Price Administration ("Reflections on Price Control," *Quarterly Journal of Economics*, August 1946), as well as theoretical reasoning, indicates that monopolistic firms may be willing to supply larger quantities at going prices.

rationing system. And to minimize frictional unemployment (and also to ease the problem of price control), the government may order production carried on in, and raw materials allocated to, areas where there is available labor. The mobility of labor may need to be encouraged, and perhaps the direction of demand channeled toward those products for which productive capacity is available.

Briefly, beyond a certain point, increased production and employment can be gained only at the cost of multiplying government controls.

In the United States, however, it is the prevailing opinion that government controls ought to be minimized to the extent possible in view of other major aims. With respect to prices, we should like them to be kept down by the competition of businessmen for more sales, rather than by a permanent OPA, and businessmen will compete for more sales only if they are not producing at their full capacity—that is, if a margin of unemployed resources is available.

To the extent, therefore, that we wish to minimize direct government controls over our economic life, we will desire less than the level of employment which is associated with strong upward pressure on prices, and hence with the need for much government control. Our aim is to choose the best compromise possible amidst our objectives: high production and employment, stable prices or no more than moderate price rises, and minimum direct government controls.

Where is this "best" level of employment? We follow a middle-of-the-road judgment, and define *acceptable full employment to mean that about 5 per cent of the work force would on the average be out of work.*

This implies, if we assume as a fair expectation for the postwar years a labor force of 60 million, that unemployment will normally run at about 3 million. If the people who are for some reason or other out of work should on the average require one month before finding another job, then in the course of a year 36 millions of the working force will change from one job to another. (This total of 36 million includes a good deal of double counting, since some people will change jobs more than once.)

Such job-shifting is necessary if men are to have freedom to change work when they like, and furthermore is necessitated in some part by variations of demand and of supply, and the consequent decline and rise of individual firms and industries.

There is nothing sacred about such a figure. If one dislikes and fears considerably the continuance or extension of government controls, he may consider a larger figure for unemployment acceptable. *Fortune* magazine has suggested 7 per cent, or over 4 million unemployed in a working force of 60 millions.²⁰ If one does not fear the extension of government controls, is inclined to think they would be efficient, and is humanely concerned with the psychological cost of even temporary unemployment to the individuals concerned, he will prefer a smaller figure. Lord Beveridge considers 3 per cent an adequate allowance for unavoidable unemployment.²¹

Under the extreme pressure of wartime, the British have in fact been able to reduce the numbers of unemployed to less than $\frac{1}{2}$ of 1 per cent of the total civilian working force. In the United States, during wartime, unemployment reached a minimum of $\frac{1}{10}$ of 1 per cent.²² (During most of World War II, it ran between 2 and 5 per cent.)

What would the attainment of continuing full employment mean in the lives of the citizens of the United States? There would be, of course, a larger output for all of us to share. But one may speculate that other effects would be deeper and more important. Men would still lose their jobs occasionally, but they would be assured of finding a new one soon, and certainly before their unemployment compensation had run out. Not only would continuing unemployment be gone, but the haunting fear of it would also be gone, and perhaps this latter would be the greater boon to human happiness. Today, each employer and employee knows that he may be impoverished by a general collapse of the economy in which the individual is nearly helpless.

Economics is by no means the whole of life, but it is one important part; and unemployment has proved in recent peacetime years our most important economic problem.

²⁰ "Transition to Peace: Business in A.D. 194Q," January 1944.

²¹ *Full Employment in a Free Society*, pp. 127-129. New York: W. W. Norton and Co., 1945.

²² This was in October 1944. Bureau of the Census estimates, in the *Survey of Current Business*, October 1945.

CHAPTER SEVEN

WHAT CAUSES CHANGES IN EMPLOYMENT?

THE maintenance of high employment and production requires policies on: (1) total expenditure for goods and services, (2) the level of prices, and (3) the location of industry and the mobility of labor.

Total Expenditure

Expenditure means the spending of money for goods and services produced by the economy. But individuals do not spend for the sake of spending, nor ought they. Expenditure means prudent spending for the sake of obtaining wanted goods and services. It is convenient when we are looking at influences on the volume of expenditure for goods and services to talk in terms of *gross* expenditure, which is made for, and equals, *gross* production (Chap. I). We have already divided gross expenditure for goods and services into three divisions:

1. Consumers' expenditures for goods and services. This is a part of output that is *not* used in any further production—shirts, haircuts, lamb chops, theatre plays, passenger automobiles, and so forth.

2. Expenditures by businesses for investment goods, which is a part of output that *is* used in future production—steel rails, office and factory buildings, bottling machines, inventories of cotton fabrics, and so forth.

3. The remaining part of gross output is that for which government expenditure is made.

Expenditure in the private economy for consumption and investment goods, plus government expenditure for goods and services, *may* be of the volume and direction which purchase the production of the economy at its effective full capacity. At this point there is what we call full employment and in addition (we assume tempo-

rarily) a fairly stable price level. But total expenditure may instead, in certain areas or over the whole economy, be excessive, leading to a continuing upward spiral of prices. Or it may be unduly low, leading to low production, heavy unemployment, and sagging prices.

Our primary problem, therefore, is to investigate the causes determining total expenditure. We consider, first, influences determining the total sales of consumption goods and services (Chap. VIII), and investment goods (Chap. IX) to private individuals and businesses. Our basic conclusion will be that the volume of expenditure on consumption is a passive element, depending mainly on the level of income received in the economy; and that investment is, in the private economy, the active source of change in the level of income. It is evident in advance that there are interrelations between these two: that increased investment provides increased incomes for persons working on new plant and equipment and, hence, the means for higher consumption; and that, conversely, any change in consumption gives cause to businessmen to increase or decrease their rate of investment. Chap. X is concerned with the third and last of the constituents of total expenditure for goods and services, that of government.

If total expenditure in the economy is inadequate to evoke acceptably high employment, what can be done to increase it? In Chap. XI, we survey certain doubtful suggestions for increasing total expenditure. Chaps. XII and XIII consider current prospects, and certain basic issues of policy. Chaps. XIV and XV are concerned with a number of means of stimulating private consumption and investment.

The expenditure of government for goods and services has not in peacetime years been a large part of total expenditure, nor has it been in significant degree ordered in volume or direction from the point of view of its effect on total employment and production. In both respects, the future is likely to differ from the past. The intake of money into government from taxes and loans is, of course, an equally important concern with government expenditures, because taxes and loans will influence private expenditures on consumption and investment. If, despite measures to encourage them, private consumption and investment remain inadequate, the government budget (its revenues and expenditures) can be utilized to increase total expenditure in the economy (Chap. XVI).

The Level of Prices

As total money expenditures over the whole economy rise, and full utilization of resources is approached in particular lines and over the economy, prices also will tend to rise. In fact it is possible, with expansive wage-demand policies by unions and pricing policies by monopolistic business, that prices may tend to rise steeply when there is still much unemployment. And so, efforts to increase production and employment by increasing expenditure will, beyond some point, be increasingly frustrated by a succession of price rises. The level of prices is, therefore, a relevant matter for our consideration (Chap. XVII).

The Mobility of Labor and the Location of Industry

It is possible that increases of private or public expenditure will lead to sharp price rises in given areas or occupations, while there is still heavy unemployment elsewhere. An increase in the hiring of labor in Massachusetts will not diminish unemployment much in California, and a road building program may not much alleviate distress from unemployment in the local textile industry. This implies that the direction of expenditure is an essential concern of public policy.

It also implies that attention needs to be given to labor mobility and industrial location. People move only after delay to new localities where jobs, or better jobs, are available, and at considerable psychological and material cost. Also they undertake training programs only after delay and at considerable cost. Public policy may usefully give some attention, on the one hand, to locating new industry in areas where the kinds of labor needed are relatively abundant; and on the other hand, to facilitating the movement of people into localities where their services are needed, and to facilitating their training or retraining for occupations in which skilled labor is needed (Chap. XVIII).

CHAPTER EIGHT

CONSUMPTION EXPENDITURE

OCCASIONALLY people have tried to explain the depression of the 1930's on the ground that at long last the United States' economy had been able to produce more than enough for all of us. "It is a glorious thing to contemplate," runs one conclusion, "that we can at long last produce more than we care to consume." It is certain that this explanation of unemployment and lowered production is wrong. We did not have men idle because we produced more than we wanted to consume. The average weekly income per person in 1928 was about \$13.40, not a munificent figure. By 1932 it had fallen to \$6.20.¹

The United States has, in many respects, the highest standard of consumption in the world. But judged by very moderate criteria, there is much evidence that we are not as well off as we should like to be, and as we can be in view of the productivity we have shown during wartime. One kind of general evidence is that at every income level, the amount spent for consumption increases when income increases.² In other words, we should like to consume more if we could afford to. The bar to increased consumption is not that people have run out of wants, but that they have run out of money.

But, some may argue, the criterion of wants is a doubtful one: perhaps we want more than is good for us. Then we may bring up more objective general evidence. Life expectancy is rather closely correlated with real income. In a survey of infant mortality following 23,000 births in eight cities, deaths occurred at the rate of 52 per thousand in homes averaging less than one person per room, and at the rate of 136 per thousand in homes averaging two or more persons per room.³ Of 1077 tuberculosis cases in Hartford, Connecticut,

¹ In money terms. The fall in money income was cushioned by a fall in prices: the 1932 weekly income bought a quantity of goods and services which would have been worth, at 1929 prices, about \$7.80.

² Pp. 88-90.

³ "Causal Factors in Infant Mortality," Children's Bureau, U. S. Department of Labor, 1925.

over a five-year period, more than half were in a slum district covering less than a tenth of the city area. In Cincinnati, 1929-1931, deaths from four common children's diseases averaged 127 per 100,000 in the poorest homes, and 29 per 100,000 in the best homes.⁴ Life expectancy among Negroes, whose incomes are low relative to those of whites, is about 12 years less than the average for the white population. In all of these cases, other elements than income alone are correlated with life expectancy (such as degree of knowledge of sanitation, inherent physical resistance, specific housing deficiencies, and so forth), but it is not possible to deny that income level is one basically important element.

During World War II, Selective Service found that of 22 million men examined, 9 million were unfit for general military duty. Of the unfit, Selective Service estimated that one sixth had defects which could still be rather easily remedied. The defects of many of the remainder could have been remedied earlier or avoided altogether had there been adequate health care from birth. Better food, housing, and medical attention would have been vitally useful.

The over-all food supply of the United States appears fairly adequate,⁵ though among low-income groups there are acute deficiencies. The diets of 25 to 30 per cent of nonfarm families, and of 10 to 25 per cent of farm families in 1935-1936 were rated "very poor" by the standard of the National Research Council.⁶ The American public as a whole consumes less milk, fruit, and vegetables than dietitians would recommend, and too much sugar, cereals, and meat.

With respect to housing, our situation has been chronically bad. A survey in 1935 estimated that 11 million houses (36 per cent of the total) were substandard. At least three quarters of farm houses were without conveniences of any sort. In New York City alone, there were 290,000 rooms without windows to the outside, and far more rooms that opened only on air shafts or alleys. The 1940 Census found nearly one quarter of all dwellings in need of repairs whose neglect threatened the safety of the occupants, and another quarter in need of minor essential repairs. With the cessation of most civilian building during wartime, the housing situation worsened further

⁴ Britten, Rollo H., in *Public Health Reports*, November 2, 1934.

⁵ See Vaile and Canoyer, *Income and Consumption*, p. 218. New York: Henry Holt and Co., Inc., 1938.

⁶ The budgetary data are from the Consumer Purchase study of 1935-36. See on this general subject, Garfield, Frank R., "Markets and Living Standards," *Postwar Economic Studies*, the Federal Reserve No. 1, from which some of the above data are taken.

and was highly critical at the end of the war with respect both to quantity and quality. In 1945, about 8 million of 29.7 million non-farm dwelling units were substandard, defined as needing major repairs or (in metropolitan districts only) lacking private baths. Even if we build at the peak rate of 1925, over a decade and a half is required to bring us up to minimum housing standards.⁷

In medicine we have made immense progress in the past century, nearly doubling our average life expectancy. But there is still much to do. On an average day, there are about 7,000,000 people in this country so disabled by sickness or injuries that they cannot carry on their usual tasks. Of these, nearly half would otherwise have been working or looking for work. Every year about 40 times as many working days are lost because of sickness or injury as were lost annually through strikes in the 10 years before World War II, a figure which is worth looking at as partial evidence on the relative importance of health and labor problems.

Our medical facilities are badly distributed: the poor have more sickness but receive less medical care, and people who live in rural areas have less attention than those in the cities. Fifteen million people live in counties which have no hospital, or else none that meets minimum standards of professional associations; and 40 million people live in communities lacking full-time public health service. We have nearly conquered typhoid fever, smallpox, and diphtheria, but much remains to be done with respect to maternal and infant mortality, tuberculosis, venereal disease, cancer, and mental illness. Our progress in the past century and a half is most impressive, but this progress is encouragement toward further advance rather than excuse for resting on our oars.

Some of these problems of the level of consumption can best be met by private expenditures; some can be met best by government expenditure. In either case these problems suggest that unemployment is not caused by "producing too much."

Consumption Expenditure by Income Groups

Particular channels of consumption expenditure

The most careful study ever made of consumption expenditure in the United States is that of the Natural Resources Committee for 1935-1936. The data are subject to some criticism, but are without question substantially correct. All consumers together, in 1935-

⁷Data calculated from *Housing Needs*, National Housing Agency, 1944.

1936, spent on the average nearly two thirds of their consumption outlay for the basic essentials of food, clothing, and shelter. The following are the exact percentages for three main channels of expenditure.

Food, clothing, and housing.	63%
Household operation and furnishings, and automobile expenditures.	21%
Medical and personal care, education, reading, tobacco, transportation other than automobiles, recreation, and other items.	16%

Consumers with higher incomes buy more than those with low incomes in every single one of the above 14 subdivisions of total con-

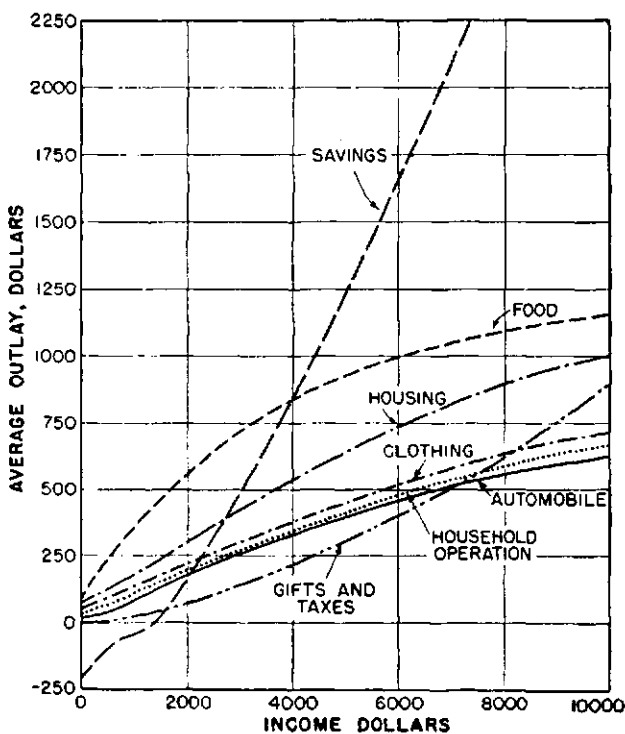


CHART 11

Average Outlay of Nation's Consumer Units for Major Categories of Disbursements at Different Income Levels, 1935-1936.

Source: National Resources Committee: *Consumer Expenditures in the United States*, p. 38.

sumer expenditure. There is no indication, in broad classes of goods and services, of any surfeit of wants (Chart 11).⁸

But as incomes rise, with prices of consumer goods not greatly different, the percentage increase of expenditure in different lines is not equal. An increase of average incomes by a given percentage will imply an increase of expenditure on food of less than that percentage, and an increase of expenditure by more than that percentage on travel, furnishings, clothing, and education.⁹ But even with respect to food, which by National Resources Committee estimate shows the least rise in expenditure with rising income, expenditure

Table 4
Average Outlay of American Families for Consumption and Savings,
by Income Bracket*

Income Range	Consumption		Savings	
	In Dollars	As Percentage of Income	In Dollars	As Percentage of Income
Under \$500.....	\$ 466	149.3	\$ -162	-51.9
\$500-750.....	707	112.7	-92	-14.6
\$750-1000.....	914	104.6	-58	-6.6
\$1000-1250.....	1,127	100.6	-31	-2.8
\$1250-1500.....	1,316	96.5	14	1.0
\$1500-1750.....	1,512	93.8	56	3.5
\$1750-2000.....	1,684	92.1	92	5.0
\$2000-2500.....	1,968	88.6	182	8.2
\$2500-3000.....	2,302	84.8	315	11.6
\$3000-4000.....	2,729	80.4	429	15.6
\$4000-5000.....	3,276	74.6	904	20.6
\$5000-10,000.....	4,454	64.8	2,028	29.5
\$10,000-15,000.....	6,097	53.7	4,416	38.9
\$15,000-20,000.....	9,134	52.7	6,915	39.9
\$20,000 and over.....	14,822	35.4	21,229	50.7
All levels.....	1,389	85.6	164	10.1

* National Resources Committee, *Consumer Expenditures*, p. 20. Consumption and savings do not add up to exactly 100 per cent (total income) by this classification, because gifts and personal taxes are excluded from both categories of outlay. Negative savings for incomes below \$1250 evidences either going into debt or drawing down past savings.

An interesting study of the distribution of consumer incomes, consumption expenditures, and savings was made in 1944 by the Bureau of Labor Statistics. Only urban communities were sampled. Also wartime scarcities and savings campaigns cast doubt on the generalizing for peacetime years of the findings. See *Family Spending and Saving in Wartime*, Bulletin No. 822 of the Bureau of Labor Statistics, 1945.

⁸ There might, however, be a drop for particular "inferior" goods, such as potatoes, corn pone, and margarine, as people move up into higher-income brackets. That is, they prefer to fulfill these kinds of wants by buying more expensive types of commodities or services.

⁹ Cf. Paradise, Louis J., "Classification of Consumer Expenditures by Income Elasticity," *Survey of Current Business*, January 1945; and *Structure of the American Economy*, pp. 15-16. National Resources Committee.

would increase by 44 per cent with a rise of 56 per cent in the incomes of consumers.

Total consumption by income groups

The study by the National Resources Committee in 1935-1936 of the budgets of sample families and single individuals living alone, shows also how consumption expenditure on all items taken together varies depending on whether the families or individuals are in low- or in high-income groups. Table 4 contains data for expenditures by families.

In the above table, savings increase as incomes rise, both in number of dollars and in per cent of income.

But it is possible for *the quantity* of savings to increase out of higher incomes without savings making up an increasing *percentage* of income. Suppose that a person with a \$2000 income saves \$200, and that a person with a \$4000 income saves \$300. Savings were 10 per cent of income in the first case, 7½ per cent of income in the second case—a smaller percentage, but the dollars of savings increased. The assertion that quantity of savings rises, as the income bracket rises, is a more conservative statement than to argue that the percentage of income saved rises as income rises. The data which we have support the latter, and stronger, assertion.

The Relation of Consumption to Income—The Consumption Function

The relation between consumption and income is given the general name of *the consumption function*. Suppose that some person receives an income of \$3000 and that he spends \$2700 on consumption. His

$$\frac{\text{total consumption}}{\text{total income}}$$

or as it is called, his *average propensity to consume*, is \$2700/\$3000, or 9/10.

Suppose that his income rises to \$3010 and his consumption to \$2705. Then out of a change of \$10 in his income, he spends a changed amount of \$5 on consumption. The proportion

$$\frac{\text{change in consumption}}{\text{change in income}}$$

where the change is small, is called the *marginal propensity to consume*. The marginal propensity to consume of our subject is, therefore, \$5/\$10, or $\frac{1}{2}$.

It is possible similarly to calculate the average and marginal propensities to consume for the whole economy. These two relationships between consumption and income are useful tools to explain the fluctuations of employment. We should notice that they refer, not to tendencies or desires only, but to actions carried out by people when they receive a given income or a given addition to income. The relation between consumption expenditure and income given by the propensity to consume is analogous to the relation between quantity of a good bought and price.¹⁰

The Behavior of the Total-Consumption Function

We have briefly described above how expenditure on particular consumption items, and how total consumption expenditure vary as we move along the scale from poorer to richer income groups.

We now progress to a topic which can be easily confused with the above, but which is, in fact, distinctly different. Suppose the total national income of the United States changes. Then, many families and individuals will move from one income level to another—a higher or a lower—and we should expect their consumption expenditure and their savings to vary in some resulting fashion. The way in which total consumption and total savings will vary depends upon (a) the distribution of income of the United States at the old and new levels of national income, and (b) upon how the individuals who move from one income level to another change their habits of consuming and saving.

The consumption-income pattern when national income shifts from one sustained level to another

We should on the whole expect that *when people become adjusted to their new incomes* (or perhaps reconciled), their consumption spending would be much like that of people who had already been in the income bracket. If so, at higher levels of national income, total consumption would rise, but by not as much as income. Hence, savings would also be greater as income rises.

¹⁰The consumption function is a relation between two quantities of money: that spent on consumption and that received as income. But an ordinary price-demand schedule, or curve, is a relation between a real quantity and a money figure: quantity of a good bought and price. Income-elasticity of demand and price-elasticity of demand each relates a percentage change in a real quantity to a percentage change in a money figure.

We have reasoned thus far as if individual consumers were the only units in the economy that make decisions as to whether to consume or to save their incomes. But business corporations also make such decisions. When their incomes are low, they pay out in costs and in dividends more than their incomes—that is, their savings are negative. United States corporations “dissaved” in every year of

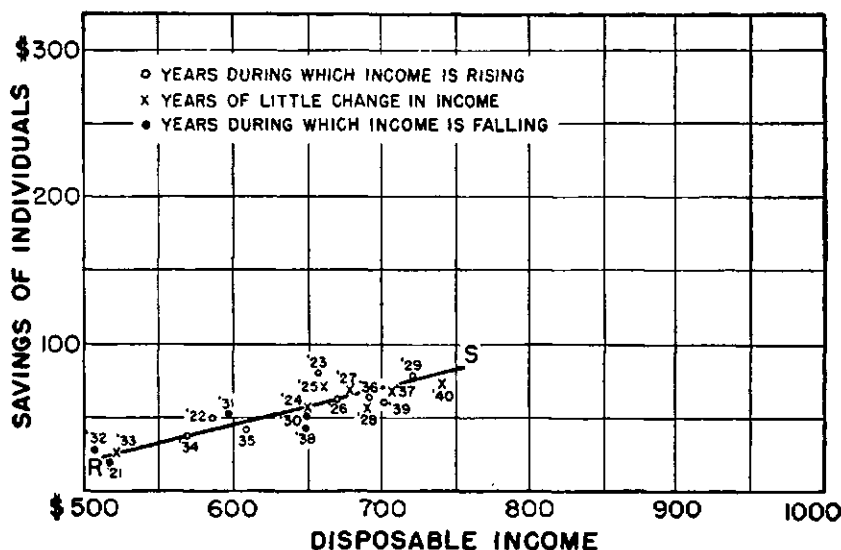


CHART 12

Disposable Income and Net Savings of Individuals, 1921-1940. Real per Capita Data (1944 prices), calculated from estimates of the Department of Commerce in *Basic Facts on Employment and Production*, p. 12.

the period 1930-1938. In 1932, they actually paid out 6.4 billion dollars more than their earnings. When, on the other hand, the incomes of corporate business rise to rather high levels, their savings become appreciable. In 1944 corporate savings amounted to 5.4 billion dollars.¹¹ Corporations do not have the psychology of consumers, but they behave like them in that when their incomes increase, their savings also increase.

¹¹Data of the Department of Commerce, *Basic Facts on Employment and Production*, p. 12. Senate Committee Print No. 4, 79th Congress, 1st Session. The data given are for net corporate savings, but on a gross basis (adding depreciation and other reserves), the same conclusion holds. For certain strategic years, the net figures run:

	IN BILLIONS OF DOLLARS					
	1929	1932	1933	1939	1941	1944
Net national income	84.7	40.4	42.8	72.3	104.7	172.8
Net corporate savings	1.3	-6.4	-2.8	0.4	4.0	5.4

In Chart 12 are portrayed the savings of individuals in the United States during the interwar years 1921-1940. *Income* is taken to be the income actually *disposable* by individuals.¹² From this, we subtract what individuals spend on consumption goods. The re-

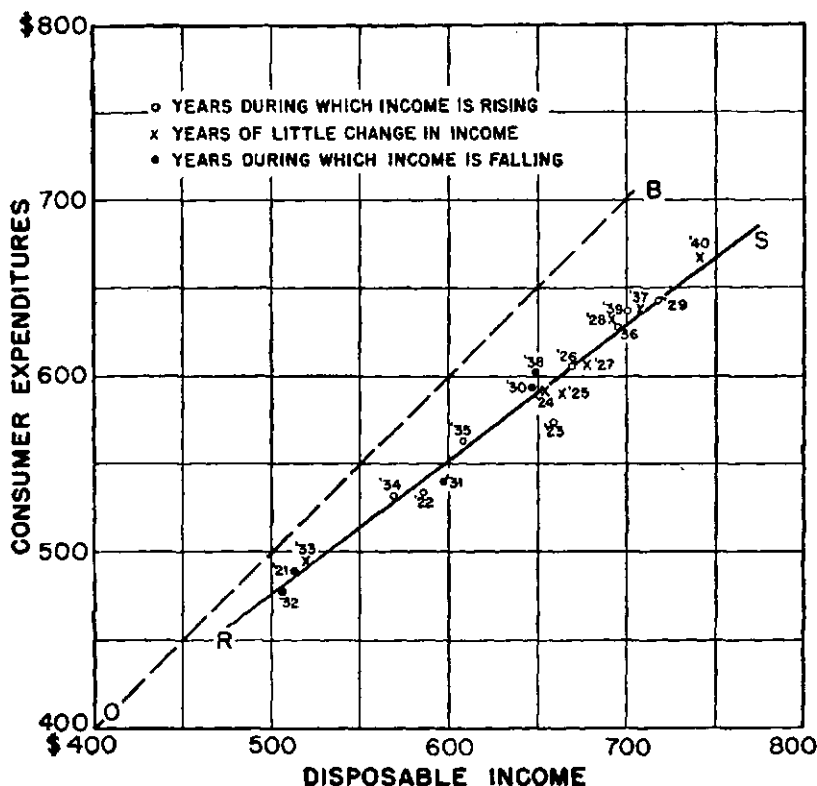


CHART 13

Disposable Income and Consumer Expenditures, 1921-1940. Real per Capita Data (1944 prices). For source of estimates, see Chart 12.

remainder is their saving out of disposable income. The original annual data are corrected for price changes (since a rise in money income counts for little if prices rise equally), and are put on a per capita basis (since individuals are not, on the average, better off when the national income rises if the population is growing equally fast, or

¹²The national income, which is the income created by the services rendered by individuals or by their property, is subject to one addition (transfer payments, for which no service is rendered), and three deductions (savings retained by corporations out of income, social-security contributions, and income taxes paid by individuals and corporations) before we have a figure for disposable income.

faster). Hence, we compare *real per capita* income with *real per capita* savings.¹³ The line *RS* is drawn to show the average relationship between savings and disposable income: a rise in income of \$1 means ordinarily a rise of about 25 cents in savings, and a fall of \$1 means ordinarily a fall of about 25 cents in savings.

Chart 13 is another convenient way of showing the relationship between disposable income, savings of individuals, and their consumption expenditures. The only change is that here consumption is plotted against income. Since income minus consumption equals savings, no new information is given: this is simply an alternative way of presenting the data given in Chart 12.

The 45-degree line *OB* is drawn to show how consumption would vary if all of income were spent for consumption: at \$500 of per capita disposable income, \$500 is spent for consumption; at \$600 of income, \$600 is consumed, and so forth.

The line *RS* is, as before, drawn to show the actual *average* relationship for the years 1921-1940. The distance between any point on *RS* (for example, the point representing the year 1926) and the point just above it on *OB* measures the amount of individual saving. For example, in 1926 disposable income per capita was \$671 and consumption was \$608; saving was, therefore, \$63.

On this chart, as on the previous one, we see savings becoming considerably smaller when income declines. The average propensity of individuals to consume,¹⁴

$$\frac{\text{total consumption}}{\text{total income}},$$

therefore varies, depending on the level of income. It is largest at low levels of income: in 1932 it was \$477/506, or 94 per cent. At higher levels of income, it becomes progressively smaller: in 1929 it was \$643/723, or 89 per cent. The marginal propensity to consume,

$$\frac{\text{change in consumption}}{\text{change in income}},$$

seems to be about the same for all levels of income (in other words, *RS* is a straight line). An increase in consumption expenditure of

¹³ Data are of the Department of Commerce. To obtain "real" figures for disposable income and savings, the original current figures are divided by a series based on the Bureau of Labor Statistics consumers' price index.

¹⁴ P. 90.

about 75 cents occurs when disposable income rises by \$1—that is, the marginal propensity to consume is 75 per cent, or $\frac{3}{4}$. (This must, of course, coincide with our previous conclusion that 25 cents of added savings occurs when disposable income rises by \$1.)

If we had no other information than income, the line *RS* would furnish us useful evidence from which to predict the individual savings (or consumption) of the economy. Ordinarily, the actual savings, or consumption, would not vary greatly from that indicated by *RS*. In some years, the error would be appreciable. The widest errors are in 1923 and 1938, when our estimates of savings from *RS* would go wrong by about \$23 and \$13, respectively, as compared with actual savings of \$83 and \$46. As a percentage of consumption, these errors are smaller; in fact, less than 4 per cent. (It will turn out later that sometimes there is a special explanation for such years.)

In summary: as income increases, consumption and savings both increase by amounts bearing a fairly close relationship to the increase in income. The data are in accord with the theory that the fluctuations of consumption and savings can be explained, in the main, by changes in income.

The Consumption-Income Pattern—a lag of consumption changes behind income changes?

The symbols for individual years in Charts 12 and 13 are of three sorts: *o* for years in which income rose, *x* for years in which income changed little, and *•* for years in which income fell. There is some rather questionable evidence that in the years when income was falling, consumption was higher than we should have expected it to be from the line *RS*; for example, in the years 1938, 1930, and 1921. Conversely, in certain years when income was rising, consumption was lower than we should have expected it to be: 1923 and 1922 are conspicuous.¹⁵ There are important exceptions.

Some economists have believed that the evidence substantiates this general relationship of consumption tending to be relatively high in years of falling income, and relatively low in years of rising

¹⁵ The data of Laughlin Currie, used by Dr. Mordecai Ezekial in his "Saving, Consumption, and Investment," *American Economic Review*, March 1942, suggest this relationship without qualification. Ezekial's data, however, are uncorrected for price changes and population growth.

A lag of consumption changes behind income changes had been found by Tinbergen to exist for nonlabor incomes in the United Kingdom, 1870-1914. The lag appears to average about one year. *Review of Economic Statistics*, February 1942.

income. If the fact can be accepted, the explanation is very plausible: peoples' habits of consumption change slowly. When our incomes fall, we are loath to move to a smaller apartment, shift to cheaper foods, to take fewer trips. Our consumption tends to persist at high levels; we reduce it only slowly and painfully to a level appropriate to our new income. When our incomes rise, again the first effect is rather to increase savings than consumption: only gradually do we come to eat more fruits, meat and vegetables, buy better furniture, join a book club, spend more for recreation.

But the data are too ambiguous for any sure conclusion on this "cyclical" relation of changes in consumption to changes in income.

The Secular Consumption-Income Pattern—the relation of consumption to income over the course of decades

We have been looking at the relation of consumption and income during the 1920's and 1930's. We have data of considerable reliability extending as far back as 1879.¹⁶ It is a remarkable fact that averages of such data by decades, 1879-1928, show that 88 or 89 per cent of total income was consumed in *every* decade. As time passed and our average real income grew, our consumption grew also. In other words, the line showing the short-run relationship between consumption and income (*RS* of Chart 13) has been *shifting* upward decade after decade. Our average real income approximately doubled between the early 1880's and the 1920's: if our grandfathers had themselves experienced this income increase, our rough expectation is that they would have consumed only four fifths as much as their sons and grandsons did in the 1920's.

Our rising wants for automobiles, refrigerators, plumbing, radios, and the like have kept pace nearly exactly with the rising output of the economy. Not that there is any element of chance about this rise in consumption; rather, what we dare to admit that we want rises with rising income. We want savings too, since we desire to be able to buy things in the future. Normally, we remain in uneasy balance, wondering whether we can justifiably squeeze a few more dollars out of savings to put into consumption or whether we ought instead to contract consumption a bit and so heap up a little more savings against future wants. We spend as much as we can. Mark Twain had the psychology of the situation right when, it is said, he defined the cost of living as "All you've got, and then some."

¹⁶ Kuznets, Simon S. *Uses of National Income in Peace and War*, pp. 30-35. National Bureau Occasional Paper 6.

Other Influences on Consumption

To some extent, the closeness of relationship which we have observed to exist between income and consumption is misleading.

1. The close relationship was obtained by restricting the period with which we were concerned to "ordinary" years of peace. During the war and postwar years, at each end of our period, consumption was much smaller compared to income than during 1921-1940. For example, consumption in 1919 was 13 per cent less than we should have expected, and in 1942-1944, nearly 20 per cent less. The explanation for the latter years is plain enough: the War Production Board did not permit the manufacture of the kinds and quantities of consumption goods we should have liked to buy. Also, some of us patriotically saved more (for war bonds); hence, we bought fewer consumption goods than we normally do. The low consumption of 1919, 1920, and 1921 is harder to explain. It has been argued that there was a "buyer's strike" against high prices. The price level had nearly doubled since 1915. But on the other hand, incomes had almost doubled too.

2. The data of the recent past give cause for further doubt concerning the closeness with which we may always expect to predict consumption from knowing income. Spending for *durable* consumer goods seems to behave more like investment spending of businesses than like the spending of consumers for nondurable consumer goods.¹⁷

Specifically, spending for durable consumer goods fluctuates by a greater percentage than spending for other consumer goods, and the changes in the former precede changes in the latter by a half year to a year. Consumers increase and decrease their spending for durable goods before they increase or decrease their spending for other goods.¹⁸

One element in the explanation is that we very often buy these goods on credit; hence, their purchase is less closely bound to the level of disposable income than is the buying of other consumer goods. Another element is that durability means *postponability*: we can postpone buying them if we feel pessimistic about our future prospects, or speed up our buying if we are hopeful. We can make

¹⁷ Durable goods are usually defined, following Kuznets, as those averaging a useful life of more than three years. Consumer durable goods would be such products as furniture, automobiles, refrigerators, and radios.

¹⁸ Kuznet's data, graphed by Hansen, Alvin H., *Fiscal Policy and Business Cycles*, pp. 52-53. New York: W. W. Norton and Co., 1941.

the rattling old-fashioned icebox do for another year or we can turn it in for a new one now.

This significant behavior of spending for durable consumption goods is concealed in the figures for total consumption spending, since the former makes up only 10 to 15 per cent of the latter. It suggests that spending for durable consumption goods is not simply an automatic resultant of changes in consumer incomes, but has a vitality of its own depending on consumer expectations. Therefore it ought to be included among the causes of changes in total expenditure, and so among the causes of changes in employment and output.¹⁹ Some economists prefer, therefore, to regard changes in output and employment as a resultant of changes in private spending for all kinds of durable goods, both consumer and business.²⁰ At the least, we should remember that durable consumer goods is a peculiar class of consumer goods having a dynamics of its own.

3. There are two special influences which are expected to be operative after World War II, both of which tend toward greater consumption relative to income than we should otherwise expect. One of them arises from the decline or complete stoppage during wartime of production of durable consumer goods: automobiles, washing machines, radios, and generally goods containing metal. There will be, therefore, for several years after the war, an unusually heavy demand for these goods—our deferred demand for automobiles may not be made up until 1950. We will not buy as much additional durable goods as we did without during the war—the man who was accustomed to buying a new car every year will not buy five cars as soon as he can get them—but we will buy more than usual.

4. A second influence toward higher consumption after the war is that savings of individuals rose during wartime—to about 200 billion dollars by mid-1945.²¹ (Accumulated savings were only three

¹⁹ Although durable consumer goods make up only a small part of total consumer expenditure, they comprise a large part of total expenditure for durable goods. Household goods and passenger automobiles made up 36 per cent of total durable goods in the period of 1919-1939, the remaining 64 per cent being producer's durable goods. If we include residences, the proportion rises to 51 per cent. (Terborgh's data, summarized in Cleveland Trust Bulletin, April 15, 1940.)

²⁰ The objection against doing this is that it involves greater difficulty in calculating the statistics and greater awkwardness in interpretation. In other words, the objection is practical, rather than fundamental.

²¹ In the form of cash, bank deposits, Government securities, and cash value of life insurance policies.

There was considerable concentration in the distribution of these savings. (See *Federal Reserve Bulletin*, June 1946; and Hyson, Charles D., "Savings in Relation to Potential Markets," *American Economic Review*, December 1946). Such concentration diminishes the stimulating effect of the savings on consumption.

eighths of this in December of 1939.) The possession of a backlog of savings will, by giving people a sense of security against future needs, encourage consumption spending out of their incomes, even though they do not spend the savings themselves.

5. Is the level of the interest rate an important influence on consumption?

In the past, it was usual to argue that changes in the interest rate would, through their *incentive* effect, cause differences in consumption spending (or, one could say alternatively, changes in saving, since savings are disposable income *minus* consumption). A rise in the interest rate was supposed to decrease consumption (increase savings) through offering people the reward of a higher return on their savings. A fall in the interest rate was supposed to increase consumption (decrease savings.) There are many reasons why people save—provision for a rainy day, to get a house or a car, to obtain prestige in the community, to secure the interest or dividends obtainable on their savings, or because they can't think what else to do with their incomes! Interest is only one of these incentives. Furthermore, its influence may work in reverse for some people and discourage savings, because if one wants to obtain a given income in the future from his savings, he will need to save *less* if the interest rate is high. On net balance, it is not thought today that interest rate changes have, through their incentive effect, any significant influence on consumption.

But interest rate changes may, in a different way, influence consumption. Interest returns go mainly to the upper income groups who do the bulk of the saving. In 1935, of incomes under \$5000, 14 per cent came from property sources, among which interest is a permeating and perhaps a dominant element; of incomes over \$5000, 47 per cent came from property sources.²² The percentage of income originating in property sources, including interest, rises consistently as we ascend the income scale. Hence a rise in interest rates will increase savings by shifting income from interest payers (mainly low income groups) to income receivers (mainly high income groups). It does this, not by shifting the propensity to consume of anyone, but by altering levels of income.

However ordinary changes of one or two per cent in interest rates are not likely to have any large effect on consumption (or savings)

²² Temporary National Economic Committee, Monograph No. 4, p. 48; Wallich, H. C., "The Changing Significance of the Interest Rate," *American Economic Review*, December 1946, p. 771.

through this income effect. And such effect as does exist will be realized gradually over the course of months and years as old loans are paid off and funds are re-lent at the new rates.

Secular "Underconsumption"?

We have seen above that consumption has kept increasing through the decades as income has increased, so that the proportion of consumption to income has remained approximately constant. This evidence casts doubt on the contention that we will be, over future years, faced with the problem of persistent underconsumption, if we understand this to mean a lowered proportion of consumption to given incomes. It appears plausible that in the future, as in the past, people will increase their consumption when increased incomes make it possible. We will return to this general matter later (pp. 166-168).

CHAPTER NINE

INVESTMENT EXPENDITURE

THE total of private (nongovernment) expenditure on output in any year can be divided into the private spending for consumption goods and services and the private spending for investment goods. As we have seen in the last chapter, private spending on consumption is ordinarily, though not always, a result rather than a cause of changes in income. In this chapter, we seek to explain why, and to describe how, private spending on investment varies from year to year.

Kinds of Investment (or Capital Formation)

When we speak of private *investment*, or *capital formation*, as related to the national output and to employment, we do not of course mean *financial*, or *monetary*, investment, which is the purchase of stocks, or bonds, or already built houses, and so forth, because the money we spend for these may simply pass from our account or pocket into someone else's account or pocket, and not lead to any increased production in the economy.

We mean by investment, *real investment* in the private economy—the purchase by businesses and individuals of newly produced capital goods. These include:

1. Producer's capital goods:

(a) The buildings and equipment of all sorts of business enterprises—manufacturing, mining, agriculture transportation, financial institutions, and wholesale and retail selling.

(b) The stocks or inventories of raw materials, or semifinished or finished products held by these enterprises.

2. Consumer's capital goods, in which we include only residences.

3. The net foreign balance. This is the excess of buying by foreigners in this country over our buying from them. It is, as we have already seen, in two respects like the other kinds of private investment above, and so is usually classified with it: it represents spend-

ing for goods and services, with no *immediate* increase resulting in the flow of consumption goods within the economy; and it also represents the building up of a claim which can in the future be turned into consumption goods and services.

Part of Government expenditure is, of course, also for such investment goods, but in this chapter, we will in the main confine our attention to private investment. We can speak either in terms of gross investment, meaning the total of these capital goods produced in a period of time, say a year; or we can talk of net investment, which is gross investment minus the depreciation, and so forth, of existing capital goods, and hence measures the change in the quantity of capital goods in the economy.

The Incentive to Invest—The Marginal Efficiency of Capital and the Rate of Interest

Producers' real investment means the buying of newly produced buildings, equipment, and inventories of goods. Why should businessmen buy such property, and so cause them to be produced? The evident reason is that they hope to add to their incomes. This motive holds also for a part of consumer's real investment: residence construction by speculative builders. But house construction ordered by the ultimate owner is not carried on for profit. In the reasoning which follows immediately below, we will be concerned with that dominant part of private investment which is carried on by business firms.

The businessman who is considering investing must weigh advantage against disadvantage. On the negative side, as a deterrent to buying, there is the sinking of money into buildings, equipment, and inventories. Of course, the businessman expects to get his funds back some day through sale of the property or of finished products, but in the meanwhile the money is "tied up." If the businessman borrows from some outside source, he must pay interest on the funds. Equally, if he uses his own funds, he loses the interest he might gain through lending. In either case, the deterrent is measured by the *interest* on the funds invested. This is the cost of the investment.

On the positive side, as incentive to buying an asset, is the gross profit prospect throughout the life span of the asset. If one buys a house for investment, he expects to get a return (rent, plus selling price if it is sold again) which will pay taxes and other costs of operation, pay back the original cost, and leave over some residual besides.

Such a residual, figured as a proportion of the cost of the asset, is the *rate of return over cost*, or as it is more often called lately, the *marginal efficiency of capital*.¹

A businessman will desire to buy those assets whose marginal efficiencies are greatest relative to the interest rate, because expected net profit from the assets is the difference between their marginal efficiency and the interest rate. If the marginal efficiency of an asset is 7 per cent and the cost of borrowing money is 5 per cent, a 2 per cent net profit is obtainable.

New investment means in the main an increase in the quantity of plant and equipment. More plant and equipment means, in turn, the possibility of (1) getting a previously attainable output at lower cost, (2) increasing output as would otherwise be impossible, or (3) getting a more desired type of output. But suppose that plant and other productive facilities are generally modern and efficient, and that of these facilities, a large proportion is idle because of deficient demand. There is, then, little room for new investment—that is, few capital goods exist whose marginal efficiencies exceed the interest rate. Businessmen will not buy, and the capital goods will not be produced.

Evidently it is not the current returns from capital assets which determine the marginal efficiency of capital, but the *expected future returns*. Current returns might be large to businessmen generally (as in 1929), but if the future prospects appear glum, they will not invest. Or conversely, current returns might be miserably low; but if future prospects seem rosy, businessmen will invest.

We may conclude briefly that the quantity of investment is determined by the marginal efficiency of capital and the interest rate. The higher the marginal efficiency relative to interest, the more investment will be carried on. The lower the marginal efficiency relative to interest, the less investment will be carried on. It is possible that the outlook for returns is so glum to businessmen, and hence so

¹ More exactly, since capital assets may last a considerable period of time, the marginal efficiency of capital is the rate of discount which would make the present value of the net returns from a marginal asset over all its useful life just equal to its cost. We can calculate it as follows: Suppose the house costs \$10,000 to build, and that we expect to keep it three years, getting in a net rent of \$1000 each year, and to sell it at the end of the third year for about \$9000:

$$\$10,000 = \frac{\$1000}{(1+R)} + \frac{\$1000}{(1+R)^2} + \frac{\$10,000}{(1+R)^3}$$

where R is the marginal efficiency of the investment, and comes out to be nearly 7 per cent.

little production of capital goods is carried on, that over the whole economy capital equipment wears out faster than it is replaced—that is, net investment is negative.

Influences on the marginal efficiency of capital

Suppose a businessman is considering buying a ribbon light-bulb machine or a spot-welding machine; or is considering building a new open-hearth furnace or adding a wing to the plant; or buying three new dump trucks, a carload of coal, or a ton of 26-gauge sheet steel. What influences the net returns he may expect from his purchase?

The net returns expected from a capital good are the difference between its prospective yield (over its whole life span) and its cost. Any influence which pushes up the former or pushes down the latter will, therefore, increase the net returns—that is, raise the marginal efficiency of capital.

1. A major influence toward raising the marginal efficiency of capital is the possibility of effective *innovations*. A businessman innovates when he introduces new products, utilizes new production methods, develops a new source of raw material, opens up a new market, or sets up a new organization of his industry.² In all these cases, it is the *new* which should be emphasized: accomplishing something different from what was known and practised in the industry. In many businesses, the surest way to keep out of bankruptcy is to keep constantly “a jump ahead of the other fellow,” to be constantly improving or innovating. If a businessman has an effective innovation at his disposal, he is justified in expanding plant and equipment even though the national income is at low ebb and conditions in his trade are miserable.³ Some firms were expanding in stainless-steel production, in plastics, in synthetic textiles, and so forth, even in the pit of the 1930 depression.

2. Another basic influence is to be found in expected demand conditions. For many commodities, the level of local or national income is the strategic determinant of how much will be sold. General Motors, in estimating demand for its cars in an ordinary peacetime year, finds this to be true. (Their price policy is not in doubt. The prices of their cars will be kept in the usual relationship to those of their close competitors, Ford and Chrysler.) The chief

² Schumpeter, Joseph A., *The Theory of Economic Development*, p. 66. Cambridge: Harvard, 1934; and *Business Cycles*, pp. 87 ff. New York: McGraw-Hill and Co., 1939.

³ An innovation in the industries supplying capital goods will also generally tend to raise the marginal efficiency of capital through lowering the cost of the capital goods.

determinant of how many they will sell is the incomes of consumers.

For long-run types of investment, the present level of demand may not be of much importance compared to the demand expected in the rather remote future, and demand in that future may be determined mainly by expected population change. United States railroads in the nineteenth century expanded their tracks into areas where the existing numbers of people could use only a fraction of the transportation service provided. But the population, it was confidently (sometimes overconfidently) thought, would grow so enormously as to more than make up for any current extravagance in track-laying. The crossroads settlement would be a county seat; the village would be a great city; and all would be well. So also the laying of water mains, sewage systems, and roads; the building of power lines; and the extension of telephone communication, may be determined mainly by expectations of demand a decade or more in the future, and not by today's demand.⁴

In still other cases, the demand of buyers may be altered by effective advertising⁵ or by some innovation elsewhere in the economy. Or a shift of custom or taste may be expanding (or contracting) demand for particular goods; or expected conditions of wartime may improve or worsen the prospects of a particular good. We can sell more of our new liquid dentifrice if we proclaim its merits on the radio and in the newspapers. Sheet-steel producers can expand if the auto industry is selling more cars or if war demand will expand the market for steel products. And if women begin to wear hats like Hedda Hopper's, and we can produce them, we may be encouraged to stock up on cloth and buy new stitching machines.

In all of these cases, a heavy demand may lead to rising prices (rather than to larger sales at current prices). Needless to say, the expectation of rising prices also will raise the expected yield from capital goods.

3. A third influence on marginal efficiency of capital is the rate of investment currently going on in the relevant field. If the demand for machines or raw materials of a given type rises sharply, the pressure on the facilities available for producing them will be considerable, and costs of production are likely to rise in the overburdened factories and mines. Monopolistic influences may also be present

⁴ Isard, Walter, "Transport Development and Building Cycles." *Quarterly Journal of Economics*, November, 1942; especially p. 106.

⁵ We assume that advertising is a way of altering demand for a given product, rather than (as it might equally well be interpreted) a way of producing a new product.

to encourage a price rise in the field beyond the rise in costs. A rise in the price of the machine or material will diminish its marginal efficiency, because expected returns are now smaller relative to this price.

4. The greater the quantity of any particular kind of capital good already in existence (assuming some given quantity of labor and other cooperating resources), the more the supply (potential or actual) on the market of those products in whose making it figures; and hence the lower their price and the less the yield to be expected from an additional unit of that kind of capital good. If there is already a large supply of trucks or of store buildings in our town, we are to that extent discouraged from setting up in the trucking business or from building more stores.

5. We have seen above that the quantity of population in any area is relevant to the calculation of the demand to be expected for a commodity, and hence is relevant to the estimation of the marginal efficiency of the capital goods entering into the production of the commodity.

The size of the population is also relevant to the estimation of the marginal efficiency of capital for a different reason. An increase in the working population in any area means that existing capital equipment will be used in production with more labor. Total production will be increased. It is also probable, though not certain, that the marginal product of capital (the increase in production associated with the use of one more unit of real capital) will be larger than before. If so, investment will be encouraged because of the greater fruitfulness of capital.

6. There is an intangible influence—the state of business confidence—which businessmen themselves are inclined to think very important, and which economists have in recent years come to emphasize increasingly. None of us can foresee with much sureness the worth, in the future, of an office building, a special lathe, silver-mining equipment, a bottle-making machine, or a display counter. We have little or no grounds for judgment as to the worth of these capital goods 7, 10, 15, or more years in the future—if they will then be in existence at all. Should we buy them—that is, invest? It is reasoned that, in view of this substantial ignorance of the future, the general sentiment in the business community of pessimism or optimism will be of significant influence on the volume of investment.

This same ignorance of the future leads firms to include in their

calculations of the marginal efficiency of assets a heavy allowance for adverse events. Some large companies will not make an investment unless they expect "it will pay itself out" in two or three years, even though the asset will last much longer. During wartime our government encouraged firms to invest in capital equipment for war production by permitting them to write down its value and consider it valueless for tax-reporting purposes at the end of five years, even though much of the equipment might still be valuable for peacetime uses.

The general optimism or pessimism of the community with respect to prices on the Stock Exchange will also profoundly affect the amount of new investment which goes on. Suppose buyers and sellers of stocks on the Exchange are pessimistic about the future, and value at a low level the shares of certain corporations. A businessman who wishes to expand his plant and equipment (that is, he is confident about the future of his own business) would be foolish to have new plant and equipment built, if he can buy up at a low price the controlling shares of a business already possessing the needed kind of plant and equipment. In brief, the pessimism of the exchange has caused *real investment* sharply to decrease, even though some individual businesses are expanding considerably.

Alternatively, suppose that investors on the Exchange are optimistic about the future, and stocks can be easily sold at high figures. A corporation may now be induced to spend what would be ordinarily extravagant sums on investment projects, if the requisite money can be obtained immediately and at a profit by selling stocks or bonds on the Exchange. Real investment is, therefore, boomed by the optimism of the market.

But the judgment of people who buy and sell on the Stock Exchange is often unsound. Many or most of them have made no adequate study either of short-run or long-run prospects of firms (even if any evidence for this latter is available). Without foundation of reasoned conviction for their decisions, they are apt to be subject to the fashions and winds of opinion. In the optimism of a 1929, they are apt to believe that firms which, under normal expectation, could earn 4 per cent will in fact earn 12 per cent. In the midst of the gloom of a 1933, people still in the market are apt to judge that firms which under normal expectation would earn 2 per cent will in fact lose 10 per cent.

Furthermore, the bulk of more expert professional buying and selling in the market is done by people who do not care very much

what the earnings of particular companies are likely to be over the course of the next few months or years. What they are concerned with is whether particular stocks will rise or fall in price in the next few days or weeks; in other words, they are concerned with estimating better than the average speculator, what the average speculator will think next about the stocks. For it is foolish to buy a stock for \$100 with the intention of selling it again in a few weeks, even if you are soundly convinced it is really worth \$120, if you also think it is going to drop to \$90 in those next weeks.⁶

In summary, investment is influenced profoundly by the state of business confidence. Investment because of this is apt to fluctuate considerably. Not only does general business optimism or pessimism have a direct effect on the volume of investment, it also has an indirect effect through changes in the prices of securities on the Stock Exchange. These price changes, in turn, reflect in large part the opinions of persons whose knowledge of long-run values is slight, or whose interest lies in forecasting *short-run* swings of prices.

7. Finally, there is the very important matter of taxation. The only significant way to figure expected returns from investment projects is to figure them *after taxes*. Costs are raised and revenues are lowered by excise, sales, and similar taxes. The incomes earned by individuals and by corporations have come to be subject to very high rates of taxation. During wartime, rates rose to about 23 per cent on the lowest taxable incomes, and to about 90 per cent on the highest taxable incomes (above \$200,000) of individuals. All but the smallest corporations paid 40 per cent tax on their incomes, and in addition, an excess profits tax of 95 per cent.⁷ The excess profits tax has been eliminated since the war, and other rates have been somewhat reduced. But it remains evident that taxes are a crucial influence on the net returns to be expected from investment.

All together we have surveyed seven influences on the marginal efficiency of capital: (1) innovatory changes, (2) expected demand conditions, (3) the rate at which investment is currently going on, (4) the quantity of capital goods of relevant types already in existence, (5) the size of the population, (6) the state of business confidence, and (7) tax rates.

⁶The foregoing reasoning follows in considerable measure the analysis of Keynes, J. M., in *General Theory of Employment, Interest, and Money*, Chap. 12. New York: Harcourt, Brace and Co., 1936.

⁷There was an overall limitation on the proportion of income to be taxed away, and 10 per cent of the excess profits tax was to be credited against postwar tax obligations.

The rate of interest

Interest is a deterrent to investment since it is a cost which businessmen must pay when they invest. The higher the interest rate, the sharper the deterrent. But when the interest rate falls toward zero, investment is not always increased. A businessman will not invest if, in the best opportunity open to him, he expects to lose 20 per cent, even though interest were zero. Interest, therefore, has a one-sided effect: if the rate of interest rises extremely high—10, or 30 per cent a year—investment will certainly be choked off. But lowering the rate of interest to zero will not necessarily stimulate investment.

Interest is a payment made to lenders: a payment which induces them to give up their command over ready cash and accept, instead, a security or promise of repayment in the future. The higher the interest rate (assuming a given pattern of expectations about market conditions), the more money will be given up in loans by potential lenders of money; the lower the interest rate, the more will potential lenders be inclined to hold to cash in hope of a better chance turning up later. When the interest rate seems low, the risk to them from investing *now* is greater, since if the rate does rise an investor is likely to lose part of his capital. (A perpetual bond paying \$2 a year when the interest rate is 2 per cent can be bought for \$100. If the interest rate rises to 4 per cent, then^a an investor can gain \$2 a year by paying \$50 for some other security; hence, no one will pay more than \$50 for this particular bond. A doubling of the interest rate has led to a halving of its value, and the unfortunate man who first bought it has, in the effort to gain 2 per cent a year, lost half his capital.)

If the banking system, perhaps as a consequence of Treasury and Federal Reserve policies, is flooding the country with cash, then the desire of individuals and institutions to invest in cash will be increasingly satiated. They will tend eventually to lend out increasing amounts at low interest rates rather than to keep on expanding their holdings of cash, and so continue to keep on losing the interest that is obtainable. (Even so, as our experience of the 1930's indicates, fear of higher rates may be for years an important influence on the decisions of potential lenders.) A general expectation of low interest rates will tend to bring about their realization by increasing the willingness of holders of cash to lend. The Treasury and Fed-

^a Assuming that risk of default and cost of lending can be neglected.

eral Reserve, by conspicuously standing ready to lend at low rates on certain strategic securities,⁹ can diminish the fear of rising rates, and so assist in bringing about generally low rates.

It is possible for the Treasury and Federal Reserve between them to push the interest rate downward even in a time of unexampled demand for loans. Average rates on United States Government securities fell, for example, from 2.3 per cent in 1942 to 1.9 per cent in 1944, despite an immense increase in borrowing for war purposes.

Between the 1920's and 1930's, interest rates on all kinds of loans decreased. Loans by banks to their customers fell from a level averaging about 5 per cent in the middle of the 1920's to between 2 and 3 per cent in the late 1930's. This fall reflected in part government monetary policies, and in part it reflected outside influences which increased the ability of the banking system to lend at a time when demand for their loans from trustworthy borrowers was at low ebb.

How important is the rate of interest?

A low rate of interest, we have said, is a stimulant to investment since it reduces the cost of the funds which businessmen must use in investment. A high rate is a discouragement to investment. But *how important* an influence is the interest rate?

The marginal efficiency of capital, or the gross profit expectation of businessmen, does not reflect only slow changes in the productivity of capital. It is specifically, we remember, an *expectation*, and so varies not only with the facts of the objective situation, but also with the confidence of the business manager. When the flow of investment spending is abruptly shriveled at the onset of depression, the explanation appears to be a general collapse of the marginal efficiency of capital, not a change in the interest rate. Suppose as is easily possible, the marginal efficiency of investment falls to negative levels: businessmen expect to lose money even on the best possibilities open to them. To offset the gloomy sentiments of business managers, one would have to charge negative rates to induce them to invest—that is, subsidize them by letting them pay back less than they originally borrowed. This might conceivably be done, but it means loss to the lender, and so could not be done by any private banking system.

The marginal efficiency of new investment to a businessman is likely to vary widely, from perhaps 100 per cent per year or more in

⁹ In other words, by standing ready to buy these securities at high prices.

the warmth of optimism about a new process, new synthetic, new market, and so forth (and probably, on the average, human beings are more hopeful than events bear out),¹⁰ to minus 30 per cent from the *best* investment open, in the gloom of deep depression.

For short-run investments in inventories and machinery, the calculations of businessmen are apt to be rough and ready: if a safe margin is not obtainable on inventories and if machinery is not expected to pay for itself in three or four years, the investment will not be undertaken. A fluctuation of interest rates within the ranges we have experienced in recent decades, say 6 to 2 per cent, is of secondary importance. For long-run investments, such as buildings, public utilities, ships, and railroads, where interest might be expected to bulk more largely in the mind of the businessman (since the interest will have to be paid over many years), the effect of varying rates is still likely to be moderate because of the dominating influence of the uncertainties of the future.

Statistical studies carried on by Professor Tinbergen for the period 1919-1932 in the United States, indicate that the influence of interest rates was very small on changes in inventories and other short-term investments. The influence of interest rates on long-term investment was found moderate, "the influence of profits and, in the case of residential building, of the shortage and abundance of houses being much larger."¹¹

What we have said minimizes, but does not deny, the influence of the interest rate. Some hesitant decisions will be influenced favorably toward investing by a fall in interest rates, and some will be influenced unfavorably by a rise in interest rates.

Investment in the Interwar Years

We now look at the actual investment carried on in the United States during the 1920's and 1930's. We can use estimates either for gross investment (total outlay for business plant and equipment, for housing, inventories, and net exports) or for net investment (the former, minus an allowance for depreciation, depletion, obsolescence, and so forth).

However, our present concern is to look in some detail at the chief

¹⁰ It is estimated that more has been invested in prospecting for gold in our West and in Alaska than has been taken out of productive mines.

¹¹ *Business Cycles in the United States of America*, p. 184. Geneva: League of Nations, Economic Intelligence Series, 1939.

With these we can compare the changes for the same years in consumption expenditures:

Changes in	1921	1929	1932	1937	1938	1941	1944
Billions of dollars	-7.0	+18.1	-27.8	+19.5	-4	+16.1	+23
Percentages	-17	+34	-38	+45	-6	+28	+31

Changes in consumption, by billions of dollars, are usually larger than changes in investment, but often not much larger, and for 1921 not at all. In terms of percentage changes, the evidence is almost without qualification: percentage changes in investment are generally far greater than percentage changes in consumption. (The year 1944 is anomalous, since wartime controls restricted drastically in that year the volume of resources going into private investment uses.)

Of the four constituents of total investment, the most important are construction and producers' durable equipment.

1. Construction, both residential and business, has over the past hundred years experienced fairly regularly recurring periods of high and low activity. The building "cycle" has varied from 13 to 22 years, averaging a bit over 17 years.

Why should building have these fluctuations? Two important reasons are (a) the long life of buildings and (b) the slowness with which builders and suppliers of construction equipment respond to growing scarcity or abundance of buildings. Suppose that construction has been proceeding at a rather high level and that buildings are rather plentiful. Vacancies will appear in business structures, apartments, and houses. Rents and the prices of buildings will gradually decline. But some time will be required to convince builders, through their persisting losses, that the business has taken a chronic turn for the worse, and that they should enter other lines of work.

As time goes on, buildings gradually grow older, become obsolete, fit new needs badly. Families increase in numbers and (in recent decades) shrink in average size, and demand quarters adapted to their needs. But if building contractors are few, some time will be required before new entrepreneurs are convinced that building prospects have taken a continued turn for the better, and that they have a good chance of success in entering or returning to the field. Some time is required, too, before skilled men can be trained or assembled, and new or used equipment collected. The main influence on resi-

dence building, concludes one careful survey for the United States,¹² is the relative abundance or scarcity of houses some four years back.

There are other elements in the explanation of building fluctuations. Among these elements are innovations in transportation (the canal, the railroad, the automobile) which have led to a redistribution of industry and of population; contractions of civilian building during wartime (especially during World Wars I and II), which have left behind a backlog of deferred demand; and the drops during depression in incomes of consumers, which force them to postpone buying new homes.¹³

The 1920's were a high and the 1930's a low, period of the building cycle. This is true both for construction of business plants and for residence construction. If we take averages for the periods 1921-1929, and 1930-1938, we find the former dropped 50 per cent, the latter 74 per cent.¹⁴ Just as construction sustained employment and the level of total production by its own high level in the 1920's, so it deepened the depression by its collapse in the 1930's.¹⁵

2. Investment in producers' durable equipment bulks about as large, on the average, as construction. From the decade of the 1920's to the decade of the 1930's, investment in business equipment dropped only about one fifth, whereas investment in plant construction was dropping one half.

If we should add together business investment in plant construction (excluding residence construction for consumers) and in equip-

¹² Tinbergen, J., *Business Cycles in the United States*, pp. 162, 164.

¹³ Interest rates have not been an important influence on the *fluctuations* of building. Relevant interest rates have been very rigid over the past—there are some banks which have charged 6 per cent on mortgages ever since the Civil War. And even a drastic drop in the interest rate from 6 to 3 per cent would, in a sample case, reduce the yearly payment for interest and on the principal only from \$422 to \$310. If we add taxes and insurance, the yearly total cost drops only from \$579 to \$467. (For a \$6000 house in Queens, New York City, on which a \$3400 FHA loan is amortized over 25 years.) See Long, C. D., *Building Cycles and the Theory of Investment*, pp. 26-30. Princeton: Princeton University, 1940.

Also, for longer-term investments, like building, the importance of the risk element grows much more rapidly than does the importance of the interest charge. Hicks, J. R., *Value and Capital*, p. 226. Oxford: Clarendon Press, 1939.

¹⁴ Kuznets' data.

¹⁵ Public construction (not included in the above private investment) is remarkably constant over these years, varying between extremes of 1.4 and 3.5 billion dollars annually. Contrary to general opinion, it was very little larger in the 1930's than in the 1920's: the increase averages 5 per cent. It was only after 1933 that Federal government expenditure for construction (both direct and through federal aid to state and local units) expanded to large dimensions. Decline in state and local construction over the 1930's almost compensates for the increase which took place in federal construction in the late 1930's.

ment, we have a total which usually bulks larger than all the other elements of private investment put together. Investment in business plant and equipment was still dominantly important all through the 1930's when, it is sometimes argued, the government was spending heavily for construction and other purposes.

3. Inventory accumulation rises and falls sharply over a period some three to four years in length, as businessmen expect price rises or increased demand or fear the reverse. Years of maximum increase of these stocks of raw materials and semifinished and finished goods, are 1920, 1923, 1926, 1929, 1936, and 1941. Years of lowest inventory accumulation are 1921, 1924, 1928, 1931, 1932, 1938, 1942, and 1944. Difference in spending for inventories from year to year may be as much as 3 or 4 billion dollars.

Apparently, changes in spending for inventories are the main explanation of the minor fluctuations in output and employment which we have experienced at intervals of generally three or four years: perhaps (counting peak to peak) 1920, 1923, 1926, 1929, 1934, and 1937. (The distortions of heavy defense and war expenditures by government followed hard after 1939.)

A boom which rests upon inventory accumulation in any important degree (1923, 1929, and 1937) is one which promises to collapse promptly, because obviously businessmen will not continue indefinitely to pile up rapidly increasing stocks of materials and finished products. When they stop increasing their inventories (unless rising consumption spending or other investment spending or government expenditure takes up the slack) the boom is over. Conversely, when inventories are shrinking rapidly, as in 1932, there is hope that times will soon be better when businessmen decide not to reduce their stocks further or decide to increase them from a low level.

4. Our last kind of private investment, groups together net exports of goods and services, and the accumulation of gold and silver bullion for monetary uses.¹⁶ Of these two, net exports of goods and services is much the more important. But both together are ordinarily of slight significance in explaining the fluctuations of total investment.

If we block out years immediately affected by war, we note that at the most (1920) these contributed 2.2 billion dollars, or 2.6 per cent of gross national expenditure; and at the least (1936), diminished

¹⁶ Net exports of gold and silver bullion are counted together with accumulation of bullion.

national expenditure by 0.3 billion dollars, or 0.4 per cent. And 1920 and 1936 were in this respect very unusual years.

A few industries are completely dependent on foreign trade, and if their particular foreign markets collapsed, they would themselves stagnate, with resulting repercussions throughout the economy. But though foreign trade may have strategic and dislocating effects, it is not, during ordinary peacetime years, one of the important influences on over-all output and employment of the United States. Foreign trade can be a help toward greater efficiency of production and a few special commodity imports are much needed, but this country is not significantly dependent on foreign trade for the maintenance of employment, despite the allegations of some that capitalism cannot live without exports.

"Long waves" in prices—the Kondratieff Cycle

There is convincing evidence that over the past 150 years, in the United States and in certain countries of western Europe, there have been *long waves* in the level of average prices, including interest rates—long periods of rising prices, followed by long periods of falling prices, followed in turn by rising prices, and so forth. There is also some evidence (the inadequacy of data bars a firmer statement) that there may have been parallel waves in rates of industrial growth and geographic expansion. During these upswings of prices, business contractions tend to be relatively short; during downswings, business contractions are longer and perhaps more severe.¹⁷

¹⁷ The basic study on this matter available in English is that of the Soviet economist Kondratieff, Nikolai D. "The Long Waves in Economic Life," *Review of Economic Statistics*, November 1935.

Violent attacks were made by other Soviet economists on Kondratieff's work. The main reason lay in the implication that capitalism would revive from its epochs of "bad times," since the Kondratieff cycles were temporary deviations from the continuous course of capitalist evolution. The leaders of Soviet Russia anticipated the period following 1914-1920 to be one of wars and revolutions preceding the final collapse of "capitalism." But if the period were only the downswing of a Kondratieff long wave, there would be an upward turning point and better times ahead. The official Russian Encyclopedia published in 1929 referred to Kondratieff's views in one sentence: "This theory is wrong and reactionary."

In the fall of 1930 Kondratieff was arrested and deported to Siberia without trial. The outside world has not heard of him since.

An excellent survey of the controversy (the source of the above note) and a criticism of Kondratieff's findings is given in Garvy, George, "Kondratieff's Theory of Long Cycles," *Review of Economic Statistics*, November 1943. Other useful criticism is in Isard, Walter, "A Neglected Cycle, the Transport Building Cycle," *Review of Economic Statistics*, pp. 155-156, November 1942; and in Burns and Mitchell, *Measuring Business Cycles*, pp. 431-440. New York: National Bureau of Economic Research, 1946.

Approximate dates for these periods or long waves in the United States appear to be:

LONG WAVE	RIISING PRICES	FALLING PRICES
1	1790-1814	1814-1844
2	1844-1873	1873-1896
3	1896-1929	1929- ?

During the rising-prices phase of the first long wave, the major influences appear to be (a) repercussions in this country of the heavy expenditures of European governments during the Napoleonic wars and (b) the industrial opportunities afforded by expansion in the use of Watt's steam engine, by improvements in textile machinery and by other innovations of what has come to be known as the Industrial Revolution. After 1815, government expenditures dwindled off, and the increased flow of products from the new machinery and processes depressed prices. In consequence production had to be adapted to worsened cost-price conditions, and resources shifted from unprogressive to progressive industries.

The good times following the middle 1840's are dominated in the United States by heavy investment in railroads and by government expenditures incident on the Civil War. The discovery of gold in California in 1849 was an influence toward expanding the money supply; hence toward higher prices, hence toward heavier business investment.

After the 1870's, railroad investment slackened toward a steady level, and declined in the 1890's. A fall in the rate of addition to the monetary gold supply from the early 1870's to the 1890's furnished a depressing influence on demand and prices, and so also on the marginal efficiency of investment.

The price upswing and general prosperity of 1900-1929 seems in large part identified with the rise of four major industries. (a) The automobile industry is the most important of the four. A negligible infant in 1900, with a production of 4000 cars, it had expanded to an annual output of 5.6 million cars by 1929,¹⁸ carrying along in its wake the auxiliary industries of road construction (a government-directed industry), petroleum, steel, glass, and rubber—until, it is argued, there is no business in the United States which does not contribute goods or services, directly or indirectly, toward the making of cars. (b) Electric power, in which investment was likewise negli-

¹⁸ Hansen, A. H., *Fiscal Policy and Business Cycles*, pp. 40-41.

gible in 1900, expanding rapidly thereafter to a maximum investment expenditure of over 8 billion dollars in the 1920's. (c) Street railways were expanding most rapidly in the decade of 1900-1909. It was the most important of these four industries in that decade, and also in the previous decade. (d) Investment in the telephone industry rose sharply after 1900, reaching its maximum also in the 1920's. Aside from these four industries, we should include in our list of stimulating factors the very important effects of heavy government expenditures during World War I. and in the 1920's, the housing boom and some stimulus from exports.

Throughout this century and a half, some injustice is done by concentrating attention on the few "major" industries, because sometimes the total investment in "minor" industries was increasing at just as fast a pace. The major industries are the most conspicuous, but not the only ones of importance.

The onset of the Great Depression of the 1930's

Why was there a collapse of output and employment after 1929? This is a 64-dollar question that has been repeatedly asked in the 1930's, and answered as often with varying degrees of profoundness and positiveness. And there is valid ground for difference of opinion, since there is no sure criterion for degree of emphasis that ought to be put on each element, and since one may speak in terms of immediate, of more general and removed, or of quite distant and abstract causes.

Our answer is brief, and in terms of immediate causes. The depression of the 1930's came upon us when and because private expenditure on investment dropped. There was an accumulation of causes for lowered private expenditure.

1. A conspicuous cause lies in the speculative fevers of 1927-29 afflicting real estate and the stock market. Such speculation was bound to lead to reaction, even to collapse, once the people gambling in these markets—innocent of serious knowledge of long run values, and hence of stable convictions—came to doubt whether prices would move upward forever.

Once the decline began, the vulnerable mortgage situation of farmers and of urban holders of real estate piled despair upon distress. Collapsing real estate values, as foreclosed properties were unloaded on the market, directly forced a further contraction of construction expenditures and undermined the position of banks holding mortgage loans. More important, and with continuing reper-

cussions, was the crushing psychological effect of the loss of farms and homes.

2. Faults of structure and of policy in the banking system had their share in converting recession into catastrophe. In the early years of depression, our monetary authorities permitted to take place, despite some countermeasures, an unexampled contraction of the money supply. In three years, 1929 to 1932, the quantity of money dropped by nearly one-quarter.¹⁹ This was in large measure a result of lessening desire by businessmen to borrow from banks for investment purposes. But it was also a *cause* of their lessened investment, in that banks generally, hard hit by shrinking reserves and falling value of assets (in part results of monetary contraction), were less able to lend even to those businessmen who still wanted to borrow.

As the depression deepened, three waves of bank failures spread economic paralysis, and intensified the growing sentiment that all was lost. These failures were in the main avoidable had salvaging operations been undertaken in time. But the banking system of the United States is peculiarly subject to distress: it is characterized by the existence of multitudes of small banks—in contrast with those of Canada, England, and other industrial countries. This may have its advantage in dispersing financial power. It certainly has had its disadvantage in the weakness of the small bank, due to its substantial dependence on the fortunes of a particular community, and to its often low level of management ability.²⁰

3. The speculative and banking factors we have mentioned would have had their effects postponed and diminished had there been strong incentives for investment inherent in the situations of a number of major industries. But it appears likely that the automobile industry, and perhaps several others, had exhausted, at least temporarily, their possibilities of expansion. (The construction industry, following its own peculiar pattern of behavior, had been declining since 1927.)

When technical advance, population growth, and the like, stimulate the development of a new industry, that development takes place over the course of some years or decades. The rate of expansion is limited by the often gradual expansion of demand and by the

¹⁹ Money is taken as demand deposits adjusted plus currency outside of banks, on June 30 of these years. The actual figures are, respectively, 26.2 and 20.2 billion dollars.

²⁰ Cf. Joseph A. Schumpeter, "The Decade of the Twenties," *American Economic Review*, May 1946.

competition of other industries for raw materials, labor, and managers. But as the industry grows beyond a certain point, it comes upon an increasing obstacle: that the wants of consumers for its product are becoming more and more nearly satisfied. An increased output per capita can be sold only at a lower real price. For some kinds of products, price will drop drastically with only a moderate increase of output.

If, for example, two thirds of American families have a new or used car, automobile manufacturers may well find that they can increase appreciably the numbers of cars in the hands of the public only by reducing prices considerably. And costs may be high enough so that they are unwilling or unable to cut prices much.²¹ If this is their situation, automobile manufacturers will not want to expand plant and equipment by further investing.

If a number of dominant industries have shrunk their investment outlays, one or several industries that are in a better position will be unable to stem the general tide of contraction. The latter industries must expect now, not the demand of normal times, but the dwindled demand of depression, and they will view this lessened demand through the gray-green spectacles of loss of confidence.

4. As fourth among the influences causing the 1929 collapse one may list a number of foreign policies and events, which had both real and psychological repercussions in this country. After 1925, many of the developed countries of Western Europe raised their tariffs skyward, blocking imports from agricultural countries and forcing the latter off the gold standard in 1928, 1929, and after. The gathering collapse of the gold standard had its effect on confidence abroad and in the United States; and with other causes, led to a sharp decline in our foreign lending after the middle of 1928, and induced a change in type of lending, from long term to short term. This in turn, coupled with other causes, led eventually toward a decline in our exports and also toward the later collapse of the banking system of central Europe, set off by the failure of the Credit Anstalt bank of Vienna in 1931.

We could give further details of the causes of the 1929 debacle, and of the recession into deep depression that followed. No two students of the subject would, in a detailed list, include quite the

²¹ Costs often will not fall greatly even though raw materials are in abundant supply, and a good deal of labor is unemployed, because of rigid monopolistic pricing—that is, monopolistic policies on the part of raw-material suppliers, and union stipulations on the part of labor.

same items or emphasize them in the same way. But we can bring the strategic causes together under the heading "What caused investment spending to decline."

A More Detailed Explanation of Booms and Depressions

We can now explain much more completely than we have before, what determines the level of incomes and employment in a country. The more complete explanation is also more difficult.

The difficulty arises because (pp. 19-20) the savings made in a country are always equal to the private investment made in the country plus the deficit of the government,²² and yet it is obviously possible that people might *want* to save more, or less, than the total of private investment plus (any) government deficit.

The deficit of government may of course be negative—that is, the government may be spending on goods and services less than it receives in taxes; or the deficit may be positive. In any case, its existence furnishes an unnecessary complication in our reasoning. Suppose we assume that the government budget is balanced²³ and remains balanced no matter what happens to the relationship of savings and investment: the government always levies enough taxes just to cover its expenditures. Then the deficit is zero. We can say without qualification that savings always equal investment. But the difficulty still remains because people might want to save more or less than is being invested.

Of course, some people save in order to invest personally: we may save in order to buy a house. In such cases, though investment spending may tend to lag behind savings, it will not, on the average, be higher or lower. But in general, different people save than invest, and for different reasons. We save for a rainy day, because we want to buy some expensive article in the future, for prestige, or because we should like to receive the interest and dividends our savings might earn, and so on. On the other hand, individuals and business firms invest mainly because they hope to add to their incomes—that is, because the marginal efficiency of investment opportunities open to them is higher than the interest rate.

The question which we face is: How does it happen that, although people in a society may want to save more than others want to in-

²² This is true whether we are defining saving and investment on a net or on a gross basis, since the same correction (for depreciation and other reserves) will be made to both.

²³ The possibility of an unbalanced budget is taken into account in Chap. X (pp. 137-138) and in Chap. XVI.

vest, it always turns out that the total savings made are identically equal with the total investment made?

If all (and no more than all) income were regularly and promptly spent, then the stream of income in the economy would continue at a given level, neither swelling to a flood nor dwindling off to a trickle.

1. Suppose that some person *A* decides to save \$10 more than usual (that is, he withdraws \$10 more than usual from the income stream). Then, if someone else happens to invest \$10 more than before (that is, injects \$10 additional into the income stream), all is still well. The income stream continues as before, neither shrunken nor swollen.

2. But suppose instead, that when *A* saves his additional \$10, no one else invests additionally. Then incomes received in the economy immediately drop by \$10. Some other person (or persons), *B*, does not receive the \$10 which *A* has decided to save.

If *B* continues his consumption expenditure as usual, despite the fact that his income has dropped, then he has saved less by \$10 compared with the preceding period. The net result of *A*'s saving is that the national income has dropped, and that *B* has canceled *A*'s saving by saving less. Saving over the whole economy has not changed, and investment has not changed. They remain equal, just as before.

On the other hand, if *B* reduces his consumption expenditure as his income drops, and *C* (whose income derives in part from *B*) finds his income cut and reduces his expenditure, and so forth, we have a series of falling incomes initiated by *A*'s original saving. (But at any point of time, some person or persons have suffered a cut in income of \$10 while still spending as before, and therefore have temporarily saved less by \$10 compared with the original situation.) Incomes of *B*, *C*, *D*, *E*, . . . successively drop.

There is reason to expect this series of decreases in incomes eventually to come to an end because, as we remember, lower incomes are correlated with lessened savings. Suppose that when the income of *F* drops, he permanently reduces his savings by \$5. *G* then receives an income drop not of \$10, but of \$5. The series of decreases in income ends when total decreased (permanent) saving has canceled out *A*'s original saving. No additional investments being made, savings over the whole economy continue to equal investment at the old level. The only difference from the original situation is that incomes have been lowered.

3. There is a third and last possibility, parallel with the above. Suppose that *A* now upsets the appletart of the stable economy by deciding to *invest* \$10 more than usual at a time when no one else happens to save \$10 additional. Then some other person *B* finds his income raised by \$10.

B might decide to consume as usual, despite the fact that his income has risen: then he has saved \$10 additional compared with the preceding period. The net effect of *A*'s investment is that the national income has risen, and that investment and saving are both higher by \$10; hence, investment still equals saving.

If *B* spends his additional \$10 of income, and others down the line also, then we have a series of rising incomes initiated by *B*'s original investing: *C*, *D*, *E*, . . . receive successively \$10 of extra income. (But at any moment of time some person or persons have the extra \$10, which has not been spent and which is, therefore, temporarily savings.)

This series of increased incomes is not to be expected to continue indefinitely because, as we also remember, higher incomes are correlated with higher savings. Suppose that when *F* receives his income rise he permanently saves an additional \$5. Then *G* receives an income increase not of \$10, but of \$5. The series of rises in incomes ends when total increased (permanent) saving has canceled out *A*'s original investment. Over the whole economy, incomes have risen, and investment and savings are both \$10 higher and, therefore, are still equal.

Suppose we restate this reasoning in terms of the whole economy. When the national income is high, people spend on consumption considerably less than their incomes. The gap between income (after taxes) and consumption is what we call savings. Since savings are large at a high level of income, investment must be equally high in order for that high level of income to be realized at all. This is what happens in a boom.

But investment spending may not be so large as this. Then income realized is smaller. Consumption is smaller, and savings are smaller also. Income has shrunken to the level where the smaller sums that people wish to save at that level are equaled by the smaller sums which are being spent for investment. If the decline in investment and consumption is moderate, the economy will run along at some level of employment moderately below the level cor-

responding to full employment and maximum output—perhaps, in the United States, with 5 to 10 million unemployed. The economy may be fairly stable at this level.

The fall in investment may, however, be drastic down to negative levels where present plant and equipment are not being maintained. Income falls, also, to a level where people are so impoverished that they spend for consumption a sum which exceeds their incomes (they use up their savings or go into debt) by the amount of the negative investment. The economy is then in deep depression, with 10 to 15 million or more unemployed.

We may conclude, then, that the sums which people decide to save must be matched by investment spending, else incomes, output, and employment fall until the community is so poverty-stricken as to save no more than is being invested. Since people and firms save less when their incomes are low, at some lower level of income the savings which they try to make are equaled by the investment expenditure which is going on. Income falls no further.

If less is being invested than people try to save, there is a drop in incomes downward toward stagnation, bankruptcies, and soup lines. If more is being invested than people try to save, there is a boom in incomes up toward high employment, or past this into inflationary price rises. Incomes rise or fall over the whole economy as people carry out their decisions to consume or not to consume, and the total saving accomplished remains equal to the total investment actually made.

Fluctuations within a range of relatively high and relatively low employment

The reasoning we have just followed states that an expansion of production and employment is brought to a close, and reversed, by investment falling below what people wish to save; and that a contraction is brought to a close, and reversed, by investment rising above what people wish to save (the government budget being assumed in balance). The fact that people wish to save more when their incomes rise (less when they are poorer) explains how any expansion (contraction) of employment and production tends to be choked off before it has gone very far. We have, then, a picture of fluctuations within some range of levels of employment and production. This range need not, of course, be close to a full-employment level. It might be considerably below.

It is worth adding that no "normal" level of unemployment equi-

librium is implied by this reasoning. It is only that employment and production may persist within a range *somewhere* below full employment.

The cumulative process

Back of these aggregates of total production and total employment, and total saving and total investment, lie the details and complexities of actual economic life. Certain of these details make it easy to understand why an expansion or contraction tends to be cumulative for a time (that is, to continue itself) once it has gotten started.

An expansion process is set off by a change in some underlying condition: perhaps new methods of production have been developed; perhaps there has been a change in consumer tastes. In a large proportion of upswings, we will have put our finger on the strategic cause when we have answered the question: Why are businessmen more willing to invest than before?

Any increase of demand will set off favorable repercussions: an increase in investment increases incomes, and so stimulates consumption; and a rise in consumption, in turn, gives businessmen cause to invest more. If the banking system has become liquid at the end of a previous period of depression, then interest rates have tended to fall: to some extent this encourages investment, especially in relatively durable investment goods. Prices tend to rise as demand grows, with favorable psychological effects toward still more investment and anticipatory buying generally. Output of investment goods and durable goods rises faster than that of consumer and perishable goods. The improved prospects make banks and other lenders more ready to give up cash (either newly created money or past savings) for lending in investment channels. And so the boom feeds on itself.

But as production and employment keep on rising, investment will eventually become less attractive: production bottlenecks appear in supply lines whose full capacity is being approached, costs of factors and materials rise, and perhaps doubts arise about the continuation of the boom. In addition, the savings that people wish to make keep swelling in volume.

The contraction is likely to be set off rather suddenly by a drop in investment below the now large volume of savings which people wish to make. A "collapse of the marginal efficiency of capital," which we associate with the mushroom growth of pessimistic ex-

pectations, may have found its origin in a speculative down flurry in the stock market, in conspicuous business failures, in foreign events, or elsewhere. Once the contraction is under way, pessimism has reason to deepen. With a decline in investment, consumption also declines; and declining consumption justifies still further decline in investment. As demand falls, prices sag, losses are experienced, buying is postponed. The output of capital and durable goods drops more than that of consumer goods and perishable goods. Alarmed creditors hound debtors for payment, and debtors engage in forced sales to pay off debts, thus pushing prices lower still. Banks decide not to lend out again as old loans are paid off, and individuals wish to hold cash: so purchasing power drops further. A stop to this dismal process comes only when people are sufficiently impoverished so that they diminish their savings to the level of the trickle of investment still going on. (At this point, we remember, both investment and savings may be negative rather than positive—that is, the economy may be letting its equipment wear out and may be using up its inventories of goods faster than it is replacing them.) If innovations or some other specific encouragement to investment appears, the bottom of the contraction will be reached sooner—that is, at a higher level of income.

The Leverage Effect of Changes in Spending

Any change in expenditure for output is apt to have a magnified effect on incomes and employment. This is true whether we have decided to classify the original expenditure as investment, consumption, or government spending. There usually is a magnified effect on incomes and employment because the original outlay stimulates a series of changed respendingings. These effects will continue over a considerable period of time. If *A* spends more than before, and hence *B* finds his income up, *B* is likely to increase his consumption spending, which, in turn, will cause *C*'s income and then his consumption spending to rise, and so forth. Meanwhile, business managers may decide that in view of the increased consumer buying, they had better carry larger stocks of goods, and perhaps add additional machines to their plants. If so, investment also increases.

We might find, in the end, when all these effects have worked themselves out, that an original increased expenditure of \$100 has led to a total increased (consumption and investment) expenditure in the economy of \$400. We will say in this case that the *leverage*

of the original expenditure was 4. Leverage, in other words, is the number by which we multiply an original expenditure in order to obtain the total changed expenditures which it brings about.²⁴

That a leverage greater than 1 is likely will be clearer if we look, first, to the effect of the original expenditure on consumption outlays, and second, to the effect of the original expenditure on investment outlays.

The Multiplier Effect ¹

The effect of a change in spending on consumption expenditure is called the *multiplier effect*. Suppose that *A* spends \$100 more than usual, drawing down his savings for the purpose or perhaps borrowing the money from his bank. Suppose also that people in the economy, as an average, spend on consumption $\frac{2}{3}$ of any increase in their net incomes, saving or paying off debts with the remainder. In other words, the marginal propensity to consume is $\frac{2}{3}$. This is, in fact, the rough estimate for the United States given by J. M. Clark and Lord Keynes.²⁵

When *A* spends the \$100, the person (or persons) to whom he pays the money, *B*, finds that his income is up by \$100. *B* spends on consumption \$66.67, which becomes income to a person (or persons) *C*. *C*, in turn, spends on consumption $\frac{2}{3}$ of \$66.67, or \$44.45; and so forth. The series runs as follows:

ADDITIONAL INCOMES TO

<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>
\$100	\$66.67	\$44.45	\$29.63	\$19.75	\$13.17	\$8.78	\$5.85	\$3.90

The effect of the original spending evidently goes on and on, but since some remains in the hands of each person in the series as a "leakage," the amount passed on steadily becomes smaller. At the point when *J* receives his \$3.90, the total of all the additional incomes received is \$292.20. If we followed this series of income increases further, we should find that the total of all additional incomes received approaches closer and closer to \$300. This is the limit of the increases of incomes which were started by *A*'s original expenditure of \$100, if people spend on consumption $\frac{2}{3}$ of their marginal incomes.

²⁴This concept appears to be slightly different from Professor Hansen's *leverage coefficient*, which seems to imply that the original expenditure is investment expenditure. *Fiscal Policy and Business Cycles*, pp. 264-65.

²⁵"Income" here is to be thought of as net income created, not as disposable income (for which we calculated a marginal propensity to consume of $\frac{1}{3}$, pp. 94-95).

The *multiplier*, which relates the original change in spending to the total increase in incomes *eventually* resulting from the induced consumption, is in this case 3. The larger the marginal propensity to consume, the larger is the multiplier.²⁶

The time required for multiplier effects

Of course, it takes time for the spending of the original \$100 to affect successively these incomes. How long on the average is required for income of one person to become income for another? Estimates of this *income period* for the United States run between 3 and 3½ months.²⁷ Suppose we assume that the former estimate is about right. Then, after *B* in our example above receives his \$100, 3 months go by on the average before *C* receives \$66.67; and 6 months go by before *D* receives \$44.45; and so forth. An infinitely long period of time (an infinite number of income periods) is required before the full effect of the original expenditure is worked out, and additional incomes resulting from it actually total \$300. On the other hand, at the end of a year, 87 per cent (\$260.50) of the full rise in income has been received; and at the end of two years, when *J* has received his increase of income, 97 per cent. The bulk of the stimulating effect on income and employment of changed expenditures occurs rather soon.

The total of leakages

It is worth while noticing that when at the end of an infinite number of time periods the effect of the original new expenditure has completely worn off, the total of "leakages" all down along the line—of savings or debt payments—equals the original expenditure.

²⁶ The multiplier can be calculated in this fashion: Of each original dollar spent in our example, $\frac{1}{3}$ was spent on consumption by the first income receiver, $\frac{1}{3}$ of this $\frac{1}{3}$ by the next, and so on. In other words the total rise in incomes is $1 + \frac{1}{3} + (\frac{1}{3})^2 + (\frac{1}{3})^3 + \dots$. Such a series (when the fraction involved is less than 1) is algebraically equal to $\frac{1}{1 - \frac{1}{3}}$, or 3, which, as we know, is the value of the multiplier.

In the above example, the fraction $\frac{1}{3}$ is the marginal propensity to consume, which we have before defined (p. 94) as

$$\frac{\text{change in consumption}}{\text{change in income}}, \text{ or in symbols } \frac{\Delta C}{\Delta Y}$$

In general, therefore, the multiplier equals $\frac{1}{1 - \Delta C/\Delta Y}$

²⁷ Cf. Machlup, Fritz, "Period Analysis and Multiplier Theory," in *Readings in Business Cycle Theory*, pp. 214-215. Philadelphia: Blakiston and Co., 1944. Professor Villard thinks 3½ months is a minimum estimate, and that the period might well be a bit longer. *Deficit Spending and the National Income*, p. 256. New York: Farrar and Rinehart, 1941.

As much has been withdrawn from expenditure as was originally expended, and when this is true, the original stimulus is canceled out. For example, *B* withdrew from further spending \$33.33, *C* withdrew \$22.22, and so forth. When *J* received his income increase, \$96.10 had leaked out from the income series. If we followed the series further, we should find leakages approaching \$100, and as this occurs, the original injection of \$100 is canceled out, and the total of additional incomes approaches \$300.

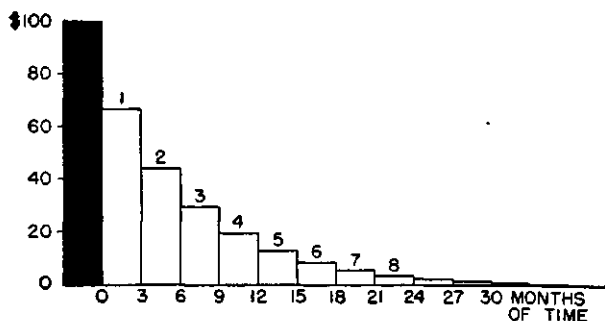


CHART 15

The Simple Multiplier Process

We can graph the expansion of this multiplier process as shown in Chart 15. The shaded area is the original expenditure. The areas numbered 1, 2, 3 . . . are the secondary expenditures on consumption which are realized at the end of 3, 6, 9 months, and so forth. All of these represent *changes* above some basic level of income.

The multiplier effect of a continued injection of new expenditure

In the above example, we have traced out over the course of months the effect of a *single* additional expenditure. Suppose that instead *repeated* additional expenditures are made. Then, each one of them will have its series of secondary expenditures. In Chart 16, we show the cumulative effect of such repeated additional expenditures, assuming as above that the marginal propensity to consume remains $\frac{2}{3}$, and that the average income period is 3 months.

Nine injections of new expenditure into the economy are represented, one at the beginning of each income period. In each case the original expenditure is shown by the dark rectangles 1A, 2A, . . . and the series of consumption expenditures derivative from it.

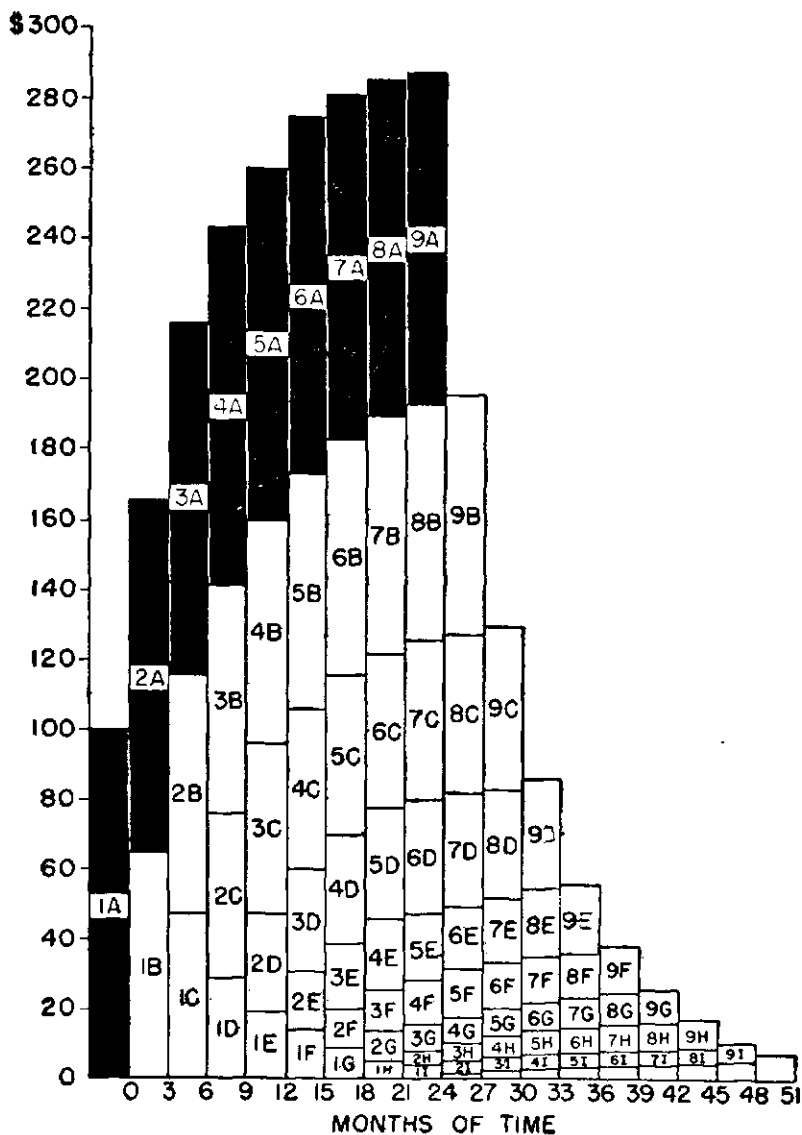


CHART 16

The Multiplier Process following Repeated Injections of New Expenditures

by the light rectangles labeled 1B, 1C, 1D . . . and 2B, 2C, 2D . . . , and so on.

As these successive new expenditures are made, the total of additional incomes received in any period mounts rapidly toward a limit of \$300, or three times the new expenditure made every period. At the end of a year, 87 per cent of this maximum rise has been achieved. So long as the injection of \$100 every period continues, incomes will approach closer and closer to the limit of \$300 above the original level, assuming that the consumption and investment behavior of the economy remains otherwise unchanged.

But if the injection of \$100 every period is stopped, then incomes rapidly fall back toward their old level. Chart 16 shows the effect of stopping the injection of new expenditure at the end of 24 months. One year afterward, incomes have fallen 80 per cent of the way back to their original level. There is, in brief, a multiple effect from a fall in expenditure, just as there is from a rise in expenditure.

The stability of the multiplier

The above example is based on rough estimates for the United States. It would appear, then, that it shows us approximately what we could expect out of the stimulus to consumption from a single new expenditure or repeated new expenditures. These expenditures might be made by the government, by foreign buyers, by businessmen who are investing, or by consumers who are splurging on a new consumption good. We might just as well think of the expenditure as 100 million dollars every three months, rather than \$100 only, and thereby magnify all our figures by a million.

It is on the basis of reasoning like that we have given that Lord Keynes, on a visit to this country in June 1934, predicted that if the United States Government spent only 200 million dollars more every month than it took in through taxes, we should slump back to deepest depression; that if we spent 300 million dollars a month, we would stay at the same level; and that the spending of 400 million dollars would bring us full recovery.²⁸

But there are a number of considerations which make it hazardous to predict closely just how large the multiplier effect will be. (1)

²⁸ Reported in Williams, John H., *Postwar Monetary Plans*, p. 64. New York: Alfred A. Knopf, Inc., 1944.

We have assumed that previous consumption and investment expenditure remained unchanged, but there might be outside causes of a change in consumption. And the derivative consumption expenditures illustrated above are rather likely to have an influence toward increasing investment. (This we discuss below.) On the other hand, it is possible that certain kinds of new expenditure—perhaps the government is increasing its debt or is thought to be spending ineffectively—may diminish business confidence, and so diminish also private investment. (2) The value of the multiplier is not a stable and unchanging figure. If people who receive the flows of new income have been unemployed before and have run up debts, they are apt to use a part of their new income to pay off these debts rather than spend on consumption. The multiplier is lower than it will be later on: the new funds are being soaked up in liquidating debts rather than having their full effect in increasing consumption. There is also reason to think that changing distribution of income as incomes rise, the possible lag of consumption-habit changes behind income changes, and varying expectations of future income changes, will affect the marginal propensity to consume, and so affect the value of the multiplier.

For these reasons, we cannot predict closely what the stimulating effect on consumption from any given expenditure will be.

The Acceleration Effect

Changes in the demand for goods relatively close to consumption may give rise to much larger changes in the demand for (and output of) the capital goods used in their production. This relationship is known as *the acceleration effect*.

Suppose that 80 metal-forging machines are used in the production of lathes, and that 8 of these machines need to be replaced every year—that is, these machines last on the average 10 years.

1. If demand for lathes remains unchanged, then the capital-goods industry producing the machines will produce 8 per year.

2. But if demand for lathes should in some year rise by 10 per cent, then 88 forging machines would be required (assuming no change in techniques takes place which would allow greater output from the existing machines). The capital-goods industry must, therefore, produce 16 machines in that year: 8 for replacement and 8 for additions. A 10 per cent increase in demand for lathes has given rise to a 100 per cent rise in demand for the forging machines which make lathes.

3. Suppose that through the next year demand stops rising, remaining constant at 10 per cent above its original level. Then a total of 88 forging machines are needed, of which 8 wear out in the course of the year and must be replaced.²⁹ The output of the forging-machine industry has fallen from 16 to 8, a decline of 50 per cent, merely because consumption is no longer rising.

4. Suppose, finally, that in the following year demand for lathes itself falls to the original level. Then, 80 machines are required. Since there were 88 at the beginning of the year and 8 wear out during the year, none need be produced. A decline of 9 per cent ($\frac{9}{88}$) in demand for the product nearer to consumption (lathes) has led to a complete shutdown in production of the product further from consumption (forging machines).

The above example evidences that a small change in demand for goods relatively close to consumption can transmit itself with accelerated force to capital-goods industries.³⁰ Here is the basic element in explaining why the main capital-goods industries, such as steel, are prince or pauper industries. While consumption is falling relatively moderately, capital-goods output collapses. (Over the years 1929-1932, consumption-goods output fell 23 per cent; capital-goods output fell 78 per cent.) And when consumption output is rising moderately, the capital-goods industries are booming. (Over the years 1932-1938 when consumption-goods output was rising 29 per cent, capital-goods output was rising 240 per cent.)

Types of acceleration effects

The acceleration effect can be seen operative in three cases.

1. If the demand for the services of durable consumers goods (automobiles, washing machines, radios, refrigerators) varies, then demand for the capital instruments which make them is apt to vary in an accelerated fashion. If refrigerators last 14 years on the average,³¹ then if demand for them drops by about one seventh, none need be manufactured. But if demand rises a bit, then not only must those that wear out be replaced, but also an additional number must be produced in accord with the increased demand.

²⁹ In this year $\frac{1}{14}$ of the original 80 will wear out. The 8 new machines produced the year before will not wear out.

³⁰ It is only a *change* in consumption which influences the volume of net investment (which we define as a change in the total quantity of capital goods). The *level* of consumption (that is, any continued level of consumption) has no influence on net investment; it determines only the normal level of *replacement* investment.

³¹ And their age distribution is random.

2. If demand for capital instruments changes, then demand for the capital equipment which makes these capital instruments can vary in an accelerated degree (that is, the acceleration effect moves in a direction away from the final consumption goods which will ultimately be produced). This was our example above of the forging machines which were used in making lathes.

3. Finally, if the demand changes for any good which is carried in stock, there may be an acceleration effect. Suppose that demand for a good is running at the rate of 1000 units a week and that dealers are, on the average, accustomed to keeping an equal quantity in their inventories. Then their orders run also at the rate of 1000 a week. Suppose demand rises to 1100 a week; then the dealers, if they wish to retain the old proportion between inventories and demand, must purchase not only 1100 to equal their sales, but also 100 more for the increase in inventories, or 1200 in all. A 10 per cent rise in sales by the dealers has led to a 20 per cent rise in purchases by dealers. A similar acceleration effect follows from a downswing in sales.³²

The stability of the acceleration effect

As with the multiplier, we also have reason to believe that acceleration is not a reliable staff to lean on. Usually, we shall be uncertain how much acceleration to expect.

1. We have assumed above a fixed ratio between capital instruments or inventories and output. But if there is excess capacity of capital equipment or excessive inventories, as often there will be during depression, an increase of consumer demand will not have any acceleration effect, but merely cause some of the excess capacity or inventories to be absorbed. Or, if the capital equipment is improving in quality, so that productive efficiency is rising, then an increase in demand for its products need not stimulate any increase in its quantity.

2. We have assumed fixed durability of capital instruments, that they are worn out a given number of years after they were constructed. But the date when a capital instrument is worn out is, in fact, very uncertain, depending as it does on the care it receives, availability and cost of repair parts, the technical change going on, the cost of a new instrument, the interest rate, and so forth.

3. Finally, we have assumed that investment depends closely on

³² This classification is used by Haberler, Gottfried, *Prosperity and Depression*, 3rd ed., pp. 85-98. Geneva: League of Nations, 1941.

current consumption. But much investment depends only on long-run prospects of returns. In the United States, canals, railroads, and electric railways have persistently been constructed far ahead of effective demand, almost independent of existing need.

In all that we have said about the acceleration principle, we were relating *changes* in demand for goods relatively close to consumption to the magnified (new) investment to which they may lead.³³ The new investment might be thought to lead (through the multiplier effect) to further enlarged consumption changes, and so on indefinitely. But it turns out, in fact, that in ordinary stable situations, the acceleration effect does not alter the ultimate result which the multiplier effect alone leads to. It only causes fluctuations around the path to that result. In the longer run, therefore, we are justified in minimizing acceleration and in emphasizing the multiplier.

The acceleration principle is probably most useful in helping us to understand how the expansion (or slowing up of expansion) and contraction (or slowing up of contraction) of a major industry can have a magnified effect on supplying industries. As examples, we might take the expansion of railroads in the middle of the nineteenth century and the slackening of expansion toward the close of that century in their effects on steel production and fabrication; or we might take the rise of the automobile industry in the 1920's and its slackening in the 1930's in their effects on steel, rubber, plate glass, and other contributing industries.

Conclusion

The *leverage* of any new expenditure is, we have seen, the total increase in investment and consumption outlay which results per dollar of that new expenditure. Leverage is the total of the multiplier and acceleration effects which work themselves out over time, though in ordinary cases, acceleration only modifies the path taken to the same final level of income as would have been achieved by the multiplier acting alone.

Leverage tends to magnify significantly the ultimate total effect of any dollar of new expenditure. But the relevant influences are too complex and uncertain for us to have confidence that we can predict the exact magnitude of that total effect.

³³ Page 133, footnote 30.

CHAPTER TEN

GOVERNMENT EXPENDITURE

THE total amount of employment and production in an economy is dependent on the total amount of spending for goods and services produced. In fact, the total incomes received are the total spendings in the economy: you can't have income without spending. In the last two chapters, we have discussed consumer expenditure for goods and services, and private-investment expenditures. We now come to the third and last kind of expenditure for the goods and services produced in the economy: the expenditures of government for goods and services.¹ When we add these three elements together, we have the total expenditure for goods and services produced in the economy, and in the same figure we have valued total national income and total national production.

The earning and spending of income

It is useful to look at two charts illustrating the sources of income and the disposition of that income.

We may speak either in terms of gross income or net income. Since the data usually presented are in gross terms, it appears most convenient to use gross concepts here. In Chart 17B, total income is plotted against the sources of that income. In Chart 17A, total income is plotted against the disposition, or uses, of income. The 45-degree line *OB* at every point measures the aggregate of sources, or of disposition, of income; and so it measures total income. For example, the gross national income in 1939 was 88.6 billion dollars. We can think of this as measured by *OL* in both figures. The sources from which this income came must total 88.6 billion dollars, and when we add up all the uses of that income, we must also have

¹"Government" includes Federal, state, and local governments; but "government expenditure for goods and services" excludes that part of government expenditure which is not for currently produced goods and services: relief payments, veterans' allowances, food stamps, pensions, loans, payments from social-security funds, and purchase of existing assets.

88.6 billion dollars. *LT* in both figures, therefore, equals 88.6 billion dollars.

In 1939 (as we have seen on pp. 19-21), the values of the main subdivisions of the sources of income, and of the channels in which that income was disposed were as follows:

DISPOSITION OF INCOME		SOURCES OF INCOME	
In Billions of Dollars			
Savings ²	13.4	Private investment	10.9
Taxes	13.5	Government expenditures	16.0
Consumption expenditures	61.7	Consumption expenditures	61.7
<hr/>		<hr/>	
Gross national income (or product)	88.6	Gross national income (or product)	88.6

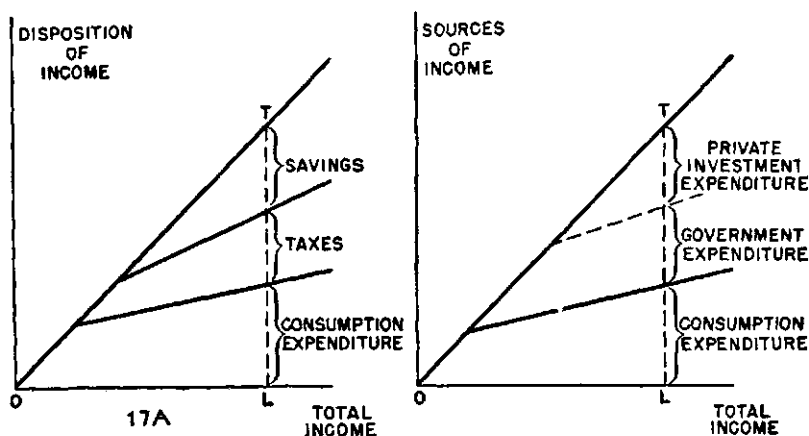


CHART 17

Total Income: Its Sources and Its Disposition

The lines separating the elements which make up the sources and disposition of income are drawn (with one exception) to show the qualitative changes that are to be expected; they are not quantitative estimates. Savings, taxes, and consumption usually all become larger with higher income. The dividing line between private investment and government expenditure is shown as dashed to indicate that there is no sure basis on which to predict how these will share the gap between consumption and income as income rises: in an ordinary business boom the main expansion will be in private investment, but during wartime, government expenditure rises hugely.

² Adjusted for transfer payments, social-security taxes, and rounding error.

and may do so at the expense of investment, and even of consumption.

An increase in any one of the sources of income: consumption, government expenditure, or private investment, means that total income rises, and ordinarily by a magnified amount corresponding to the action of the multiplier and acceleration principles. An increase in private investment will swell income not only directly, but also by tending to expand consumption. A rise in government expenditure will increase income directly, and will usually also induce increased consumption and more private investment.³ An increase in consumption (which is the same thing as saying that there is a decreased disposition to save out of current income) increases income directly, and also through encouraging private investment.

On the other hand, an increase in taxes will ordinarily absorb some funds which otherwise would have gone into consumption; and is likely also to discourage private investment, both because consumption expenditure is less and because businessmen will anticipate higher taxes to be added to their costs or subtracted from their receipts.

Consumption is, of course, the same in both figures: just to the extent, at any level of income, that people spend on consumption, income is derived from consumption spending. This means, as we have seen on p. 20, that savings plus taxes always equal investment plus government expenditure. This equality can be rearranged into the form: savings equals investment plus (government expenditure minus taxes). Since the expression within the parentheses is the government deficit, we can say, alternatively,

Savings equals Investment plus Government deficit

An increased desire to save, if not offset, will lead to lower national income by means of a drop in consumption. But this decline in income will not occur if the increased saving is offset by an increase in private investment and/or the government deficit.

These quantitative relationships will underlie much of what we say in later chapters, but they do not themselves offer much of a

³This assumes that there are no (wartime) controls imposed on the economy to restrict consumption and investment. It is also possible under peacetime conditions that certain increases in government expenditure might on net balance decrease private investment, so that the multiplier is less than one, or even negative. (A negative multiplier would mean that total income declines when the government increases its expenditure.)

guide with respect to detailed issues of policy. Suppose that our problem is that of deficient total expenditure.

1. One range of issues, on which no light is shed above, is concerned with the possibilities of expanding consumption and private investment by policies not making use of the government budget. There are many activities of government which affect total income and employment, other than its budgetary practices. Among them are such specific policies as those concerned with the control of monopoly, job guarantees, security issues, even the general tone of unrelated government policies. To be included also are the general powers of government over money and credit.

2. Qualitative matters of the budget are neglected above, but these may be crucial: the indirect effects of government spending on consumption and private investment may be more important than the direct stimulus to income, and the indirect effects depend, in large degree, on *where* the government does the spending and from what *kinds* of taxes and loans it secures its funds.

3. Expansion of government expenditures may change the dividing line between public and private enterprise. The choice of this dividing line need not, and should not, be the accidental by-product of policies directed toward increasing employment and production.

We will return to these matters below.

The trend of expenditures for goods and services, 1909-1946

Chart 18 shows the three sources of income over 1909-1946, together with their total, gross national product or income. Consumer expenditures are much the largest of the three, usually about two thirds of the total, and present the close relationship to gross income which we have previously seen to exist with disposable income. Private investment (capital formation) shows the pronounced variability which our reasoning has led us to expect.

Government expenditures include state and local expenditures, as well as Federal expenditures. The over-all trend of government expenditures is upward within the interwar period at roughly the same rate as the national income. But this trend conceals sharp divergences within the individual units of government.

Local expenditures (which are larger than state expenditures) varied approximately in accord with the level of gross production. Expenditures rose continuously during the 1920's to a peak in 1929. They fell to 1933, and thereafter rose somewhat to a level about three quarters of the 1929 peak. State expenditures, on the other

hand, expanded consistently throughout the period. In no year of the 1930's did state expenditures fall below the level of 1929, though there was a modest and temporary decline below the levels reached in 1931 and 1932. The largest item in state and local expenditures taken together is for schools—about a quarter of the total in 1941. Some of the next most important expenditures are for highways, welfare, general administration, police and fire, and health and hospitals.

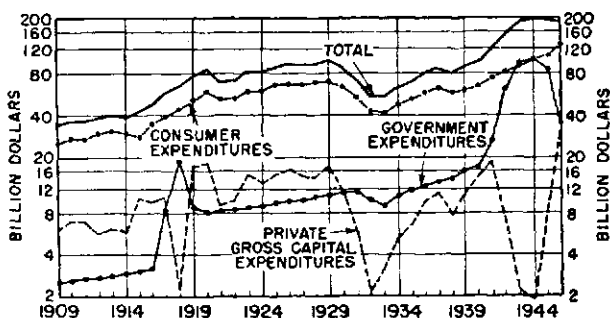


CHART 18

Gross National Product and Its Constituents, 1909-1946

Source: Data through 1944, *Basic Facts on Employment and Production*, p. 13. For 1945, *Survey of Current Business*, February 1946, p. 8. The data for 1946 are preliminary estimates from the *Economic Report of the President*, (House Document 49, 80th Congress, 1st Session), p. 7.

Federal expenditures, in contrast to both the above, have followed a pattern generally counter to that of production and employment in the economy. Following World War I, Federal expenditures declined sharply to a low point in 1923. Afterward, they rose moderately to 1932, dropped somewhat for one year, and then rose more rapidly into the later 1930's and the war period. Except in the late 1930's and during World War II, Federal expenditures were smaller than the total of local and state expenditures. The major item in Federal government expenditures just before World War II was for military purposes, including veterans' benefits. Aid to agriculture and expenditure for work relief were also large, followed by outlays to maintain the civilian divisions of the government and to carry on general public works.⁴

It is worth mentioning here that the ability of state and local gov-

⁴Certain of these items are transfer payments, and so do not enter into the national product.

ernments to spend in excess of their tax revenues is sharply limited, in contrast with that of the Federal government. The capacity of the former to borrow is restricted in accord with their long-run ability to obtain tax revenue from the sometimes scanty local resources. Often they have bad credit standing as a legacy from past poor administration. More important are legal prohibitions and restrictions which may impose arbitrary limits on the use of government credit. Furthermore, the Federal government has the considerable advantage of control of the currency and credit system of the nation.⁵

How the United States met the problem of unemployment, 1930-40

In addition to certain specific measures which we shall consider later, a government has two general means of combating depression and unemployment: monetary policy, and fiscal policy.

1. Monetary policy is concerned with the supply of money in the economy. In the 1920's, there was rather general confidence among economists and government officials concerned with the matter that monetary policy was sufficient to control the business cycle. Attention was centered mainly on the movement of prices: if prices should threaten to rise drastically in the boom, it was argued that the Treasury and Federal Reserve should through their powers raise the interest rate, and so discourage businessmen from borrowing and investing. If one could only cut the top off the boom, then a succeeding depression might be avoided or mitigated. Conversely, in time of threatened depression, the interest rate should be lowered to encourage investment.

We have reasoned that a lower interest rate (even if interest rates on all kinds of loans could be controlled by the monetary authorities, which they cannot) is an inadequate stimulus to greater investment. This is the current view, and emerges out of the experience of the 1930's as well as from abstract reasoning.

When the recession got under way in 1929 and 1930, the Federal Reserve followed the orthodox prescription and lowered its discount rate sharply, from 6 per cent in 1929 to below 2 per cent in 1931. The rates on other kinds of loans also fell in these first years, but

⁵ A useful brief survey of state and local finance is given in Mitchell, G. W., Litterer, O. F., and Domar, E. D., "State and Local Finance," in *Public Finance and Full Employment, Postwar Economic Studies*, No. 3, of the Federal Reserve Board of Governors.

(with the exception of bankers' acceptances) not so sharply. More important, government bonds were bought by the Federal Reserve on the open market in some quantity in early 1930 in the effort to increase the quantity of money at the disposal of individuals, businesses, and banks. These measures were too weak to withstand the contractionary process under way of canceling debt, reduction of bank loans, and shrinkage of the money supply. By 1933, the quantity of money had dropped 25 per cent below its 1929 level. (But of course this does not imply that a monetary policy which succeeded in maintaining the supply of money would have averted a depression, though it doubtless would have made the depression less severe.)

During the 1930's, interest rates continued to fall. The rates charged by banks in large cities on loans to customers fell from 6 per cent in 1929 to between 3 and $2\frac{1}{2}$ per cent in 1935 and afterward. Bankers' acceptances fell from their general level of 3 to 5 per cent in the 1920's to less than 1 per cent. Treasury bills, close to 5 per cent in 1929, fell also to less than 1 per cent, with three-month bills attaining a rate of $\frac{1}{100}$ of 1 per cent. High-quality corporate bonds fell from their range of $4\frac{1}{2}$ to 6 per cent in the 1920's to under 3 per cent by the end of the 1930's.

Such a fall in interest rates had never been experienced before in this or any other country. It was the policy of our monetary authorities to drive down interest rates, but it is not likely that they would themselves have had—shall we say the courage?—to push their policy so far. There were outside factors involved.

Interest rates, like other prices, fall when there is excess supply: an excess of money available for lending at the current rate over the quantity of money which is wanted for borrowing at that rate. The great increase in money supply during the 1930's gradually came to satisfy the anxiety of people and institutions to "invest in cash" for the sake of security. They became increasingly willing to lend at lower interest rates. The swollen supply of available money flowed partly from (a) action of the monetary authorities: open-market operations and other policies of the Federal Reserve which increased the reserves of member banks, and so made them able to lend. In part, it came also from (b) an increased legal rate of issuance of silver certificates, and from (c) the huge inflow of gold (about 15 billion dollars by the beginning of World War II) which increased bank reserves, and so made them more able to lend. Finally, (d) there were the funds supplied by lending agencies of the Federal

government, especially the RFC, which by the end of the decade had loaned or invested 13.5 billion dollars.⁶ These agencies increased the supply of funds, and so tended to depress interest rates for kinds of loans whose rates the Federal Reserve could not directly affect.

This large supply of funds available can be contrasted with the meager demand for investment funds from glum businessmen and apprehensive potential home builders. Excess reserves, which measure the unused lending power of banks, rose to peaks of 5 billion dollars at the end of 1935, and 7 billion dollars at the end of 1940, as interest rates fell.

Though such a thoroughgoing test of "easy money" had no precedent, the recovery record was not very satisfactory. We experienced an uneven, but rapid, recovery from the pit of the depression in 1932-1933 up to 1937. But in that year (when interest rates had fallen to a level much lower than in 1932), we suffered a sharp setback, and thereafter to the defense and war periods endured a level of some 8 to 10 millions of unemployed. Insofar as our subsequent employment experience can be said to be the result of "easy money," it was not very encouraging.

2. The use of Federal government revenues and expenditures as an antidepression weapon was not a measure first thought out carefully, then applied. We did not "plan it that way." The Hoover administration, in office until 1933, wanted to balance the budget—that is, make tax and other revenues at least equal to expenditure, and it made efforts to economize to that end. But as the national income dropped by one half from 1929 to 1932, the revenues of the Federal government also declined by about the same proportion. In addition, growing necessary relief expenditures offset the attempted economies, and so the deficit grew, made up by borrowing from banks and from the public. It is curious to remember, in view of later expenditures from the Federal treasury, that the main charge of the Democratic campaign of 1932 against the Republican administration was extravagance. Budget deficits and the loans of the RFC were the particular targets of attack.

After the Roosevelt administration came into office in March 1933, the deficits continued, but during the next several years, there was hardly any evidence that influential administrators, research

⁶ Agencies which made loans or direct investments, or refinanced or guaranteed old loans, include the Reconstruction Finance Corporation, the Federal Farm Mortgage Corporation, the Federal Land Banks, the Home Owner's Loan Corporation, the Rural Electrification Administration, and the Federal Housing Administration.

men, legislators, and so forth, of the government had any thought that recovery might be effected through a higher rate of government expenditures into the economy, than of taxation out of it. The deficits continued and grew because of apparent necessity, not because of policy: tax yields continued low, and relief and other emergency expenditures grew. Emphasis remained for a time on monetary policy. The aim of raising prices to their 1926 level was repeatedly stated, the two principal means being devaluation of the dollar (by making our money cheaper to foreigners we would encourage their buying in this country) and the NRA (whose codes of fair competition encouraged monopolistic, price fixing). The early public-works program was a relief measure, not a means of recovery. In the meantime, state and local governments over the nation were shrinking their expenditures as their incomes collapsed. State and local public works declined steadily from nearly 3 billion dollars in 1929 to a little over 1 billion dollars in 1935.

In the summer of 1934, there was the visit of J. M. Keynes to this country during which he said, as we have already mentioned, that if the Federal government spent in excess of revenue only 200 million dollars a month, we should decline to the bottom of the depression of 1932, that 300 million dollars would hold us where we were, and that spending 400 million dollars a month would bring us to complete recovery. Many influential government economists and administrators agreed in general with this prognosis (even if not with its precision). But such was not the official administration view. The official view continued hopeful that a balanced budget might induce such confidence in businessmen and consumers as to cause them to expand their own expenditures sufficiently to bring about high employment and output.⁷ The annual budget messages sent to Congress by the President repeatedly promised that the budget would soon be balanced.

There was considerable unofficial advocacy from 1933 to 1935 of "pump-priming." If a well pump on the farm does not work, one can generally get it to working by pouring a little water into it, which wets and swells the leather valve, thereby causing better suction. So with the economy. It was argued that a bit of additional

⁷ In England, Winston Churchill, when Chancellor of the Exchequer in 1929, had put this conviction firmly: "It is the orthodox Treasury dogma steadfastly held that, whatever might be the political and social advantages, very little employment and no permanent additional employment can . . . be created by State borrowing and State expenditure." Beveridge, Sir William, "The Government's Employment Policy," *Economic Journal*, pp. 161-162, June-September, 1944.

spending by the government would expand consumer buying, necessitate more investment expenditure, and thereby increase confidence in the future. Businessmen would be encouraged to invest more heavily, and we should soon find ourselves well on the road to a recovery in which government deficits would no longer be necessary, but would instead turn into surpluses. The government budget would, it was thought, be balanced in the long run, with deficits in depression just about equaling the surpluses which would accumulate in prosperity.

The official administration view did not seek to make use of the stimulating effects of an unbalanced budget until the sharp downswing of 1937-1938. The budget had temporarily come into balance, partly through the rise in Federal revenues as business conditions were improving, and partly through the building up of a social-security reserve. A new spending program was put together hurriedly in the spring of 1938, and was passed by Congress. The Federal government's net contribution to income, which had fallen from 4.3 billion dollars in 1936 to 1.1 billion dollars in 1937, rose in 1938 to 2.4 billion dollars.⁸

After 1937, there was little heard of pump-priming. Obviously, the pump had not been primed: the deficits of government had not started a cumulative upward movement of private consumption and investment spending which would continue under its own momentum. It was best to let the matter drop in an embarrassed silence.

Instead, discussions grew as to whether we were not in for "secular stagnation"—a continuing, decades-long era of such inadequate investment and consumption as would lead to continuing heavy unemployment unless government expenditures should fill the gap. And if the government should, for this purpose, tax less than it spent, its debt would continue to rise—a prospect alarming to many people who were already worried by the growth of the debt from 14.8 billion dollars in 1930 to 31.4 billion dollars by 1937.⁹

Such discussion soon became academic, as defense and later war expenditures of the Federal government boomed our national income and output to heights which no economist had seriously thought possible. All predictions turned out to be too low. Money income expanded from (in round billions) 40 in 1932, to 72

⁸ Revised data of Currie, Laughlin, in Ezekiel, Mordecai, "Saving, Consumption, and Investment, I." *American Economic Review*, p. 27, March 1942.

⁹ These figures are for Federal debt only, data of the end of the year. State and local debt would add another 14.7 billion dollars in 1930, and 15.8 billion dollars in 1937.

in 1939, to 175 in 1944. Even when we allow for the rise in prices, the comparison of real output still shows a very large rise: from 56 billion dollars in 1932, to 98 billion dollars in 1939, and 175 billion in 1944.¹⁰ The over-all rise in real output, from pit of depression to peak of war boom, is about 210 per cent. Evidently, the extent of concealed unemployment, and the degree to which we could stretch ourselves to produce more when our hearts were in the job, were uniformly underestimated.

Meanwhile, the national debt was expanding vastly, passing 263 billion dollars by the end of World War II. But less was heard during the war about the menace of public debt. The booming prosperity of the United States and its immense productivity gave renewed confidence to that wing of business and economic thought which urged that a freely operating economy could be trusted to solve the problem of unemployment itself.¹¹

¹⁰ At average prices of 1944.

¹¹ A fuller statement of the policies of the 1930's is in Williams, John H., *Postwar Monetary Plans*, Chap. IV. New York: Alfred A. Knopf, Inc., 1944.

CHAPTER ELEVEN

SOME DOUBTFUL ANALYSES AND PROPOSALS

NOT all analyses of employment run in terms of the consumption-savings-investment reasoning given above. Today, the difference among trained economists is usually one of emphasis and wording, and so is not substantial. Sometimes, especially as we go back to the past, the difference is real. It is helpful in understanding the problem of employment to look at several questionable analyses, to see where they are partial or wrong.

Special Views on the Cause of Unemployment

Say's law

Many of the economists of the nineteenth century denied that it is possible for general unemployment ever to appear, on the grounds that so long as human wants are not completely filled—and when have they ever been?—a demand for labor exists. This reasoning was in the background of the extreme doctrine of the early French economist, J. B. Say. He was willing to grant that a glut of goods would appear, and hence unemployment, “if we lived on bread and water and did not employ our savings,”¹ but that men should refuse to buy as much of commodities as their means allowed seemed as unlikely to him as that the moon should fall upon the earth. More exactly, he wrote:

. . . a product is no sooner created, than it, from that instant, affords a market for other products to the full extent of its own value. When the producer has put the finishing hand to his product, he is most anxious to sell it immediately, lest its value should vanish in his hands. Nor is he less anxious to dispose of the money he may get for it; for the value of money is also perishable. But the

¹ *Letters to Malthus*. London, 1821. Reprinted 1936, George Harding's Bookshop, Ltd., p. 37.

only way of getting rid of money is in the purchase of some product or other. Thus the mere circumstance of the creation of one product immediately opens a vent for other products.²

One may agree with Say that few of us are misers, and want money for its own sake. We want money in order to spend. But it is also evident that we may decide to postpone the spending of part of our incomes (that is, save), and such postponement does not necessarily imply that other people and organizations in the economy are spending an equal amount in excess of their incomes, which is necessary if total expenditure remains unchanged.³ In other words, money may be kept idle (hoarded), or it may be destroyed by contraction of the banking system—and so purchasing power falls.

Our statistics suggest what our reasoning predicts: that one kind of private expenditure—consumption expenditure—depends closely on income created, but that the other kind—investment expenditure—has a dynamics of its own. And government expenditure does not necessarily vary in an appropriately offsetting way. Hence the total of these three kinds of expenditure cannot be trusted to remain at a stable and adequately high level.

But Say's kind of thinking was not unrealistic in view of the kind of world he lived in.

1. To accuse Say of neglecting the peculiarities of money is a less serious charge than if we made it against a present-day economist. Money was less important in 1820: the Western world was closer to a barter economy. In the United States of 1840, quantity of money was 10 per cent of the value of the national income; by 1900, 55 per cent; by 1940, 85 per cent. There has been a growing possibility of "investing in cash," and so of withdrawing money from purchasing.

2. In Say's time a much larger proportion of total output was made up of consumption goods and nondurable goods. Consumption goods tend to be bought in relatively sustained volume, and nondurables, once produced, must be promptly sold.

3. The greater proportion of simple, direct processes of production in Say's time blocked the operation of the acceleration principle, with its influence toward magnifying changes in consumer demand.

² *A Treatise on Political Economy*, pp. 78-79, 4th edition, translated from the French by C. R. Prinsep. Philadelphia: John Grigg, 1830.

³ Say appears to assume that prices are rising: "the value of money is also perishable." If people expect prices to continue to rise, their buying now will be stimulated. But by the same token, if they expect prices to fall, their buying now is curtailed.

4. The rise in real income in the last century is a source of instability. As the most urgent wants have been more fully satisfied, wants have tended to become increasingly peripheral and postponable; and so saving competes more strongly against current wants.

5. In the small shops and on the farms of Say's time variable costs (costs whose total changes when output changes) were a smaller proportion of total costs, and strong monopolistic situations were probably fewer. In consequence, there was a general tendency, in times of slackened demand, toward sustaining output at lower prices, rather than toward cutting output and maintaining prices. Consider the small farmer, as a type of the producer of Say's period. His running costs consist mainly of his labor and that of his family (that is, they are negligible in terms of money). His chief money costs of production are likely to be taxes and the payment on the mortgage—fixed costs which do not change with changing output. Hence, in times of low prices he may well work all the harder and produce all the more to meet his fixed payments. In contrast, producers with high variable costs and monopolistic sellers tend in times of low demand to cut output and maintain price, rather than the reverse.⁴

6. Finally, in Say's time government expenditure was usually a very small part of total expenditure. This is no longer true. As government expenditures grow in relative size, they must be taken into account, either as a possible source of instability, or as a possible means to offset the instability of private expenditure.

Say's analysis fitted his world fairly well. But despite the fact that the world was changing in the nineteenth century, many classical economists repeated his reasoning without change.

The argument that general unemployment is caused by rigid wages

The long line of classical economists who accepted Say's doctrine in one formulation or another agreed that the problem of unemployment is not important. The economy constantly tends, they reasoned, toward full employment. If we do not have it, it is because of temporary, frictional causes which the natural working of the economy tends steadily to eliminate.⁵ In one evolved form, the

⁴ See pp. 62-63.

⁵ Say likewise admitted that there might be a temporary overproduction of a particular kind of commodity or service, above what would be bought at the usual price. In other words, he granted that there might be temporary unemployment (of a sort we have called *frictional*) because the right man is not in the right place at the right time.

reasoning runs that general unemployment in the society can only be explained by excessively high wages.

It is important to notice that the effect of lowered wages in some one firm, industry, or occupation is not in question. Agreement is unanimous that the effect of such a local wage drop is to increase employment in that firm, industry, or occupation. There is a favorable substitution effect, and a favorable expansion effect: (1) More labor will be used because it is now relatively cheaper than the machinery and materials used in production, and hence will be substituted where possible for these other resources. (2) More labor will be used also because the lowered costs in the area where wages have dropped tend toward lowered prices, and hence expanded output, which, in turn, requires more of all resources, including labor. If wage rates drop 20 per cent in the rubber-products industry, there is no doubt that the effect will be to increase the quantity of labor hired there.

But this is not the issue. The issue is what would happen if wages dropped 10, 20, or 30 per cent for *all* employees in the nation. Would employment increase?

It is easy to find businessmen arguing that employment would increase, that the way out of depression is through reduction of wage rates. Professor Taussig presented the businessman's reasoning (and the view of many classical economists) in this way. He assumed, to begin with, that total demand can be relied on to continue undiminished:

[It is an erroneous notion] that lavish expenditure creates a demand for labor, and is good for laborers. On this ground luxury and extravagance of all sorts have been commended. . . . The fallacy that underlies it has often been pointed out. That which is saved is spent quite as much as that which is not saved. . . . The money which is put by is turned over to some one else, usually to a person engaged in operations of production. It is simply spent in a different way.⁶

If our savings (what we do not spend on consumption out of our net incomes) promptly flows through a bank or other intermediary into the hands of someone who does spend it, then of course (as we have reasoned above), there is no chance for total spending in a society to fall below its current level, and hence no chance for unemployment to grow.⁷ But, awkwardly enough, heavy unemployment

⁶ Taussig, F. W., *Principles of Economics*, 2nd ed. rev., vol. II, pp. 192-193. New York: Macmillan, 1915.

⁷ Assuming that the government budget is balanced; that is, that there is no direct stimulating or depressing influence from the government budget.

often exists. How can Professor Taussig and the classical economists explain it?

The essential answer is that it is explained just as any other surplus of unsold goods is explained: the price of labor is too high. If you lower the wage rate enough, employers will buy more labor, and unemployment will shrink. If it were not for the "frictions" of time and place that we have mentioned—seasonal fluctuations, changes in consumer tastes, technological changes, the slowness of labor and industry to move, and the like—unemployment would quite disappear.

Taussig's reasoning is plausible enough. If we accepted it we should feel, like others of the older economists, that there exists no problem of deep unemployment unless unions and government regulations prevent wages from falling, as is their healthy tendency when there is a large amount of unemployment.

But if we are tempted to follow this doctrine, let us reflect that although classical economists and businessmen often recommend a drop in wage rates as a cure for depression, they *never* urge in time of inflation—of booming prices and high employment—that a rise in wage rates is the cure. On the contrary, they seem confident that this would be adding fuel to the flame. We may wonder suddenly whether a selfish interest is not, consciously or unconsciously, involved: that since wages are a cost to businessmen, they are normally disposed to regard lower wages as a blessing, and seize upon the catastrophe of depression as a convenient excuse for emphasizing what is their chronic preference. This would not explain the view of Taussig, who was a conscientious scientist, but it certainly is in the background of many similar analyses.

Our distrust of the above reasoning is apt to grow when we remember that employees and union leaders argue frequently and emphatically that the way out of depression and unemployment is to *raise* wage rates. For, they reason, wages are purchasing power, and unless consumption spending is maintained at a high level, depression must follow. The Steel Workers' Union during the 1946 strike for higher wage rates broadcast over the radio a tune whose plausible refrain was: "Money in the pocket is money to spend."

But what if employers hire decidedly fewer workmen when the cost of labor is raised? Then total labor incomes and spending by labor would be less.⁸

⁸ The *wage rate* (pay per hour, week, and so forth) is distinctly different from *total wages*, which equals the wage rate times the hours (weeks, and so forth) of labor em-

It looks as if these two arguments cancel each other, or, more accurately, that neither one is satisfactory.

We return, then, to the reasoning we have developed in earlier chapters. The effect of lowered wage rates must be found in their influence on consumption and investment spending. (Of course, lower wages and prices would lead to higher employment *if* total money demand remains unchanged, but the precise question is *whether* total demand remains unchanged.)

What will be the effects of lowered wage rates on consumption and investment spending?

1. The most important consequence is probably to be found in people's expectations of future prices. Lower wages mean lower costs and (if monopolistic policies do not prevent) lower prices. Will people expect wages and prices to keep on falling? If so, they have reason to postpone their consumption and investment to a later date. (Why should you buy today a gadget for \$10 which later on you can get for \$8?) This means that the wage cut has tended toward more unemployment. But on the other hand, if people think that wages and prices have now reached bottom and later on will rise, their consumption and investment buying will be encouraged. Our wage cut will then have had its intended effect toward stimulating employment.

2. If, when we lower wages, prices fall, the worth in terms of goods of such quantities of money as people have at their disposal⁹ will be increased. If their cash balances are worth more in real terms, they may be encouraged to spend more on consumption out of current incomes—that is, their consumption has increased. Also, people may be encouraged to lend out more readily if the real value of their cash balances has increased. This will tend to lower the interest rate, and to some extent to encourage investment—though, as we have seen, the interest rate is probably not a very important influence on investment.

3. The fall in wage rates and prices will affect the distribution of real income. If, as a net result, income is diverted from low- to high-income groups, consumption spending will be diminished.

ployed. It is, therefore, possible for the wage rate to be increasing while total wages are decreasing; and vice versa. Suppose that when the wage rate is \$6 a day, 1000 workers are employed in a given plant. Total wages are \$6000. If, when the wage rate falls to \$5, the management decides to hire 1500 workers, total wages rise to \$7500.

It is total wages, not the wage rate, which is to be closely identified with purchasing power.

⁹This would include, not only pocket money but also deposits in the bank and claims on cash, such as insurance policies and loans outstanding.

4. We should notice finally that, if when costs fall prices also fall, a given consumption and investment expenditure will bring about a larger volume of production and employment than if prices had been maintained. Also, there will be some degree of stimulus from an increased volume of net exports (p. 250).¹⁰

In view of these consequences of lowered wage rates (and the ramifications may be very complex) we are forced to conclude that *the net effect is uncertain*. There are certain favorable consequences, but it is quite possible that these would be completely overcome by others, especially adverse expectations of further price changes. This is not a trustworthy road out of depression and unemployment.

Do savings inevitably cause unemployment?

We have surveyed briefly two parallel views on unemployment: first, that it could not exist unless caused by temporary frictions, and second, that one kind of friction might be permanent: wages might be kept "too high," and so lead to chronic unemployment. We have found reason to reject both doctrines. A third doctrine is worth looking at—namely, that savings inevitably cause unemployment. With this doctrine, one may associate such names as those of Marx, Foster and Catchings, and Major Douglas, though these gentlemen would be surprised to find themselves in the same company, and although grouping them together involves violence to the details of their thoughts. Marx holds that inevitably consumers cannot buy as much as the capitalist machine can produce.¹¹ Foster and Catchings find that the existence of savings inevitably causes purchasing power to be less than the total value of goods coming on the market for sale.¹² Douglas thinks that part of the value of goods coming on the market goes into certain *B* payments made to other businesses rather than to individuals, and hence the total purchasing power of individuals is always less than the total value of goods com-

¹⁰ The effect will be more important to the extent that exports and imports are large relative to home production, and to the extent that the physical volume of exports and imports are strongly affected by the change in prices.

On this whole matter, see Haberler, G., *Prosperity and Depression*, 3rd edition, Chap. XIII. Geneva: League of Nations, 1942; and Lange, O., *Price Flexibility and Employment*, esp. Chap. XIII. Bloomington, Indiana: Principia Press, 1944.

¹¹ See for example *Das Kapital*, volume III, part I, p. 231; or the account of Marx's theory in Dobb, M., *Political Economy and Capitalism*, Chap. IV. New York: International Publishers, 1937.

¹² Foster, W. T., and Catchings, W., *Money*, Boston: Houghton Mifflin, 1923; and *Profits*, Boston, Houghton Mifflin, 1925.

ing on the market.¹³ (These *B* payments we might term the *savings of business*.)

Our analysis has already undermined these doctrines. Of course, it is true that consumers do not receive enough income to buy all the output of the economy. But the output of the economy does not consist only of consumer goods: it consists also of investment (or capital) goods and the goods and services purchased by government. The real question is whether the buying of consumption goods plus the buying of investment goods and the purchases of government bodies are all together sufficient to absorb the output of the economy at full employment. The fact that savings exist or that they tend to be large does not necessarily lead to unemployment—not if the sum of investment spending and the government deficit is equally large. And neither the investment spending of businesses nor government spending is limited by the current level of consumption. Investment spending is determined mainly by expectations of returns in the future, and perhaps the distant future. Government spending is determined in large part by non-economic—that is, political and social—considerations.

In conclusion: savings, or large savings, are perfectly compatible with full employment. They simply mean that the economy is accumulating capital plant and equipment and/or that the government is running a deficit. The former may go on indefinitely, as it has already gone on for centuries; and the latter, as we shall see, has no close limit.

Proposed Remedies for Unemployment

Stamped money

One of the simplest proposals for increasing total spending, and hence employment, is that of introducing *stamped money*. During a time of falling prices and deepening depression, people are often disposed to postpone expenditure until prices are lower and to save up against the rainy day which is visibly approaching. Suppose, then, that we replace the ordinary paper money in existence with money which deteriorates in value as time goes on. Each dollar bill might, for example, be worth 99 cents a week after original issue, 98 cents in two weeks, and so forth. There might be provision that the dollar bill could be kept up to its full value by the

¹³ Douglas, C. H., *The Control and Distribution of Production*, pp. 19-20. London: Palmer, 1922.

weekly purchase of a 1-cent stamp to be pasted on the back of the bill in its proper square. Every individual, therefore, has cogent reason for spending his dollar bills promptly. The velocity of circulation of money, it is argued, will rise, and purchasing power will expand; and this is what we want.

This plan for expanding total expenditure was originated by the warm-hearted Silvio Gesell, a German businessman who migrated to Argentina in 1887, and whose experience with prolonged depression there led him to think seriously about measures for economic reform. The plan has been tried in the towns of Schwanerkirchen in Bavaria, and Wörgl in Austria, and in at least 19 towns of the United States. The most extensive trial was made in the province of Alberta, Canada, under Premier Aberhart. In August 1936, the issue of stamped money was commenced by the Province, through payments to the unemployed and to government employees. The provisions were as we have indicated: On the back of each of 262,000 dollar bills issued was space for 104 one-cent stamps. One stamp was to be attached every week. At the end of two years, when 104 stamps would have been pasted on the back, the bills were to be redeemed at face value. The provincial treasury would have a 4-cent margin, most of which would be clear profit.

In order to keep the bills circulating at full value, the provincial treasury pledged itself to accept them in payment for taxes and other obligations, whether the two years were up or not.

In consequence, the bills did not circulate rapidly from hand to hand among the general public as was hoped, but instead flowed rather promptly in the channel of least resistance back to the treasury. The treasury was the only willing receiver of the money: all other individuals and firms preferred to receive and hold assets which did not cost them 1 cent per dollar per week. Within seven weeks of the first issue, almost half of the money issued had been returned to the treasury; within fourteen weeks 86 per cent. Within eight months, 95 per cent had returned, and the scheme was abandoned.¹⁵

Could a stamped-money scheme serve as an effective remedy against depression? We may perhaps neglect the nuisance and loss of time involved in buying stamps every week and sticking them on. More important is the consideration that people would in various ways avoid the use of stamped money, and hence the need for buying

¹⁵ Myers, Margaret, *Monetary Proposals for Social Reform*, pp. 157-163. New York: Columbia University Press, 1940.

the stamps. They would barter goods so far as that was convenient or simply put down credits or debits on account books, and so avoid the use of the money. And, most important, they would flee to the use of any unstamped kinds of money or money substitutes, such as checks and money orders. (One element in the failure of the Alberta experiment was that Dominion currency, which required no stamps, circulated side by side with the Provincial stamped money.) People would to some extent also put their assets into the form of inventories of real goods (flour, metal products, cloth), which, though it might be thought to some extent desirable because it encourages the production of these, is a real cost since these excessive inventories are not necessary for consumption purposes and since they are subject to deterioration over time.

Suppose, therefore, we tax all money and money substitutes: all banking accounts will be subject to a weekly or monthly tax; all common money, paper money as well as coins, will be subject to stamping or taxing.¹⁶ The mechanics of the matter will be difficult, especially the taxing of fractional currency, but suppose we manage to do it. We meet a further objection that this stimulus to the rate of spending (velocity of circulation) of money is an inflexible stimulus. Inflation (that is, a drastic rise in prices) is hardly less menacing an evil in the economy than depression and unemployment. Can we be sure our measures will not push us into a violent inflation, and that our last state is not worse than our first? We might perhaps, to meet this danger, try to arrange for flexible taxes or stamp values—raising them when we fear depression, lowering them when we fear inflation—though these measures would add further to our administrative problems, and might anyway be inadequate to offset an inflation or collapse which is well under way.

It is clear that the difficulties of this method are so considerable that we should do well to investigate further, and see whether some better depression remedy is not available.

A social dividend

Major Douglas, pursuant to his contention that purchasing power is always less than the value of output,¹⁷ suggests that a fixed pay-

¹⁶ To be complete, all barter and bookkeeping arrangements would have to come under the tax rules.

¹⁷ The Major has shown much uncertainty as to the proportion which purchasing power, as he conceives it, bears to value of output. The proportion of the former to the latter has been variously given by him as 40, 20, 25, 75, and 35 to 45 per cent.

ment (a social credit, or national dividend) should be paid every week to each individual. Similarly, the Townsend Plan has advocated fixed pensions to aged persons. The "Thirty-Dollars-Every-Thursday" or "Ham-and-Eggs" plan was a California version of the Townsend Plan. It was expertly promoted, and came up for vote twice, in 1938 and 1939, only to be rejected both times. The scheme provided that a \$30 weekly payment be made to aged persons in bills which should be receivable in trade and for state taxes. These bills were to be stamped money: a 2-cent stamp was to be affixed every week, so that by the end of one year the state would acquire a retirement fund of \$1.04, with 4 cents extra for its trouble.

Most social dividend plans are subject to:

1. The criticism of rigidity. It might be, from the viewpoint of increasing purchasing power, acceptable to give everyone or certain favored persons \$30 a week in time of deep depression, but it would be foolish to do so at a time when the country was already at full employment or threatened with inflation. And if, as might be read into some of Major Douglas' statements, one should plan to vary the dividend in accordance with business conditions, there is still room for doubt as to whether the recipients would be sure to vary their expenditures promptly and by the same amounts.

2. If we are going to increase the incomes of people in the society, ought we to give the same weekly bonus to everyone (the Douglas Plan) or to all oldsters (the Townsend Plan)? All countries, including the Soviet Union, seek to encourage people to train themselves for skilled tasks and to work zealously by offering them the hope of higher money returns. (There are of course qualifications to this: we try also to set a floor beneath living standards, and we make it difficult for people to increase their incomes into the very high levels.) Is it necessary to desert this principle of incentive payments in order to expand purchasing power in time of depression? We shall see later that it is not necessary.

3. The taxation proposal of the California Ham-and-Eggs plan was fantastic. If all the older people eligible claimed their pensions, a sum would have needed to be collected through sale of stamps equal to nearly half the total incomes of all Californians in 1937. And since the stamp taxes would have been absorbed out of the ordinary flow of consumer incomes, the expansionary effect of the weekly dividend would have been approximately canceled. It was, therefore, rather a scheme to give pensions to old people than to expand employment and output.

Hundred per cent reserves

The 100-per-cent-reserve plan has attained considerable academic respectability in the United States. Its best known advocates have probably been Professors Fisher of Yale,¹⁸ Graham of Princeton, Angell of Columbia, and Simons and Douglas of Chicago. According to Fisher, the chief screw loose in our monetary system is fractional reserves: the ability of our commercial banks to expand loans (and deposits) \$5 or more for every \$1 of reserves; and their possible need to contract loans (and deposits) by \$5 or more for every \$1 withdrawn from reserves.¹⁹ The fractional-reserve system is said to make uncontrollable the upward and downward swings of price and employment. The remedy, in a formulation recently proposed by Professor Fisher, is to require all banks to keep as reserves against their demand deposits 100 per cent in cash plus government bonds. To enable banks to fulfill the new requirement, the government would lend to any banks so desiring enough newly printed paper money to bring their reserves up to the required 100 per cent. No bank would be permitted thereafter to increase its reserve in bonds, but the government would always stand ready to purchase from any bank its reserve bonds at par.

If in the future, prices should fall, the Federal Reserve (or perhaps the Treasury) would print and issue new money, buying with it government bonds in the hands of the public. And, if prices should rise, the Federal Reserve would sell government bonds, and so withdraw money from the economy.

There is an interesting contrast between this proposal and the stamped-money proposal. The quantity of money in the economy, M , times the number of times in a year that an average dollar becomes income to someone (or the income velocity of money), V , equals total expenditure or income. We can, therefore, use MV as a symbol for total expenditure or income. The stamped-money proposal tries to increase total expenditure by increasing V . The 100-per-cent-reserve plan tries to increase or decrease the level of expenditure by controlling M .

This point suggests a vital weakness of the 100-per-cent-reserve plan.

¹⁸ Cf. *100 per Cent Money*. New York: Adelphi, 1935.

¹⁹ At present, banks of the Federal Reserve System are required to keep 14 to 20 per cent, depending on the size of the cities where they are situated, in legal cash reserves against demand deposits (checking accounts). That is, for each dollar of reserves, there may be up to \$5 to \$7 of demand deposits.

1. It has no means of controlling V , the rate at which money is used. If the profit prospects are so glum that businesses do not want to borrow and invest nor holders of cash to lend, much of the new money pumped into the economy by the Federal Reserve would simply flow into idle balances, and not raise employment or prices at all. The income velocity of money fell 39 per cent from 1929 to 1932,²⁰ and still further during World War II. There seems no convincing reason to believe that this change in V would have been affected by the 100-per-cent-reserve proposals.

2. The plan as formulated by Fisher looks to the level of prices as the criterion of policy. But this is misleading. Some economists argue that it is healthy for average prices to fall gradually as productivity increases, as in fact they did during the prosperous late 1920's. (Professor Fisher, in fact, preferred this.) Other economists argue that it is healthy for prices to rise gradually. The valid aim is high production and employment, not any particular level or rate of change of the price level. Even an ideal stability or ideal trend of the price level might fail to counteract a tendency toward *prolonged* low production and employment.

On the positive side, we can readily admit that stability of prices (or no more than a moderate rate of change) would tend to diminish *fluctuations* in production and employment, and that in so far as the 100-per-cent plan helps toward price stability, it is also a help toward the latter and more important goal. Its principal contribution in this respect lies in its avoiding the forced deflation of the money supply during business downswings characteristic of our present system. Under present rules, when \$1 is withdrawn from commercial banks or when \$1 of debt owed to commercial banks is paid off, those banks must (*if* they were lent up to the maximum that their reserves permit) contract their deposits by \$5 to \$7. The Fisher Plan would permit only a dollar-for-dollar contraction, not *this* multiple effect. But the plan's effect is one-way only: it has no means of forcing banks to lend or businessmen to borrow when business prospects are dismal (even if bank reserves should be very high, say 120 per cent of deposits), nor, as we saw above, has it any means of forcing individuals to spend on output the money which is put

²⁰ The extreme change in the twenty years preceding 1929 was 23 per cent. (James W. Angell, *The Behavior of Money*, pp. 175, 190. New York: McGraw-Hill Book Co., 1936.) Professor Fisher in a letter to me has stated his conviction that the income velocity of money would be nearly constant if his 100-per-cent plan were in operation, but the uncomfortable recollection of its behavior during depression remains. See pp. 141-143, 200-201.

into their hands by open-market operations. Our experience of 1930-45 gives clear evidence of the large extent to which banks may heap up excess reserves, and individuals invest in cash.

The advantage of the Fisher Plan in avoiding a forced contraction of the money supply suggests that it might be well for us to move gradually toward the higher-reserve requirements it advocates. Another advantage of the plan is a provision for eliminating the national debt over the course of years by monetizing it. But its weaknesses are very considerable, above all its neglect of the question whether total expenditure on output *normally* will be sufficiently large.

There is virtue even in the poorest crank plans: they dramatize the fact that something is wrong, and they propose to do something exciting about it. Specifically, they continue preaching that total demand can be insufficient, until more careful students are stirred to develop analyses and policies which are in closer accord with current problems, and cease paraphrasing a Say's law which was relatively valid a century and a half ago but does not fit the facts today.

The usual fault of the maverick plans is that they present one-track cures, ignoring the complexities of the economy and the possibility of using alternative and complementary remedies. It is hard to make a serious proposal which does not have some merit in it. The important question to ask is, Can we obtain this good in greater measure and with less disadvantage in some other way?

The policies which are proposed in Chapters XIII to XVI below are not uncontroversial. They do not exclude other measures which may well be used, but which seem to us relatively minor and which, therefore, we do not detail. Different economists would emphasize individual aspects differently. But the program as a whole commands a general and a growing agreement among students of the problem.

CHAPTER TWELVE

THE EMPLOYMENT PROSPECT FOR 1950

IS THERE going to be any important problem of unemployment a few years hence? For the rather near future, it is possible to make estimates of moderate usefulness, and a number have been made. The method is simply to compare (1) what we could produce under conditions of acceptably full employment of all our resources with (2) the private consumption and investment expenditures, together with ordinary government expenditures, which we may reasonably expect to be made. If (2) is less than (1), then a problem of unemployment and low production will exist. If (2) is greater than (1), then a problem of control of inflationary tendencies will exist: we will have generally adequate employment, but will face a problem of control of steeply rising prices.¹

We choose 1950 as our sample year because, on the one hand, it is not too distant for us to be able to say something about it, and on the other hand, 1950 is sufficiently distant from the end of World War II for the deferred demand of wartime—our hunger for refrigerators, washers, radios, cars, and the like—to have been satisfied.

Our Capacity to Produce in 1950

The output which we can produce depends on how much work we put into productive activities and how productive our work is.

1. How much work we put in depends in turn on (a) the work force, or number of people willing to work, (b) the allowance we think reasonable for frictional unemployment, and (c) the length of the work day and week.

(a) The "normal" work force, as estimated by the Bureau of the Census and adjusted for certain omissions,² is for 1950, 60.5 mil-

¹ We neglect the complication that prices might rise when unemployment is still unbearably large. Pp. 254, 256.

² National Planning Association, *National Budgets for Full Employment*, Appendix A. Washington: 1945.

lions. From this, about 0.5 million needs to be subtracted for war casualties. To it should be added an allowance for that portion of the 7 millions of people—the old, the young, and women—who have not been part of the “normal” labor force, but who entered work during wartime and will not wish to leave it afterward. Some of these people did not, before World War II, care to take jobs of the types and at the rates of pay then available, but took jobs later for patriotic reasons and because better job offers were made to them. Some others have been impelled into work because of the breaking up of homes by war casualties. Suppose that we rather arbitrarily put down a figure of 2 million as our estimate of the portion of the 7 million which will, for one reason or another, remain permanently in the labor force. This gives us a total actual work force in 1950 of 62 million.

(b) For frictional unemployment we allow our 5 per cent, or about 3 million. At reasonably full employment, we should then expect to find 59 million ($60.5 - 0.5 + 2 - 3$) at work.

(c) We assume that hours of work are about the same as in 1940, about 40 scheduled hours a week in manufacturing, and a bit over 38 hours actually worked.

2. We have made our estimate of the amount of work time available—59 million employed at the hours of 1940. Our remaining question is, How productive will this work be? We will suppose that the increase in productivity which we have experienced from 1900 to 1940 continues through 1950. The war has brought about sharply improved techniques in certain lines of production. But not all of these improvements can be carried over to peacetime production, and some improvements which normally would have been made in peacetime production have not been made because of concentration on war problems. We make the conservative assumption that the stimulating and retarding effects of war cancel each other. This assumption would mean that gross output per civilian worker would be (in 1944 prices) \$3600 by 1950, as compared with \$3000 in 1941.

Finally, we multiply the numbers of employed by the value of their gross output. Some 2.5 million persons are estimated to be in the armed forces in 1950, with an output (valued at cost) of 3 billion dollars. The remaining 56.5 millions of civilian employed, with an average output of \$3600, would produce 203.4 billion dollars. The total gross national product, in 1944 prices, is then approximately

206 billion dollars.³ This is equivalent to a net national income of about 179 billion dollars.

Our calculations can be summarized as follows:

Estimate of gross national product at full employment in 1950	
(prices of 1944)	
Work force:	
“Normal” work force.....	69.5 million
minus war casualties.....	0.5
plus the portion of war additions who will stay in the work force.....	2.0
minus frictional unemployment.....	3.0
equals total available work force.....	59.0
Civilian work force.....	56.5
Armed forces.....	2.5
Average product per year of the civilian work force.....	\$3600
Total production:	
Total production of civilian work force (56.5 million × \$3600).....	\$203.4 billion
Total production of armed forces (valued at cost).....	3.0
Estimated gross national product at full employment.....	206.4
minus allowance for business reserves and indirect taxes.....	27.0
Estimated net national income.....	179.4

This figure of 59 millions of people employed, producing a gross national output of 206 billion dollars at 1944 prices is in line with other estimates of national output at full employment.⁴ In round figures, we should not be too far wrong if we spoke, as several writers have, of 60 million jobs and 200 billion dollars of gross product. The estimates indicate that by 1950 we should have a little more than regained the peak war output of 1944, six years before.

If, therefore, we are to have high employment in the years ahead, we must attain a volume of output greater than we have ever achieved in the peacetime years before the war. If we should pro-

³ This estimate is based essentially on National Planning Association data, *op. cit.*; and that, in turn, on Hagen-Kirkpatrick, "National Output at Full Employment in 1950," *American Economic Review*, September 1944. Cf. E. E. Hagen, "Postwar Output in the United States at Full Employment," *Review of Economic Statistics*, May 1945.

⁴ Five of seven estimates compared by Hagen (*op. cit.*, p. 50) are within 4 per cent of this.

duce in 1950 no more than we produced in 1939, we should have between 16 and 22 million unemployed.⁵

Purchasing Power in 1950

Will consumer plus business plus government expenditure in 1950 be sufficient to buy 200 billion dollars of output? An estimate on this matter will be more doubtful than our above estimate of full output. The numbers of the labor force and changes in productivity are more stable than investment or government expenditure, and even perhaps more stable than consumption expenditure. But it is worthwhile to illustrate the process of calculation.

At a level of gross national income of 206 billion dollars, disposable income to individuals will be about 155 billion dollars. Of this, they may spend on consumption as much as 135 billion dollars.⁶

Business investment might, by decidedly optimistic estimate, be as large as 22 billion dollars. This total is divided as follows: construction 10 billion dollars, producers' durable equipment 9 billion dollars, increase in inventories 1 billion dollars, and excess of exports abroad over imports, 2 billion dollars.

Finally, we add the normal outlay of all government bodies, Federal, state, and local. The Federal government will have much heavier obligations than before World War II (as also after the Civil War and World War I). There will be some 12 billion dollars of services to veterans and supplies and pay to the armed forces even if a tolerable peace prevails. We may have 11 billion dollars or more additional for the ordinary peacetime services of government: the regular Departments, aid to housing, education, public health, and so forth. State and local governments may be put down at 11 billion dollars, somewhat more than their prewar level. This gives us totals for the Federal government of 23 billion dollars,⁷ and for all government bodies, of 34 billion dollars.

⁵ Calculated from Goldenweiser, E. A. and Hagen, E. E., "Jobs after the War," *Federal Reserve Bulletin*, May 1944.

⁶ The calculation is on the basis of the 87 per cent of disposable income which individuals spent on consumption in 1946. This is at the level corresponding to prewar experience, 1929-1940. (*Survey of Current Business*, February 1947, p. 8). Some decrease in consumption will result from the gradual satisfaction of deferred demand for durable consumer goods. On the other hand, as individuals get used to an unprecedentedly high level of incomes, their consumption may increase. Cf. Hagen, E. E., "Output and Demand after the War," in *Postwar Economic Studies* No. 1, pp. 32-35, 45. Board of Governors, Federal Reserve System, August 1945. See also pp. 97-100 above.

⁷ We are counting here only those expenditures of government which make up part of gross national product—that is, expenditures for currently produced goods and

If these estimates hold, the situation looks like this:

IN BILLIONS OF DOLLARS

Value of gross national product at full employment		206
Consumption expenditure	135	
Business gross investment	22	
Government expenditure	34	
Total expenditure		191
Deficiency of expenditure		15

The estimates of consumption and investment above are based on the assumption that the economy as a whole is at full employment. If demand should be insufficient to buy the national output at full employment, then that output will fall. As output falls, consumer incomes fall also, and consumer expenditures will fall. Also, business investment will shrink as consumer sales shrink and no longer justify the level of gross investment suggested here. All these reductions mean that the national output might be at 160 billion dollars or even lower, instead of the 191 billion dollars estimated above. We should at the 160 billions level be producing about one fifth less output than we might, and a quarter (15 million) of our working force would be unemployed.⁸

No great reliance should be put in our figures: they seem an optimistic estimate of the situation that we may expect. But it is hard to see in advance what investment channels will open up. Perhaps there will be opportunity for heavier investment than now seems conceivable; perhaps government spending will be heavier; perhaps there will be less savings than now seems possible. However, so far as past experience can guide us, it suggests that as soon as the effects of war have worn off (and if we do not have heavy government expenditure called forth by the threat of a new war), our problem is going to be one of insufficient demand.

services. Expenditures of government which do not purchase current output, but are simply transfer payments, are excluded. Among these are part or all of the following: veterans' pensions and benefits, agricultural aid, social security, civil-service retirement funds, refunds, loans and grants.

The Federal data are based in part on unpublished estimates of Dr. R. A. Musgrave of the Federal Reserve Board of Governors, and in part on President Truman's proposed budget for the fiscal year 1947-1948. If in 1950 the international situation is tense, outlays for the armed forces might be far greater than here estimated; conversely, a peaceful world would permit appreciable economies in this area.

⁸That is, a fifth (20 per cent) plus the 5 per cent of frictional unemployment.

Secular Stagnation?

At the end of the 1930's, when after much thought and government effort we still had not attained high employment, much discussion developed over the question of secular stagnation—whether or not the United States and the Western world generally would experience chronically insufficient demand during the rest of the century and beyond so far as one could see.

The argument that the U. S. economy is faced with secular stagnation can be briefly formulated as follows. We have never in peacetime years experienced satisfactory levels of employment and output except when investment was heavy. Now, investment is called forth by a rise in the marginal efficiency of capital, which in turn is induced mainly by factors associated with (1) population growth and geographic expansion, and (2) inventions. Population growth is argued to be favorable to investment because it leads to demand for increased housing,⁹ government and business buildings, railroads and roads, water and sewage systems, and so forth; and for equipment for the larger number of workmen. Inventions give profitable opportunity to individual businessmen to increase output from a given work force.

As output has increased in the past half century, the quantity of capital equipment has increased by about the same proportion as output. This is a rather surprising conclusion, but the statistics leave no doubt of its approximate truth: over recent decades in the United States we have retained about the same amount of capital equipment for each unit of output.¹⁰

The argument continues to the effect that the ending of the first kind of stimulus to investment is close upon us. Population in the United States is still increasing, but at a steadily declining rate. The rate of population increase began to decline after the middle of the nineteenth century, and has continued to decline since. In the decade of the 1920's, our population rose by 17 millions; in the decade of the 1930's the increase was about 9 millions. Our population will be stationary or falling before the end of the century. This is, from an economic point of view, a basically optimistic pros-

⁹ More accurately, an increased number of *families* is closely correlated with a demand for more housing, and this is not the same thing as an increase in population. Cf. below, p. 168.

¹⁰ The figures of Paul Douglas are that the quantity of real capital in the United States (1890-1922) rose at the rate of 4 per cent a year. The rise in output appears to have been slightly less than this. *Theory of Wages*, pp. 464-465. New York: Macmillan and Co., 1934.

pect. We are *not* faced, as Malthus feared, with a multiplication of mouths until our average standard of living falls to a minimum of subsistence. But there may be disadvantage from the viewpoint of the effect on employment. Furthermore, ever since the passing of the western frontier a half century ago, opportunities for the kinds of investment occasioned by people living over a wider geographical area—new roads and railroads, buildings, and utilities—have been narrowing.

Professor Hansen estimates that population increase and geographical expansion taken together were responsible for something like half of the real investment of the nineteenth century.¹¹

The question, therefore, confronts us as to whether, in the future, investment stimulated by inventions will expand additionally enough to make up for the ending of population growth and geographical expansion. One can think of inventions which in the near future will lead to much investment, among them electronics, plastics, atomic energy, and synthetic textiles. But, of course, we have also had in the past hugely expanding industries, such as railroads, canals, and the electrical and automobile industries. If one is pessimistic about the chance that innovatory investment can fill the gap, then he will expect "secular stagnation," and anticipate that our primary problem is not going to be that of controlling the ups and downs of the business cycle, but of lifting ourselves above a persisting level of heavy unemployment and inadequate output.

There is reason to question the secular-stagnation thesis. We mention four sources of doubt.

1. As our population ceases to grow, it will be composed to a greater extent of older people, to a smaller extent of younger people. In 1850, there were about 80 people over sixty-five years of age for each thousand people in our working force; by 1980 there will be about 260. Now, older people are to a considerable extent dissavers rather than savers: many of them are using up the savings of their youth, either directly or by using up annuities they have bought. Few of them are trying to accumulate savings as people do when they are younger. In brief, an older society is likely to want to save less,¹² and to this extent our problem of finding investment outlets for savings is lessened.

2. To some extent, savings are made for specific purposes—to buy

¹¹ *Fiscal Policy and Business Cycles*, pp. 358-60.

¹² On the other hand, individuals in a growing society may be able to save little, because of the expense of rearing children.

a house or a car or to obtain college education for children. Some of these purposes will be less important when the population is no longer growing, and to that extent, savings will be diminished also.

3. The extent of demand for housing is a special problem—and a very important one. Residence construction made up from one tenth to three tenths of total (gross) investment between 1919-1935.¹³ The demand for housing units depends not so much on total population as on numbers of families. The family is ordinarily the buying unit. How much a family is willing to spend for housing accommodation depends mainly on two factors: its income and the size of the family. The size of the family has been shrinking in the United States in recent decades, and the interesting question arises as to what effect this will have on demand for housing. Smaller families "need" less housing; on the other hand (at any given income level), they are able to afford more. Data from the census of 1940 gives evidence that the latter dominates: within any given income level, the smaller the size of the family, the greater the expenditure on housing.¹⁴ This conclusion is comforting: increased expenditure per family for housing will tend to offset other depressing influences on investment from a stationary or declining population.

4. Finally, there is the appeal to experience. Certain European countries are much farther along the road to population stability or decline than we are. England and Wales, Sweden, and Austria, for example, now have net reproduction rates so low that their populations are tending to fall by 50 per cent within sixty years.¹⁵ And yet such countries have not in peacetime been uniformly depressed. Some of them have gotten along very well, and where there has been low investment, it seems more obviously explained by other causes than population decline. Economies seem to be able to adapt themselves to declining numbers.

It appears, therefore, that although the argument that our economy confronts secular stagnation is impressive, it is much less than conclusive.

¹³ Kuznets' data.

¹⁴ Shiff, Eric. "Family Size and Residence Construction." *American Economic Review*, March 1946.

¹⁵ Carr-Saunders, A. M. *World Population*, p. 124. Oxford: Oxford University Press, 1936.

CHAPTER THIRTEEN

BASIC PROBLEMS OF EMPLOYMENT

A Summary

OUR reasoning has carried us to the conclusion that whether we have low or high employment depends strategically on whether total expenditure for goods and services is small or large; and that the private consumption and investment expenditures plus the expenditures of government, which all together make up total expenditure, fluctuate for reasons which no one business or individual can forestall. Consumers may or may not have accumulated deferred demand for durable consumption goods (though in ordinary times we can feel sure that their total consumption will remain in fairly stable relation to their incomes). Businessmen may or may not have exploited the possibilities of existing industries, may or may not have a swarm of new innovations to develop, and may be inclined toward optimism or pessimism with respect to the general situation. The volume of government expenditures depends in large measure on political and social factors external to the economy. Any increase or decrease in total expenditure will have its leverage and psychological effects, tending toward a cumulative expansion or contraction. The magnitude of these cumulative reactions tends to become greater as we grow more productive and raise the standard of living (wants are more unstable), and as we increase the proportion of output which consists of investment goods and durable consumer goods (whose purchase can be postponed). The cumulative reactions are further exaggerated by expansion and contraction in the banking system.

In brief, a tendency to boom and bust is inherent in our economy.

To set the responsibility for attaining and maintaining full employment on the shoulders of individual consumers or individual businessmen, is absurd. Each is caught in the upward spiral of inflation or the downward spiral of deflation and, although each adjusts himself as best he can, buys and sells too little to affect the sweep of events over the whole economy.

We can phrase this in our alternative form. Take, for example, the downswing: if the savings which people wish to make are greater than the investment which is going on, the economy contracts in the cumulative process of successively falling incomes, employment, output, and gloomy expectations. The consumption and savings habits of the nation are deep-seated in the psychologies of millions of people, and slow to change. Will investment expenditures (plus any deficit of the government) be large enough to offset the savings people wish to make? Once again it is clear that no investment expenditure on the part of individual businesses can do much to offset the billions of dollars of savings of the whole economy. It is not sensible to "worry the mill-owners" with the responsibility for maintaining employment. If we ask whether the total investment expenditures of all businesses taken together will be large enough to offset savings, the answer is "maybe." The answer depends on the profit prospects facing businessmen; and these, in turn, depend on the possibilities of expanding old industries and of developing new ones, and on the confidence of businessmen. These profit prospects evidently will improve and deteriorate over the course of time, and hence business investment will swell and dwindle.

Fluctuations in total spending are, therefore, inevitable. Nor are these fluctuations in themselves all undesirable. When new inventions or other opportunities for increasing the productivity of the economy present themselves to businessmen, it is desirable for the general good that they should promptly be taken advantage of. And this means a surge upward in investment.

Our usual problem in the past has not, however, been that of too much investment (and total) expenditure: we have not during ordinary peacetime years¹ experienced the over-employment and booming prices which are the evidence of excessive expenditure. Our problem has rather been that of insufficient expenditure. At intervals over the past we have fallen into periods of acutely low output and employment—with the deterioration of human morale and skills and of capital assets which these involve. We have also over long periods carried on in a state of lower employment and lower output than was easily possible to us. This implies the prolonged existence of what we have called *concealed unemployment*, which escapes the statistics because it is hidden in movements out of

¹ Though during war, when government expenditure was heavy, and just after war when deferred private demand was heavy, we have faced the problem of excessive spending.

preferred kinds of work to the household and school, to makeshift jobs, to part-time work, to subsistence farming.

The evidence is emphatic that the problem of fluctuating output and employment will be with us in the future just as it has been in the past, and there is appreciable evidence that the tendency is toward more chronic underemployment (secular stagnation) than we have had before. But our weapons against depression have also been growing sharper. We know more than we did in the 1930's about the problem of productive employment. Full employment can be maintained in a free society and a free enterprise economy. But only through a run of luck that we have no reason to expect can it be maintained without effort and action.

Democratic Freedoms and Full Employment

The future of democracy depends in large measure on its success in solving the problem of unemployment. It is far from sure that all the major democratic nations of the world could survive even one more depression as deep and prolonged as that of the 1930's. Many of the weaker democracies certainly could not. The personal freedoms of thought and action which a democracy offers to its citizens are superior to any that can be hoped for from a despotic regime. But if the democracies of the world again permit continued and widespread unemployment, then the desperate among their citizens are apt to accept desperate remedies, and trade in the liberties which mean little in the midst of poverty and idleness to the demagogues who promise them a mission and work.

It is in the next depression that the Gerald Smiths and Father Coughlins will preach hatred and multiply their followers, that the Huey Longs will promise "Every man a King." Then the Communist party expects to gather in a bonanza harvest of new comrades from among the frustrate. The dictator group in Moscow also anticipates the next depression with mingled hope and fear. It is a basic article in Marxist dogma that capitalism can never escape its fated spiral of increasingly violent depressions and booms.² Future depressions will afford Soviet Russia both opportunities for further expansion, and threats of aggressive war as capitalist nations seek desperately a way out of economic troubles. The Kremlin will modify the official creed only when it is proved by fact to

²See the interesting collection of quotations from the Soviet press in the *Christian Science Monitor*, p. 11, January 25, 1947. Also nearly any issue of the *New York Worker*, or *New Masses*.

have gone wrong somewhere: that the United States and other nations of the Western world can stabilize their free economies. The next United States depression is also a chief fear of the British³ and other democratic nations, as tending to broadcast the seeds of depression and disorder elsewhere in the world.

It will be obvious below that the relatively minor central policies required to obtain acceptably full employment are compatible with democracy. Democracy is menaced by the hate and decay which will corrupt our society if general unemployment is allowed to persist, not by measures to avert depression. The use of the powers of government in this kind of service for the general good is of the essence of democracy.

Freedoms and Free Enterprise

The word *capitalism* has become increasingly useless. All modern economies, without exception, consist of mixtures of government and private enterprise. The only question is where the dividing line had best be put, and too much heat is evolved out of discussions as to whether that line ought to be moved a trifle one way or the other. The carrying of mail and the school system were once among United States private enterprises. Many of our highways were once privately owned. In Western Europe, in recent decades, the telephone and telegraph, electric power, and the railroads have generally been state enterprises. Furthermore, there are all varieties and all degrees of government control of privately owned enterprises. A large number of these deviations are gathered under the blanket label of capitalism or free enterprise or private enterprise, and so evoke our habitual personal responses of approval or disapproval. It is at some indefinite and subjectively determined point that the proportion of public enterprise becomes so large that we are inclined to call the resulting mixture a socialist system. (When the British Labor Government completes the socialization program underway in 1946 and 1947, some 80 per cent of national production will still be in private hands, only 20 per cent in the hands of government.)

It is conceivable for political democracy to exist either with a free-enterprise or socialist economy, and likewise free enterprise may co-exist either with democracy or dictatorship. It is easy to think of

³See for example in *British Speeches of the Day*, issue of January, 1946. Lord Keynes, page 798; Sir John Anderson, page 769; Sir Stafford Cripps, pages 773, 776. In the issue of July, 1946. Mr. Herbert Morrison, page 439; and in the issue of December, 1946. Mr. R. H. S. Crossman, page 709.

examples of all of these. Nevertheless in the United States and a number of other technically advanced countries, democracy and free enterprise do exist together. That is, the freedom to set up and run one's own business is one of the freedoms which we enjoy.

The word *freedom* is a conditioned word, and often ought to be looked at with suspicious scrutiny. It carries a different context of meaning in every historical period: we are always implying freedom *from* some particular menace or *toward* some particular goal. The continuing problem is to maximize the area of freedoms, to accept no curtailment that is not overbalanced by expansion elsewhere.

Employment policy and the division between free enterprise and public enterprise

There is no necessary relation between the employment policies carried on by government and the proportion of the economy's economic life administered by government. (Though advocates of government action to increase employment have often carelessly recommended policies which carried with them as a by-product the shrinking of the private or free-market sector of the economy. Thereby they have brought down upon themselves the justified wrath of conservatives.) The choice by the people of an economy of a dividing line between private and public enterprise—a choice continuously being made through successive decisions on particular issues—need not depend and, therefore, should not depend, on the level of employment toward which the economy is naturally tending.

Suppose that a higher total of demand for goods and services is needed in the economy. (We anticipate some of the discussion of Chapters XIV to XVI.) This might be obtained through methods which expand the private sector of the economy. A wide range of indirect measures might be used to encourage private-consumption and investment spending. Tax rates might be lowered or the tax structure altered so as to bear less heavily on private spending. Social-security payments might be increased (which means that private individuals spend for goods and services, not the government).

Or the higher demand for goods and services might be attained through measures which expand the relative size of the government sector in the economy. Special controls might be used to constrict private-consumption and investment spending (as in wartime). The government might increase its expenditures for goods and serv-

ices, meanwhile perhaps levying heavier taxes or requiring heavier social-security contributions or altering the tax structure to bear more heavily on private spending. In its spending for goods and services, the government always has the choice of hiring its own employees for the purpose, or engaging a private contractor.

We should notice that all government expenditures will tend to encourage consumption expenditures (through increasing incomes received); but the effect of government expenditure on private investment varies depending on its type. The development and conservation of natural resources, road construction, and the like tend to stimulate private investment. Low-cost housing projects, health measures, and education grants might not appreciably stimulate or contract private investment. But should the government buy out and operate the coal industry, insurance companies, utilities, and the like, the area available for private investment is narrowed.

Certain monetary problems of public debt and liquidity in the economy may or may not follow on the heels of a government employment policy. But such problems are on the whole, as we shall see, of moderate importance. Of course government policies directed toward higher employment and production *can* affect the division between the private and public sectors of the economy. And sometimes one policy rather than another will be chosen because of its implications with respect to that division.²

The social values of free enterprise

We ought to face explicitly, even though very briefly, the question of whether it is worth while, as we have assumed heretofore, to retain a wide area of free enterprise. Are there human values serving the general good involved in its existence?

In the short run—say, for the next decade—the policies and problems implied by the need for continued high employment and production remain essentially the same no matter where we should like the eventual boundary between the free sector and the government sector.

1. Even if we desired to avoid any use of the powers of government toward higher production and employment, the issue of government policy would nevertheless arise, because Federal govern-

²This logical separation between employment policy, and policy on the spheres of private and public enterprise, is illustrated in the views of English political parties. The Labor Party advocates nationalization of certain basic industries. But all parties—Labor, Liberal, and Conservative—agree, whatever their views on nationalization, that the state is responsible for maintaining steady employment.

ment expenditures in the postwar years will, by reason of the costs of the armed forces, of veterans benefits, and ordinary department expense, be at least three times higher than any previous peacetime level. If Federal expenditures are 25 billion dollars or more annually, the effect on the economy of the government budget forces itself on our attention.

2. Or if we had, instead, set our face against private enterprise, still we should need to confront the fact that any realizable alternative to our present setup must for a long time to come contain a strong admixture of this same private enterprise, merely because it takes so long to organize anything. One could be a socialist in principle, have no doubt that the United States would be completely socialized eventually, and still feel that the great problem of the 1950's was making private enterprise work.

But the longer run should also be considered. Probably, majority opinion agrees with our own national policy that the right of a man to engage in business for himself is not a basic freedom, like freedom from fear, from want, of speech, and of worship. It is a right which only about one in five of our working force finds himself able, or finds it worth while, to accept.

If free enterprise is not a basic freedom, then it must be justified as a central principle of organizing production, or fail to be justified, primarily on the grounds of whether it has "delivered the goods." Has it proved an efficient mechanism for getting produced the goods and services we want?

1. It is a restrained and moderate conclusion that private enterprise has delivered the goods. Over the course of the last two centuries it has been correlated with a rise in, and it seems valid to conclude, has lifted, the general standard of life of the Western world to an extent never before achieved. We have already surveyed some data on this for the United States.³

This does not deny the existence of evils of inequality and unemployment. With respect to the subject of inequality, we should note that it is no part of the logic of private enterprise that family dynasties should exist and continue parasitically over the generations to draw tribute from the flow of production. The logic of private enterprise is, indeed, that high money returns should be available to individuals, but only as inducement and reward for performing services of high social value. Constant vigilance is

³ Chap. III, especially pp. 38-41.

demanding to plug up loopholes where returns are obtained without services being performed.

Nor does our reasoning deny that the selfish principle in human action can be pushed too far. But the drive in human beings for power and prestige can, as we have seen in dictatorship societies, take far more malignant forms than pursuit of the dollar. And rising real income offers increasing facilities for softening the competitive struggle.

Casual reasoning in this field often suffers from the illusion that redistribution of income from the rich to the poor would appreciably raise the living standards of the poor. This is not true. There are too few of the rich, and too many people of moderate and low incomes for this device to work.⁴ It is increased production alone which can significantly raise the living standards of the poor and of middle-income groups as well. And capitalist, or dominantly free-enterprise, economies have succeeded very well in the Western world in raising tremendously the volume of production. Where numerous independent businesses exist, there is wide opportunity for personal initiative: the self-interest of individuals is harnessed in the service of increased production—that is, in the service of the general welfare. We too easily forget how far and fast our real incomes have risen in the course of the past two centuries and more; and with them the wide range of personal freedoms directly involved in higher real income.

2. Private-enterprise economies have achieved this result without resort to concentration camps, mass purges and executions, secret police, and slave labor. And so our second point is that free enterprise has seemed to many students a central causative factor in the growth of political liberties and the rise of social conscience of recent centuries. The logical argument here is that liberty is correlated with decentralization of authority just as tyranny is implied in the unchecked power of the state, and to a lesser degree, of the huge-scale business. In the economic sphere, decentralization exists when economic decisions are made by thousands of small firms.

⁴ Suppose that, in 1942, we had decided to skim off all incomes above the \$5000 level and divide the proceeds equally among the members of our working population who received less than \$5000. Each of them would have gotten a bonus of only \$146. If we had restricted our share-the-wealth benefits to those earning less than \$1500, the bonus would rise to roughly \$330.

The logic of this reasoning is even plainer when we remember that it is not money but goods and services which low-income groups need—cars, washing machines, refrigerators, and the like. These are not in the attics of the Rockefellers, Astors, or Mellons. They must be produced if the poor, or anybody, is to have them.

Alternative opportunities are abundant in such an economy. These alternatives spell liberty and independence to the individual, and the practices and traditions of freedom grow on this basis.

3. Finally, there is the matter of the public will. Obviously, the American public does not want a nationalized economy or a totalitarian unity. We want to give up no segment of our area of freedoms unless there is clear justification. To many of us, there is profound psychological sacrifice involved in giving up working for ourselves to be an employee of someone else, to give up running our own garage, operating our own contracting business, having our own medical practice, administering our own typing agency, writing our own book. We may be glad to work 14 hours a day for ourselves with a confident sense of fulfilling the promise of our talent and energy, whereas we would be miserable working eight hours a day under someone else's direction, subject to his judgment and caprice.

As we have said before, only about one fifth of our working force are in business for themselves. But of the remainder, another sizable proportion—an additional one fifth or even one third—prize the status and independence and "chance to get ahead" which their particular jobs in private business give to them. And most of the rest of us evidently, as we look to the voting records, like to live in the environment of a free-enterprise economy.

Huge scale business, monopoly, and free enterprise

The American public wants a dominantly free-enterprise economy. But after all, is the United States economy a free-enterprise economy, even outside the area of government ownership and substantial government controls? There is a wide range of situations where the freedom of an individual to carry on his own enterprise is hindered or blocked by the policies and conspiracies of existing businesses. The monopolistic power of the latter concerns comes from two sources: they dominate either because of the relatively large volume of output which they produce of their particular product or because their product seems "different" and superior to buyers (because it is really superior or because of advertising or other sources of consumer goodwill).

In other words, *monopoly* is a more inclusive term than *largeness of size*. All huge-scale enterprises have a large degree of monopoly power, but not all monopolies are huge. The huge enterprise has a considerable degree of monopoly power because it has an importantly large volume of sales in certain markets, whether or not its

product is differentiated from competing products. But many small enterprises have a considerable degree of monopolistic power also: they may provide a considerable proportion of the products sold in their own small markets or their products may also seem different and superior to some buyers.

Mammoth-scale businesses, say the 200 largest nonfinancial corporations and perhaps an additional two score of financial corporations,⁵ are suspect in a political democracy and in a free-enterprise economy. They are suspect (a) because of the concentration of private political and economic power which they develop, and which has increased menacingly in recent years;⁶ (b) because of the separation which exists in them between ownership (the stockholders) and control (the management), and the opportunity given thereby to an unscrupulous management to do well for themselves at the expense of owners, the public, and employees; and (c) because they may hinder expansion of employment and output by blocking the flow of new funds, new techniques, and new management into their monopolized markets.

The price rigidity which huge businesses and other monopolistic firms show may, however, not be a disadvantage when depression is tending to spread in the economy. It offsets the tendency toward an expectation of continued price declines, and offers competitive opportunity to other firms whose prices *have* dropped. Price rigidity may be an advantage in recovery, because increasing expenditure then tends to go more into output increases than price rises.

Also, many monopolistic firms, some of them very large, have given an exemplary level of performance in private hands, through improvement of product and lowering of price in the long run, since this is compatible with rigid prices in the shorter run. A good case could be made for Dupont, Firestone, Ford, and many others on these grounds. (Some people who praise "pure" competition seemingly would prefer the old icebox to a Frigidaire, and a cheap horse and buggy to a modern car as improved and priced by "monopolis-

⁵ Facts and implications concerning the former group have been notably discussed by Berle, Adolph and Means, Gardner C., *The Modern Corporation and Private Property*. New York: Macmillan Co., 1930. A very competent and more up-to-date study of this field has been made by Papandreou, Andreas, *The Location of the Entrepreneurial Function*, unpublished dissertation in the Harvard University Library.

⁶ The Temporary National Economic Committee found that in 1937 the 200 largest nonfinancial corporations owned one quarter of the assets of all corporations. Concentration grew further during wartime: two thirds of the 200 billion dollars of primary-supply war contracts went to 100 corporations, and 30 per cent of the contracts to 10 giant corporations.

tic" enterprise.) It is clear that in many fields a certain monopolistic insulation against the "strong wind of competition" is the condition for investment and entrepreneurship which will *eventually* bring forth better products at lower prices.

It is worth recalling again that even the well-reputed village store and local bakery have their share of monopoly power. In such cases, the society has neither the wish nor the power to eliminate "monopoly."

We have, therefore, two problems, partly distinct and partly overlapping: that of huge-scale enterprise and that of monopoly. Huge private enterprises are obviously on trial. They have lost their case in the current general opinion of Europe and of England. The decades to come will show whether in the United States the managers of large business can convince the public that the privileges they enjoy are justified by the service they render to the public good. Monopolistic business, which is a more inclusive classification, also presents a more complex problem. Some "monopolies" are effective servants of the general good, others are clearly not.

Our aim of maximizing the area of freedoms implies the general rule that increasing public control or public ownership, or both, are needed as we go up the scale from small to large enterprises, and from pure competitors to those whose monopoly power or whose particular monopolistic practices are more and more hostile to the public interest. The aim is that on net balance freedom in the economy shall be as great as possible.

The objectives of high productivity and employment, attained in part through specific measures of government policy, are not in conflict with this rule. (In fact, the prospects for small enterprises are rocky and uncertain *unless* we maintain acceptably full employment: it is mainly small enterprises which go bankrupt in depression.) The policies which are needed for maintaining high production and employment are those which affect the environment in which business decisions are made. They need not, unless we want them to, involve direct controls over individual businesses.

In summary, we want to attain full employment and high living standards, but we should like to attain them by following a certain road. We want to attain them through the means of free enterprise, by which we mean an economy whose dominant tone is set by numerous small enterprises. It is not reasonable to include under the term firms with much monopolistic power, including huge busi-

nesses: these furnish a field for the application of sophisticated public policy. Numerous small enterprises help to provide economic values which we prize, such as equality of opportunity, incentive for personal initiative, freedom of choice (including the choice of being our own boss); and as many of us think, noneconomic values as well. The policies we may choose to follow with respect to the division between public and private enterprise and with respect to specific controls on monopolistic and huge private businesses, are not relevant, unless for reasons of convenience we want to associate them, to the policies we follow toward higher employment.

The Formation of Policy

The problem of effective government decision and administration is a major one in any matter of employment and production policy. All too often in recent years, bills of general concern have become stalemated in the midst of conflict between President and Congress. It is crucial, therefore, that employment policy be lifted as far as possible above partisan politics, and be made as efficient as possible.

A major landmark in United States government policy toward employment is represented in the Employment Act of 1946. The Act is an explicit acceptance by the Federal government of responsibility to aid "in creating and maintaining, in a manner calculated to foster and promote free competition and free enterprise and the general welfare, conditions under which there will be afforded useful employment opportunities, including self-employment, for those able, willing, and seeking work; and to promote maximum employment, production, and purchasing power."

An Economic Council of three economic advisers is established under the Act, with the task of considering all Federal activities which have a bearing on employment and production matters. The Council makes recommendations to Congress, and issues annual reports. The first came out early in 1947. The Council is appointed by the President, and is to maintain close liaison with Congress, a vital matter, through a Congressional Joint Committee.

The Council has no means of ensuring the prompt action which may occasionally be desirable to offset the gathering momentum of a downswing or of a speculative boom. But the mere existence of the Council is a long step forward: we now have a body whose function is to oversee government policy as a whole, and consider how it intermeshes with the particular state of the private economy. Some such distinguished coordinating and recommending agency is needed

to lift employment policy above partial views and above special political and economic interest—an agency intelligently and obviously devoted to the general good.

In addition, and probably equally important, Congress is obligated by the Act for the first time to consider Federal revenues and expenditures as a unit, rather than piecemeal. There are provisions which will draw publicity to any later divergences from the originally accepted budget.

Special Policy Considerations

1. It is evident that for many months after the end of World War II, our problem was that of excessive (not of deficient) demand. Demobilization took place without the heavy unemployment that was feared: from the end of the war through May, 1946, unemployment varied between 0.8 and 2.7 million.⁷ The first half of 1946 showed civilian production above the highest previous peacetime level, and consumer buying at the highest level ever recorded. Scarcities continued on every hand, and there was a corresponding strong upward pressure on prices.

Without controls, the price rises would continue, and perhaps accelerate, with speculative fevers adding their fuel to the fire. Rapidly rising prices bring, in turn, strikes for higher wages, and hence interruption of production, the heaping up of inventories and speculative buying, and the dissipation of consumer incomes and savings in the purchase of food, shelter, and other necessities. At some point, the inability of consumers to buy nonnecessities, plus worsened expectations on the part of speculative buyers, tends toward a collapse of production and employment.

In such conditions of excessive total demand, there is obvious need for a program of reducing demand. Among important policies aimed at this goal are (a) reduction of public expenditures by deferring or dropping all projects which are not urgently needed; (b) heavy taxation to the extent that equity permits, accumulating funds to pay off the public debt, and refinancing the old debt (to the extent that is necessary) by borrowing from public rather than from commercial banks; (c) discouragement of lending by commercial banks and other lending institutions, especially through policies

⁷ This is better than *full employment* as we have defined it. A 5 per cent allowance for frictional unemployment would mean about 2.8 million unemployed during this period.

aimed at reducing reserves or requiring higher reserve ratios; and (d) price ceilings, rationing, and allocations.⁸

Of course politics, "the art of the possible," may conflict with the recommendations which economists are at various times inclined to make. The 79th and 80th Congresses were of various minds in 1946 and 1947 about the emphasis to be laid on these different policies, and the rate at which they might be laid aside as no longer needed.

In view of our history and our prospects, it is unlikely that excessive demand will arise after the deferred demand accumulated during wartime is satisfied.

2. At intervals in the future, and perhaps chronically, the problem to be faced will be that of deficient demand. As we consider policies to meet that problem, it is well to recall that although high employment is an aim in itself because of the psychological and loss-of-skills cost of unemployment, in the main it should be looked upon as a by-product. The chief objective of the economy is the highest output reasonably possible of those goods and services which we want most. Nevertheless, even from the point of view of output, it is better to employ men in digging holes and filling them up than not to employ them at all; it is better to employ men to make products which we thereupon dump in the middle of the ocean⁹ than to leave them idle. For these men will spend their pay on food, shelter, and clothing, which in turn gives useful employment to others, and so the leverage effect cumulates.

Pyramid-building, earthquakes, even wars may serve to increase wealth, if the education of our statesmen on the principles of the classical economics stands in the way of anything better. . . .

If the Treasury were to fill old bottles with banknotes, bury them at suitable depths in disused coal mines, which are then filled up to the surface with town rubbish, and leave it to private enterprise on well-tried principles of laissez faire to dig the notes up again (the right to do so being obtained, of course, by tendering for leases of the note-bearing territory), there need be no more unemployment and, with the help of the repercussions, the real income of the community, and its capital wealth also, would probably become a good deal greater than it actually is. It would, indeed, be more sensible to build houses and the like; but if there are political and practical difficulties in the way of this, the above would be better than nothing.

The analogy between this expedient and the gold mines of the real world is complete. . . . Just as wars have been the only form of large-scale loan expenditure which statesmen have thought justifiable, so gold mining is the only pretext for digging holes in the ground which has recommended itself to bankers as sound

⁸ Policies in use during wartime are summarized on pages 256-258.

⁹ If critically scarce natural resources are not used up on the process.

finance; and each of these activities has played its part in progress—failing something better. . . .¹⁰

What is mainly wrong with useless “make-work” projects is not that they cannot make us richer than we should have been without them: it is that there are other, and useful, projects on which the unemployed can and should be used.

In addition, the psychological worth of employment is in large part lost if men realize they are being employed on worthless projects. People want to feel effective and needed: they crave the right to respect themselves through their effective participation in the life of the society. The man who is doing useless work has little cause to feel content within himself or to respect the society which so employs him.

We return to a statement of the basic goal of the economy: the fulfilling of our needs for food, clothing, shelter, education, health conservation, recreation, and so forth, to the full extent that we have resources available. We will push our utilization of labor and other resources further in those areas where the needs are larger. We obviously want to use all our resources, but the full utilization of them should be looked upon basically as the *means* to the goal of fulfilling our present and future wants.

In such a context of thinking, one has gotten away from the demoralizing make-work notion and sees the unemployment problem as what it really is—a problem implied by the success of the economy, not proof of failure. That is, unemployment is evidence of unutilized productive power. It is the abundance of our productive power (which means high saving, which in a specialized economy need not lead to high real investment) that is in a basic sense at the root of the trouble. But there is no need to let the nation’s productivity be the cause of its poverty.

In the suggestions made below, guiding principles (in addition to the major aims of high living standards and full employment) are to move in the direction of lessening inequalities of wealth and income, and to maximize the area of freedom of the individual. These are not necessary concomitants of a full employment policy: it would be possible to attain full employment with greater inequality of wealth and (still more readily) with less freedom. But the former (within limits) facilitates higher employment, and both are generally accepted objectives. It would be foolish to pretend a strict neutrality

¹⁰ Keynes, J. M., *General Theory of Employment, Interest and Money*, pp. 129-131. New York: Harcourt, Brace & Company, Inc., 1936.

with respect to every social issue save higher output and employment.

With respect to the second principle, the maximizing of the area of individual freedom, it is our general assumption that government should not do anything which individuals or voluntary associations can more efficiently do for themselves. (On the other hand, it should do whatever cannot be done by private individuals, or what can be done by them only with clearly lower effectiveness.) In connection with the unemployment problem proper, it is our postulate that government extend even its indirect controls no further than is necessary to secure efficient full employment. That extension is moderate—on net balance, probably a retraction from the level of government action which would be necessitated by an economic collapse.

Any economic policy implies elements of social judgment. There will be little disagreement with the major outlines of the kinds of policy suggested below. But there may be much difference of opinion on the advisability of particular measures, on the emphasis which should be placed on them, and on the possibilities of other measures. Time and experience will serve to correct our earlier judgments, and any program embarked upon by Congress will be subject to those continuous modifications which all living things undergo.

The following three chapters consider what can be done toward maintaining adequate total expenditure in the economy. This is the most important single element in maintaining high employment and output. The outline of the solution is simple. Government and strategic private groups must do what they can to encourage (1) private consumption expenditure (Chap. XIV) and effective (2) private investment expenditure (Chap. XV). If total expenditure is still insufficient, (3) government must through use of its budget make up the difference (Chap. XVI).

CHAPTER FOURTEEN

THE ENCOURAGEMENT OF CONSUMPTION

THE problem of the volume of private expenditure on goods and services is twofold: the encouragement of a higher average level (if there is a secular deficiency of expenditure) and the discouragement of fluctuations (to the extent we are troubled with cyclical upswings and downswings).

Many economists see the problem of increasing consumption as the central problem of high postwar employment, since ordinarily about two thirds of gross expenditure is consumption expenditure. It is certainly a major problem. If our ordinary peacetime increase in productivity is approximately continued in the postwar years, our resources will by 1950 make possible a rise in consumption of some 60 per cent above 1939. A rise of less than 50 per cent will mean heavy unemployment.

Is it possible that consumption can be expanded so much? If incomes rise considerably above prewar levels, will people not withhold from consumption expenditure, or save, much larger amounts? That is what we should expect from our interwar experience (Chap. VIII). And in fact during World War II, when income was rapidly rising, savings of individuals increased from 9 to 28 per cent of disposable income.¹ There were, of course, shortages of particular consumer goods and other pressures toward lowered consumption. Nevertheless, the evidence is disquieting.

The bulk of consumption, we remember, is done by lower-income groups. (In 1942, only one eighth of the national income went to persons receiving over \$5000 a year; only one twenty-fifth to those receiving over \$25,000.) It is also in the lower-income groups that consumption needs press most urgently on the heels of income. In order to conserve our human resources, and for humanitarian and democratic considerations, we should concentrate any program di-

¹ 1939 to 1944, Commerce data. The savings of businesses also increased percentage wise.

rected toward expansion of total consumption on raising the consumption of the poor rather than of the rich.²

The methods by which consumption can be increased fall into two groups. The first group seeks higher consumption by getting a larger share of the national income into the hands of lower-income groups; the second group seeks to encourage higher consumption out of a given pattern of income distribution.

Lessened inequality of income tends toward increased consumption: a larger share of the national income then flows to the lower-income groups who spend on consumption the bulk of their incomes.

1. One way to achieve this is to increase the productivity and purchasing power of the lower-income groups, without taking funds from the richer groups. The basic, though not the only, means is to diminish the abundance of those kinds of labor which are poorly paid (so raising their absolute and relative wage rate) and to increase the supply of people with highly paid skills (so lowering their relative wage rate).³ Any policy which spreads economic opportunity works in this direction: better educational facilities, especially in the poorer areas of the country which need them most; more scholarships, so that advanced training is given in proportion to ability to make use of it rather than in proportion to incomes of parents; improved public-health measures; better housing conditions; and so forth. (These policies are mentioned again later in another connection, since they have relevance in another way to the problem of employment.) The real income of lower-income groups will also be raised by any measures which increase the efficiency of production or distribution of basic necessities. Such improvements, by tending toward lower prices, increase the real value of the consumer dollar.

The above method of diminishing inequality of incomes has the distinct advantage that it not only tends toward higher employment, but also toward higher productivity through increasing the average efficiency of labor.

²In general, in the discussion below, we concentrate our attention on Federal policy and say little about state and local policies. Frequently, the argument with respect to Federal action can be substantially carried over to the smaller subdivisions of government. As full cooperation as possible is, of course, to be sought between Federal and state and local governments, so that their policies may reinforce, rather than oppose, one another. Cf. Hansen, Alvin H., and Perloff, Harvey S., *State and Local Finance in the National Economy*. New York: W. W. Norton and Co., 1944. Also pp. 218-219 below.

³The average (and also the marginal) propensity to consume is increased by this method, since a larger share of the national income flows to those people who spend on consumption nearly the whole of their incomes.

2. A second method seeks higher consumption through diverting income by taxation from high to low income groups. It has the disadvantage that, when carried beyond a certain point, it discourages investment expenditure (by reducing the proceeds from investment) more than it expands consumption expenditure. But up to this point it is justified, and even somewhat beyond, since greater equality of wealth brings noneconomic advantage in greater social and political democracy.

Taxation is a major instrument of government for influencing the amount of disposable income of individuals, and the channels in which individuals spend their incomes. The tax system as a whole ought to encourage high levels of production and employment, and ought to appeal to the American public as being fair and well-balanced. The merit of particular taxes can be judged by the basic criteria of (a) their effect on income and employment, (b) their effect in causing greater or less inequality of wealth and income and the extent to which they otherwise seem fair or unfair, (c) the extent to which they interfere with the most effective allocation of resources and products (by causing price changes), and (d) their political and administrative feasibility. The problem of developing an optimum system of taxes is, therefore, one of getting together a group of taxes which complement and balance one another so as to have the best possible combined effect, as judged by these criteria.

Tax considerations are obviously important and complex. We ought logically to examine each possible tax from the point of view of these four criteria, and then from the standpoint of how it would fit together with an optimum group of other taxes. We do not have space to make such an elaborate analysis.⁴ The tax emphasis and changes which we recommend appear to be consonant with (c) and (d) above. But we will mainly and explicitly consider certain taxes from the point of view of (a), and to a lesser degree, from the point of view of the related criterion (b). Tax questions will come to our attention three times in this and the following chapter: once from the standpoint of their effect on consumption expenditure, once from the standpoint of their effect on investment expenditure, and finally when we consider *qualitative* aspects of the Federal budget.

All taxes are depressing. No one likes to pay them. From the

⁴See Groves, H. M., *Postwar Taxation and Economic Progress*. New York: McGraw-Hill, 1946. This is a research study of the Committee for Economic Development. Also Hansen, A. H., and Perloff, H. S., *State and Local Finance in the National Economy*, pp. 243-284. New York: W. W. Norton and Co., 1944.

point of view of their effect on income and employment, our problem is to obtain government tax revenues from those sources where the taxes are *least* depressing on private expenditure. Excise or sales taxes (on tobacco, gasoline, alcoholic beverages, leather products, automobiles, watches, radios, and so forth) are by the criterion of their effect on consumption expenditure, bad taxes. They siphon off to the government funds which would otherwise be almost entirely spent for consumption, because the bulk of these taxes fall on moderate- or low-income groups—that is, on those whose consumption is a high proportion of their marginal incomes.⁵ In addition these taxes are, by our usual standards, unfair because they absorb in taxes a higher proportion of the incomes of the poor than of the rich. Certain taxes on consumption, it is true, may be justified because of equity considerations (the gasoline tax which goes for highway upkeep) or because of the desire to discourage consumption of supposedly harmful commodities (taxes on liquor and tobacco); but they are in general undesirable.

The balance of considerations points toward the personal income tax as the major single source of Federal government revenues. The Committee for Economic Development, for example, recommends that about 60 per cent of Federal revenues come from that source.⁶ The income tax is less depressing on consumption than excise and sales taxes because its weight is heavier on those whose incomes are larger, and hence whose consumption is a smaller proportion of their incomes. More of the funds absorbed by the income tax would otherwise have been saved, and so would not have gone into consumption spending in any event. In addition, the income tax is "fair," being the only tax which can be closely adjusted to ability to pay; and unlike taxes on individual commodities, it distorts little the consumer's choice as to how he would like to allocate his expenditure.

The consumption expenditures which take place out of given incomes reflect habits that are slow to change. It may be possible to

⁵ We are concerned in this connection not with the *average* propensity to consume (the proportion of total consumption to total income), but with the *marginal* propensity to consume (the change in consumption which results from a change in income).

⁶ The income tax levied on corporations accounts for only 11 per cent, and excise taxes on tobacco, liquor and gasoline for only 16 per cent. These two are the *most* important other Federal taxes in the CED recommendation.

The Federal government actually received under the revenue act of 1944 about 46 per cent of its tax revenue from the personal income tax, 28 per cent from taxes on corporations, and 17 per cent from excise taxes.

encourage private-consumption expenditure somewhat by publicly emphasizing the higher level of consumption now possible and desirable. But on the whole, such publicity is doubtless a weak device.

Appreciable reliance can be placed on various kinds of social-consumption expenditures, which either provide services for general public use or put products or purchasing power directly into the hands of consumers. Some types of these are described below and in Chap. XVI.

3. Such social-consumption expenditures should be directed toward the effective establishment of a new and higher minimum standard of living. That standard expresses in concrete terms the level of consumption of food, shelter, education, medical care, and recreation opportunity (including leisure) below which it is the national aim that no one shall fall. There exists a vague notion in the United States today of such a minimum: no one is supposed to starve, freeze, or go without shelter. But the minimum can be far higher. The formulation and steady raising of such a minimum standard of life is a measure of the economic progress of a people; it is also a test of their spiritual progress.

4. A simple and direct measure for increasing private consumption is a guarantee by the Federal government, in cooperation with the states, to employ anyone who cannot get a job elsewhere. The work so offered should be adapted to the types of skills available and to local needs, with pay rate and other conditions less attractive than the other employment usually available. The proposal puts a floor beneath wage rates, but there is no reason why it should diminish incentive to find better jobs and earn higher income. Guaranteed employment is a last resort, and little application would be made for it if the other proposals listed below were effective. Such a policy keeps incomes from falling below a moderate level so long as people are able to work, and so it provides funds for consumption. But the psychological effect may well be its most important aspect, encouraging as it does consumption out of people's ordinary incomes by assuring that they will always be able to find work, and encouraging investment by business through assurance of greater stability of consumption.⁷

5. People may lose their incomes, and so their ability to consume, through sickness, accident, and old age, as well as through unem-

⁷ E. A. Goldenweiser makes this suggestion in his "Jobs," *Postwar Economic Studies No. 1*, Board of Governors, Federal Reserve System.

ployment. Our present social-security program covered in 1940, out of 54 million in the working force, only 21 million under unemployment compensation laws,⁸ and 23 to 25 million under Federal old-age insurance. The benefits are not high. Under the old-age insurance provisions, a married man who had received through twenty years of coverage a wage of \$100 a month would obtain \$45 a month as his old-age benefit; a single man would obtain \$30. Under the unemployment-insurance program an average payment of \$10 per week was made to each recipient in 1940. The payments are, in most cases, limited to 14 to 16 weeks. There is no general Federal law for workman's compensation for industrial accidents, and existing state laws vary widely in their provisions.

Evidently, we have made only a good start toward the obvious target of protecting everyone against all the hazards that might leave him without minimum necessities and comforts. Our productivity indicates that the floor beneath living standards can be much higher than ever before. Our social conscience is coming over the course of the years to demand it; a full employment policy would automatically include it.

The social-security program, with the cooperation of state and local governments, should, therefore, be made universal in coverage, and its benefits increased to the end of assuring at least the new higher minimum standard of living.

6. Consumer expenditure, especially on durable consumers goods, may be increased also by Federal Reserve measures to encourage the extension of consumer credit (that is, to encourage installment buying).

7. Another proposal which has the tendency to maintain consumption is worth listing. This is *separation wages*, a lump payment made to anyone who is discharged. The amount of the payment is proportioned to the number of months or years the worker had been employed by the given firm. Such separation wages are justified not only from their effect on consumption expenditure, but also because they require the firm to enter into its calculations a sum representative in some measure of the social cost of discharges—the psychological cost of losing a job, the searching for a new one, the possible necessity of moving. Thus, it helps to improve the utilization of the nation's work force.

In summary, we have looked at seven methods of encouraging

⁸ Unemployment compensation laws would not be necessary if proposal (4) above were adopted.

consumption expenditure: (1) increasing the productivity and purchasing power of lower-income groups without taking funds from richer groups, (2) transfers of income from richer to poorer groups by taxation, (3) the formulation of a higher minimum standard of living, (4) a job guarantee by government for those who cannot find private employment, (5) social security, (6) consumer credit, and (7) separation wages.

Secular and Cyclical Policy

As we have seen, it is possible that the United States is faced with a long-run, or secular, problem of deficient production and employment. All of the above seven measures for encouraging consumption are useful against this contingency. But suppose, instead, we normally make full use of our resources, and only occasionally come into the downswing of the business *cycle*. To meet this kind of need, we want, if we can find them, measures which through their structure automatically stimulate consumption when private expenditure is falling off—that is, which have a built-in counter-cyclical effect. Of the above suggestions, (2), (4), (5), (6), and (7) fall under this heading. For example: the siphoning off of income by a progressive tax system automatically falls sharply when incomes are declining; unemployment insurance benefits then rise in volume; consumer credit may be applied for more freely; and separation wages will be paid in greater quantity.

But all of these measures for stimulating consumption put together may be of only very moderate effectiveness, especially when we consider what is actually feasible within a span of a few years. It is likely that we shall need to do much more.

CHAPTER FIFTEEN

THE ENCOURAGEMENT OF INVESTMENT

The Social Atmosphere

IT IS a pervading and subtle fact that the social atmosphere of our society has become, in some real degree, hostile to the capitalist, or free-enterprise, machine; and consequent laws and the spirit in which the laws are conceived and administered have become in some measure antipathetic to its functioning. It is not even so much that existing measures—increased personal and business surtaxes on income, heavier estate and gift taxes, government-supported unionism which restricts the freedom of action of management, antitrust action, public-utility legislation, special requirements with respect to security issues, and the like—are in themselves definitively discouraging to business enterprise. Some or all of these measures are obviously in the general interest when taken by themselves, and some we ourselves specifically recommend.

It is rather that these measures, coupled with the tone and slogans with which they are advocated, the spirit with which the laws are administered (which is more important than the laws themselves), and the general trend of public opinion toward business, seem to the businessman to prophesy menacingly with respect to the future. "If," he reasons, "these trends continue and grow, I should be foolish to make heavy investments which can be realized only over a term of years."

If profit seeking, the essential drive in the capitalist machine, meets increasingly with political obloquy and moral disapproval; if the businessman, from whom the society wants effective and abundant investment expenditures, is increasingly hampered by heavier taxes and more legal restrictions, then it is clear that the free-enterprise machine will gradually run down. Its worsening performance

will increasingly justify its bad repute, and the latter will in turn lead to still more hostile measures.¹

But, as we have argued above, there are both economic and non-economic reasons for preserving a dominantly wide area of free enterprise. Is it possible for such a downward spiral of continuing collapse, feared by Professor Schumpeter and other students, to be broken?

It is probable that over future decades, the area of government will continue to expand somewhat in the economy, as it did in the 19th century and the first third of the 20th century. Formerly, postal service, roads, and general education were private enterprises, run for profit. There came a time when it seemed better, in the common interest, to have them administered by government. But whether or not this trend continues into the future, it is not wise for us to carry through measures hostile to private enterprise, which prevent it from functioning, while we continue to reject any general socialist system of production. We must not paralyze one system of production at a time when we are unwilling to accept any other.

A clue to the solution of the problem may lie in the recognition of when and why antiprivate-enterprise sentiments have appeared. They were not important in times like the 1920's, when the capitalist machine was working well. The Greenback, Populist, and Free Silver movements of the late nineteenth century were mainly a reflection of three decades of falling prices and hence of pressure on debtor groups. The Interstate Commerce Act of 1887 and the Sherman Antitrust Act of 1890 came only after abuses were flagrant. Trust busting of 1901-1911 coincided with muckraking and revelation of abuses. Similarly, the reforms and anti-free-enterprise sentiments of the 1930's followed the major economic collapse of which we have statistical record.

The reasonable suggestion emerges from this that perhaps private enterprise will retain our allegiance and respect if it deserves it; that perhaps we are overquick to imagine a long-term movement of disaffection suddenly come to flower. Specific evils have evoked attack and measures of reform. And to reform is to preserve, though the medicine may not be pleasant to take.

¹ Arguments of this tenor have been developed most impressively by Schumpeter, Joseph A., *Business Cycles*, Vol. II, pp. 1038-1050. New York: McGraw-Hill Book Co., 1939; and *Capitalism, Socialism and Democracy*, pp. 131-163. New York: Harper and Brothers, 1942.

With respect to the major disaster of depression, private enterprise will not be blamed for depression if depression does not occur, and its avoidance is the purpose of all our suggested policies in this section. With respect to the evil of concentration of wealth and power, the taxation and other policies to diminish it should be carried through gradually and in such ways as interfere least with incentives to expand businesses and to produce, and so earn income. With respect to a social attitude of hostility toward profit and profit makers, an effort should be made to direct that hostility toward *unearned* income (income from monopolies of the antisocial sort, and from inheritances). Respect should be inculcated for the earning of high incomes through the efficient directing of businesses serving the public good.

The conflict between our desire for incentives to encourage efficiency and larger output, and our desire for no-more-than-moderate inequality of income and wealth is a conflict which exists in all societies, that of the Soviet Union included, and its solution lies in compromise.

It is the threat of future, unpredictable antiprivate-enterprise policies which is a vital deterrent to investment. To minimize it, the policies which government will follow with respect to business should be clear and adjusted only gradually—"a government of laws and not of men." Anti-monopoly measures should be firm, plain, and as predictable as possible: once again there is a call for sophisticated measures. The policy of noninterference, unless the public interest clearly requires it, should be an obviously established one. If there is an extension of public ownership—and it may often be more economic to own "monopolies" than to carry on a running warfare of regulation and suits—present owners should be generously recompensed. In general and emphatically, the spirit of democratic cooperativeness should prevail; men in business are presumed to be serving the common good unless, in specific cases, they are clearly proved to be acting otherwise.

A spirit of general good will is likely to exist if, as a result of measures like those we are suggesting, the society attains reasonably full employment, high and increasing productivity, and diminishing inequality of income and wealth.

Taxes

Our second proposal is more specific—namely, *tax changes* to encourage investment are of the utmost importance. Our present

tax laws give a premium to investment of funds in safe channels where they are not effective in creating jobs and increasing productivity—away from risk investment and into idle balances and bonded indebtedness.

1. It is dangerous for corporations to finance themselves by issuing bonds, since bondholders have a fixed claim against the business. This is especially true of risky projects, some of which offer the greatest promise of increased jobs and productivity. But the alternative, that of issuing stocks, is at present discouraged because income belonging to stockholders is taxed twice, once when the corporation pays a tax on its earnings, and once when the stockholder pays an income tax on the dividends he receives. In addition, the poor stockholder is at present discriminated against, since his share of the total earnings of the corporation is subject to a corporate income tax at just the same rate as that paid by the rich stockholder.

In partial defense of the corporate tax, we should mention that it is in the main flat-rate² rather than progressive, and loss-carry-over provisions permit considerable offsetting of losses in one year against profits in another. The depressing effect on investment is mitigated, but it is not cured.

One proposal, made repeatedly in recent years, to correct these and other faults of the present corporate- and income-tax relationships, is that the United States should follow its own former, and the current British, practice. Each corporation is to pay a tax on all its earnings at the lowest-bracket personal-income-tax rate (in 1946 this was 20 per cent). For any part of the earnings distributed in dividends, this acts as a withholding tax: the stockholder owes nothing in personal income tax unless his total income is high enough to subject him to the surtax rates. Stockholders with very low incomes or many dependents get rebates. For the rest of the earnings of the corporation, which it retains, credit for the tax paid will be realized by stockholders only when dividends are actually distributed.³

Proposals to diminish the burden of corporate income taxes (and emphasize personal income taxes more) have the greater significance because a larger proportion of funds for investment comes

² But flat rates do not give the preferential treatment to small corporations which is desirable. See below, p. 196.

³ Groves, Harold M., *Production, Jobs, and Taxes*, pages 35-51. New York: McGraw-Hill Book Co., 1944.

from retained earnings of corporations than from outside investors.⁴

2. It is possible to diminish greatly the burden of taxes on small and growing businesses without substantially reducing Federal government revenues. It appears desirable that, no matter in what way or to what degree corporations are taxed in the future, small corporations should have a tax advantage—the purpose being, for economic and for social reasons, to diminish the concentration of production and of economic power.

Given rates of income and excess-profits taxes tend to discourage investment by small corporations more than by the large. Large enterprises can offset the loss, when an investment goes sour, against profits made in the remainder of the business, and so reduce their total tax bill. Small enterprises have less chance to do this.

It has been calculated that if there were an over-all corporate tax of 40 per cent, but that corporate income of under \$100,000 were taxed at only 20 per cent, Federal revenue would fall less than one sixth under that from a general 40 per cent rate.⁵

However, the attainment of continuing general prosperity probably would do more toward encouraging small enterprises than any specific tax measures we could suggest, since small firms are at special disadvantage, especially in connection with getting capital in time of depression.

3. With respect to personal income taxes, it is discouraging and unjust to risky enterprises that individuals who have fluctuating incomes should not have credit for years of loss or low income to set against years of high income. Returns from risky investment are usually fluctuating: a period of loss usually must be faced before positive returns can be hoped for. Our personal income taxes do not permit such early loss to be set against the later possible gain.

We have urgent reason to favor persons with fluctuating incomes, instead of penalizing them, as is the case at present. Tax burdens on these people should be equalized by a liberal loss-carry-over, or averaging provision.

Realized capital gains and losses—that is, a rise or fall in the value of property realized through sale, or transfer at death, or by gift—

⁴ During an average year of the period 1925-1929, 2.4 billion dollars were available for investment by nonfinancial corporations out of their retained earnings, but only 1.7 billion dollars were derived from outside investors. In addition, 5.5 billion dollars more were available for gross investment from depreciation and depletion allowances, but these are not affected by corporate income taxes. Data from *Hearings, Temporary National Economic Committee, Part 9, page 4041.*

⁵ Butters, J. K., and Lintner, J., *Effect of Federal Taxes on Growing Enterprises*, page 133. Cambridge: Harvard University Press, 1945.

should be treated like any other income. They should, similarly, be subject to a generous carry-over privilege, and losses should be fully deductible (now they are only partly deductible).⁶

4. A basic principle of fairness in taxing is that individuals with high incomes should pay high percentage taxes on those incomes. But the principle can be pushed too far. The risk, work, and responsibility which investment in new business requires will not be undertaken unless there is hope of a considerable return. This leads us to the conclusion that tax rates should rise only moderately through the range of moderately high incomes (say \$20,000 to \$100,000 a year) from which come a strategic portion of funds for risk investment. Above this range, since the total quantity of investment funds forthcoming will in any case be small (because so few people receive incomes above \$100,000), the rate can again rise steeply for equalitarian reasons. The marginal tax rate of 75 per cent on \$50,000 incomes in 1946, and the 87 per cent on \$90,000 incomes was probably too high, though we can justify the 90 per cent on incomes over \$200,000. The Committee for Economic Development has proposed taxes of 42 to 49 per cent on incomes in the \$20,000 to \$100,000 bracket. This seems more reasonable as a compromise between the basic aims of discouraging investment as little as possible, on the one hand, and less inequality of wealth, on the other hand.

In the past, the income tax has been criticized on the ground that it is an unreliable source of revenue: returns shrink far more in depression and swell far more in prosperity than, say, the returns from consumption taxes. This variability is, in fact, as we have seen, a principal virtue of the income tax, and helps to justify our choosing the personal income tax as the chief single source of government revenue. We want a tax system with *built-in* flexibility, a system that automatically absorbs more funds away from private investment and consumption in time of high boom, and less in time of depression, and so lessens the violence of fluctuations of total expenditure.⁷

5. Finally, we may note that one cause of the housing problem, and a source of declining property values and local blight, is the heavy and inequitable real estate taxation of local governments.

⁶ At present, a major loophole exists in the taxation of capital gains. See p. 199 below.

⁷ Some economists have gone so far as to suggest that taxes should become *negative* in time of depression—that is, turn into subsidies in order to shore up consumption and investment expenditure.

The great bulk of the revenues of cities, towns, and counties comes from this source. But the local property tax has been abused. Part of the trouble comes from the excessive reliance placed on it. One major improvement would, therefore, be for the burden of the real estate tax to be lightened through greater support by state and Federal governments of continuously growing municipal responsibilities. In addition, reform is needed in administration, to the end that assessments may be more equitable and frequently reviewed, that there should not be liberal tax exemptions, and so forth.⁸

There is much to be said, from the point of view of economy of administration and avoidance of evasion, for a consolidated tax system for Federal, state, and local governments being ultimately set up, with all taxes collected through one agency.

A note on equality

What we have suggested above with respect to lowering personal-income-tax rates in the moderately high brackets, and to eliminating double taxation of corporate income suggests that in pursuit of the goal of increased incentive, perhaps we are losing sight of the goal which a healthy democratic society must keep in view—namely, avoidance of great inequality of wealth and income. In our desire to encourage investment, we have been encouraging accumulation.

We should try to make the best both of *incentive* and *equality*. Men do not live forever, and the huge fortunes which can be accumulated from scratch within the lifetime of a single individual are, even with future surtaxes considerably lower, not going to be numerous or dangerous. As for inheritances, the prescription is plain.

Estate taxes (on the entire property of the deceased) and inheritance taxes (on the amount bequeathed to individual heirs) should be consciously aimed at the goal of ending transmissions of hereditary fortunes. Beyond the modest aims of securing to the widow and dependents unable to work a sum adequate to maintain them and of completing the full education of all children, the justification for bequests tapers off rapidly. It is not allowable in a democracy to set up the goal of establishing a family dynasty.

At present, an exemption of \$60,000 is permitted by Federal law

⁸ Cf. Hansen and Perloff, *op. cit.*, pp. 274-282.

to all estates. Above this, the rates begin at 3 per cent and rise to 77 per cent on the portion in excess of 10 million dollars. The exemption of \$60,000 should be lowered, and rates of taxation on larger estates should be raised further. But the main defects of death taxes lie in the existence of notorious loopholes through which part or all of the tax can be avoided.

1. The most important of the loopholes results from the possibilities of disposing the estate before death through gifts. For example, the owner of a \$100,000 estate can obtain a 90 per cent tax saving by giving it away to his beneficiary before death.⁹

2. Capital gains can remain untaxed from generation to generation so long as the gains are unrealized. Furthermore, each successive heir gets a new base price from which to figure.

3. It is possible to escape some of the death taxes through changing residence from one state to another.

These loopholes should be plugged. There is no reason why we should not achieve at least the level of success of the British in increasing the productivity of death taxes.

An additional suggestion to end family dynasties is to tax at increasingly higher rates fortunes which are passed on to successive heirs—for example, the first inheritor might be taxed at the rate of 50 per cent; at his death the tax might be at the rate of 80 per cent on the portion he had inherited; the next death tax on the remainder of the original estate might be 100 per cent.

Estate taxes are relatively easily borne by the heirs, to whom the bequests are a windfall; they are not easily evaded,¹⁰ since large estates are probated in the courts; and they are a much milder discouragement to enterprise than taxes paid during the lifetime of the income receiver. They are unimportant as revenue producers, having as justification only our desire for less inequality of income and wealth. Toward this aim they can be, over the course of time, very effective. In 1935, 14 per cent of incomes below \$5000 came from property sources, but 45 per cent of incomes over \$5000. Of incomes over 1 million dollars, 98.5 per cent came from property sources.¹¹ In brief, high incomes arise mainly from property, much

⁹ Groves, *Production, Jobs and Taxes*, page 90. The gift must be made "in the fullness of life"—that is, not in contemplation of death. Trusts set up to manage the property being given away, when the gift is irrevocable and income from it goes immediately to the beneficiary, secure exemption both from the Federal death tax and most state death taxes.

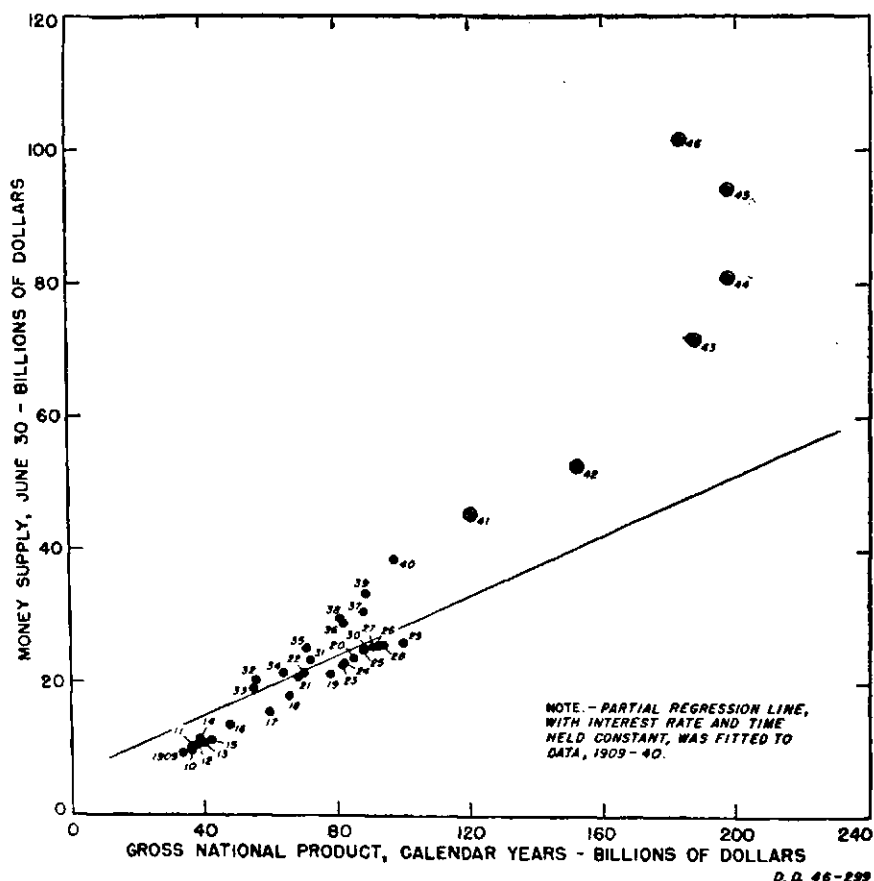
¹⁰ If specific loopholes are eliminated.

¹¹ Temporary National Economic Committee, *Monograph No. 4*, p. 48.

of which is inherited. With heavy taxes on inheritance, a main source of inequality of incomes disappears.

Monetary policy

Under this heading we include all matters of policy relating to the money supply of the country. Monetary policy will, therefore, be concerned with encouraging a high and stable level of income through varying the supply of money. But we meet the immediate difficulty that the quantity of money does not bear a close relation-



D. O. 46-299

¹ Money supply represents demand deposits adjusted plus currency outside banks. Money supply for 1946 is for March 31; gross national product for 1946 is a preliminary estimate for the first half of the year (unadjusted for seasonal variation) raised to the annual rate.

Sources of basic data: Board of Governors of the Federal Reserve System and U. S. Department of Commerce.

CHART 19

Money Supply Related to Gross National Product

Source: Survey of Current Business, May 1946, p. 10.

ship to (either the net or gross) national income. Money and national income usually vary in the same direction, but one cannot be closely predicted from the other.

In Chart 19, money is plotted against gross national income (or product) for the years 1909-1946. Money is here defined as the total of money in circulation plus checking accounts. In the 1930's and 1940's the volume of money was much larger relative to income than it had been in the previous two decades.

1. If money were used only for the purchase of newly produced goods and services, then we should expect money and income to vary in close proportions to each other. The amount of money needed to transact a given volume of production is probably quite stable: it depends on the average interval between the receipt of income and its payment out again as income, and this, in turn, depends on such slow changing matters in the economy as the average frequency with which businesses and consumers make payments, the organization of industry, transportation facilities, and the like.

2. But not all money is used for the purchase of newly produced goods and services. Some money is held instead for use in financial transactions, for buying bonds, stocks, real estate, or other previously produced goods.

3. More important still, people may decide to "invest in cash."—that is, to hold part of their wealth in the form of currency and checking deposits, and not to buy anything at all.¹²

This last use of money furnishes the chief explanation of why money expanded relative to income in the 1930's and during World War II. An increased volume of money was available in the economy—in the 1930's owing to inflows of gold from abroad, to open market operations, and other banking policies; and during World War II, to creation of money through government borrowing from the banking system. But the money flowed into the hands of people who decided to hold a large part of it idle, to use it *neither* for investment or consumption. During the 1930's, investment possibilities were not attractive, and during the War, private investment and consumption were constricted by special government controls.

This looseness of relationship between money and income does not mean that monetary policy is to be neglected. Perhaps economists are at the present time unduly pessimistic about what can be done in the monetary field.

¹² Page 109.

Wartime financing has brought major changes to our monetary and banking system. A principal legacy is that the quantity of money has gotten out of hand. By the middle of 1946 about 216 billion dollars of United States Government securities had come into the hands of the public and of commercial banks. The holders of these may, if they wish, exchange them for money at the prices for these securities guaranteed by Federal Reserve policy; and the volume of money at the disposal of the public can expand far beyond this, since bank reserves would be increased, making possible a further multiple rise in deposits. The ultimate increase in the money supply which *might* take place is therefore several times 216 billion dollars. This possible increase in the volume of money is staggering: the existing money supply at the middle of 1946 was only 108 billion dollars.¹³

The continuance of the Federal Reserve and Treasury policy of low and stable interest rates on government securities—that is, the continuance of the policy of standing ready to buy Federal securities at fixed rates—is incompatible with effective use of the traditional powers over the money supply (open market operations, changes in discount rates, changes in reserve requirements, and the like). Within a moderate period of time in the future, the most important determinant by far of the volume of money is the form in which the public wish to hold their liquid assets. If they are content to continue to hold Federal securities, the money supply will not increase; but if they unload them, then the Federal Reserve will support the market by buying them up, and so place additional funds in the hands of the public.

Official statements following the end of World War II have indicated that the policy of low and stable rates is to continue. The level of interest rates, following the huge rise in government debt during the war, too closely affects the credit of the government (because the price of government bonds fluctuates inversely to the interest rate), the interest burden faced by the Treasury, the solvency of banks, and the incomes of endowed institutions and private individuals, for it to be raised or lowered in the hope of discouraging or encouraging private investment expenditure.¹⁴

New measures are required, and will eventually be evolved, to

¹³ Data from the Survey of Current Business, December, 1946, p. S-17.

¹⁴ See Abbott, Charles C., *Management of the Federal Debt*, New York: McGraw-Hill Book Co., 1946; Wallich, Henry C., "The Changing Significance of the Interest Rate," *American Economic Review*, December, 1946; and Thomas, Woodlief, lecture delivered at the University of Indiana, July 12, 1946.

regain for the Federal Reserve some degree of control over the volume of money. Present proposals focus their attention on the possibility of an enormous expansion of bank lending; and endeavor to put such expansion under control by increasing reserve requirements—in cash or in special government securities—to a sufficient extent.¹⁵

Our alarm over the present lack of check reins on the quantity of money should be mitigated by our remembering again that the volume of money is not necessarily closely related to the volume of spending in an economy.

The interest rate, therefore, is no longer an instrument for the control of fluctuations in private investment. The war has left as a legacy one more rigidity in the economic system.

As we have reasoned before, the level of interest rates, even in past years when the public debt was small, was not of first importance among antidepression measures. The profit prospect faced by businessmen (the marginal efficiency of capital) fluctuates far more than does interest rates. In addition, the rates on certain kinds of loans are inflexible, or inversely flexible; or else were not subject to control by the monetary authorities. But it would always have been possible, by raising interest rates *enough*, to discourage investment, even though we are not sure that lowering them (to any point above zero) would encourage investment much.

The long-run policy suggested by the post-war situation is to keep general interest rates somewhere near their present low level, certainly avoiding any drastic changes up or down. The means is chiefly the continuance of the Federal Reserve's guarantee of the prices of Federal securities.

There are, however, certain special measures which might be undertaken to reduce interest rates and make funds more abundant in strategic areas. Through the RFC, the National Housing Agency, and other Federal agencies including the Federal Reserve, funds can be made available (or guaranteed) at especially low rates in loans for residence construction and to industry.

Housing is an especially favorable area for such activity. Before World War II, 70 per cent of privately financed home building was supported under programs of the Federal Housing and Home

¹⁵ Two such proposals are made by Simeon E. Leland, Chairman of the Federal Reserve Bank of Chicago, in *The American Banker*, February 4, 1946. Woodlief Thomas also makes certain suggestions, loc. cit.

Loan Bank Administrations. It might be possible to lower interest rates and down-payment requirements in order to stimulate construction during times when building activity and general business activity were declining.¹⁷ With respect to loans to industry, the RFC and other agencies might make loans at favorable rates during time of recession, especially to small businesses, which are handicapped compared to large businesses by their inability to borrow at low interest rates.

Special Measures

There are a number of special measures which can be a help toward increasing investment, and some of them, toward increasing productivity.

1. The Federal and state governments have for many years carried on research work in experiment stations and universities for the benefit of agriculture. The individual farm is typically too small to carry on effective research for itself. There appears to be every reason for expanding government supported research into the fields of industrial problems of production and quality of product, as well as into basic fields of physical, chemical, medical, and other research which will have their inevitable by-products at the practical level. The extraordinary success of government-inspired research during the recent war makes it likely that some such program will, in fact, be adopted.¹⁸ Dr. Bush's recommendations for continuing into peacetime the research which perfected radar and unlocked the atom would cost every year, at its full development, less than the cost of half a day of war. The results of such research would be available to all industry and would, therefore, help to redress the advantage which large enterprises now have in this respect, since they alone can support the specialized function of large scale research. And it would lead toward a more rapid growth in technical efficiency, and hence in volume of national output.

2. At the close of World War II, something over 15 billion dollars of industrial plant and equipment of the United States were owned by the Federal government. This is now, in the main, being leased and sold to private concerns. It can be leased or sold, perhaps

¹⁷ This suggestion is made by Leo Grebler, *Pabst Postwar Employment Awards*, pp. 42, 43.

¹⁸ The basic report recommending such a program for peacetime is Dr. Vannevar Bush's *Science, the Endless Frontier*, a report of the Office of Scientific Research and Development, July 1945.

at specially advantageous rates, to firms not exceeding a certain size, and so stimulate the appearance and expansion of such firms. The War Assets Administration has disposed of some textile surpluses in heavy civilian demand in this way, and has made a major step toward establishing a competitive aluminum industry by giving competitors of the Aluminum Company of America first choice in acquiring surplus Government-owned aluminum plants. The share of ALCOA in alumina and ingot aluminum capacity has dropped from 100 per cent in both in 1939, to 44 and 54 per cent, respectively, in early 1947.

3. Any method of reducing the cost of housing would increase output in this vast field where our need will inevitably be, for years, far in excess of our ability to produce—and to pay—unless effective measures are taken. One needed reform is the modernization of building codes and building methods, which in city after city are far behind the times, enforcing obsolete and wasteful construction practices. A study in some 100 cities showed all of them specifying masonry walls 8 to 17 inches thick, although it is now possible to construct sturdy 4-inch masonry walls, and there are many new wall materials available which do not depend on thickness for strength. Chicago has distinguished itself by its blockade against modern practices: provisions in the code have in effect banned the use of anything but plaster in interior walls, a requirement which bars experimentation in prefabricated, dry-wall construction. Steel buildings have been prohibited. The hod-carriers' union has prohibited the use of centrally mixed concrete.

The Department of Justice has charged that plumbing manufacturers with four fifths of total output sell only to approved distributors, who in turn sell only to approved master plumbers, with prices fixed all along the line. A manufacturer who wishes to cut prices may find it impossible to get his fixtures installed.

Obviously, the expansion of low-cost home construction can be encouraged by efficient factory assembly of kitchens, bathrooms, and other structural units, by standardization of parts, and modification of some of the habitual construction methods. The need is urgent. Part of the resistance to change originates in the habitual efforts of building-supply producers to defend their share of a formerly compressed and shrinking market, and in the effort of unions to defend their members against unemployment. The resistance of city councils to better codes, and back of them, the resistance of material suppliers and unions to more effective materials

and practices, will be lessened if, from policies like those we are suggesting, the economy succeeds in attaining a high and stable level of output and employment.

International Monetary and Financial Cooperation

The United States is the only major industrial nation whose productive ability has been expanded rather than disrupted by World War II. Many of the countries engaged in the war have been or are in need, first, of consumption goods to tide them over the early postwar years of hunger and want of clothing and shelter, and second, of industrial raw materials and equipment to replace what the war has destroyed, and to get them started in peacetime production. Other parts of the world—China, India, and South America among them—still wish to industrialize their agrarian economies. The United States in its good fortune has a moral obligation to help its neighbors; it has also a vital interest in continued peace, and hence in stable economic prosperity.

The adherence of the United States to the Bretton Woods plan for the establishment of an International Fund and, probably more important, an International Bank for Reconstruction and Development, will help to stabilize the relation of world currencies, and to facilitate and guarantee the flow of funds for rebuilding and raising productivity elsewhere in the world. Our cooperation will promote international responsibility and good will and the establishment of stable trading relationships, to the common benefit of the countries of the world.

If a country exports more than it imports, the level of domestic production and employment is of course raised (assuming the existence of a margin of available unemployed resources). Nevertheless, the attainment of a large net export balance by the United States is not an important route to higher employment. There are two reasons. First, our foreign trade is small relative to our internal trade (p. 112). Second, any efforts to export without importing will bring deflationary influence on foreign countries and pressure on their reserves of gold and dollars. They will attempt to defend themselves by tariffs, quotas, embargoes, exchange controls, and bilateral agreements, which will vitiate our efforts and in addition break up the international division of labor and so worsen the economic condition of the whole world.

Our foreign trade balance is best looked on as a consequence.

rather than a cause, of any given level of employment. Any country which expands its production and employment—in consequence either of an ordinary business boom or of government fiscal policy measures—will tend to experience an adverse balance in its international payments. That is, its imports will rise, and its exports will lag behind. This is the result of an income effect, and a price effect: as incomes rise, demand rises both for home-produced and for foreign-produced goods; and if prices rise, as it is likely they will to some extent, imports will be further encouraged and exports will be discouraged.

An adverse balance of payments can be met for a limited time by a gold outflow, by drawing down balances of foreign currencies, or by loans from abroad. If the adverse balance continues, more decisive adjustments must be undertaken: cooperative international action to expand production and employment abroad, devaluation of the currency, or specific measures to expand exports or contract imports (such as export subsidies, and tariffs and other blocks to imports).

International trade matters are not of primary *economic* importance for the United States, though the political implications are far reaching, and though the economic stability of many other countries depends considerably on our internal employment and our trade policies.¹⁹

Measures to Combat Monopolistic Restriction of Output

We have suggested before that the general problem of monopoly is a complicated one, having both good and bad aspects. This is still true when we look to the restricted question of the effect of monopoly on employment. We have seen that greater short-run price flexibility would not necessarily increase employment and that the longer run shifts of relative prices, which are desirable, are not incompatible with monopoly.

The effect of monopoly on total expenditure is twofold: Up to a point, monopoly induces investment by giving innovators a better prospect of gaining from their improvements. It is, in part, for such a purpose that our patent law gives a monopoly to inventors

¹⁹ See Hoover, Calvin B., *International Trade and Domestic Employment*, New York: McGraw-Hill, 1945; Haberler, Gottfried, *Prosperity and Depression*, 3rd Ed., Ch. 12. Geneva: League of Nations, 1941; and *Economic Stability in the Postwar World*, Chs. 6, 13, 17, 20. Geneva: League of Nations, 1945.

for a term of 17 years. But beyond a certain point, monopolistic policies discourage investment (and so diminish output and employment) by hindering or blocking the entry of management, capital equipment, and labor into the monopolized area. It is such monopolistic restriction of output and of investment that we do not want.

If price-cutting competitors in the insurance business are boycotted (South-Eastern Underwriters' Association), if patents are misused in the glass-container industry to divide the market and restrict output (Hartford Empire), if national loan-shark syndicates can block competition and exact extravagant interest rates on small loans, if the Railway Express agrees to pick up and deliver packages for airline shipment only on condition the airlines keep their rates high—if such policies exist, evidently competitive investment is choked off, and employment and output diminished.

There are a large number of policies which have the effect of combating the power of monopoly to restrict output and employment. Some of the policies we have already mentioned would have that effect, and the success of a full-employment program would diminish some of the defense incentives and some of the opportunities for monopolistic policy. Measures specially directed toward this problem would include some or all of the following.

1. Strengthening of the antitrust agencies of government. The mere knowledge—following Thurman Arnold's suggestion—that one or two representatives of the Antitrust Division of the Department of Justice are in every state to receive complaints and to give publicity to antisocial business practices can have an effective influence toward toning up business morals. For the men who violate the antitrust laws are respectable, prominent in the community, and therefore sensitive to public opinion.

2. A Federal incorporation law to replace the "competition in laxity" of state laws might also be desirable to this end.

3. Government ownership and operation is desirable for those monopolies which are for one reason or another difficult to regulate, and cannot be broken up into efficient competing units. The aim again is to replace restriction with expansion. Present owners should be liberally compensated to avoid what would otherwise be a discouraging effect on private investment in those and bordering fields.

4. Undesirable legal support now given to monopolies should be

withdrawn. Lowering of tariffs would introduce more effective foreign competition.²⁰ Reform of our patent laws is long overdue. Though they retain their original purpose of stimulating innovation, it is also true that patent monopolies have been, since 1890, a chief resort of big business seeking legally to control its market. Perhaps compulsory licensing of patents at reasonable rates to all applicants is necessary. The administrative difficulty of this suggests that other measures of reform should be tried first or in addition: the judicial eviction of monopolistic practices from patent protection (as in Hartford Empire); the beginning of the term of the patent at the time of application (so that applications cannot be deliberately kept "pending," and so protected, for many years); and perhaps the development of a second class of "petty patents" to run for a brief time, five or seven years.²¹ Finally, there has grown up in recent years an ominous tangle of barriers to trade between the states. The motive behind these is generally the protection of local producers. Public policy should clearly be directed toward their removal. As with other problems we have looked at, the resistance to their removal would be less if high employment is attained in the United States. Under full employment, incentive would be lessened for local business and labor to try desperately to protect their share of a shrinking market.

Secular and cyclical policy

All the above measures for encouraging private investment are useful for the purpose of encouraging a continued, secular increase in investment expenditure. If our problem is that *occasionally* private investment expenditure is inadequately low, tax measures of the general character suggested above will be found especially useful. A progressive tax system with averaging or loss-carry-over provisions diminishes its burden sharply when business activity and incomes fall—in other words, the taxes are not only levied on lower incomes, but also at a lower *rate*. In addition, policies affecting monetary matters (especially direct lending in strategic areas) may be of some use in the cycle, though measures affecting the cash position or liquidity of lenders are of greater effect-

²⁰ This has a short-run depressing effect on investment in the home industries which compete with foreign products. In the longer run, this negative effect will be offset by expansion of relatively efficient industries.

²¹ These last two are suggested by *Fortune Magazine*, Supplement to the issue of December, 1944.

tiveness toward choking off a speculative boom,²² and toward maintaining demand at the onset, rather than toward stimulating demand at the bottom, of a depression.

The above measures for stimulating investment, like the previous ones for encouraging consumption, are relevant to other social values than those of high production and employment. We have tried to choose measures with the best possible over-all effect.

²² Even in the boom, monetary policies will often be less useful than specific controls: direct attacks upon localized booms and upon labor monopolies and other monopolistic sellers. And general monetary policies are now in abeyance until the monetary authorities again regain control over the money supply.

CHAPTER SIXTEEN

FISCAL POLICY

WE HAVE now surveyed a list of measures directed toward encouraging private consumption expenditure and private investment expenditure. Though there is obviously room for difference of opinion as to what measures should be included and what measures emphasized, some such items as those we have listed must find a place in any policy directed toward full employment.

There is no certainty that even an ideal group of measures for encouraging consumption and investment will suffice to maintain a full-employment level of expenditure. The profit prospect may still be too dismal, for many diverse reasons, to allow businessmen to invest heavily—even with all the measures of encouragement in effect which central policy can devise. What further action can be taken? —Specifically, what use can be made of fiscal policy; that is, of the government's revenues and expenditures?

In past decades the tasks of government have been seen as essentially those of maintaining internal order and external defense. Hence, in ordinary peacetime years, Federal government expenditures have been only a small proportion of the gross national product: 2.0 per cent in 1909, 1.9 per cent in 1913, 3.6 per cent in 1926. Under such conditions there could be little influence on the volume of national production and employment from the side of the government budget. Government revenues and expenditures were not in a range of size where they could significantly affect costs or incomes over the whole economy.

Nor was any stimulus to expenditure in the economy felt to be needed. It was argued, in accord with Say's law, that the private economy naturally tends toward full employment levels of production. The plausible conclusion followed that the government budget should be as neutral as possible in its effect on the allocation of resources as determined by private expenditure. A useful rule of thumb on the totals of government revenue and ex-

penditure was developed: the budget should be balanced annually. The rule was often violated—in the 154 years from 1792 through 1945 we have had 93 years of surplus and 61 years of deficit in the federal budget; but it remained as a convenient check on the propensity of legislators to vote new expenditures (generally politically popular) without voting new taxes (politically unpopular).

In recent years the percentage which government expenditures bear to the gross national product has been rising—from an unimportant less-than-5 per cent to a significant 10 per cent or more. In 1932 it was 7.1 per cent, in 1939 10.6 per cent; in 1947 roughly 18 per cent.¹ The reasons for this rise are several: outlays on defense have grown (about 5.5 per cent of the gross national product in 1947); the national debt has expanded during depression and above all during World War II (interest charges are about 1.7 per cent of the 1947 gross national product); and finally, outlays for agriculture, social welfare, international affairs, veterans, national resources and the like, are larger than before (about 7.4 per cent of the 1947 gross national product).² There is no likelihood that in the visible future government expenditures will shrink back to the pre-1930's level. Hence, whether we like it or not, the relationship of the government budget to production and employment in the economy forces itself upon our attention.

The new relationship implies the need for a higher level of administrative responsibility to replace the old rule of thumb. We can hope that the reports and procedures of the Employment Act of 1946 will work toward this end. Equally important, the new relationship requires public understanding of the purposes and means of fiscal policy, since this is the condition of the necessary public cooperation.

The fundamental rule of government finance, to which only minor qualifications exist, is that nothing shall be decided on financial grounds.³ The basic realities of the economy are resources (labor, management, raw materials, plant, and equipment), and the wants of the people of the economy (for a high standard of living and for useful employment, gained with freedom of choice and

¹ The percentage always rises during wartime years: in 1918 it was about 20 per cent, in 1944 and 1945 about 50 per cent.

² The figures are calculated from President Truman's estimates in his budget message of January 14, 1948. They apply to the calendar year, not to the government's accounting or fiscal year, which ends on June 30. A gross national product of about \$190 billions is assumed.

³ The rule is attributed to the London *Economist*.

equal opportunity). Money is simply a tool for the effective utilization of these resources toward fulfilling wants. Like other tools, money may get out of order, and can be used skillfully or badly. Government can, through its monetary authority and through its revenue and expenditure policy, exert a considerable influence on the flow of money in the economy, and so upon the allocation of resources to one use or another and upon how many of them are used and how many left unemployed.

Basic Reasoning on Government Finance, and Employment

1. First, we look to the flow of purchasing power in the economy as related to the government budget. Suppose unemployment exists. Then, any government expenditure increases production and employment (unless there are indirect effects, to be considered below, toward contracting private consumption or investment expenditure). This stimulating effect exists whether the expenditure is directly for output, or whether it is only a transfer payment which increases the money incomes of people who will subsequently spend on output. On the other hand, taxation withdraws money from the economy, and by contracting private expenditure diminishes production and employment. Therefore, if budgetary policy goes too far in the direction of heavy taxing and light spending—that is, in the direction of avoiding deficits or generating surpluses,⁴ total expenditure, production, and employment will be inadequate.

Evidently production and employment can be stimulated either through increased government expenditure or through decreased taxation. (Also and rather surprisingly, it is possible, as we shall see below, to secure a net stimulating effect through increasing equally both expenditure and taxes.)

2. But reasoning on this monetary level is less significant than reasoning about the utilization of real resources in the economy. If any government expenditure is justified, the gain to the economy must exceed the loss which results, directly or indirectly, from the process of getting the funds.

The real gain is the increased production which results from the expenditure. Sometimes it is easy to measure this real gain in value terms: when a toll bridge is built with government funds, we

⁴The surpluses will ordinarily be devoted to reducing government debt. But if an investment boom is in progress, then the best Treasury policy may be not to place more money in the possession of private investors, but instead to accumulate idle balances in the Federal Reserve.

can find out how much people are willing to pay for the privilege of using the bridge. But often it is very difficult to measure the gain: new roads, new school buildings, public health work do not come on the market for sale, and we shall have to give our own very subjective estimate of their social value. Some such projects have a very high social value and cannot be effectively performed by any agency other than the government. (The mere fact that the government does not charge us for facilities and services does not, as some journalists claim, indicate that they may not be completely justified by increased social productivity and social welfare.) Other projects are of slight value or can be performed better by private individuals. Logically, we should set up a scale of social priority for possible projects, and direct government expenditure into projects of highest social value.

The real cost to offset against the above real gain is the loss of possibility of private use of the resources in question, plus the "burden of public debt" which results if the expenditure is financed by a loan. (We shall see later that this "burden" is mild.)

It is, therefore, true that if the resources made use of through government policy would otherwise have been left idle and if those resources are either abundant (like air, water, and perhaps coal) or perishable (labor time), there is no *real* cost to the expansion, though there will be a *money* cost. The increased production and employment are pure gain. The newly employed workers will certainly not think themselves worse off because they now have jobs. The whole economy is better off now through the higher production, and will not be worse off in the future.

3. Suppose that we are facing the problem of setting up a budget policy for the government. We start out by assuming for the moment that the problem of adequate production and employment is solved. Then, the relevant question is: how far and into what channels should government expenditures be pushed, assuming that the resources which the government uses would otherwise go into private consumption or investment or into desired leisure. We must ask ourselves such a question about every specific project for government expenditure which is proposed, and assent to the expenditure only when its gain (by our estimate of social values) overbalances the loss it involves. We assume, first, that the budget is balanced. The tax structure is set up without reference to employment effects, being based on such criteria as equity, nondis-

turbance of private allocation of resources, and administrative feasibility.

But consider now that this happy situation is upset by the appearance of unemployment. We must now ask ourselves additional questions: How far is it justifiable because of the unemployment (a) to increase government expenditures (according to the scale of social priority), (b) to mold the tax system into one that is less depressing on private consumption and investment, and/or (c) to reduce the average rates of taxation. The effects of each of these need to be evaluated in turn, according to each one's net benefit or burden, including its influence on the division between the spheres of government and the private economy.⁵ It is likely that we shall decide to follow all three of these possibilities up to a certain point.

Allocation of Resources, and Government Expenditures

There is always room for doubt as to whether demand, expressed in offers of money on the market for the purchase of goods and services, rightly measures the social usefulness of the goods and services which are bought. The rich man's purchase of a yacht means that labor and other resources are used up which could otherwise have gone into the building of perhaps 10 houses, and we may feel sure that the houses would contribute more to human welfare than the yacht. (Even though they are entered in the national product at the same figure.)

Our doubts on this matter are less pressing if there is heavy unemployment, because if the resources used in a doubtful channel would otherwise have been idle, the society is still ordinarily better off as a consequence of the expenditure. But there is reason for special qualms when we look to the effect of government expenditures at a time of nearly full employment.

1. Suppose the economy is approaching full employment of its resources as a result, in part, of the expansion of government expenditures. There is increasing danger that the government expenditures will bid resources away from private uses where they contribute more effectively to the fulfillment of human wants. Few resources are then idle, and of those which are idle, many are relatively immobile, being attached to their old location or occupation. Hence, the government's expenditures will bid some resources away from private uses where, conceivably, their social value is higher.

⁵See pp. 173-174.

The government might build a dam, in part through the use of labor and materials which would otherwise have gone into house construction, and houses might be needed much more than the dam.

Government expenditures must always be made in some local area, and local interests compete strenuously for grants. Their representatives, moreover, want to be re-elected. And so the national interest must endure the sharp competition of many local interests; and national and local interests are often, to some extent, in conflict. Point is given to this fear of worsened allocation of resources by the recollection that in the fall of 1946 some 2 billion dollars of Federal funds were allocated to public-works projects at a time when employment was at higher than "full employment" level and inflationary pressures on prices were the chief economic problem.

When we are considering the concrete possibilities of expanding employment and production through government expenditures, we must take into account this political danger. The higher the existing level of employment, the greater the risk that increased government expenditures will lead to worsened allocation of resources.

2. Over the course of the years major changes in the structure of the economy are gradually taking place. Among such structural changes are the following.

(a) Agriculture in a progressive economy absorbs, over the decades, a shrinking proportion of the working force, and urban occupations a rising proportion. It is the pressure of relatively low incomes in agriculture which furnishes a main incentive for farmers, and especially for farm children, to seek jobs in town. In the shorter run there have been acute dislocations in agriculture: in each of the world wars, farm output in the U. S. has expanded greatly; after World War I our agriculture suffered acutely as European areas again came into cultivation, as European countries after 1926 raised tariffs, and as productivity rose both in this country and abroad. This source of distress to U. S. agriculture will doubtless appear again. Also, technological advance may have its specialized effects: wool and cotton are increasingly subject to the competition of synthetic fibers. There are, in addition, shifts in consumer preferences. Especially important are long run shifts in demand resulting from rising average incomes: as people grow better off over the course of decades, they consume less cereals and more meat, vegetables, and fruit. This means relative distress in cereal producing areas.

(b) Other industries than agriculture experience pressures to expand or contract from technological change and from changing conditions of supply and demand. Magnesium, aluminum, and specialized steels tend to supplant ordinary steel, cast iron, and other metals. The plastics and glass products industries are expanding, in part at the expense of other producers.

Our declining rate of population growth tends toward less investment in public utilities and perhaps in housing. There is a general tendency for the relatively undeveloped parts of the country to show more rapid industrial growth than the older parts: the South and West are expanding more than the Northeast. Over the course of the decades increasing average real income means, as basic wants are more adequately filled, that consumer demand tends to become unstable and fickle, more subject to the whims of fashion.

The structural changes resulting from these causes are in the main inevitable and desirable in a healthy economy. They suggest a political danger, however, for a program of government expenditures directed toward higher employment: that the relatively poor showing and distress which are the means by which resources are allocated from less to more useful purposes, may be seized upon by the politician as justification for largess from the public purse.

Relief of special distress is of course in order, but it should be directed toward emergency needs and toward facilitating adjustments, rather than toward shoring up lost causes. Public grants can merely delay and frustrate the healthy shifting of resources from areas and occupations where they serve the wants of consumers badly to where they serve them well.

The two points we have mentioned—the danger that public expenditures may lead to worsened allocation of resources when full employment is being approached, and where significant structural changes are taking place—suggest that perhaps there is a general advantage in having the stimulus from the government budget arise from lower taxes rather than from higher expenditure. But there are counter arguments.

1. Government expenditures can be directed toward specific areas and occupations where there is unemployment (and where the structural-change argument we have just given is not relevant), whereas the effects of reduced taxes are much less subject to control.

2. There are deep social needs for social security measures, health services, educational support, low cost housing, and other public works—for meeting what Sir William Beveridge calls “the giant

social evils of Want, Disease, Ignorance, and Squalor." A wide area of social needs cannot be adequately met by private expenditure.

It appears better not to come to any over-all conclusion, but to return to our earlier pattern of argument: the specific social advantages and disadvantages of given types and volumes of increased expenditure must be weighed against the specific social advantages and disadvantages of given types and volumes of decreased taxes.

Quantitative Aspects of the Budget

We have said that, if the budgetary policy of government goes too far in the direction of avoiding deficits or generating surpluses, total expenditure in the economy, and hence production and employment, will be inadequately low. Let us suppose that a group of favorable policies to encourage private consumption and investment of the sort we recommended (Chaps. XIV and XV) have, in fact, been carried through, and that, with the Federal budget balanced, there is still a considerable deficiency of expenditure below the value of gross output at full employment. It is possible to show rather simply how government taxes and expenditures can be used to bring about full employment *if* we can make the assumption that private investment is not affected by the government policies. (We will consider this assumption later.)

We neglect below the budgetary possibilities of state and local governments, despite the fact that their total expenditures, 1920-1940, have on the average been larger than that of the Federal government. (In the middle 1930's and afterward, Federal expenditure grew much larger.) Our reasons for this omission are two: (a) Their taxing and borrowing capacity is strictly limited by local revenue resources, whereas the Federal government has not only country-wide tax resources but also control of the banking and currency system of the nation. Only the Federal government has the resources to maintain its expenditure nearly irrespective of revenues, or to vary its budget countercyclically. (b) It is not likely that state and local governments could be induced to integrate their policies fully with the fiscal program of the Federal government. In fact, through many of the interwar years, the expenditure practices of state and local governments were directly contrary to those of the Federal government. It is to be hoped that, in the future, effective forms of co-operation will be devised

between them and the Federal government—for example, Federal expenditures may be channeled through state and local units.

There are three routes to full employment through use of the Federal budget, illustrated in Table 5. The figures are illustrative only, but are in accord with the general magnitudes to be expected.

The year is taken as 1950, when in accord with our earlier estimate (pp. 161-163), gross production at full employment would be valued at 206 billion dollars (prices of 1944). We assume as our original situation that the government budget is balanced at 30 billion dollars of tax revenues and expenditures,⁶ and that after all acceptable non-budgetary policies to encourage private consumption and investment have been carried into effect, gross pro-

Table 5
FEDERAL BUDGETS
(In Billions of Dollars)

	<i>Taxes</i>	<i>Expenditures</i>	<i>Deficit</i>
Original situation with some 8 million unemployed, and a gross output of about 188 billion dollars (at 1944 prices).	30	30	0
<i>Route I</i> to full employment: expenditure is increased sufficiently, with the <i>rates</i> of taxes unchanged.	32	38	6
<i>Route II</i> to full employment: expenditure is increased, taxes are increased equally.	48	48	0
<i>Route III</i> to full employment: expenditures are kept unchanged, with taxes reduced sufficiently.	21	30	9

duction is running at about 188 billion dollars,⁷ with some 8 million of the work force unemployed. The deficiency of gross expenditure is therefore 18 billion dollars.

Route I shows the kind of result which would follow an increase in government spending for goods and services, with the present tax schedule unchanged. The government spending raises national ex-

⁶This is in accord with our previous estimate for Federal expenditures in 1950 (p. 164). The 30-billion dollars includes about 7 billion dollars of transfer payments not made for current production, and therefore not to be considered part of the gross national product.

⁷In other words, policies carried into effect to encourage private consumption and investment have succeeded in raising the gross national product from some 160 billion dollars (p. 165) to 188 billion dollars.

penditure both directly, through the immediate market it provides for idle resources and men, and indirectly, through the multiplier effect.⁸ This effect will be larger to the extent that people spend more of their increased incomes for consumption. But the multiplier effect is checked in Route I by the circumstance that people have to pay heavier taxes out of their larger incomes (even with unchanged rates of taxation).⁹

Route II leads to full employment through an equal increase in both taxes and expenditure. The stimulating effect of this comes from the fact that some of the funds which are taxed away would otherwise have been saved. And so a dollar taxed may reduce expenditure in the society by less than a dollar, whereas the spending of the dollar by government adds one full dollar to total demand in the economy.¹⁰ The increase in government expenditure required by this route is very large, since part of the taxes levied will reduce consumption expenditure (rather than saving), and so will offset the stimulating effect of the government expenditure.¹¹ Taxes will reduce consumption spending more when they are levied on the poor (who spend on consumption about all their incomes) rather than on the rich (who save much of their incomes).¹²

⁸ Route I is assumed to lead to full production and employment in the following way: the immediate stimulus from the government budget is (38 billion dollars of expenditures, minus 32 billion dollars of taxes), or 6 billion dollars. We assume a multiplier of 3. Hence, the eventual effect of the continued deficit of 6 billion dollars is a rise in total expenditure in the economy by 18 billion dollars.

The data are designed to show the ultimate effects of given policies, when the multiplier effect has worked itself out to its ultimate level, rather than the lesser intermediate effect.

⁹ Taxes are assumed to rise by 3 billion dollars when government expenditure rises by 9 billion dollars.

¹⁰ We assume the canceling out of the negative multiplier effect resulting from the reduced spending of the person who is taxed, against the positive multiplier effect of the additional government expenditure. In other words, *A* who is taxed, now tends to reduce his consumption expenditure to *B*, who reduces his consumption expenditure to *C*, and so forth. But at the same time *M*, who sells an additional dollar's worth of goods and services to government, tends to spend more on consumption to *N*, who spends more on consumption to *O*, and so forth.

¹¹ The calculation follows: When taxes are increased by 18 billion dollars, saving is assumed to be 6 billion dollars less, consumption 12 billion dollars less. The government spends 18 billion dollars more. Hence, the immediate increase in expenditure is (18 - 12), or 6 billion dollars. We assume a multiplier of 3 to give our desired rise in total expenditure of 18 billion dollars.

¹² Similar analyses have been presented by Sir William Beveridge in *Full Employment in a Free Society*, pp. 142-46 and Appendix C; Wallich, Henry C., "Income Generating Effects of a Balanced Budget," *Quarterly Journal of Economics*, pp. 78-91, November 1944; Machlup, F., *Financing American Prosperity*, pp. 442-47. New York: Twentieth Century Fund, 1945; and elsewhere.

It should be noticed that there is a second way of increasing total expenditure in the economy by use of a balanced government budget. Suppose the government in-

Route III leads to full employment by way of reduction of taxes only, expenditure remaining the same. The reduction of taxes will be stimulating to the extent that it frees funds which will then be spent on consumption. But the reduction in taxes must be large, since some of the funds on which taxation is remitted will go into savings, and so not expand consumption expenditure.¹³

What choice (we still continue our assumption that private investment is unchanged) should be made among these Routes? Those who most fear government expenditures—on the grounds that they are made inefficiently on make-work projects for which the public would not themselves choose to spend their own money, and that they tend to push into areas best handled by private business—will have cause to reject Route I and (especially) Route II. On the other hand, those who are afraid of deficits and growing government debt will prefer Route II, since it alone provides for a balanced budget.

Route III will be most shunned by those who fear increasing government debt, but on the other hand, will be preferred by those who are concerned to avoid an increase in government expenditure.

The assumption that private investment is unchanged

Our reasoning so far has been very limited by the assumption we have made that private investment remains unchanged, no matter which Route is pursued.

increases its useful expenditure, financing it initially by borrowing. Then it imposes a consumption tax, which leads to no decrease in saving. Private expenditure remains, we assume, *exactly the same*, but in addition there is the new government expenditure. Total expenditure is up, even though the budget is balanced.

The original borrowing of the Treasury is nonrecurrent, and need not lead to a permanent increase in government debt. If, in the future, the additional expenditure and then the additional taxes of government are eliminated, the excess of revenues over expenditures at the last will just equal the original borrowing. The government debt returns to its first level, at the same time that the national income falls to its first level. (Interest payments are neglected in this reasoning.)

The process can be portrayed by time periods. Suppose 100 million dollars is the quantity in question.

(In Millions of Dollars)	TIME PERIODS			
	1	2	3 . . . n	
Government borrowing	100			
Taxing		100	100	100
Expenditure	100	100	100	
Paying off debt				100

¹³ When taxes are reduced by 9 billion dollars, private savings are assumed to increase by 3 billion dollars, and private consumption by 6 billion dollars. This increase of consumption, with a multiplier of 3, gives the 18 billion dollars increase in total expenditure which we want.

An increase in tax rates (Route II) will tend to discourage private investment; a decrease (Route III), to encourage it. A rise in consumption expenditure (all Routes) will induce more investment expenditure. A rise in the public debt (Routes I, and, especially, III) may, if businessmen retain their present attitudes, tend to discourage private investment. A large rise in government expenditure (Route II) may discourage private investment.

All these Routes, therefore, have opposed effects on investment. Route I combines higher consumption (stimulating) with a deficit (probably somewhat depressing). Route II combines higher consumption (stimulating) with increased taxes and heavy government expenditures (depressing). Route III combines higher consumption and lower taxes (stimulating) with a very large deficit (probably depressing).

Our first reasoning, which took into account only the effect of these three Routes on consumption, must, therefore, be considerably qualified by consideration of the uncertain effects of each of them on private investment. If the net effect on investment of a given Route is stimulating, smaller changes in government tax rates and/or expenditure are needed. If the net effect on investment of a given Route is depressing, larger changes in government tax rates and/or expenditure are needed to achieve full employment.

Of course it is even conceivable that the depressing effect on private investment might more than offset the direct stimulus of the given Route, so that its over-all influence is depressing! It is certainly possible that a badly conceived set of timid measures might have such a result. But our war experience, and certain other reasoning¹⁴ strongly evidences that this is a fringe-end possibility only, that any reasonable set of measures, vigorously undertaken, will not lead to a reduction of private investment. Assurance of sustained markets gives an overriding incentive *not* to reduce private investment.

Evidently, different *kinds* of revenue sources (both taxing and borrowing), and different *kinds* of expenditure will have various effects both on consumption expenditure in the economy and on investment. The kinds of taxes and expenditures and the kinds of other policies carried on by the government may be more important than the balance struck on the books; more important than whether the government is balancing its budget or running a deficit.

¹⁴See pp. 239-241.

The national budget

No matter what quantitative and qualitative measures are taken, the total expenditures of consumers, investment expenditures, and expenditures of government must be able to buy the (gross) output which we produce at full employment, if we are to have that full employment at all. We have assumed (p. 219) that with the government budget balanced, and with non-budgetary policies favoring private consumption and investment, gross production in 1950 might be 188 billion dollars (at prices of 1944). In Table 6, Line 0 portrays plausible subdivisions of this total.

Table 6
IN BILLIONS OF DOLLARS

	Private Expenditure		Government Expenditure		Total Expenditure	Estimated Full-Employment Output
	Con- sumption	Invest- ment	Federal	State and Local		
Line 0	133	21	23	11	188	206
Line 1	142	22	31	11	206	206

To attain full employment, total expenditure from all sources must rise to 206 billion dollars. Route I would lead to something like the national budget of Line 1 above.

Different kinds of taxes, borrowing, and expenditures of the Federal government will, within limits, alter the relative quantities of private consumption, private investment, and government output in the economy.

Qualitative Aspects of the Budget

We have said that the qualitative aspects of the budget (where and when the government obtains its revenue, and where and when it spends) may be more important than the quantitative aspects (the volume of taxes and expenditures).

1. *Government Revenues.* The government can obtain funds in two ways: it can tax and it can borrow. It is possible to arrange four sources of funds in order, from that which is the most depressing to private expenditure, to that which is the least depressing:

Most depressing	Taxing	{	(a) Consumption taxes
			(b) Personal income taxes
	Borrowing	{	(c) From individuals
Least depressing			(d) From commercial banks

(a) *Consumption taxes.* Taxes levied on consumer goods, as we have seen, are depressing because they lead in the main to higher costs of commodities and to lower wages; and so they cut the consumption buying of the poorer groups of the community who spend the bulk of their incomes on consumption. In a terminology we have learned before: such taxes absorb funds from people whose average and marginal propensities to consume are high.

(b) *Personal income taxes.* Such taxes are depressing to the extent that they absorb funds which would otherwise have been spent for consumption, and to the extent that they discourage investment. The more progressive they are (that is, the more sharply the percentage rates of taxes rise for larger incomes), the less effect they will have toward reducing consumption. Instead, they will mainly cause well-off people to reduce their savings.¹⁵ But it is also true that the more progressive they are, the more they discourage investment.¹⁶ For the potential investor is faced with the choice of: "Heads the government gains, tails you lose." If the investment is profitable, the government taxes away much of the profits; if it is unprofitable, the investor bears the loss.¹⁷

It would be possible to devise personal income taxes so heavy both on low and high incomes that they sharply cut both consumption and investment and so reduce expenditure as much as do consumption taxes. But with moderate rates, the personal income tax appears less depressing than the consumption tax.

¹⁵ But increased progressiveness of taxation is not likely to achieve more than a moderate reduction in saving. Cf. Colm. Gerhard, "Full Employment through Tax Policy," *Social Research*, November 1940; and Bergson, Abram, "The Incidence of an Income Tax on Savings," *Quarterly Journal of Economics*, February 1942.

¹⁶ On the other hand, if the individual is already subject to high tax rates because of his large income, the government subsidizes part of any loss incurred on a project through reducing part of the taxes he must pay.

¹⁷ Recent corporate plus personal income taxes have been very high. Tax rates for 1945 on the earnings of stock held in a typical corporation by an investor with one dependent whose income from other sources was \$51,000, reduced his return to 1.3 per cent if the corporation earned before taxes 10 per cent; and to 3 per cent if the corporation earned before taxes an extraordinary 50 per cent. (Data of L. Robert Driver, in *The Cleveland Trust Company Bulletin*, October 15, 1945.)

The corporate income tax and the excess profits tax are usually thought to be more depressing to expenditure than the personal income tax. They especially discourage the risky investments of small enterprises in new processes and products—a kind of investment which is very useful toward increased employment and productivity, and toward diminished concentration of production and economic power. The lack of progressiveness of the corporate income tax and loss-carry-over provisions,¹⁸ diminish but do not eliminate the depressing effect on investment.

(c) *Borrowing from individuals.* This is hardly at all depressing to private expenditure. People lend to the government out of savings which they have made. Ordinarily, they will not lend to the government at the low interest rates which the government pays,¹⁹ unless they had been unable to make investments elsewhere paying higher rates. In other words, their funds would otherwise have been idle.

There is only minor qualification to be made to this reasoning. During wartime the government has carried on savings-bond campaigns to induce people to cut their consumption expenditure and to “buy bonds till it hurts.” These campaigns have probably succeeded in persuading patriotic people to diminish their consumption; but such a depressing effect on consumption expenditure is unlikely during peacetime.

(d) *Borrowing from commercial banks.* Such borrowing is not depressing on private expenditure, assuming that the Federal Reserve by its open-market operations and other policies supplies member banks with sufficient reserves so that they can continue to lend to the government. In other words, if the Federal Reserve does this, the member banks will not be faced with a choice between lending to private business or to the government, but will be able to do both. There is, therefore, no reason to expect any decrease in private investment.

Before leaving this topic of government revenues, we should emphasize that we have, in the foregoing paragraphs, been making a survey of the sources of government funds from one point of view only—the extent to which obtaining funds from the given source will contract private consumption and investment expenditure.

¹⁸ P. 195.

¹⁹ Series E savings bonds pay 2.9 per cent if held to maturity. This is the highest rate paid on any government security.

The merits and demerits of a given taxing or borrowing policy are not exhausted by this kind of analysis.²⁰

2. *Government Expenditures.* The main principle we follow is that any government expenditure must be justified on the grounds that the government can use the resources in question more effectively for the general good than could private individuals. If this is not true, then stimulus to employment must, instead, be sought through reduced taxation and other measures to stimulate private consumption and investment expenditure.

Government expenditure should be for socially useful goals—the most useful goals attainable—and should be administered with the utmost efficiency to obtain the maximum of output from each dollar. This does not imply that the output made available through government spending must be sold for money: it may well be that additional schools will contribute more to social income and welfare than additional toll bridges. But it does mean that the government should spend its funds in channels of the highest existing social need, and that the management and production methods utilized should, in general, be the most efficient possible. Men should not dig with hand shovels if steam shovels are obtainable.

Sometimes a compromise is necessary with the aim of efficiency, implied by “immobilities” and by the morale objective of employment. If the skills of the men who are unemployed are not usable toward goals which the community needs most, then it may be best to have these men use their skills in second-best channels. If musicians are unemployed, it may be best to use them to give concerts, even though the community needs new houses more than concerts. How far such compromise should go will depend on the individual situation.

A second principle follows from the policy of retaining and encouraging free, private enterprise. It is that government expenditures should not compete with private enterprise, unless for special purposes such as the control of monopoly or the avoidance of private control of critical social activities (uranium processing, military research, and so forth). The government should not set up its own retail groceries and clothing stores. Instead, the government expenditure should so far as possible be in channels which will induce more private expenditure. Among such “complementary” expenditures are river-valley development; research on industrial problems, available free or at moderate cost to businesses, especially to small

²⁰ Pp. 213-215.

businesses; road building and airfield construction; and subsidy of construction projects whose risk would not otherwise be undertaken by private contractors.

(a) *Housing, general construction, and other public works.*

(1) The construction industry is one which so far has conspicuously failed to use extensively the mass-production techniques which have cut costs and expanded output in other industries. It is also conspicuously a prey to racketeering and to monopolistic extortions. In no other basic industry is government research, which we have above recommended, apt to be so richly rewarding as in construction, and in no other industry is vigorous antitrust action apt so effectively to serve the public interest. The lumbering auto which Detroit sold for \$2000 in 1920 had been developed by 1939 into a far better car that sold for \$900. But the house which sold for \$8000 in 1920 was not much improved by 1939, and sold at about the same price. Construction costs rose 50 to 60 per cent during World War II, and still more afterward. Any measures that can improve the poor record of the industry and so get a better product to the consumer at a lower price will be aids toward the potential vast expansion of investment in construction.

The 1930's coincided with a low period of the 17-year building cycle, and World War II still further postponed private construction. To replace the houses which, at the end of World War II were substandard would require at least ten years of a building boom appreciably higher than the highest peak of the 1920's.²¹ (The minimum standard is moderate: inside water, a bath or shower, inside toilet, refrigeration of some kind, electricity if possible, adequate light and air, and about one room per person of space.) During this decade, the labor of 2½ to 3½ million men could be effectively employed in housing construction and repair.

Though private demand for construction will unquestionably be large, it will not suffice to meet the need for housing of low-income groups. Full employment, if attained, will raise postwar incomes and so diminish the problem; but even with higher levels of incomes, some 20 per cent of families will have incomes of less than \$1000 a year.²² Such families can afford only substandard housing which menaces the health, morals, and morale of themselves and others.

²¹ The volume of construction will be larger if costs are kept from rising. This is consistent with a larger total of wages and profits in the industry, resulting from larger volume.

²² Prices of 1944, calculated approximately from data in *Housing Needs*, p. 20. National Housing Agency, 1944.

Thus there is a continuing need for direct government construction or government subsidy to private construction. Over a 10-year period, 3 million or more homes must be constructed with government aid if an equal number of families are to have decent housing. A construction program for such housing and for the other public works mentioned below might require 7 or 8 billion dollars a year.

(2) Aside from housing, there are other kinds of public works which would rank high on a priority list of social needs. Among them are hospitals and schools, which might be financed by Federal grants to state and local governments, especially to those in poor areas which cannot support adequate facilities. Good medical and educational facilities are an investment in the health and ability of a people. The full return does not come immediately, but it is eventually richly rewarding.

(3) Further river and valley development on the Tennessee Valley Authority model directed toward cheap power production, flood control and irrigation, waterway improvement, and erosion control appears justified. Four times between 1941 and 1944 the Missouri and its sister rivers have jumped their banks; and people, houses, barns, hogs, cattle, and topsoil have tumbled down their muddy torrents. Before, during the 1930's, three quarters of a million people fled from drought within its drainage basin (the Dust Bowl). Under the Pick-Sloan plan now being undertaken to tame the Missouri system, 107 dams and reservoirs are scheduled to be built by 1966, regulating river flow, irrigating farms in seven states (Montana, Wyoming, Colorado, the Dakotas, Nebraska, and Kansas), providing navigation on new waters, and producing one and a half million kilowatts of hydroelectric power. Further development is possible in the Colorado and Columbia river systems and elsewhere.

(4) The carrying of electricity to as many as possible of the over 6 million farm homes now without electric current is an important need for lightening drudgery and bringing fuller living to the country. Where farm homes are far apart, the returns would not justify private investment, but many new power lines are justified from the public point of view by the nonfinancial return of better rural living.

Both (3) and (4) above have the special merit of stimulating additional private investment.

(5) Land conservation and forest improvement will find a place in Federal expenditure. Erosion control, land reclamation, drain-

age, and irrigation are matters of the first importance. In addition, our forest resources will demand more and more attention as we come to realize increasingly that their quantity is limited. They require thinning to favor the growth of sound timber, and control of blight; and are available for development of recreational areas.

(b) *Education, Medicine, Social Security.* Here we are thinking of the running expenses of education and medical care, as distinct from construction mentioned above. It is to the interest of the United States to move toward equal opportunities for education and medical care to all its citizens. But the ability of poor communities to provide the facilities is much less than that of rich communities, even though some of the former tax their citizens heavily. Additional argument for equalizing of such opportunities by Federal action comes from the fact that some of the residents of rich localities and states draw their incomes from property and businesses in the poor areas. Professor Hansen suggests a program to pay educational grants-in-aid to all states to cover a minimum outlay per student of \$80, at an annual cost of \$2.5 billions.²³ An effective medical program would involve means of diminishing the cost of medical care to those middle- and low-income groups who find a serious illness a financial catastrophe, and of giving access to such care to rural areas now without it. We have mentioned before the extension of social security as an essential element in expanding consumption. Such extension is an essential aid toward a new higher minimum standard of living.

(c) *Subsidy of Consumption.* We have seen that about two thirds of United States gross expenditure is ordinarily for consumption. The large volume and wide range of consumer goods suggests the possibility of using consumer subsidies on a larger scale—they were running at the rate of about 1.8 billion dollars a year in 1945—to reduce the cost of consumption items basic to our standard of living.

The War Food Administration estimated, for the winter of 1943-1944, that nearly 60 million people in the United States were spending less on food than would purchase a "good minimum diet." A moderate program developed under the provisions of the Aiken-LaFollette bill of that time would have substantially raised the food consumption of 16 million of the lowest-income groups (who average \$275 or less per person per year on food expenditure), at an

²³ In *Financing American Prosperity*, pp. 237-238.

annual cost to the Federal government of 420 million dollars.²⁴ The school-lunch program of the winter of 1946 proposed Federal grants of about 50 million dollars a year under a program for Federal-state co-operation. During World War II, the British emphasized the production of subsidized, and hence very cheap, "utility grades" of food, clothing, and other consumption goods.

The stamp-plan type of proposal—stamps valid for purchasing being issued to low-income groups—makes the price of such goods low only to those particular income groups. The subsidy of "utility grades" of commodities increases the real income of all persons who decide to buy those grades.²⁵ Any kind of consumer subsidy has the result of helping further to put a floor beneath the standard of living by making less expensive the food, clothing, or shelter entering into the consumer's budget.

Secular and Cyclical Policy

The basic pattern of the government budget—the quantitative and qualitative character of revenue and expenditure—turns on the question of to what extent there is a secular problem of low production and employment.

With respect to cyclical fluctuations, so far as is possible, the fiscal system should have an automatic, built-in flexibility, and not require special policy decisions to be made. A principal argument for basing government support primarily on income taxes is, as we have seen, their automatic countercyclical variability: they absorb much less money income out of the economy in time of depression than in time of prosperity. Consumption taxes do not have this merit: their take is more nearly stable. Among government expenditures, social-security benefits also have this desired built-in variability: unemployment compensation and other payments grow much larger

²⁴ This assumes a goal of 60 per cent of the "minimum diet," and applications for benefits by 70 per cent of those eligible. (Hearings on S. 1331, 78th Congress, 2nd Session, pp. 2, 10-11.) The bill proposed that food stamps be issued to families in income ranges whose average expenditure for food was below the minimum. Hence, it is in effect a proposal for a revival of the prewar food-stamp plan. A revised version designed to increase food consumption of households which spent more than 40 per cent of income on food, was presented June 15, 1945. (S. 1151, 79th Cong., 1st Session.)

As indication of the effect of rising national income on food consumption, it is interesting to note that food consumption per capita was, in 1944, 11 per cent above that of 1935-39.

²⁵ But commodities ought not, in general, to be completely free: buyers must have incentive to economize in their use. The lower the price of goods, the more wastefully they will be used.

in time of depression. Many other government expenditures do not vary appreciably: expenditure on defense, internal order, veterans, education, public health, interest on the debt, and the like, can not or should not be subordinated to countercyclical policy.²⁶ But most public works are postponable, and it is possible to vary the amount of support given through loans or subsidies to private housing construction, private consumption, and the like.

Often, the timing of policy decisions will be most important. It is crucial whether a countercyclical policy is introduced before a cumulative downswing or upswing has gathered momentum. In the former case, if action is delayed and distress deepens, the task will be greater: expenditure must go first for relief and for shoring up tottering strategic businesses and banks (that is, for offsetting the effects of contraction), rather than directly for expanded production.

The Burden of Public Debt

The government can obtain its funds either from borrowing or from taxing. The former, we know, has direct effects on private expenditure much less depressing than the latter. The conclusion easily follows that, when more expenditure for output is wanted in the economy (more production and employment), the emphasis should be shifted toward getting a larger proportion of government revenues from borrowing, rather than from taxing. But perhaps such a plain conclusion is upset by the consideration that borrowing means more public debt, and that public debt may have such real and psychological "burden" that the indirect effects of public borrowing on private expenditure may more than offset the stimulating direct effects.

This would be, of course, a melancholy conviction, if it needs to be accepted. For it means that our society has no major weapons against depression except those which encourage private expenditure without government borrowing. And these have disadvantages of their own,²⁷ or are so weak that we can be certain of suffering heavy unemployment occasionally or chronically. A free-

²⁶ President Truman's proposed Federal budget for fiscal 1948 allocated the bulk of total expenditures to such channels. Veterans' benefits took 19.5 per cent of total expenditures, interest on the national debt 13 per cent, tax refunds 5 per cent, and national defense 30 per cent. Education and research were allotted 2.5 per cent, national resources 3 per cent, social welfare 4 per cent.

²⁷ Route II, pp. 220, 222.

enterprise system will not survive long if it tolerates heavy unemployment.

We now consider the real and psychological burden of public debt. We spend more time on the matter than its logical importance merits. But the emphasis given to the matter in current newspapers and magazines seems to demand considerable attention.

Views on Public Debt

The fear of a large public debt is ancient among scholars and businessmen. Some perspective is given on our present problem by seeing what has been thought in the past.

Opinions on the British debt

Lord Macaulay wrote as follows of the public debt owed by Britain through the Napoleonic wars:

At every stage in the growth of that debt it has been seriously asserted by wise men that bankruptcy and ruin were at hand. Yet still the debt went on growing; and still bankruptcy and ruin were as remote as ever. When the great contest with Louis XIV was finally terminated in the peace of Utrecht, the nation owed about fifty millions [of pounds sterling]; and that debt was considered . . . by acute and profound thinkers as an incumbrance which would permanently cripple the body politic. Nevertheless, trade flourished; wealth increased; the nation became richer and richer. Then came the War of the Austrian Succession; and the debt rose to eighty millions.

Pamphleteers, historians, and orators pronounced that now, at all events, our case was desperate. . . . Soon war broke forth again; and under the energetic administration of William Pitt, the debt rapidly swelled to a hundred and forty millions. . . . George Grenville, a minister eminently diligent and practical, [conceived] that the nation must . . . sink under a debt of a hundred and forty millions, unless a portion of the load were borne by the American Colonies. The attempt to lay a portion of the load on the American Colonies produced another war. That war left us with an additional hundred millions of debt, and without the Colonies whose help had been represented as indispensable. Soon, however, the wars which sprang from the French Revolution tasked the powers of public credit to the utmost. When the world was again at rest the funded debt of England amounted to eight hundred millions. . . . It was in truth a gigantic, a fabulous debt; and we can hardly wonder that the cry of despair should have been louder than ever. But again that cry was found to have been as unreasonable as ever. After a few years of exhaustion, England recovered herself. Yet like Addison's valetudinarian, who continued to whimper that he was dying of consumption till he became so fat that he was ashamed into silence, she went on complaining that she was sunk in poverty till her wealth showed itself by tokens which made her complaints ridiculous.

The British national debt at the end of the Napoleonic Wars was about twice the national income of the time. The federal debt of

the United States at the end of World War II would have had to grow nearly a quarter larger to bear that same proportion to the United States national income of 1945. But this simple comparison underemphasizes the magnitude of the British debt: interest rates were much lower in the United States of 1945 than they had been in the England of 1818, and so the sums required to pay interest on a given debt were smaller. Despite this huge debt, the British economy led the world in the nineteenth century. A large debt is evidently compatible with rapid economic progress.

United States views on the public debt

Businessmen are inclined to blame depressions on government activities which they dislike. Among causes cited by businessmen have been: extravagance in government expenditure, enormous taxation, the level of the national debt, depreciation of the currency, uncertainty as to the future monetary standard, the disturbed value of gold and silver, undue influence of agitators, class legislation, unfavorable and reckless legislation in Congress, want of confidence in the government, and possession of power by the Democratic party. Corresponding to this diagnosis, they have recommended: reduce the salaries of officers of the government, abolish all unnecessary offices of the government, introduce rigid economy in government, maintain local self-government with no Federal interference, check legislative derangement of the currency, make use of good judgment and hard work, restrict the power of the President, and enact laws against communistic schemes.

The above sounds much like a diagnosis of the depression of the 1930's, but it was, in fact, collected in the 1880's,²⁸ as explanations of the depression of 1874-1879! This does not disprove the validity of the explanations, but it does suggest that the psychological responses of businessmen have remained the same whether or not the causes of the two depressions were the same.

Senator Sheridan Downey in 1939 (when the Federal debt was 40 billion dollars, or under one sixth of its value at the end of World War II) expressed the average man's alarm at a constantly rising public debt:

... where will this process end? Are we to increase our government deficit several billions each year—indefinitely? We know that is out of the question.

²⁸ From the First Annual Report of the Commissioner of Labor, 1886. Quoted from the testimony of Theodore J. Kreps before the Temporary National Economic Committee, April 8, 1940; in the *Verbatim Record of the Proceedings*, vol. 13, pp. 2-3.

Our public debt would mount to astronomical heights, and as it did, confidence in public credit would sink to lowest depths. Before long government finances would collapse, dragging down with them our banks and insurance companies, already loaded with Federal bonds.²⁹

At a lower level of analysis, John T. Flynn, at the end of World War II, was apprehensive over the size of the debt: "Now we are at the end of our rope. . . . We must realize that the federal government is soon going to be broke."³⁰

On the other hand, the authors of *An Economic Program for American Democracy* argue that there is no burden at all to a public debt:

If we look at the whole nation as a going concern, we see that its internal debts, business and governmental, are merely another aspect of its assets. Debt in the broad sense is the obverse of investment. . . .

Individual debtors do, of course, get into trouble by improvident borrowing. But for the economy as a whole, trouble comes only when the nation falters in the course of its economic expansion. . . . The expansion of debt at a rate sufficient to absorb the nation's savings is both sound and necessary. This rate could be excessive only in the sense that the rate of saving itself was excessive. . . .

It is ridiculous to maintain that debt in general must be repaid. The mere attempt to repay debts all around . . . would result in complete economic paralysis.³¹

And Professor Harris of Harvard University at the American Economic Association meeting of 1941 reasoned that a public debt of 4000 billion dollars could be carried if the national income were 100 billion dollars. This is equivalent to saying that the debt could be 25 times higher than it actually was at the end of World War II.

The Trend of Public and Private Debt

At the end of the revolutionary period the United States Federal debt was over 79 million dollars, which seems high compared to the national income of the time, perhaps relatively higher than the debt of the middle 1930's. By 1836, this was all paid off out of large customs and land-sales revenue, and the Federal government, embarrassed by large surpluses, distributed its surplus funds to the states on three separate occasions. At the beginning of the Civil War, the

²⁹ *Pensions or Penury*, p. 91. New York: Harper and Brothers, 1939; quoted in Wright, David McC., "The Economic Limit and Economic Burden of an Internally Held National Debt," *Quarterly Journal of Economics*, November, 1940, p. 117.

³⁰ *Reader's Digest*, January, 1946, pp. 10-14. Henry Hazlitt's *Economics in One Lesson* (New York: Harper and Brothers, 1946) furnishes stimulating—and untrustworthy—reasoning on the debt and related economic matters.

³¹ Gilbert, *et al.*, pp. 63-65. New York: Vanguard Press, 1938.

Federal debt was under 100 million dollars, but at the end of the Civil War it had risen to the seemingly large figure of 2.3 billion dollars. By 1914, the debt had fallen to under 1 billion dollars. It rose during World War I to 25 billion dollars (a little over one third of the national income of 1919). Eleven years of surpluses thereafter reduced the debt to under 16 billion dollars by 1930. Since that time, its rise had been persistent: to 40 billion dollars in 1939, and 263 billion dollars at the end of World War II (about 1.6 times the national income). War expenditures have been the main cause of increase of our Federal debt; the Great Depression of the 1930's is the second element.

The debt of state and local government owes its rise in recent years mainly to expenditures undertaken in the 1920's on highways, sewage disposal and water supply, and educational buildings. Its total was 4.6 billion dollars in 1916, 13.7 billion dollars by 1929, and 16 billion dollars by 1939. During World War II, it fell in consequence of lessened relief needs, and higher state and local tax revenues (both results of high Federal war expenditures). By 1944, the total was 14.1 billion dollars.³²

Until recently the total private debt of the nation was larger than total government debt. Private debt is classified as short-term debt, corporation debt, farm mortgages, and city real estate mortgages. These altogether totaled 75.3 billion dollars in 1916, 158.2 billion dollars by 1929, and 142.6 billion dollars by 1944.³³

The Nature of the Burden of Public Debt

The man in the street is inclined to be alarmed at the growth of public debt because of the analogy he draws between private and public debt. He thinks of the spot *he* would be in if he were faced with an ever-increasing quantity of bills to be paid by a certain date. But it is evident that we ought to go a step further and ask whether the individual's means of paying off his debts are increasing as fast as his debts are growing. If so, he is no worse off; and he is better off if his ability to pay is increasing faster than his debt obligation is growing. We do not necessarily condemn a student who borrows to finance his education, or a corporation that borrows to expand its plant.

³² TNEC Monograph No. 37, *Saving, Investment, and National Income*, p. 81; *Survey of Current Business*, September 1945, p. 14. The figures for debt are for the end of the year.

³³ *Survey of Current Business*, *ibid.*

The same sort of question holds for government borrowing. We should ask whether the national income (on which taxes are levied) is increasing as rapidly as interest payments due on the debt are increasing. And, in considering policy for the future, we should remember that well advised government expenditures may cause an annual rise in the national income much exceeding the annual rise in interest payments due on the debt which is financing those expenditures.

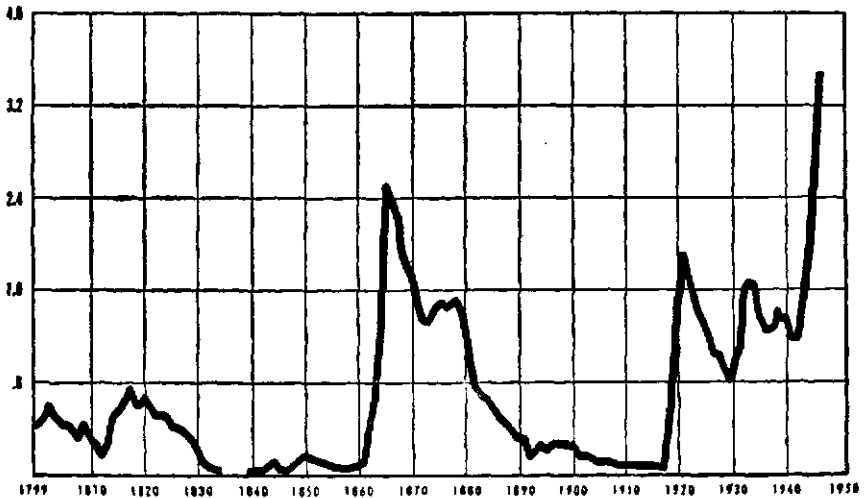


CHART 20

Interest on the Federal Debt Shown as a Per Cent of the National Income

Source: Committee on Public Debt Policy: *Our National Debt after Great Wars*, New York, 1946, p. 9.

Chart 20 presents this more significant kind of comparison: interest payments are shown as percentages of the national income. By this measurement, also, the weight of debt is larger than ever before. But it is only 37 per cent above the Civil War peak, whereas the simple and misleading dollar comparison shows a 11,100 per cent rise.

There is another matter which the man in the street is apt to overlook: the major difference which exists between private and public debt. If *A* comes to owe *B* \$5, then *A* is to that extent worse off; but if the government debt rises by 5 billion dollars, the whole economy is not worse off by that amount. For though it is true that the government (or the people whom the government represents) owes 5 billion dollars, it is also true that people within the

same economy *are owed* 5 billion dollars. The people owe the money to themselves through their agent the government. For every dollar of debt, there is a dollar of credit.

It is, therefore, true that from the point of view of government—that is, from the point of view of the whole society whose agent is the government—the public debt is entirely³⁴ a *transfer* problem.

It is often argued that borrowing shifts the cost of war or of depression to the shoulders of a future generation. Our above reasoning shows this cannot basically be true. If public debt is accumulated during a war, it is owed by members of the postwar generation to others of *their own* generation. It cannot be owed to those who lived during the war. The transfer of interest or principal is always from present taxpayers to present bondholders.

To say that a public debt is essentially unlike a private debt (in that it is owed by the people of an economy to themselves, and so involves only a transfer problem among the members of an economy) is not to say that it is a matter of indifference to a society as to whether or not it has a large public debt. Sometimes it may actually be advantageous for an economy to have a large public debt.³⁵ In the United States at the present time, the balance of considerations suggests that a large debt is undesirable.

The rate of increase of public debt

First of all, we should notice that there are limits on the *rate of increase* of a public debt (no matter what its absolute height). The government should not increase its debt so rapidly as to cause inflation (through spending money newly created by the banking system, or money which otherwise would have been saved). The government's borrowing policy is one part only, not an inevitably necessary part, of a full-employment program. But so far as this goes, the extreme limitation on the rate of borrowing is that it should be no greater than will secure full employment. It should not overstep this into the range where an excessive price rise results.³⁶ (Or, if excessive demand exists, funds should be accumulated to pay off the

³⁴ Save for an insignificantly small proportion which is held abroad.

³⁵ See Hansen, Alvin H., *Fiscal Policy and Business Cycles*, pp. 153-55; 162-67.

³⁶ The fear that any increase in national debt threatens inflation is evidently a non-sensical one. A high enough rate of increase of debt will lead to price rises as the government spends the borrowed funds, even if unemployment exists generally. Prices will rise primarily in bottleneck areas where resources are inadequate to meet the increased demand. But a moderate rate of increase of debt, when general unemployment exists, will lead mainly to higher output rather than to higher prices.

public debt, but not at so fast a rate as will cause unemployment.)

Second, as a possible limit in the rate of increase of debt (and also on the height of the debt), the public might be reluctant to buy more government bonds. Perhaps they have come to distrust the government. This is, however, very unlikely so long as the government continues to pay interest on its already issued bonds, and this it will certainly do,³⁷ above all, if it is attempting to sell more bonds to the public. In any case, the banking system could be coerced, whether or not we like the idea, into buying more government bonds. Or the Treasury could, under a new law,³⁸ sell bonds directly to the Federal Reserve banks. This limit, therefore, is not of first importance.

The burden of a large public debt

The disadvantages, or "burden," of a large public debt arise out of the circumstance that, though the debt is owed by and to people within the same economy, different people owe (that is, pay taxes) from those who are owed (that is, own government bonds). The burden is of the nature of *frictions*.

1. The tax system must be expanded in order to provide money for interest payments on the debt, and perhaps also payments on the principal. The Internal Revenue Division of the Treasury must hire tens of thousands of personnel to mail forms, keep the records, and pursue delinquents. Furthermore, businesses which pay taxes find that the cost of the necessary record keeping may add up to 5 or 10 per cent of the tax paid. If the people occupied by tax administration were not so engaged, they would be available to produce other services or goods for the economy. The larger the debt, the greater is this real cost of tax collection.

2. No tax structure is ideal, but moderate faults do not matter very much so long as the taxes collected are small. As the taxes grow larger, the deficiencies become more onerous. (a) For administrative reasons, there must inevitably be restrictions on the allowable averaging of income, or carry-over of losses, for purpose of tax calculation. But such restrictions mean that capital-goods industries are burdened more by taxes than the more stable consumption-goods industries. This effect can be very undesirable. Similarly, individuals with fluctuating incomes will be taxed more

³⁷ P. 242.

³⁸ The Second War Powers Act of 1942 authorized the Federal Reserve to purchase bonds directly from the Treasury up to a limit of 5 billion dollars.

heavily. (b) The larger the absolute volume of taxes, the less the possibility of altering the structure of the taxes. The system becomes more unwieldy and rigid, and is unable to adapt itself to changing objectives of taxation. But from time to time, the society will wish to tax private expenditure more or less relative to savings, and will wish to influence the allocation of resources differently.

3. A large volume of debt tends toward a rigid inequality of distribution of income, because fixed interest payments are due to individual holders of the bonds who are, on the whole, the richer part of the population.

4. At the end of World War II about 40 per cent of the Federal debt was held in commercial banks. The larger the debt, the more our banking system tends to become an agency for the holding of government bonds rather than a system concerned with lending funds to business. It thereby becomes increasingly dependent on Treasury policies with respect to the management of the debt. Some economists are doubtful about the implications of this changing character of the banking system.³⁹

5. Finally, we come to the political effects of large public debt. The existence of the debt gives incentive to the formation both of *rentier* pressure groups (whose advantage lies in higher interest rates on the bonds, and stable or falling prices in the economy) and of inflationary pressure groups who will push for a higher price level, and so a lower "real" volume of debt.

The effect of a large public debt on private investment

What we have listed above with respect to the "burden" of a public debt has implied that that burden is moderate. It consists of frictional problems of transfer. These frictions increase as the debt grows, but no definite limit is implied beyond which the debt cannot rise. Rather the increasing frictions will at some point bring sufficient political pressure on the government to cause it to alter its policy so as to diminish the relative size of the debt.⁴⁰ It is risky to prophesy where that psychological point would be: at present national-income levels, one may hesitantly suggest it is probably many times higher than our present debt. Such an altered policy would not necessarily carry any indirect disadvantage to the economy.

But suppose businessmen do not believe the reasoning we have

³⁹ Cf. Williams, John H., *Postwar Monetary Plans*, pp. 87-111. New York: Alfred A. Knopf, Inc., 1944.

⁴⁰ Pp. 242-244.

surveyed; and on ill-founded grounds are afraid of debt, and so afraid to invest. They may prophesy gloomily that a "day of reckoning" is at hand, and succeed, as John Flynn does, in fearing both inflation and deflation at the same time.⁴¹ If so, the stimulating effect of government fiscal policy will be offset and nullified by the contraction of private-investment expenditure.

It is on this psychological ground that the use of the government budget to increase expenditure, output, and employment in the economy is often opposed.

What can be said about the argument? First, in so far as the fear of large public debt is exaggerated and superstitious, originating in a wrong analogy drawn between private and public debt or in other false reasoning, it would appear that the best prescription is education. When the Millerites predicted that the world would come to an end on October 22, 1843, business was paralyzed in many a county and town of the United States (save for a brisk traffic in white-cotton sheets to be used as ascension robes). And likewise, business is injured by any other belief, whether well-founded or ill-founded, which induces apprehension and alarm.

It is right for the spokesmen of business to present their objections strongly before the forum of public opinion when government loan expenditure is so managed in direction and timing as to introduce obstructions to private business activity. But it is regrettable if objections are advanced out of a misunderstanding of the simple truth that the whole community benefits when resources going to waste in idleness because of deficient private spending are set to work through government fiscal policy. When objections do arise out of misunderstanding, the remedy is evident: clear information to the end that the whole community—business managers, labor, and consumers—can know what is going on and so can cooperate intelligently in policies directed toward the general good.

Second, if we look to statistics of the 1930's, there is no particular evidence that government deficit spending as such has had any depressing effect on business investment. Such an effect would tend to show itself in a uniform decline in business investment. But although by 1937 railroads and public utilities had recovered to a level of only 56 per cent of their 1929 plant and equipment invest-

⁴¹ *Ibid.* Notice that the fear of inflation (of continuously rising prices) will lead people to buy more real property, and so tend to stimulate employment and production. There is also lesser influence tending toward lower production, to the extent that some businessmen are dismayed by the prospect of unpredictable rises in costs.

ment, mining and manufacturing had achieved an 81 per cent, and agriculture a 93 per cent, recovery.⁴² The data suggest that special industries have special problems,⁴³ not that business was suffering from any pervading lack of confidence as a result of government action.⁴⁴

If these two lines of argument are correct, we are justified in giving only passing attention to the argument that a large public debt will curtail private investment.

Policy toward a huge and increasing public debt

1. The frictional disadvantages of a large public debt are, as we have seen, not to be indicated by the size of the debt, but by the proportion of the debt to the national income, or if we wish to be more precise, by the proportion of interest payable on the debt to the national income. It is well worth emphasizing that a timid government policy—fearful of debt, spending mainly for necessary relief, acting late and weakly to offset declines of national income—may well lead to persistently low levels of income and employment. Under such circumstances, the debt will grow but the national income will expand slowly or not at all. Hence, the frictional “burden” of debt will increase.

One of the best methods for encouraging private investment (and so minimizing the task of government) is to give assurance to business of a large national income continuously rising as population and productivity increase. Even if the government must continuously go in debt in order to maintain full employment output, the “burden” of debt may not increase. Under plausible assumptions,⁴⁵ the debt will increase only at the same rate that the national income increases.

⁴² Data of Laughlin Currie, reproduced in Villard, *Deficit Spending and the National Income*, p. 347. The above follows his analysis of pp. 355-357.

⁴³ The poor showing of utilities may partly reflect the special depressing effect of the Tennessee Valley Authority, and the Public Utilities Holding Act, and the good showing of agriculture partly reflects the influence of the Agricultural Adjustment Act. But these are specific policies affecting specific industries.

⁴⁴ Professor Schumpeter comments on the contention that government deficits in themselves might have impeded business expansion: “Some of the arguments adduced for this possibility fully merit the shrugging of shoulders with which they are usually met, for instance the argument that the unbalanced budget destroyed confidence.” (*Business Cycles*, New York, McGraw-Hill, 1939, p. 1005.)

⁴⁵ Domar, Evsey D., “The Burden of the Debt,” *American Economic Review*, December 1944; and “Rejoinder,” June 1945. The critical assumptions are (a) that the average proportion of the national income saved is a constant and (b) that the government borrows on the average a constant percentage, g , of national income. If the national income grows at a constant percentage rate, r , then the debt will approach a proportion of the national income equal to g/r .

And so, paradoxically, the burden of public debt may very likely be smaller with a vigorous government loan-expenditure policy directed toward full employment than it would be with a timid policy which tries to balance the budget and tolerates considerable unemployment.

2. Suppose that through bad luck or bad policies or a mischievous combination of the two, the size of the Federal debt should over the next decades grow rapidly *relative* to the national income. This is the specter which haunts those who most fear a rising debt. What then would happen?

The frictional burdens of debt would increase steadily, and at some point political pressure would force into action some policy to reduce those burdens.

(a) The debt might be reduced by achieving an excess of taxes over government expenditures. But presumably, this plain way out is blocked by a continuing deficiency of private consumption and investment expenditure in the economy, despite all the indirect means of encouraging such expenditure that can be mustered. The attempt toward a budget surplus would then push the economy into a low level of employment and output, which it is the prime objective to avoid.

(b) The debt might be repudiated. The Federal government might announce some morning that it will no longer redeem or pay interest on its bonds and other securities. But such action is so extremely unlikely that we need not give it any serious consideration. The government would not repudiate its debt because of the catastrophic blow it would bring to precisely those people and institutions which had trusted the government most and so bought its securities in quantity. The commercial banking system, which holds about 40 per cent of the debt, would collapse immediately. There would be drastic political repercussions. In addition, the government would ruin its own credit and make difficult or impossible any fresh borrowing. Finally, there are other and better ways to diminish the burden of debt.

(c) The debt is expressed in terms of dollars. Hence, monetary and other policies aimed at higher price levels in the economy would diminish its relative size. If average prices rise by 25 per cent, then the holder of a bond (or other obligation expressed in dollars) can buy only four fifths as much as he could if prices had not risen.⁴⁶ The *real* debt, in terms of goods and services, has ob-

⁴⁶ If prices rise by 25 per cent, then \$80 of goods at the old prices will now cost \$100.

viously diminished in size. There is much to be said in favor of a gradually rising price level, say 1 or 2 per cent a year. It stimulates business investment, since the worth in dollars of property is constantly increasing. It facilitates price adjustments within the economy, since price rises are psychologically easier to adjust to than price declines. It may have some influence toward a more equal division of wealth: monopolies have lower returns in so far as they carry on rigid price policies, and the wealthy have lower real assets in so far as they hold their assets in dollar obligations. But on the other hand, persons of moderate means are apt to protect themselves less adequately against rising prices than the wealthy: they will have much of their funds in the form of bank accounts, insurance, and bonds, rather than in the form of real property. And older persons who are living on annuities and others with fixed salaries will be injured by rising prices. For these and other reasons, if government policy is directed toward rising prices, the rate of price rise should be very moderate. It is, therefore, still possible for a rising burden of debt to exist.

(d) Finally, it is quite possible for the Treasury to pay off part or all of the debt through funds obtained by sale of its securities to the Reserve Banks. We have mentioned that the Second War Powers Act authorized such direct borrowing from the Reserve Banks up to 5 billion dollars. The suggestion is that that limit be raised. The interest paid by the Treasury to the Federal Reserve for the purpose could be only a service fee to cover the expense of the Banks.

The manufacture of money by banks is a cheap and simple process; it consists essentially of an entry in the books, giving a claim on the bank to the person for whom the entry is made. These entries, or deposits, on which checks are drawn, make up the dominant part of our money supply, and are the medium by which over nine tenths of payments are effected. There is no adequate justification for paying extravagantly for the service of bank manufacture of money, as we are now certainly doing. It is estimated that in 1948, over half the total income of commercial banks was arising from government bonds: interest on such bonds will soon more than cover all bank expenses.

The proposal that the government borrow directly from the Federal Reserve (or for that matter issue new currency itself) is not very radical, if by *radical* we mean that reputable specialists in the field are all opposed. Professors Fisher of Yale, Angell of Colum-

bia, and Simons of Chicago have recently supported a similar proposal for issuing "new money" to buy up the debt, and a bill involving this principle has been before Congress.⁴⁷ Simeon Leland⁴⁸ concludes the case against the proposal is weak, and Philip Wer-nette⁴⁹ has made it the mainstay of his full-employment proposal.⁵⁰

The disadvantage of the proposal is that it makes the central banking system subservient to the borrowing needs of government. To recommend it, therefore, implies trust in the Federal government to use its fiscal powers wisely. The very great advantage of the proposal is that it frees the government once and for all from the boggy that in peacetime we may not be able to "afford" full employment. It underlines the basic truth that money is the servant and tool of the economy, not its master.

We conclude, therefore, that serious worry over the ominous implications of large public debt is unfounded. A more sensible worry is whether the loan-financed money was spent more effectively toward the general good by government than it could have been by private individuals. The objective of a balanced budget is a very secondary matter compared to the objective of full employment and high output. And the latter objective may often suggest that part of the expenditures of government should be loan-financed.

But nothing that we have said denies that *management* of the public debt is likely to be a major concern and problem of the Treasury and Federal Reserve during the next several decades. One critical element in the problem is the possibility that the public might unpredictably and in large volume sell bonds to obtain cash, and vice versa. Such "flight" between bonds and cash would imply rapid fluctuation in the volume of total demand, and cause disturbances in the banking system.

⁴⁷ Introduced in the House by Representative Voorhis, July 2, 1945. See pp. 158-160.

⁴⁸ Chairman of the Board, Federal Reserve Bank of Chicago.

⁴⁹ Formerly Professor at the Harvard Business School.

⁵⁰ *Financing Full Employment*. Cambridge: Harvard University Press, 1945.

CHAPTER SEVENTEEN

THE STABILITY OF PRICES AND WAGES

WE HAVE seen that the closer the economy moves to a full-employment level of output, the more the tendency for average prices to rise. As total money expenditure grows and demand swells for various kinds of goods and services, sellers are in an increasingly favorable position. Businessmen become conscious that they can raise prices and still sell their outputs, and labor unions and individual laborers find their bargaining power to extract higher wages increased. Employees have less fear of the unemployment which might follow a strike or unsuccessful collective bargaining, and they know that the withdrawal of their labor will cause more loss to the employer than if demand were slack.

Price rises occur first in "bottleneck" lines of goods, where demand is especially heavy relative to supplies, owing to some combination of large increase in money demand, and small increase or none in supplies. If demand continues to grow, the bottlenecks multiply, and price rises become general through the economy. (But prices may also tend to rise sharply when unemployment is still heavy. This will be true if labor unions are strongly entrenched in strategic industries and press urgently for higher rates even when many are unemployed in their industries, and if monopolistic businesses are inclined to advance prices on slight encouragement.)

The problems of labor mobility and industrial location, discussed in Chap. XVIII, are closely associated with the problem of the price level. The more readily labor can move into bottleneck occupations and the more readily businesses can be set up and expanded to produce goods in special demand, the more price rises will be smothered by a flow of increased production. A higher level of production and employment can then be attained without price rises.

The Harmfulness of Inflation

Why should prices not be allowed to rise rather freely as they did, for example, during and after World War I?¹ In other words, why is inflation² an evil?

One might be inclined to talk in terms of the money saved by government and private buyers if prices were kept low. The OPA estimated that, if prices had risen in World War II as they did in World War I, by the end of 1943 the government and civilians would have spent 101 billion dollars more than they did for supplies. The government had actually saved half its expenditures.³ But such an answer is superficial. The loss to government and civilians cannot be measured in this way, because if prices had risen freely in World War II, incomes to civilians would have risen, and tax receipts of the government would also have risen.

1. A fundamental objection emerges from the fact that price rises and income rises would have been uneven. During inflation, some people and firms are able to obtain high prices for their products or services. Prices of raw materials, of farm products, and of certain kinds of labor will probably rise most. Other people find their money incomes unchanged or even reduced. Firms selling goods in backwater districts do badly. People on annuities or pensions, and those working in many kinds of white collar jobs find their money incomes at the same level as in peacetime or, at best, only a little higher. But people dependent on these sources of money income, like anyone else, face higher prices when they come to buy. Their real incomes are, therefore, cut. In addition, any savings held in the form of cash or of claims on cash shrink in real value as the inflation progresses.

The net result is that some people do very well indeed as the inflation continues, but others are forced into poverty. A deep sense of unfairness pervades the economy; bitterness grows. Such a society is being divided and weakened on the rack of internal dissension and hostility.

2. The falling purchasing power of labor incomes which have not risen appreciably, coupled with a growing general sense of unfair-

¹ P. 257.

² We use *inflation* to mean a continued rise in prices, resulting from an excess of money demand for goods and services over supply, the supply being valued at the prices of a base period.

³ OPA. Price Control Report 12.

ness, is likely to lead to work stoppages and strikes. These are apt to be unequally successful, depending on the situation of particular employers and the bargaining power of particular unions; and so the sense of unfairness continues. If strikes are numerous in strategic industries, industrial production as a whole will be held back, with a consequent tendency toward still higher prices.

3. Continued price rises in any area stimulate the hoarding of inventories by manufacturers, wholesalers, retailers, and consumers: some of these people decide it is better to buy now rather than later, regardless of whether the commodities are to be consumed or processed or resold. To the extent that the output of the economy is lying idle in excessive inventories, it is being used ineffectively. And as supplies dwindle because of hoarding, more of the time of businessmen and consumers must be taken up by the search for assured supplies. This is an inefficient use of their time.

4. Uncertainty about cost-price relationships to be expected in the future will discourage some lines of production, and so diminish output there.

5. In wartime, a fifth undesirable result will be especially important. Some of the goods and services which rise most in price will be luxury items, those not essential either to war purposes or civilian welfare. High prices will attract into the production of such goods labor and resources which ought to go toward necessary purposes, and so will lower output of the necessary goods. This effect suggests that if the controls are to be loose anywhere, it should be in the area of essential goods.

6. If the price rise is considerable, it will tend to lead toward a subsequent depression. The incomes and savings of people whose incomes have risen little or not at all will be dissipated in the buying of food, housing, and other necessities, and so there is an influence toward the eventual drying up of the market for other goods. The market for these latter may also shrink because the prices seem "unreasonable." In addition, the speculative buying and producing arrangements set under way by the price rise are unstable: they are apt to change suddenly into selling and bankruptcy when the speculators become fearful of the future and the producers find that prices are no longer rising and windfall gains no longer obtainable.

7. Finally, if higher output and employment is an objective of the economy, then rising prices are undesirable because they mean that policy directed toward that end is being hindered or frustrated.

The added money outlay by private buyers or by the government is partly "going to waste" in higher prices rather than having its full effect in increased output and employment.

Catastrophic Inflation

A rapid price rise or price decline can set into action expectations which lead to an accelerated rate of rise or decline. This is emphatically true of a price rise. If the rate of rise of prices is moderate, people do not change their buying habits drastically. Although some people, as we have seen above, anticipate a continued price rise and decide to hold their assets in the form of goods rather than money, most people continue to use their incomes to purchase goods or to hold in the form of cash in the same patterns they had followed before. The expectation of continued price rises does not dominate their thinking.

But once the rate of price increase per year exceeds a certain figure the expectation of continued price rises becomes the dominant influence in the economy. Everyone is convinced that prices will be higher next year, next month, even next week, than they are today. Therefore, everyone has incentive to spend on goods any money he receives, and to spend at the earliest possible moment. The person who keeps cash on hand or claims on cash is considered idiotic: he should spend his money now, before prices have risen further. (In the German inflation of 1923, it is reported that wives were accustomed to form in line at the stores at the time when their husbands received their weekly pay. The men came running to them with the money as soon as they received it, and the wives bought goods they wanted—or didn't want—before prices rose further in the following hours and days.)

The choice open to an economy under inflationary pressure is, therefore, not between, say, a 5, 30, or 50 per cent yearly increase in prices, but between a manageable and an unmanageable degree of inflation. The point at which the inflationary psychology takes hold is not precisely predictable. Perhaps it will be at 20 or 30 per cent, perhaps at a still higher figure. Nor is the degree to which it takes hold predictable. Beyond some moderate rate of price rises, more and more people decide to get rid of their cash and obtain goods instead (that is, the velocity of money increases), and there is growing danger of an overwhelming mass movement to do so. If and when people come to make bargains not on the basis of present prices, but on the basis of what they expect prices to be a week or a

month hence, the rate of rise of prices can be astronomically great.

Once this inflationary psychology is firmly established in the population, all attempt to control the rate of price rises collapses. No laws can thwart the overwhelming impulse present in every individual to save himself by spending *now*.

When during past wars and revolutions the quantity of money issued by hard-pressed governments has greatly increased, prices have generally risen by a much higher percentage, because of the increased velocity (rate of use) of money. During the period of the French Revolution, 1790-1796, the government increased the supply of money (by issues of paper assignats) 20 times, but prices rose 200 times. (For a time the government tried to keep down the price rise by threat of the guillotine for violations of price and rationing controls.) In Germany, by the end of 1923, living costs had risen about 1200 times above their 1913 level. In the last two years of the inflation, the quantity of money increased 10 times; prices rose 90 times.

The inflations in Germany and France following 1914 severely damaged the middle classes who held savings in the form of cash, bank deposits, or securities payable in marks or francs. The internal political divisions of France in 1940 and the growth of totalitarianism in Germany in the 1930's appear significantly associated with the previous history of war and postwar inflation.

At the end of World War II, inflationary processes were under way among warring nations and neutrals alike; in Latin America, and especially in the Far East and the Balkans where the most extravagant records of the past may possibly be matched.

The Aim of Short-Run Stability of Average Prices

The decline of average prices in time of depression is the consequence of a drop in demand. Faced with shrinking demand, businessmen in search of markets and laborers in search of jobs compete prices down to a lower level. The price decline is greatest in those areas where prices are set by competition rather than by administrative decision.

A government anti-depression policy which aims at pushing the price level lower is, therefore, a policy which mistakes one disease for another. The basic trouble is a collapse of demand, not the failure of prices to fall rapidly enough.

But no sooner have we made this statement than we ought to qualify it: (1) There may be in certain areas and at certain times

strategic prices, in which a moderate decline would encourage increased investment. It is sometimes argued that housing is such a field. (2) A dictatorship or a democracy possessing strongly supported price and wage boards could lower internal prices by *fiat*,⁴ and so, by giving foreigners a better bargain, increase foreign buying. This is mainly a policy for a small country, whose foreign trade is large relative to its internal trade (so that the internal stimulating effect is significant), but whose foreign trade is small relative to international trade generally (so that there are no important repercussions from other countries who now face stiffer competition). And for any country, a simpler way of giving the foreigner a better bargain would be through judicious currency depreciation. Apart from these moderate qualifications, the reasoning holds: antidepression policy will find small advantage from aiming at a lower price level. Much of what we have said above⁵ against thinking that lowered average wage rates would alleviate depression is directly applicable here.

Is the converse policy desirable? Should an antidepression policy *aim* at higher prices?⁶ The ending of price declines will, of course, have its favorable effect on business expectations; and price rises (as under the NRA codes) may have a still further favorable effect through encouraging anticipatory buying.⁷ But price rises also have their negative aspect because, as we have seen, any given money demand will now purchase a smaller quantity of output, and so lead to a lower level of employment than if prices had not risen.

In all cases, rapid price movements will have disadvantages of the sort we have listed above.

We conclude that central policy directed toward averting or alleviating depression should not rely on major price changes as a means.⁸

⁴ An ordinary deflationary policy would achieve lower prices (*via* open market operations, higher interest rates, fiscal policy measures, and so forth) *through forcing unemployment*. Hence it is not a cure for unemployment.

⁵ Pp. 149-153.

⁶ Of course, increased expenditure on output will to some extent lead toward higher prices as an indirect result.

⁷ Professor Schumpeter feels that the NRA appreciably favored recovery: "... it pegged weak spots within industries, stopped spirals in many places, mended disorganized markets... even Blue Eagles do count for something when, objective conditions for revival being given, it is broken morale that is the matter." (Schumpeter, Joseph A., *Business Cycles*, pp. 992, 993. New York: McGraw-Hill, 1939.)

⁸ If in depression, price *discrepancies* are objected to (some prices having fallen much more than others), an increase of general demand will usually tend to correct them through raising most those prices which had fallen most.

Interrelationships of Prices

This conclusion does not mean that an economy should aim at stability of individual prices. From the point of view of the whole economy, the function of individual prices is to attract resources (through higher pay) into those uses where they contribute most to the social output, and to apportion the output of the economy among its members. If the pay of welders in Detroit rises, more welders tend to move to Detroit, and more people train themselves to the trade; or if the price of tobacco rises, farm land and labor shift over from growing other crops to growing tobacco. If shirts are scarce, their prices rise and consumers buy fewer. Since there are continual changes in consumer demand, frequent changes in techniques of production, and some underlying changes in the resources available in the economy, we should expect repeated changes likewise in the prices of finished products and in the prices paid for resources. (The alternative mechanism to shift resources is more drastic: localized unemployment or excess demand.)

But since at the best we can hope for only a rough approximation to an ideal balance in our use of resources, daily, or even monthly, changes in the prices of commodities are not necessary. For some rather perishable commodities, which suffer a considerable annual variation in supply or demand, it is reasonable to expect a dozen or more significant price changes in the course of a year. Many food products fall under this heading: fluctuations in the price of eggs, for example, are plotted in Chart 21. For other commodities on which the dominant influence is decrease in cost of production (rayon in Chart 21), and/or decline in demand (coal) it is desirable and to be expected that there should be a considerable fall in price over the course of the years. Such a fall in price is consistent with a rather high degree of short-run monopolistic power.

On the other hand, we should not leave the impression, with respect to individual prices, that "whatever is, is right." We have already spoken at some length about the complex problem of monopoly.⁹ We may notice the striking movement in the price of shoes in Chart 21: price changes have been rather few; price declined hardly at all in depression and rose rapidly during recovery. The evidence is strong that monopolistic pricing is a major explanatory element. The rigidity of prices through the recession might be justified from the point of view of its influence on the general

⁹ Pp. 177-180.

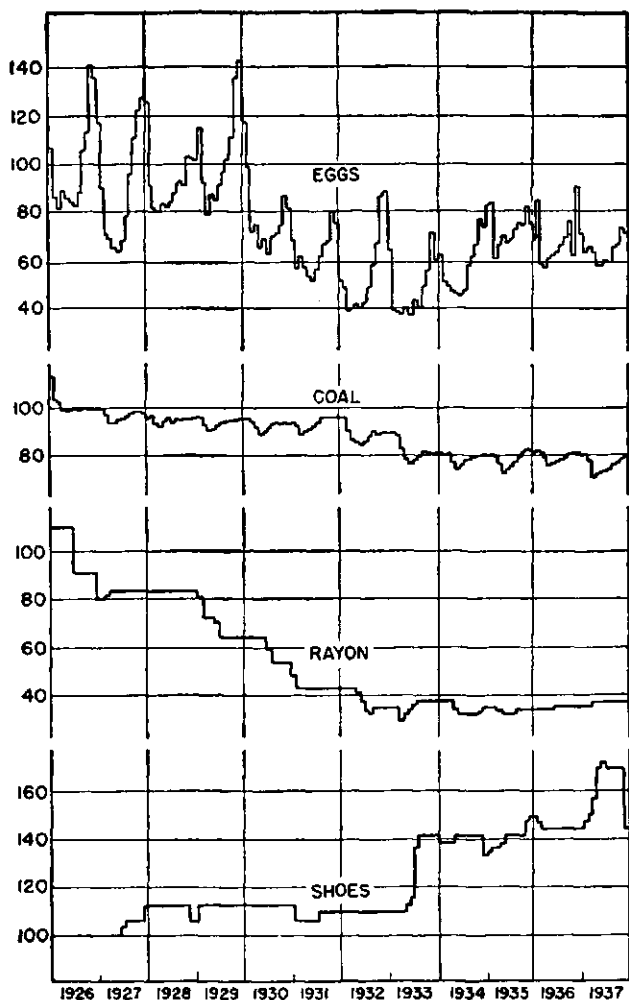


CHART 21

*Examples of Variety in Wholesale Price Behavior
1926-1937, by months.*

Source: U. S. Department of Labor, Bureau of Labor Statistics, in National Resources Committee: *Structure of the American Economy*, Part I, p. 127.

economy,¹⁰ but the drastic rise in recovery seems definitely undesirable. It appears not to reflect basic supply-demand conditions, nor to be justified by encouragement of technical improvement over a longer span, but simply to evidence the power of monopolistic sellers to exact high prices.

¹⁰ See p. 178.

Another kind of undesirable price movement is the wide "destabilizing" kind of fluctuation which exists in the prices of basic raw materials and agricultural products:¹¹

Table 7

	Percentage 1936 Low to 1937 High	Changes 1937 High to 1938 Low
Wheat (Liverpool).....	+75	-60
Corn (Chicago).....	+133	-77
Sugar (London).....	+48	-24
Coffee (New York).....	+49	-49
Cocoa (New York).....	+129	-62
Wool, Merino (London).....	+45	-42
Cotton (New York).....	+27	-45*
Rubber (London).....	+91	-60
Copper (London).....	+100	-48
Lead (London).....	+99	-53

* Low in November 1937.

These drastic price changes seem to be, in large part, a result of speculative buying when prices are rising in the upswing of the business cycle, and of speculative selling when prices are falling in the downswing of the business cycle. Such changes are disruptive of production and consumption relationships, rather than a guide to their efficient functioning.

The Long-Run Movement of Average Prices

Should we desire to have in the long run—that is, over periods of a decade or more—(1) constancy of average prices, (2) a movement upward, or (3) a movement downward? We have seen that if there is to be any upward or downward trend, it should be moderate. Drastic price level rises or declines bring drastic windfall gains or losses to particular groups within the economy, and are a cause of inefficiency through disrupting business planning. And any considerable price change carries with it the danger of its own continuance and acceleration through arousing speculative anticipations of continuing change in the same direction.

Some economists argue for a secular gently falling level of prices, on the grounds that this is the most effective way of sharing the gains of technical progress throughout the economy. Wages are supposed to remain fairly stable. There will be a short-run rise in

¹¹ Data from *Economic Stability in the Postwar World*, page 83. Geneva: League of Nations, 1945.

profits in the progressive industries, but in the longer run, management and capital will be attracted into those areas, and with rising output prices will decline. The effect is to make the more abundant products increasingly available among all members of the population, including those with fixed incomes.

Alternately, other economists have reasoned that a gently rising price level is desirable. There will be some injury to persons whose incomes remain fixed. But this is seen to be offset by the encouragement to investment and business enterprise generally which rising prices would give (it is assumed that this encouragement is needed) and by the greater ease of making economic adjustment which is thought to result from an environment of rising prices.¹²

Employment and the Control of the Price Level

It is unlikely that any *plan* for a stable, gently rising or gently falling price level will actually be realized over the course of the years. Rather the price level is apt to be a by-product of the level of employment and output which is achieved, and of the reactions of firms and individuals of the economy to that level. The significant questions to ask are these: as the level of effective demand rises, sales expand, and unemployment shrinks, to what extent will business entrepreneurs strive for higher prices, either through administrative price decisions (for monopolistic concerns) or through bringing pressure on Washington? And to what extent will labor unions strike for higher wages? These are questions of human psychology, on which we may be optimistic or pessimistic, but to which we are not able to give precise answer.

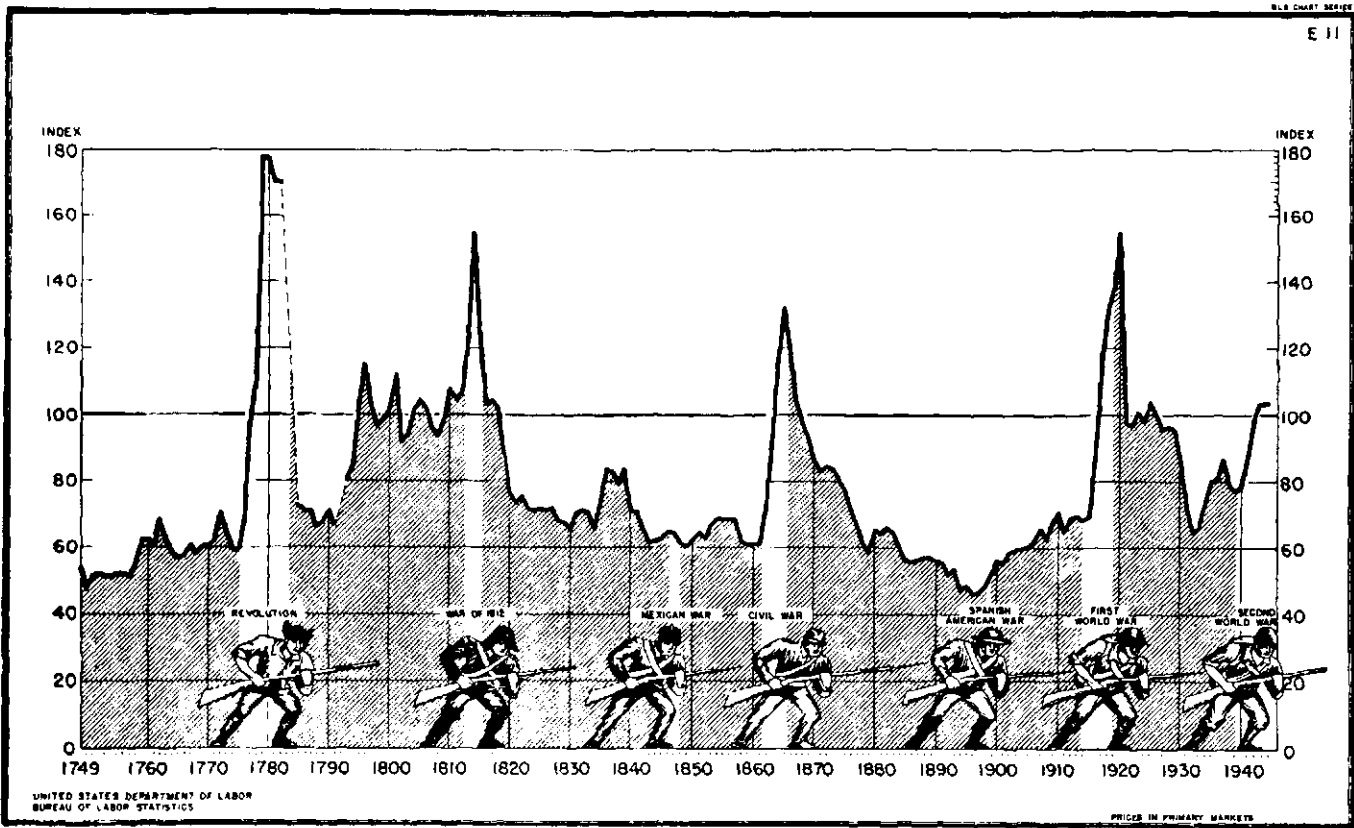
We desire an economy in which prices are kept down by the competition of producers for markets and of workers for jobs, rather than by significant use of price controls and rationing and priorities for scarce items.¹³ When we defined "full employment" as employment of all but a margin of 5 per cent of the frictionally unemployed,¹⁴ we were making a guess about the amount of surplus capacity and labor which must necessarily exist in order for their competition to keep prices approximately stable.

Within a range, therefore, unemployment can be looked on as

¹² Pp. 56, 105.

¹³ Pp. 78-81.

¹⁴ This, of course, did not mean that 5 per cent of the individuals in the working force would be permanently out of work, but only that at any one time 5 per cent would be changing jobs or for other reasons be temporarily unemployed.



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

PRICES IN PRIMARY MARKETS

CHART 27

Wholesale Prices—All Commodities 1749-1944
Yearly Average 1926 = 100

a cost which the economy pays for the self-seeking of groups within it. The greater the sense of social responsibility on the part of management and labor, the smaller, within limits, the quantity of unemployment needs to be.

Price Control in Wartime

Every major United States war except World War II has been not only followed but also accompanied by a drastic rise of prices. The accompanying chart portrays the course of wholesale prices, which in the Revolutionary War rose 202 per cent; in the War of 1812, 47 per cent; in the Civil War, 117 per cent; and in World War I, 127 per cent.¹⁵ The basic explanation, of course, is that government has found itself impelled during wartime to an expansion of purchasing power beyond the value of the maximum output of the economy, priced at prewar levels. This is done by borrowing from the banking system (which in effect sets up new checking accounts for the use of the government), the borrowing of "idle funds" of individuals, and, in earlier wars, simply the printing of new paper money.

A striking contrast is evident in Chart 23 between the price movements of World War I and those of World War II. It is fairest to exclude the price rise which took place after the end of World War I, and so to compare 1914-1918 with 1939-1944. During World War I, retail prices rose 50 per cent and wholesale prices, 93 per cent. In World War II, retail prices rose 36 per cent, and wholesale prices, 35 per cent.¹⁶ *During World War II, prices hardly rose at all after 1943.*

The much smaller price rise in World War II existed despite the fact that this was a relatively "bigger" war for the United States. A larger proportion of our total production went to war, leaving a smaller increase in goods available to consumers; and purchasing power in the hands of consumers increased by a much greater proportion.¹⁷ In other words, supply to civilians increased less in

¹⁵ The percentages are calculated from the average of the year of low prices just preceding the war, to the year of highest prices during or just after the war.

¹⁶ As we have seen above, much of the price rise incident on World War I took place after the Armistice. Retail price data for World War II include corrections based on the Mitchell report.

¹⁷ The proportion of total output going to war purposes was, in World War I, 25 per cent; in World War II, 44 per cent. Checking accounts rose 43 per cent in World War I, 105 per cent in World War II. From *Senate Hearings on Extension of the Emergency Price Control Act*, pp. 1558-1567; revised in Harris, S. E., *Price and Related Controls*, p. 13. New York: McGraw-Hill Book Co., 1945.

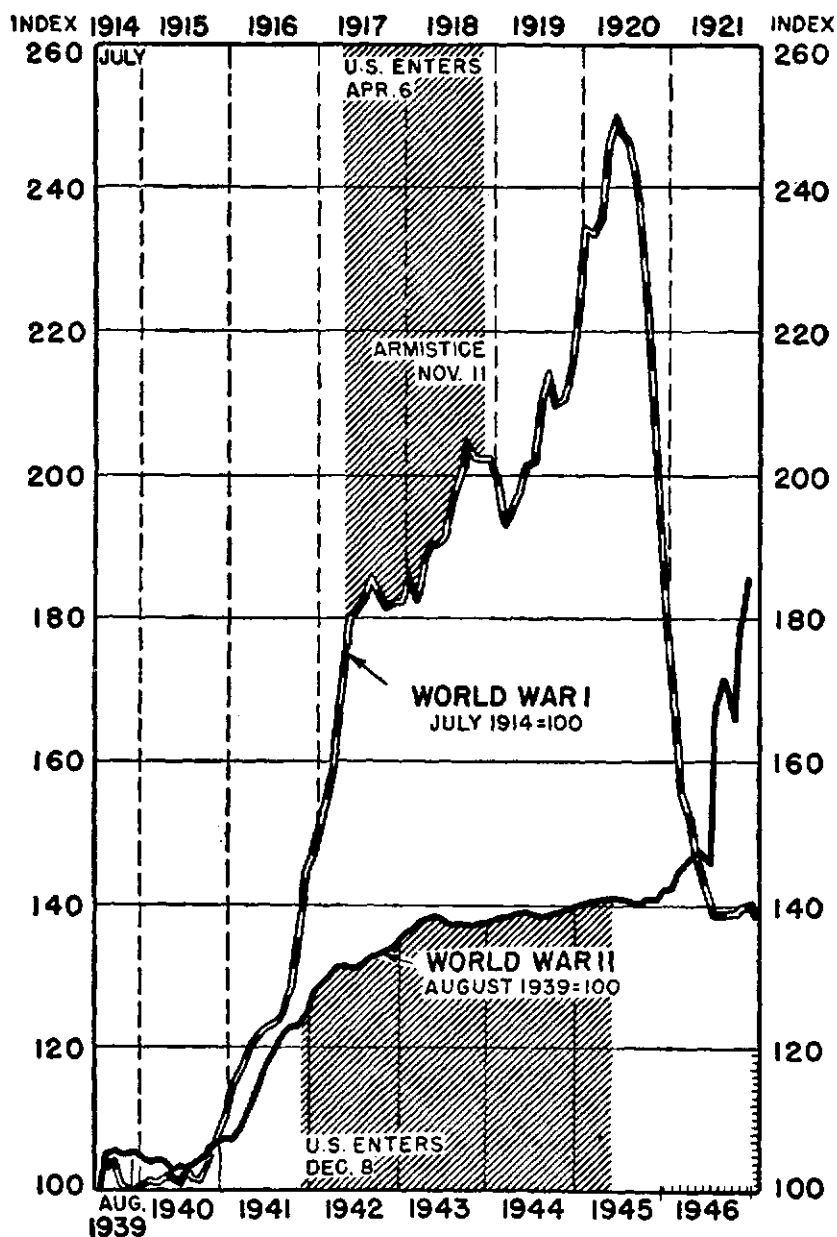


CHART 23

Wholesale Prices in World War I and World War II, All Commodities

Source: Data through June 1945 from *Basic Facts on Employment and Production*, p. 19. Data from that time through November 1946 are adjusted from the *Survey of Current Business*, April 1946, p. S-4, and January 1947, p. S-4.

World War II than in World War I, and potential civilian demand increased more.

Evidently, during World War II our price-control measures were more effective than during World War I. Three kinds of policies cooperated to moderate the rate of price increases.

1. One set of measures was designed to increase supply. We increased the number of workers and the length of the average work week; we sought to simplify and standardize products, to concentrate production in a few efficient plants; we tried to reduce exports not for war purposes and to increase imports. These measures and others had a considerable measure of success: civilian supplies had increased by about 26 per cent during the last half of 1944 as compared with the average for 1939.

2. We tried also to limit demand. We rationed goods to consumers, and we controlled the flow of materials and labor to businessmen through priorities, allocations, and manpower controls. All these tended to check demand through making the attempt to buy more than specified quantities illegal. If our ration stamp called for only 5 pounds of sugar, we could not (legally) seek to buy the 10 pounds we should have liked. We further checked demand by taking money away from the public: through drastic increases in taxes and through bond-buying campaigns. Controls on wage and salary increases checked the rise of incomes, which would have tended to flow promptly into spending on the market.

Such efforts to increase supply and to check the increase of demand were helpful, in fact essential; but they would not in themselves have been sufficient to prevent a drastic price rise.

3. As a direct measure to control price rises, the OPA (Office of Price Administration) established legal price ceilings. Price ceilings were established under one of two principles: (a) they were set in accord with some formula which related them to *costs* in a particular business, or (b) they were set on the historical principle. This meant that prices were frozen at some previous level or at some maximum percentage above that level. Such ceilings were adjusted (usually upward) from time to time as changing costs and political pressures made advisable.¹⁸

¹⁸ Over 60,000 regulations, rules, price lists, and directives were issued by the OPA during the war, nearly half the 134,248 directives, orders, and proclamations issued by all divisions of the government.

CHAPTER EIGHTEEN

THE MOBILITY OF LABOR AND THE LOCATION OF INDUSTRY

SUPPOSE that a policy of increased expenditures in the economy has been undertaken, for the aim of increased employment and production. To the extent that productive facilities—land, equipment, and especially labor—are not distributed by location and by industry in accord with the direction of demand, there will be pockets of unemployed resources in some places at the same time there are scarcities of resources and rising prices elsewhere. The construction of a dam in the state of Washington will not much relieve the burden of unemployment in New York, and public works construction may not do much to alleviate the distress from unemployment of local textile workers, writers, and artists.

In time, equipment and plant can be adapted or built to meet the demand, and—often with still more delay—labor will move and be trained to the needed skills. But in the meantime the localized scarcities and price inflations persist. Our program is threatened with failure on two counts: unemployment continues, and prices are rising.

What can be done? Where the increased total expenditure is obtained in part through government expenditure, some moderate compromise is desirable with the principle of public spending only in channels where there is the greatest social need for output. Some small proportion of expenditure can be justified because it makes use of resources which would otherwise be idle, even though the product is not of first social importance. We have spoken of this before, and say no more of it here.

If we assume the direction of demand is given, then we are left to see what can be done to improve the location of industry, and increasing the mobility of labor.¹

¹ The term *labor mobility* as used here refers not only to movement from one geographical area to another, but also "movement" from one occupation or skill to another.

The basic economic logic is simple. Local unemployment can be reduced in either of two ways: by moving surplus labor to where the jobs are, and by training and retraining labor for skills in demand; or by moving industry from areas where it is scarce to areas where it is in surplus. (If the population is growing, new industry may be established in greater quantity in the labor-surplus areas than in the areas where labor is relatively scarce.) The problem is, therefore, how to get the right balance between the movement of labor away from, and the movement of capital and management into, the surplus area or occupation.

If the labor in question can, in the main, move easily to where its services are in demand, while local resources are so scanty that new industry there would operate under a continuing cost disadvantage, then the bulk of the adjustment should take place through an outflow of labor. But if most of the labor is firmly attached to the locality and if the local area is suitable for further development but only happens to have been the site of some declining business, then the adjustment should take place mainly by an inflow of industry. (This reasoning can be transferred without change to the question of whether labor should be moved *occupationally*—that is, trained in the skills of another occupation, or whether industry using the old skills should be developed.) Whether industry or labor should move depends on whose *social cost of movement* is less. When the best adjustment is reached, the social cost of moving (say) an extra 100 workers and their families away from the surplus area equals the social cost of moving into or originating in the area a business employing 100 workers.

The difficulty in evaluating the importance of each element in social cost² is great, and the room for disagreement therefore considerable. There is also considerable danger of delaying or blocking necessary structural adjustments in the economy.³ So far as reliance is placed on government decisions and subsidies we should be wise to fear pressures brought to bear for sectional and private advantage. To the extent that we fear such pressures, we will want to restrict the extent and the detail of the political intervention we judge desirable.

The Mobility of Labor

In general, people move more readily from one occupation to another than from one place to another. It is true that a substan-

² P. 262.

³ Pp. 216-217.

tial fraction of the labor force consists of unspecialized workers who can find better jobs rather easily when a near-by industry expands. Young men and women just beginning their working lives and little attached to particular jobs are especially mobile. The store clerk and the farm hand cheerfully and promptly throw up their jobs when the near-by shipyard expands.

But specialized workers and older people are less likely to find other near-by tasks which their skills "fit" and which are attractive enough to induce them to leave their present jobs.⁴ And even young people are often reluctant to leave home and friends to look for jobs in distant places. There is less of a tradition of moving among manual and clerical workers than among the professional classes. Immobility increases when people marry and acquire families and furniture which must also be moved. Finally, there is a "hard core" among the work force of older people who are nearly totally immobile. They have put their roots down in a given locality, bought property, and have made friends and a place for themselves. No economic change short of complete collapse will divorce them from the community.

In England and other countries of western Europe, immobilities have been sufficient to allow continuing wide divergences of wages between near-by locations, in some cases divergences persisting for centuries.⁵ In the United States, average monthly wages for farm labor varied in 1927-1929 from \$24.61 in southeastern states to \$58.14 in far western states.⁶ Per-capita yearly income varied in 1939 from \$297 or under for seven southeastern states, to \$719 or over for six states in the Northeast, Middle West, and Far West.⁷

Such variations do not, of course, mean that there is no migration from low-income to high-income areas, but only that such migration as occurs is not sufficient to compensate for the continuing advantages in resources, equipment, and techniques of the latter areas. There has been in recent years a continuing outflow of

⁴ The census of 1940 classifies less than half of the working force as unspecialized. Of the 49.5 million in the working force, 26.2 million are listed as possessing special skills. A large proportion of the remainder also possess skills which they value.

⁵ Leslie, V. Cliff, *Essays*, 2nd edition, page 379, 1888; and comments on this and other studies in John H. Williams, *Postwar Monetary Plans and Other Essays*, pp. 136-145. New York: Alfred A. Knopf, Inc., 1944. Cf. Sir William Beveridge, *Full Employment in a Free Society*, pp. 85-89, 170-171.

⁶ National Resources Committee, *Problems of a Changing Population*, pp. 63, 79-81. Washington: 1938. To some extent, parallel variation in prices compensated for these differences in money income.

⁷ *Survey of Current Business*, page 13, August 1945.

people from the Southeast to the West and North, but not in sufficient numbers to offset the birth rate: and so population has increased in spite of migration.⁸

The total social cost of the geographical movement of labor includes the loss in value of social facilities now no longer needed: housing, streets, schools, shops, water systems, and so forth. It also includes the cost of movement of household goods and the psychological cost of breaking ties with home, friends, and kindred (sometimes offset, or more than offset, by the education and stimulus of new scenes). The social cost per person of such movement evidently is slight if a few only of the more mobile workers are involved. The cost rises rapidly as increasing numbers of relatively immobile workers are moved.

Similarly, movement from one occupation to another requires one to become accustomed, physically and psychologically, to the new situation; and may involve the time and expense of retraining.

Measures to Increase Labor Mobility

1. So far as is possible, a society ought to encourage the occupational and geographical mobility made necessary by expanding or contracting industry through directing of young people into "jobs with a future," rather than into blind-alley work in contracting fields. The labor supply in declining industry ought to be furnished by older workers, who will gradually retire from work at about the rate the industry shrinks. (Employment in the coal industry has been shrinking in peacetime years. That the average age of coal miners is over fifty is desirable: less displacement of existing workers is in prospect.) No compulsion is implied by this recommendation: it is only that there should be available to young people full information on the prospects of various occupations, good advice on their own abilities, and effective training toward the occupation of their choice. Increasing labor mobility in this way involves no "cost" to the individuals concerned: rather it means opening the door of advancement to them.

2. The labor market ought not to consist of the haphazard hawking of labor services from one shop door or factory door to another. Obviously, this kind of procedure is wasteful of time and

⁸During wartime, the attractions of jobs in the expanding war industries were sufficient to increase factory wage earners of San Diego and Wichita in late 1942 to 6 times their 1937 numbers. In Norfolk, Seattle, and Portland (Oregon) the increase was 2 to 2½ times.

morale. The supply of and demand for labor should be matched with each other in one agency, or in cooperating agencies which have widespread coverage by occupations and areas. The present state employment services are evidently less effective than the United States Employment Service of wartime, unless they maintain complete cooperation.

3. The unemployment-insurance program should be formulated and administered with the aim in view of encouraging labor mobility. Our Federal-State unemployment-insurance program now operates under provisions which vary from state to state. Modern systems disqualify from benefits workers who refuse suitable work—that is, *suitable* in view of the skill the job requires, the rate of pay it carries, and, finally, its distance from the worker's home considered together with his ability to commute or move. In some cases, disqualification from benefits should follow refusal to take training for jobs which are available. The rights of the individual can be safeguarded through his retaining the right of appeal to higher boards.

The longer the period of unemployment, the greater the presumption that the employee's former work no longer needs him, and the more the justification to the administrative agency of denying benefits unless the worker accepts a job elsewhere or in a new occupation. The existence of generally full employment would add sanction to this policy: encouragement of idleness is no part of the aim of social insurance.

4. Retraining programs should be readily available, with full information about the current and anticipated demands of the labor market available to the worker. It is essential that retraining be undertaken promptly when it has become clear that demand for the worker's old skill has permanently declined. Otherwise, the graduates of retraining will be discredited in the minds of employers, since only those will have gone through it who could not easily be placed.

The British White Paper on Employment favors planned training programs carried on, so far as possible, in the factory or shop, where the trainee can see ahead the job for which he is preparing. There would be clear distinction between the position of a person on unemployment pay and one who had embarked on a training program, so that the latter should feel he was no longer unemployed, but had started on a new job. The allowances paid to trainees is to be larger than the unemployment benefit, but smaller than the

wage he is likely to receive during his first subsequent employment.⁹

5. Trade unions may restrict entrance of workers into new trades, and so reduce labor mobility. The restrictions take the form of (a) rules limiting the number of apprentices and helpers permitted, (b) support of license laws which require the possession of a license or certificate of competency as a condition of practicing a given trade, and (c) high admission fees to members of the union or simple refusal to admit new members. This latter restriction is significant only where there is a closed shop, union shop, or preferential-shop agreement with particular employers: otherwise newcomers can obtain work without joining the union.¹⁰ Licensing rules may have some or complete justification. Usually, the public interest is injured by the other restrictive rules, since they hinder the adjustment of labor supply to changes in demand for labor. They ordinarily evidence a psychology arising from continued job scarcity. If the United States succeeds in maintaining full employment over the future years, the incentive for such restrictions will diminish. Pressure for the removal of restrictions, brought by workers who have been discriminated against, will then stand a better chance of success.

6. Some advantage may be gained from a carefully designed program to grant removal and traveling expenses to people for whom jobs are available in distant areas. But there is doubt whether the results of such an effort would justify the administrative cost. The Industrial Transference Board, set up in England in 1928 to assist movement to other areas, found that a considerable proportion of those moved through its help returned soon. The attractions of the family unit and of the old location were strong. The bulk of the permanent transferring which took place was voluntary.

If attractive jobs are available elsewhere and people know about them, there will be a substantial volume of voluntary migration. The migration will be by those who judge their chances of success in the new job greatest relative to their chances at home, and who are best able to move. These are precisely the people who, from the social point of view, ought to move.

⁹ Command Paper 6527, "Employment Policy," p. 14.

¹⁰ Sometimes unions require employers to show preference in hiring to local union members before hiring union men from any other area. This rule demands that employers employ the least effective local men before they hire any outsiders. On these restrictions see Slichter, Sumner H., *Union Policies and Industrial Management*, pp. 9-97. Washington: Brookings Institution, 1941.

The Location of Industry

Where ought an industry to be located? (1) From an economic point of view industries should be where they can most efficiently utilize the resources of the economy. (2) Social considerations suggest that some weight be given to avoidance of concentration in one area of industries subject to wide parallel fluctuations of output. The steel industry and other heavy industries furnish examples. Industries dependent on foreign markets are also vulnerable. To avoid the growth of blighted areas of heavy local unemployment, it is desirable to favor the complementary growth of the more stable consumer-goods industries. Also there is social advantage in decentralizing areas of extreme concentration of population. (3) Finally, in a world which has not yet convincingly renounced war as an instrument of national policy, strategic considerations will have some voice—even in such a relatively secure nation as the United States. Industries basic to defense should be dispersed, and distant from likely channels of attack.

The interest of the whole society is best served when all three of these considerations are taken into account and balanced against one another. Our special concern of reducing frictional unemployment suggests, where social and strategic considerations do not oppose and where there is not significant difference of efficiency between possible locations, that industries should be located where there are continuing pools of unemployed people. The argument is stronger in so far as the unemployed are unable to move to other areas and/or have skills which are needed in the industry in question.

The importance of industrial relocation as a means toward diminishing pools of unemployment is lessened by two considerations: (1) A considerable amount of time is often required for establishing new industries. If this is true, *temporarily* unemployed people will not be helped by an industrial-relocation policy. (2) When there is long-continued local unemployment, people have greater mobility—that is, more opportunity and incentive to search for new situations elsewhere. But there remain many intermediate and special cases where a location policy for industry is worth considering.

Such a policy would need to be carried into effect through use of the powers of government. We should notice that *continued*

subsidy for an industry must be justified on noneconomic grounds (social or strategic considerations) if it is to be justified at all. And once again, if we fear that government decision and action on location matters will be biased by the logrolling of local pressure groups, we will conclude that such action should be restricted to a very limited sphere.

During the interwar period, the British Government carried through several policies to attract industry to what were then Depressed Areas. Firms were circularized to ascertain whether they might not be willing to establish plants in the Areas; after 1936 loans up to 10,000 pounds were offered at low interest rates to firms establishing plants in these Areas; payment, in part or whole, of local taxes, income taxes, and rent was offered to such firms for a limited number of years; and finally Trading Estates were established, which built factories for sale or lease to small manufacturers, and managed the industrial community which later grew up.¹¹

More recently, the Planning Room of the Board of Trade in London has made available to businessmen who are considering expansion of their plants or the locating of new ones, information on labor supply, transportation, rates, gas, water, electricity, and factory space available. No power of compulsion is held by the Board of Trade, but nearly all the 400 firms who came there in its first half year took the advice offered to them.

The White Paper on Employment contemplates forbidding establishment of new factories in areas where serious disadvantages would result, and of encouraging, by a number of inducements, the establishment of new factories in suitable areas. Priorities are to be given for building and extending factories in those areas; consideration will be given to the needs of special areas in the placing of government contracts; the Trading Estates are to be continued; facilities for long- and short-term-loan capital, and even share capital are to be provided promising firms which establish themselves in accord with government policy; and finally, munitions factories already in the areas are to be retained in munitions production, or promptly leased or sold for civilian production.¹²

We do not suggest that the above policies are necessarily desirable for the United States. Some of those tried in England before World War II were ineffective—namely, the circularizing

¹¹ *Economic Stability in the Postwar World*, pp. 220-221. Geneva: League of Nations, 1945.

¹² Command Paper 6527, pp. 11-12.

of firms, and even the offer to pay rents and taxes for a limited time for firms establishing themselves in the Special Areas. They do suggest the possibilities open to us if the need should be considerable, and if we trust that the pressure of local interests will not significantly distort government policy. As a minimum, the Federal government should maintain a bureau of information on matters relevant to industrial location, whose advice will take into account the three relevant considerations: not only the economic, but also the social and strategic. This function appears to be a logical extension of the present business-information service of the Bureau of Foreign and Domestic Commerce of the Department of Commerce. No local agency—no state or city bureau—can present information and advice free from suspicion of bias.

INDEX

A

- Aberhart, Premier, and stamped money, 155
- Abbott, Charles C., *cited*, 202
- Acceleration effect, 138
 defined, 132
 stability of, 134
 types of, 133
- Aged persons:
 as dissavers, 167
 pensions for, 157
- Agriculture:
 governmental research in, 204
 peacetime productivity of, 46
 productivity per man hour in, 43
 structural changes in, 216
- A. F. of L., 29
- Alberta, Canada, and stamped money, 155
- Allocations, material, 182
- Anderson, Sir John, *cited*, 172
- Angell, James W., *cited*, 159, 243
- Antiprivate-enterprise sentiments, 192-194
- Antitrust Division of the Department of Justice, 208
- Automobile industry (1900-1920), and long waves in prices, 117

B

- Banking system and the Great Depression, 119
- Bakke, *cited*, 71
- Bankruptcy, factor in adjusting supply to demand, 52
- Bell, Spurgeon, *cited*, 36
- Bergson, Abram, *cited*, 224
- Berle, Adolph, *cited*, 178
- Beveridge, Sir William, *cited*, 81, 144, 220, 261
- Booms and depressions:
 causes of, 121
 cumulative process, 125-126
 deficit of government and, 121
 future prospect for, 161-165, 170
 income stream at a given level, 122
 income stream drop, 122
 income stream rise, 123

- Booms and depressions (*Cont.*):
 inherent nature of, 169, 170
 responsibility for, 169
 savings and private investment, relation between, 121, 122
 in booms, 123
 in depressions, 124
 in fairly stable economy, 123
 wages and, 148 *ff.*
- Bretton Woods Agreement, 206
- British:
 labor parties, 174
 public debt (*see* Public debt)
 White Paper on Employment, 263
- Britten, Rollo H., *cited*, 86
- Budget, government:
 borrowing:
 from commercial banks, 225
 from individuals, 225
 consumption taxes and, 224
 debt (*see* Public debt)
 education, medicine, social security, 229
 expenditures, government, 226
 housing, general construction, and other public works, 227
 personal-income taxes and, 224
 policy, 215
 qualitative aspects of, 223-230
 quantitative aspects of, 218-223
 revenues and, 218, 223
 subsidy of consumption, 229
 unemployment and, 219
- Building codes and methods, modernization of, 205
- Building "cycle," causes of, 113
- Bureau of Labor Statistics Price Index, 26, 29
- Bureau of the Census, 76, 81
- Bush, Vannevar, *cited*, 204
- Butters, J. K., *cited*, 196

C

- Canoyer, *cited*, 83
- Capital:
 equipment, and increased production, 36
 fixed, relation to investment goods, 16
 gains and losses, taxes, 196

Capital (*Cont.*):

- gains, relation to national output, 4
- goods:
 - consumer's, nature of, 101
 - defined, 16
 - producer's, nature of, 101
- losses, 11
- marginal efficiency of, 102
- Capitalism, usefulness of word, 172
- Carr-Saunders, A. M., *cited*, 168
- Cash, investment in, 201
- Catchings, W., *cited*, 153
- Checking accounts and money, 201
- Children's Bureau, United States Department of Labor, 85
- Christian Science Monitor*, 171
- Churchill, Winston, *cited*, 144
- C.I.O., 29
- Civil War, effect on price cycle, 117
- Clark, Colin, *cited*, 40, 58, 59
- Clark, J. M., *cited*, 127
- Classical economists, 149
- Colm, Gerhard, *cited*, 224
- Committee for Constitutional Government, 37
- Committee for Economic Development, 188, 197
- Communist Party, 171
- Concentration of wealth, evils of, 194
- Consolidated income statement, 10
- Construction, constituent of investment, 113
- Consumers' Price Index, 29
- Consumer credit, 190
- Consumption:
 - durable goods, 97-98
 - encouragement of, 185
 - expansion of:
 - methods, 186-191
 - possibilities, 185
 - secular and cyclical policy, 191
 - expenditure:
 - by income groups, 87
 - channels of, 87, 88, 89
 - derivative, effect on stability of multiplier effect, 132
 - income and, 85-87, 88, 89
 - investment expenditure and, contrasted, 148
 - levels of, 85-87
 - total:
 - disposition of, 137
 - source of income, 137
 - goods, defined, 16
 - government expenditure, relation to, 20
 - income and, relation between, 17, 90, 185 (*see also* Consumption function, consumption-income pattern)
 - index of, use in price index, 26

Consumption (*Cont.*):

- influences on, 97
 - interest rate and, 99
 - investment, relation to, 17, 20
 - low wages and, 152, 186
 - marginal propensity toward, effect on stability of multiplier effect, 132
 - postwar prospects for, 98
 - savings, relation to, 17, 20
 - social-consumption expenditures, 189
 - subsidy of, 229
 - taxes, relation to, 20, 187
 - total, by income groups, 90
 - wages and, 152, 186
 - wartime control on, 97
 - Consumption function:
 - as a relation between two quantities of money, 91
 - defined, 90
 - total, behavior of, 91
 - Consumption-income pattern:
 - lag of consumption and income changes, 95
 - secular, influences of, 96
 - when national income shifts from one sustained level to another, 91-95
 - Contraction process, causes of, 125
 - Contributions to social-insurance funds, 6
 - Corporate taxes, 195
 - Corporations:
 - "dissaving" by, 92
 - net savings of, 7, 92
 - Cost:
 - of living price index, example of, 29
 - of technical progress, 47
 - variable, relation to price, 149
 - Coughlin, Father, 171
 - Cripps, Sir Stafford, *cited*, 172
 - Crossman, R. H. S., *cited*, 172
 - Cumulative process, 125
 - Currie, Laughlin, *cited*, 95, 145, 241
- D
- Daily Worker*, 171
 - Deficit, 21
 - government, 20, 121, 138
 - Demand:
 - aggregate effective, defined, 52
 - "as a whole," defined, 52
 - changes in, 66
 - deficient, future problem of, 182
 - excessive, postwar, 181
 - expansion process and, 125
 - increase of, where there is already full employment, 54
 - prices, relation to, 51
 - total, effect of drop in, 56
 - unemployment, relation to, 52-54
 - Democratic freedoms and full employment, 171

- Depreciation, 11
 amount set aside for, 12
 Depressions (*see* Booms and depressions,
 Great Depression, 1930's)
 Discount rate (1929-1930), 141
 Discovery of gold in California, effect on
 price cycle, 117
 Disposable income of individuals:
 consumer expenditures and, 93
 division of, 6
 net measure of, 15
 net savings and, 92
 taxes and, 187
 types of, 5, 6
 Dissavers, 167
 Dividend, social (*see* Social dividend)
 Dividends, payment of, 5
 Dobb, M., *cited*, 153
 Domar, E. D., *cited*, 141, 241
 Douglas, C. W., *cited*, 154, 156, 158
 Douglas, Paul, *cited*, 166
 Downey, Sheridan, *cited*, 233
 Driver, L. Robert, *cited*, 224
 Durability, defined, 97
 Durable consumption goods, 97-98

E

- Earning and spending of income, 136 (*see*
also Income)
 "Easy money," 143
 Economic Council (Employment Act of
 1946), 180
 Economic policy and social judgment, 184
Economic Program for American Democ-
racy, 234
 Education:
 compulsory, benefits from, 40
 grants-in-aid, 229
 Effort, increased production and, 36
 Electric power, investment in (1900-1920),
 effect on price cycle, 117
 Electrification, 228
 Employees, payments to, 5
 Employment:
 analysis of:
 doubtful explanations examined, 147-
 160
 terms of, 147
 as a by-product of output, 182
 basic problems of, summary, 169
 democratic freedoms and, 171
 freedoms and, 172
 free enterprise and, 172
 free enterprise, social values of, 174
 huge-scale business, monopoly, and
 free enterprise, 177
 labor policy, government, 180-184
 policy and the division between free
 and public enterprise, 173

Employment (*Cont.*):

- basic reasoning on, 213
 consumption and, 185
 control of the price level and, 254
 estimates of, 76
 fluctuations in, 124
 full, relation to demand, 54 (*see also*
 Full employment)
 guiding principles, suggested, 183
 high, requirements for, 82
 moderate, relation to demand, 53
 monopoly and, 178
 needs, relation to, 183
 nonuseful, desirability of, 182
 policy, government, 180
 production and (*see* Production, employ-
 ment and)
 prospect for 1950:
 aged people, increase of, 167
 experiences of European countries,
 168
 government expenditure, 164
 gross national income, 164
 gross national product at full employ-
 ment, 163
 hours of work and, 162
 housing, demand for, 168
 investment, business, 164
 methods for determining, 161
 population growth, 167, 168
 productivity of labor, 162
 purchasing power, 164
 stagnation, secular, 166-168
 unemployment and, 161
 wants, contraction of, 167-168
 working force and, 161
 stamped money and, 154
 taxes and, 187
 total expenditures and, 83
 Employment Act of 1946, 180
 Equipment:
 effect on prices, 57
 producers' durable, during interwar
 years, 114
 Estate taxes, 198
 Excise taxes, 188
 Expansion, industrial, cause of Great De-
 pression, 119
 Expansion process, causes of, 125
 Expected future returns, incentive to in-
 vest, 103
 Expenditures:
 consumption (*see* Consumption expendi-
 ture)
 defined, 82
 for goods and services:
 problem, two-fold nature of, 185
 relation to high employment, 82
 government (*see also* Government ex-
 penditure)

- Expenditures (*Cont.*):
 government (*Cont.*):
 classification of, problems concerning,
 18
 extent and significance of, 83
 how to increase, 83
 investment (*see* Investment expenditure)
 monopoly, effects of, 207
 price level and, 84
 types of, 82, 136, 148
- Exports:
 foreign trade, importance of, 116, 206
 imports and, 206
 net:
 during interwar years, 115
 relation to investment at home, 16
- Ezekial, Mordecai, *cited*, 95

F

- Fabricant, Solomon, *cited*, 13
- Factors, 9
- Factors of production, defined, 5
- Family dynasties and taxes, 198
- Family size, shrinking of, 168
- Federal Farm Mortgage Corporation, 143
- Federal Housing Administration, 143
- Federal Land Banks, 143
- Federal Reserve, 109-110, 141, 143, 158,
 164, 165, 189, 202
- Fiscal policy:
 allocation of resources and government
 expenditures, 215
 basic reasoning on government finance
 and unemployment, 213
 in past decades, 211
 in recent years, 212
 public debt, burden of (*see* Public debt)
 qualitative aspects of budget, 223-230
 quantitative aspects of budget, 218-223
 secular and cyclical, 230
- Fisher, Professor, *cited*, 158, 243
- Flynn, John T., *cited*, 234
- Foreign:
 balance, net, 101
 policies and events, cause of Great De-
 pression, 120
 trade, importance of, 116, 206
- Forest improvement, 228
- Fortune* magazine, 45, 46
- Foster, W. T., *cited*, 153
- Fractional-reserve system, relation to
 prices and employment, 158
- Freedom, defined, 173
- Free enterprise, 172
 and socialism, admixture of, 175
 employment policy and the division be-
 tween free and public enterprise,
 173

- Free enterprise (*Cont.*):
 free political parties under, 176
 hostility to, 192
 huge-scale business and, 177
 human drives and selfishness, direction
 under, 176
 inequalities and unemployment under,
 175
 justification of, 175
 monopoly and, 177
 public will and, 177
 social values of, 174
 standards of living under, 175
- Free Silver Movement, 193
- Frictional unemployment, 77, 149, 162
- Full employment (*see* Employment)
 acceptable, defined, 78
 democratic freedoms and, 171
 inflation and, 79
 meaning of, 72
 three routes to, and government budget,
 219

G

- Galbraith, Dr., *cited*, 79
- Garfield, Frank R., *cited*, 86
- Garvy, George, *cited*, 116
- Gesell, Silvio, *cited*, 155
- Gifts, relation to national output, 4
- Ginzberg and Associates, *cited*, 71
- Goldenweiser, E. A., *cited*, 164, 189
- Goods:
 consumption and nondurable, compared,
 148
 durable, and investment, compared, 97
 physical, as form of property, 18
- Government:
 and agencies, production by, 6
 area, future expansion of, 193
 budget policy, factors in, 214 (*see also*
 Budget, government)
 controls, 79-80
 deficit, 20, 121
 investment and, 138
 savings and, 138
 defined, 136
 expenditure:
 allocation of resources and, 215
 as an antidepression weapon, 143-
 146
 basis for justification of, 213
 consumption, relation to, 20
 defined, 136, 139
 economic stability, relation to, 149
 expansion, effects of, 139
 expansion of consumption and private
 investment without use of, 139
 factors determining, 154
 Federal, contrasted with local and
 state, 141

- Government (Cont.):**
expenditure (Cont.):
 increase of, in postwar years, 174
 indirect effects of, 139
 investment goods, and, 102
 investment, relation to, 20
 local, trend (1909-1944), 139
 locale of, 216
 monetary policy and, 141
 motive of, compared with businessmen, 19
 problems concerning, 18
 reduction of, 181
 savings, relation to, 20
 source of income, 83, 137
 state, trend (1909-1944), 139
 taxes, relation to, 20
 trend (1909-1944), 139
 types of, 19
 unemployment and (1930-1940), 141
 finance, basic reasoning on, 213
 fiscal policy of (*see* Fiscal policy)
 job guarantee by, 189
 labor policy of, 180-184
 loans by, 204
 place in measuring earning and spending of income, 16, 18
 research, agricultural, 204
 securities, conversion of, 202
 voluntary associations and, 184
 war surplus plants and equipment, lease and sale of, 205
- Graham, Professor, *cited*, 158
- Great Depression (1930's):
 causes of:
 banking system, faults in, 119
 foreign policies and events, 120
 industrial expansion, exhaustion of, 119
 speculation fever, 118
 government expenditures and, 143-146
- Grebler, Leo, *cited*, 204
- Greenback Movement, 193
- Gross:
 national expenditure, 10
 national product, 14
 profit expectation of businessmen, 110
- Groves, H. M., *cited*, 187, 195, 199

H

- Haberler, Gottfried, *cited*, 134, 153, 207
- Hagen, E. E., *cited*, 26, 163, 164
- "Ham-and-Eggs" plan, 157
- Handicapped, productivity of the, 73, 77
- Hansen, Alvin H., *cited*, 97, 117, 127, 167, 186, 198, 229, 237
- Harris, Professor, *cited*, 234
- Hazlitt, Henry, *cited*, 234
- Health in the United States, 85-86

- Hicks, J. R., *cited*, 15, 18, 114
- Home Owner's Loan Corporation, 143, 203
- Hoover, Calvin B., *cited*, 207
- Housing, 86, 168, 197, 203, 205, 227
- Huge-scale business and free enterprise, 177
- Hundred per cent reserves, 158
 level of prices and, 159
 partial advantages of, 160
 rate of circulation of money and, 159

I

- Imports (*see* Exports)
- Incentive payments and social dividend plans, 157
- Incentives to invest, 102
- Income:
 consumption, relation to, 17
 created, 6
 earned, sources of, 19
 earning of:
 and spending, 1939, relation between, 20
 neglecting the place of government, 16
 taking account of government, 18
 gross, 14, 136
 individual, disposable (*see* Disposable income of individuals)
 investment, relation to, 17
 life expectancy and, 85
 national (*see* National income)
 net, 136
 measures of, 15
 of average family, table, 89
 payments, types of, 5
 adjustments to obtain national income, 6
 period, multiplier effect, 128
 real (*see* Real income)
 per capita, 93-94
 rise in, as a source of instability, 149
 wages, effect on, 152
 savings and (*see* Savings)
 spending of:
 and earning, 1939, relation between, 20
 neglecting the place of government, 16
 taking account of government, 18
 statement, consolidated, 10
 taxes and, 187
 total, sources and disposition of, 137
 unearned, hostility to, 194
- Index numbers, problem of, 22
- Index of output:
 construction of, problems connected with, 25
 price and quantity, relation between, 25

- Industrial Revolution, effect on price cycle, 117**
- Industries:**
 interrelation of (1939), 60
 locating of:
 economic factors in, 265
 improvement of, 259
 national defense and, 265
 relation to high employment, 82, 84
 social considerations in, 265
 social cost of movement, 260
 subsidies and, 265-266
 primary, defined, 58
 secondary, defined, 58
 structural changes in, 217
 tertiary, defined, 58
 working population in various, table, 58
- Inflation, 246 ff.**
- Inheritance taxes, 200**
- Input-output table, 60**
- Insurable losses, 11**
- Interest:**
 payment of, 5
 rate:
 bank (1920-1930), 110
 effect on consumption, 99
 effect on investment, 102, 109
 fall of (1930's), 142
 Federal Reserve and, 109-110
 importance of, 110
 investment and, 203
 inventories and, 111
 "long waves" in, 116
 United States Government bonds, 110
 United States Treasury and, 109-110
- International Bank for Reconstruction and Development, 206**
- International monetary and financial cooperation, 206**
- Interstate Commerce Act of 1887, 193**
- Interwar years, investment during, 111**
- Inventories:**
 accumulation of, interwar years, 115
 addition to, relation to fixed capital, 16
 interest rates and, 111
- Investment:**
 chief constituents of, 112-116
 consumption, relation to, 17, 20
 contraction process and, 125
 encouragement of:
 international monetary and financial cooperation, 206
 monetary policy, 200
 monopolistic restriction on output, 207
 secular and cyclical policy, 209
 social atmosphere and, 192
 special measures to encourage, 204
 taxes and, 194
- Investment (Cont.):**
 expenditure:
 acceleration effect (*see* Acceleration effect)
 consumption expenditure and, contrasted, 148
 defined, 101
 effect of, 103
 factors determining, 103
 in interwar years (*see* Investment, interwar years)
 interest rate and (*see* Interest, rate, effect on investment)
 kinds of, 101
 Kondratieff Cycle, 116
 leverage effect of changes in, 126
 "long waves" in prices (*see* Prices)
 marginal efficiency of capital and (*see* Marginal efficiency of capital)
 multiplier effect (*see* Multiplier effect)
 new, multiplier effects of (*see* Multiplier process)
 private, total, source of income, 137
 stop in, cause of depressions, 118-121
 exports, net, relation to, 16
 financial, or monetary, defined, 101
 goods:
 defined, 16
 purpose of, 16
 government deficit and, 138
 government expenditure, relation to, 20
 gross:
 constituents (1919-1946), 112
 defined, 17, 112
 variations in, 112-113
 incentives to, 102
 income, relation to, 17
 increase of, special measures for, 204
 interest rate and, 203
 interwar years:
 building, 114
 gross investment and its constituents (1919-1946), 112
 inventory accumulation, 115
 net exports of goods and services, 115
 producers' durable equipment, 114
 net, defined, 17, 112
 rate of interest, effect on, 102
 real, defined, 101, 102
 savings, relation to, 17, 20, 138
 short-term, effect of interest rates on, 111
 taxes, relation to, 20
- Isard, Walter, cited, 105, 116**
- J**
- Jobs:**
 effect of increase in number of, 75
 guaranteed by government, 189

K

- Keynes, J. M., *cited*, 108, 131, 172, 183
 Kondratieff, Nikolai D., *cited*, 116
 Kondratieff Cycle, 116
 Kreps, Theodore J., *cited*, 233
 Kuznets, S. S., *cited*, 4, 5, 34, 60, 97, 114, 168

L

Labor:

- bad allocation of, 68
 force and increased production, 36
 mobility:
 agencies for coordinating labor supply, 262-263
 defined, 259
 economic factors in, 261
 geographical factors in, 261-262
 improvement of, 259
 low- and high-income areas and, 261
 measures for the increase of, 262
 moving expenses and, 264
 occupational guidance and, 262
 personal factors in, 261
 relation to high employment, 84
 retraining programs and, 263
 social cost of movement, 260, 262
 trade unions and, 264
 unemployment-insurance programs and, 263
 productivity of (*see* Productivity, labor)
 in various industries, 59
 strikes, 151
 unions:
 drop in total demand, effect on, 56
 opposition to new apprentices during unemployment periods, 70
 prices, effect on, 52
 wages and, during depressions, 151
 Land conservation, 228
 Lange, O., *cited*, 153
 Leakages:
 defined, 127
 total of, 128
 Lending, discouragement of, 181
 Leontief's Input-Output Table, 60
 Leontief, Wassily, *cited*, 61
 Leslie, V. Cliff, *cited*, 261
 Letters to Malthus, 147
 Leverage effect of changes of spending, 126, 135, 182
 Life expectancy, factors in, 85-86
 Lintner, J., *cited*, 196
 Litterer, O. F., *cited*, 141
 Loans, government, 204
 Local government expenditures, trend of (1909-1944), 139, 140

- Long, C. D., *cited*, 114
 Long, Huey, 171

M

- Macaulay, Lord, and British public debt, 232
 Machinery and the American Standard of Living, 39
 Machlup, Fritz, *cited*, 128
 Make-work projects, 183
 Malthus, *cited*, 147, 167
 Management, increased production and, 35
 Marginal efficiency of capital, 101, 103
 collapse of, and depressions, 125
 confidence and, 106
 demand, expected, 104
 influences on, 104
 innovations and, 104
 monopolistic influences and, 105
 new investments and, 110
 population and, 106
 rate of current investment in relevant fields, 105
 Stock Exchange and, 107
 supply of goods, and, 106
 taxation and, 108
 Marginal workers, 77
 Market prices, net national income at, 9
 Martin, Robert F., *cited*, 38
 Marxist dogma, 171
 Marx, Karl, *cited*, 153
 Means, Gardiner C., *cited*, 178
 Medical progress, 87
 Medicine, program of, 229
 Migration of labor, 59
 Mills, Frederick C., *cited*, 51
 Mining, productivity per man hour in, 41
 Mitchell, G. W., *cited*, 141
 Mitchell, Wesley C., 30
 Monetary policy:
 defined, 200
 Federal Reserve and, 202
 Money:
 as form of property, 18
 defined, 201
 expansion of (1930's and during World War II), 201
 financial transactions and, 201
 gold and silver bullion, accumulation of, 115
 government securities, conversion of, 202
 gross national product and (1909-1946), 200
 increase of, effect on prices, 57
 investment in cash, 201
 monetary policy and, 141, 200 (*see also* Monetary policy)

- Money (Cont.):**
 quantity of:
 (1820-1940), 148
 Federal Reserve control over, 203
 national income and, 200
 production and, 201
 stamped, 154
 swollen supply of (1930's), 142, 143
 value, of national output, 3
- Monopoly:**
 and huge scale business, contrasted, 177
 employment and output, blocking of, 178
 free enterprise and, 177
 marginal efficiency of capital and, 105
 ownership and control, separation under, 178
 political and economic power of, 178
 price determination by, 62-63, 152, 178
 restriction of output by, 207-208
 two-fold effect on expenditure, 207
- Morrison, Herbert, cited, 172**
- Multiplier effect, 138**
 calculation of, 128
 negative, 138
 of a continued injection of new expenditure, 129
 operation of, 127
 stability of, 131
 time required for, 128
- Multiplier process:**
 following repeated injections of new expenditures, 130
 simple, 129
- Musgrave, R. A., cited, 165**
- Myers, Margaret, cited, 155**

N

- Napoleonic Wars, effect on price cycle, 117**
- National dividend, 157**
- National Housing Agency, 87, 203**
- National income:**
 concepts of, uses of, 13
 constituents of, 26
 defined, 3
 extent of, 1939-1944, 22
 gross (or product) at market prices, 9, 10, 13
 relation to net national income at market prices, 10
 net, at factor prices, 6, 13
 net (or product) at market prices, 9, 13
 real, fluctuations in, 22
 reserves, relation to, 13
 two-fold nature of, 7
- National Income in the United States, 1799-1938, 38**
- National Industrial Conference Board, 69**
- National Planning Association, 161**

- National product:**
 at market prices, 9
 defined, 3
 exclusions from, 4
 gross, 10
 and its constituents (1909-1944), 140
 in 1950, prospect for, 163
 money value of (1909-1946), 200
 real (1879-1938), 34, 35
 special uses of, 14
 index of, construction of, 26
 measurement of, 3
- National Recovery Administration, 250**
- National Resources Committee, 88, 89, 90, 261**
- New Masses, 171**
- Nonagricultural unemployment (1929-1945), 69**
- Noneconomic activities, relation to national output, 5**
- Nonmunitions manufacturing industries, peacetime productivity of, 45**

O

- Old-age insurance, 190**
- Organization:**
 prices, effect on, 57
 improved, and increase of production, 37
- Output:**
 aggregate measures of, 60
 and price, by industries (1929-1932-1937), table, 62
 index of (see Index of output)
 monopoly and, 178, 207
 national (see National product)
 of business, valued at prices paid to factors, 9
 of various sectors of the economy, 60
 peacetime, 33
 per man hour, 41-42
 qualitative differences in, 35
 quantitative differences in, 35
 real, comparison of, how obtained, 27
 restriction by monopoly, 207
 combating of, 208
 short-run changes of particular industries, 62
 upward trend of, 34
 wartime, 33

P

- Papandreou, Andreas, cited, 178**
- Paradise, Louis J., cited, 89**
- Payments:**
 to the factors of production, defined, 5
 transfer, 6
- Peacetime production, 33, 45**

- Pensions for aged persons, 157
 Perloff, Harvey S., *cited*, 186, 198
 Personal-income taxes, 188, 196, 224
 Philanthropy (*see* Gifts)
 Pick-Sloan plan, 228
 Population:
 declining rate of, 217
 growth, 166
 marginal efficiency of capital and, 106
 working, in various industries, table, 58
 Populist Movement, 193
 President's Committee on the Cost of Living, 1943, 29
 Price index:
 construction of, 27
 difficulties in, 27
 cost of living, example of, 29
 index numbers (*see* Index numbers)
 of constituents of national income, 26
 sample, 27
 weighting commodities, 27
 Price Index, Consumers', criticism of, 29
 Prices:
 1939-1944, rise of, 33
 and output by industries (1929-1932-1937), 62
 and production (*see* Demand, Supply)
 description, 51
 relation between, 51, 55
 wholesale and retail (*see* Wholesale and retail prices)
 and quantity of goods, relation between, 25
 and wages, stability of, 245
 average:
 long-run movement of, 253
 short-run stability, aim of, 249
 control of, 79, 181, 182
 in wartime, 256
 cycles of, 116 *ff.*
 drop in total demand, effect of, 56
 expenditure and, 84
 flexibility, as measure of elasticity of supply, 63
 Great Depression (1930's), effect on, 118-121
 inflation:
 catastrophic, 248
 harmfulness of, 246
 interrelation of, 251
 level:
 employment and the control of, 254
 industrial location and (*see* Industrial location)
 labor mobility and (*see* Labor, mobility)
 relation to high employment, 82, 84
 "long waves" in, 116
 causes of, 117
 Prices (*Cont.*):
 "long waves" in (*Cont.*):
 cycles of, 117
 dates for, 117
 low wages and, 152
 money, effect on, 57
 monopoly and, 178, 208
 population growth and, 57
 real income, relation to, 22
 rises, in "bottleneck" lines of goods, 245
 secondary in wartime, 65
 skills and, 57
 special interest groups, effect on, 57
 supply and demand, relation to, 52
 drop in total demand, effect of, 56
 unemployment, relation to, 52
 wholesale:
 (1926-1937), 252
 all commodities, yearly level (1749-1940), 255
 World Wars I and II, all commodities, 257
 Prinsep, C. R., *cited*, 148
 Production (*see also* Output)
 as measured by gross national product, 14
 by government and governmental agencies, 6, 10
 civilian, postwar, 181
 controls, multiplication of, 33
 employment and, 31
 1909-1946, chart, 31-32
 fluctuations of, 31
 increased:
 biased explanations of, 37
 prospects for, 31
 special-interest groups and, 37
 length of working day and, 40
 main divisions of, 17, 58
 net measures of, 15
 net national at factor cost, defined, 6
 per capita, 38, 40, 41
 per worker, 38, 41
 prices and (*see* Prices and production)
 purpose of, 3
 total:
 and prices, relation between, 55
 main constituents of, 58
 major industries, long trend for, 58
 variations in, causes of, 35-36
 wartime (*see* Wartime)
 Productive:
 activities, defined, 5
 capacity, unused, 76
 Productivity:
 in 1950, prospect for, 162
 net national income at factor cost, relation to, 15
 of average worker, rise of, 31

Productivity (*Cont.*):

- of labor:
 - defined, 41
 - how measured, 41
 - output per man hour, 41-42
 - upward trend of (1913-1944), chart, 41
- peacetime:
 - difficulties of, 45
 - increase in, prospects, 45
 - intangible factors contributing to, 47
 - new machines, relation to, 46
 - new methods, relation to, 46
 - nonmunitions manufacturing industries, 45

Productivity, Wages, and National Income, 36

Profit seeking, hostility to, 192

Property, three forms of, 18

Public debt:

- as transfer problem, 237
- at end of Civil War, 235
- at end of Revolutionary period, 234
- at end of World War I, 235
- at end of World War II, 233 *ff.*
- banking system and, 239
- British, opinions on, 232
- burden of, 231
 - large debt, 238
 - nature of, 235
- capital-goods industries and, 238
- distribution of incomes and, 239
- frictional disadvantages of, 241
- government loan - expenditure policy and, 242
- interest on, 236
- national income and, 242
- policy toward, 241
- private investment and, 239, 241
- rate of increase of, 237
- tax system and, 238
- trend of, 234
- views on, 232, 233

Public Utilities Holding Act, 241

Public works, 227

Purchasing power:

- and value of output, relation between, 156
- government budget and, 213
- prospect for 1950, 164

R

Railroads and transportation:

- investment in (1840's), effect on price cycle, 117
- productivity per man hour, 43

Rationing, 182

Real estate taxes, 197

Real income:

- and prices, 22
- compared with workers of foreign countries, 39-41
- comparison, year to year, problems of, 23-24
- per capita (1799-1946), 38
- price index, relation to, 24 (*see also* Price index)
- rise in, 39
- Reconstruction Finance Corporation, 143, 203
- Remedies for unemployment, 154
- Rents, payment of, 5
- Reserves, 10
 - calculation of, 13
- Resources:
 - allocation and government expenditure, 215
 - marginal, 72
 - natural, and increased production, 36
 - unemployment of, effect on prices, 57
- Retail prices (*see* Wholesale and retail prices)
- Rounding error, 137
- Royalties, payment of, 5
- Rural Electrification Administration, 143

S

Sales:

- relation to gross national income at market prices, 9
- revenue from, as measured by gross national product, 14
- taxes, 188
- Sample, price index, 27
- Savings:
 - consumption, relation to, 17, 20
 - employment, compatibility with, 154
 - family, by income brackets, 89
 - gross, 17
 - government deficit and, 138
 - government expenditure, relation to, 20
 - income, relation to, 17, 90
 - investment, relation to, 17, 20, 121, 138
 - net, 17, 18
 - real, per capita, 93-94
 - taxes, relation to, 20
 - total, disposition of, 137
 - unemployment and, discussion of, 153
- Say, J. B., *cited*, 147, 148, 149
- Say's Law, 147, 211
- Schumpeter, Joseph A., *cited*, 119, 193, 241, 250
- Seasonal unemployment, 77
- Second War Powers Act of 1942, 238
- Securities, as form of property, 18
- Self-employed, payments to, 5

Separation wages, 190

Services:

unproductive, relation to national output, 4
worth of, 4

Share-the-wealth benefits, possible amounts of, 176

Sherman Antitrust Act of 1890, 193

Shiff, Eric, *cited*, 168

Simons, Professor, *cited*, 158, 244

Skills, deterioration of during unemployment, 70

Slichter, Sumner H., *cited*, 75, 264

Small business and taxes, 196

Smith, Gerald, 171

Social:

credit, 157

dividend:

criticisms of, 157

defined, 157

incentive payments and, 157

rigidity of, 157

taxes, fantastic, 157

economy and free enterprise, 172

insurance funds, 7

Socialism, British, 172

Social-security program, 190, 217, 229

Somers, Harold M., *cited*, 40

Sources and disposition of total income, 137

Special-interest groups:

and causes for increased productivity, 37

effect on prices, 57

Speculation and the Great Depression, 118

Spending:

channels of, 19

for goods and services (1909-1944), trend, 139

leakage, 127, 128

leverage effect of changes in, 126

multiplier effect, 127, 128

Stagnation, secular, 166

Stamp plan of food subsidy, 230

Stamped money, 154

State government expenditures, trend (1909-1944), 139, 140

Stock Exchange, marginal efficiency of capital and, 107

Stockholders, tax rebates to, 195

Strikes, 151

Supply:

as a whole, defined, 52

elasticity of, 63

long-run, 64

factors influencing, 57

prices, relation to, 51

Surplus:

negative, defined, 20

positive, defined, 20

T

Taussig, F. W., *cited*, 150

Taxes:

and voluntary savings, compared, 19

British practices, 195

capital gains and losses, 196

consumption:

national budget and, 224

relation to, 20, 186

corporate, recent proposals concerning, 195

employment, effect on, 187

equality and, 198

estate, 198

excise, 188

family dynasties and, 198

flexibility of, 197

government expenditure, relation to, 20

heavy, need for, 181

high incomes and, 197

incentive and, 198

income, effect on, 187

indirect, relation to national income, 9

net national income, relation to, 15

inheritance, 200

investment, relation to, 20, 194

marginal efficiency of capital and, 108

payment of, 6, 7

personal-income, 188, 196

equality principle, 198

real estate, 197

rebates to small stockholders, 195

sales, 188

savings, relation to, 20

small business and, 196

social dividends and, 157

social-security, 137

total, disposition of, 137

Technical progress:

costs of, 47

optimum rate of, 47

prices, effect on, 57

Techniques, improved, and increased production, 36

Telephone industry (1900-1920), effect on price cycle, 118

Temporary National Economic Committee, 99, 178, 196, 233

Tennessee Valley Authority, 228, 241

Tinbergen J., *cited*, 95, 111, 114

Total transactions, as measured by gross national product, 14

Townsend Plan, 157

Training, diminution of during unemployment, 70

Transfer payments, 6, 137, 140

Truman Committee, 65

U

- Underconsumption, secular, 100
 Unearned income, hostility to, 194
 Unemployable persons, 72, 77
 Unemployed, defined, 73
 Unemployment:
 (1929-1945), 69
 cause, special views on examined, 147-154
 rigid wages, examined, 149
 concealed, 68, 77
 cost of, 68
 demand for goods, relation to, 52
 extent required, 80
 Federal budget and, 219
 general, 78
 government expenditures and (1930-1940), 141
 human values, demoralization of, 71
 importance of the problem, 81
 in 1950, prospect for, 162
 insurance, 190
 involuntary, 73
 kinds of, 77
 remedies for, proposed:
 hundred per cent reserves, 158
 social dividends (*see* Social dividends)
 stamped money, 154
 savings and, discussion of, 153
 skills, deterioration of, 70
 training during, diminution of, 70
 voluntary, 73
 United States:
 Bureau of Internal Revenue, 13
 Bureau of Labor Statistics, 26, 32, 42, 44, 49, 69
 Bureau of the Census, 32, 81
 Department of Commerce, 5, 7, 32
 Department of Justice, 205
 economy, structural changes in, 216
 Office of Price Administration, 79, 80
 War Production Board, 65

V

- Vaile, *cited*, 86
 Veteran benefits, 175, 231
 Villard, H. H., *cited*, 13, 128

W

- Wages:
 and prices, stability of, 245
 consumption and, 152, 186
 depressions and, 151
 income (*see* Income)
 in various industries, 59
 low:
 effect on consumption, 152
 uncertain effects of, 153
 rate and total wage, contrasted, 151
 rigid, as a cause of unemployment, 149
 separation, 190
 Walker, Charles R., *cited*, 45
 Wallich, H. C., *cited*, 99, 202
 War Assets Administration, 205
 War Food Administration, 229
 Wartime:
 financing, 202
 government expenditures, 140
 output, expansion of, 65
 prices:
 control of, 256
 increases in, 66, 118
 priorities and allocations, relation to production, 65
 production 33, 45
 Weighting commodities, price index, 27
 Wholesale and retail prices:
 defined, 49
 variations in:
 causes of, 49, 50
 compared (1909-1946), chart, 50
 Williams, John H., *cited*, 131, 146, 239, 261
 Woodlief, Thomas, *cited*, 202
 World War I, effect on price cycle, 118
 Working:
 conditions, improvement of, 75
 day:
 decrease in length of, 40
 length of in 1950, prospect for, 162
 force:
 frictional unemployment and, 162
 normal, 161
 total, 75
 variability of, 76
 Workmen's compensation laws, 190
 Wright, David McC., *cited*, 234

