

**THE ANNUAL REPORT
OF THE
COUNCIL OF ECONOMIC ADVISERS**

LETTER OF TRANSMITTAL

COUNCIL OF ECONOMIC ADVISERS,
Washington, D.C., January 31, 1986.

MR. PRESIDENT:

The Council of Economic Advisers herewith submits its 1986 Annual Report in accordance with the provisions of the Employment Act of 1946 as amended by the Full Employment and Balanced Growth Act of 1978.

Sincerely,

A handwritten signature in cursive script, reading "Beryl W. Sprinkel".

Beryl W. Sprinkel
Chairman

A handwritten signature in cursive script, reading "Thomas Gale Moore".

Thomas Gale Moore
Member

C O N T E N T S

	<i>Page</i>
CHAPTER 1. INFLATION, DISINFLATION, AND THE STATE OF THE	
MACROECONOMY.....	23
The Rise of Inflation and the Transition to Price Stability..	26
The Legacy of the 1970s.....	26
The Role of Money Growth.....	27
The Role of Relative Price Changes.....	27
The Disinflation of the 1980s.....	30
Disinflation and the Value of the Dollar.....	30
The Costs of Inflation.....	32
The "Optimal" Disinflation Path.....	35
The Expansion to Date.....	37
Characteristics of the Expansion.....	38
Employment Growth in this Expansion.....	41
The "Two-Tiered" Economy.....	43
The Saving Rate and Consumer Debt.....	46
Real Investment and Growth in this Expansion.....	48
U.S. Domestic Investment and Foreign Capital In-	
flows.....	50
Recent Behavior of Velocity.....	54
Economic Outlook and Policy.....	58
Policy Principles and Assumptions.....	58
The Outlook for 1986.....	58
Fiscal Policy.....	60
Monetary Policy.....	65
Long-Term Outlook.....	67
Lesson for the Future.....	70
CHAPTER 2. THE UNITED STATES AND ECONOMIC DEVELOPMENT..	71
Economic Performance and Problems of Developing	
Countries.....	72
Trade Between Developing Countries and the United	
States.....	73
Credit Flows to Developing Countries.....	74
Economic Problems of Developing Countries.....	75
Effects of External Shocks.....	77
The Role of International Credit.....	79
The International Debt Situation.....	80

	<i>Page</i>
The Role of the International Monetary Fund.....	83
Policies for Economic Growth and Development.....	85
Establishing Appropriate Incentives Through Relative	
Prices.....	85
Maintaining Reasonable Fiscal Discipline.....	86
Restraining General Price Inflation.....	88
Maintaining an Open Policy Toward International	
Trade.....	89
Maintaining an Appropriately Valued Exchange Rate ..	91
Limiting Distortions of Domestic Product and Factor	
Markets.....	92
Maintaining Political Stability.....	95
Policies for the Industrial Countries and the International	
Economic System.....	96
Policies of the Administration.....	97
Policies to Reduce Structural Rigidities.....	97
Policies for the Multilateral Development Banks	98
Policies to Deal with the International Debt Situation..	100
Policies to Strengthen the Open System of Trade.....	102
CHAPTER 3. PROTECTIONISM AND THE UNITED STATES IN THE	
WORLD TRADING SYSTEM.....	105
Claims for Protectionism.....	106
Protectionism and the Trade Deficit.....	106
Protectionism and Jobs	107
Protectionism and Deindustrialization.....	108
Recent and Prospective Trade Policy Actions	111
Nonrubber Footwear.....	112
Steel	114
Textiles and Apparel.....	116
Semiconductors	119
Agricultural Exports	120
Policy Initiatives for the 1980s—Free and Fair Trade	122
Broadening the Scope of Free Trade	122
Ensuring the Practice of Fair Trade	123
Promoting Adjustment to Changing Trade Patterns	126
The Thrust of U.S. Trade Policy	128
CHAPTER 4. INCOME TRANSFERS TO AGRICULTURE.....	129
Food Security Act of 1985	130
The Structure of American Agriculture.....	131
Philosophy and Mechanics of Income Support	133
Price-Support Programs.....	135
Deficiency Payments	140
Production Diversion Programs.....	144
Production and Marketing Quotas.....	146

	<i>Page</i>
Marketing Orders	148
Federal Milk Marketing Orders.....	153
Alternative Methods of Income Support	155
CHAPTER 5. REFORMING REGULATION: STRENGTHENING MARKET	
INCENTIVES	159
Transportation: Deregulation Success	159
Airlines.....	160
Trucking	161
Safety	161
Railroads	163
Further Transportation Deregulation	165
The Effects of Continuing Regulation	166
The Natural Gas Market.....	166
End-Use Standards: A Vestige of Oil Price Controls	172
CAFE Standards	173
Regulatory Use of Market Incentives	178
Airport Slots	178
Environmental Regulation	179
Extending Market Incentives.....	184
Experience in the United States and Abroad	185
Steps for Further Privatization	186
Conclusion	187
CHAPTER 6. THE FEDERAL ROLE IN CREDIT MARKETS	189
The Size of the Federal Role in Credit Markets.....	190
Federal Loan and Loan-Guarantee Programs.....	191
Direct Federal Loans and Guarantees	192
Government-Sponsored Financial Intermediaries	193
Housing Finance Intermediaries	194
The Federal Home Loan Banks	195
The Farm Credit System	195
Sallie Mae	197
Federal Deposit Insurance	198
Adverse Incentives of Deposit Insurance	199
Controlling Adverse Incentives: Capital Requirements	200
Portfolio Regulation	201
Risk-Adjusted Deposit Insurance	201
Risk-Adjusted Capital Requirements	202
The Thrifts	203
Insured Pension Benefits.....	206
Deregulation and the Financial System	209
CHAPTER 7. THE ECONOMIC EFFECTS OF IMMIGRATION.....	213
Migration to the United States.....	214
Aliens Entering the United States.....	216
Characteristics of the Foreign-Born.....	219

	<i>Page</i>
Effects of Immigration on Output and Income	221
Evidence on Labor Market Effects	222
Immigration and Trade	227
Fiscal Effects of Immigration	228
Public Services Used	229
Taxes Paid	232
Net Fiscal Effects	233
Conclusion	234
APPENDIXES	
A. Report to the President on the Activities of the Council of Economic Advisers During 1985	235
B. Statistical Tables Relating to Income, Employment, and Production	245

List of Tables and Charts

Tables

1-1. Macroeconomic Indicators, 1954-82	26
1-2. Growth Rates of Real GNP Components, Current Ex- pansion, and Average of Previous Expansions	39
1-3. Output and Employment Growth, Current and Previous Expansions	44
1-4. Saving, Investment, Government Deficit, and Current Account Balance as Percent of GNP, 1972-85	51
1-5. Economic Outlook for 1986	60
1-6. Accounting for Growth in Real GNP, 1948-91	68
1-7. Administration Economic Assumptions, 1986-91	69
2-1. Real Net Flow of Funds to Developing Countries, Se- lected Years, 1970-84	75
2-2. Indicators of Economic Growth, 1955-84	76
2-3. External Shocks and Real GDP Growth in Selected De- veloping Countries, 1979-83	78
2-4. Debt Indicators for Developing Countries, 1967-84	82
2-5. Price Distortions and Economic Growth in the 1970s	95
3-1. Manufacturing Sector Indicators, 1973-84	111
3-2. Manufacturing Sector Indicators: Nonrubber Footwear, 1973-84	113
3-3. Manufacturing Sector Indicators: Steel, 1965-84	115
3-4. Manufacturing Sector Indicators: Textiles and Apparel, 1973-84	117
4-1. The Structure of American Agriculture, 1984	132
4-2. Government Payments to Producers of Selected Grains and Cotton, 1985	141
4-3. Milk Diversion Payments: Top Five States	145
4-4. Losses and Gains from Income-Support Programs	156

List of Tables and Charts—Continued

<i>Tables</i>	<i>Page</i>
5-1. Airline Accidents per 100,000 Departures, 1972-85.....	162
5-2. Trucking Accidents, 1976-84.....	163
5-3. Mileage per Gallon for Domestic Cars, 1978-85.....	174
5-4. Effects of Corporate Average Fuel Economy (CAFE) Standards on Incremental Profitability of Automobiles of Different Fuel Economy Levels	176
6-1. Market Shares of Agricultural Lending, 1970-84.....	197
7-1. Alien Entrants to the United States, Fiscal 1984.....	217
<i>Charts</i>	
1-1. M1 Growth and Inflation.....	28
1-2. Employment-Population Ratio	41
1-3. Cumulative Change in Employment since 1959	42
1-4. Employment Shares—Goods-Producing and Service- Producing Industries.....	45
1-5. Saving Measures as Percent of GNP	46
1-6. Federal Outlays and Receipts as a Share of GNP.....	62
3-1. Manufacturing Production and Real GNP	110
4-1. Distribution of Financially Distressed Farms by Sales Class, January 1985.....	134
4-2. Target Price, Loan Rate, and Exports of Corn	143
4-3. U.S. Share of World Exports of Flue-Cured Tobacco	148
5-1. Real Price of Gasoline and Small-Car Sales	175
6-1. Debt of All Nonfinancial Sectors as Percent of GNP	190
7-1. Legal Immigration as Percent of Population, 1820-1984	216

CHAPTER 1

Inflation, Disinflation, and the State of the Macroeconomy

THE AMERICAN ECONOMY is now in the fourth year of a robust expansion that has increased employment by more than 9 million, sustained the greatest advance in business fixed investment of any comparable period in the postwar era, while inflation has remained at less than a third of the rate prevailing when the Administration took office. Interest rates are at the lowest levels of this decade. Long-term interest rates, in particular, have declined 5 percentage points from their peaks in 1981, and home mortgage rates are down by 7 percentage points. Worldwide confidence in the vitality of the U.S. economy has been restored, as is reflected in the unprecedented inflow of foreign investment and the substantial appreciation of the dollar since 1980. The outlook is favorable for continuation of a healthy expansion. After slowing in the second half of 1984, economic activity is again accelerating. The recent moderate decline in the dollar bodes well for an eventual improvement in the trade balance. A modest and temporary acceleration of inflation is possible in 1986. But with appropriate economic policies, lower inflation, and ultimately price stability are achievable goals for an economy that continues to grow and to generate opportunities for all Americans.

Despite the impressive progress of the U.S. economy, important problems remain. Although the 3.8 percentage point decline in the unemployment rate since November 1982 far exceeds the average decline for a comparable period in earlier postwar expansions, the total unemployment rate remains high by postwar standards. Federal spending consumes an unprecedentedly large share of gross national product (GNP) for a peacetime period, diverting resources that could be more productively employed in the private sector. Determined efforts and politically difficult decisions will be required to bring Federal spending into line with revenues and thereby reduce the fiscal deficit. Inflation, now in abeyance, could be reignited by excessive monetary growth. Alternatively, a sudden move to sharply lower money growth could push the economy once again into recession.

American agriculture faces severe financial problems. The strong dollar—itself a manifestation of vigorous growth and bright prospects

for the U.S. economy compared with sluggish performance or deep difficulties of many other countries—has contributed to the problems of U.S. agriculture and to the deterioration of the U.S. trade balance. Even after 3 years of solid real growth and substantial gains in employment, workers and firms in a number of industries exposed to international competition have had trouble adjusting to an altered competitive environment. Individuals, businesses, and countries that borrowed extensively during the period of rising inflation have had problems meeting their debt service obligations, and these problems have affected the financial institutions that hold their loans.

This *Report* examines these problems and discusses the appropriate economic policies to deal with them. Chapter 1 sets the stage for subsequent chapters. It reviews the critical features of the process of inflation and disinflation over the past 15 years that lie at the root of many of the economic problems that still confront the United States and many other countries. This chapter also discusses key characteristics of the current expansion and policies needed to extend and prolong its desirable features. Chapter 2 considers the relationship between the United States and the economic performance and growth of developing countries, in the context of the open system of international trade and investment. The focus is on the economic problems that have recently afflicted many developing countries, on the policies that offer the best hope of generating rapid and sustainable growth in these countries, and on the roles of the industrial countries and of the international economic system in maintaining an environment conducive to worldwide prosperity.

Chapter 3 examines issues of international trade policy for the United States, in particular the fallacious arguments used to support protectionist measures, the record of recent trade policy actions, and the Administration's policy initiatives for free and fair trade. Chapter 4 investigates government programs to provide assistance to American agriculture. It finds that governmental efforts to transfer income to agriculture primarily by raising prices received by farmers create important economic distortions and inefficiencies. More efficient, less costly mechanisms are available to achieve this income transfer.

Chapter 5 discusses the successful efforts to reduce government regulation. It explores the potential for further actions that will allow private businesses to produce more efficiently and to provide to consumers the goods and services they desire, while preserving standards of health, safety, and environmental quality. Chapter 6 considers problems affecting credit markets and institutions and policies needed to deal with these problems: the problems of the thrifts, of the Farm Credit System, and of the Pension Benefit Guaranty Corporation; and policies relating to government lending and loan guar-

antees, to government-sponsored financial intermediaries, and to deposit insurance. Finally, Chapter 7 examines a matter that is today important for economic and social policy and that has been of great concern to America throughout its history—the economic effects of immigration.

Two central themes dominate this *Report* and, not coincidentally, the Administration's approach to economic policy. First, the private enterprise, free market system is generally the best mechanism to organize efficient and full employment of the economy's resources and to generate genuine opportunity and rising living standards for all. To assist the private sector, the government should limit itself to providing essential public services and should avoid blunting or distorting economic incentives by high or uneven tax rates and by unnecessary or inappropriate regulation.

Second, economic performance is seriously injured by the macroeconomic instability inevitably associated with cycles of inflation and disinflation. Such injury was reflected in the relatively sluggish economic growth of the 1970s. It was most acute and most apparent when rising inflation confronted efforts to reduce inflation by lowering monetary growth: in 1969–70, in 1974–75, briefly in late 1979 and early 1980, and finally on a more persistent basis in 1981–82. In each confrontation, the outcome was a recession; in two cases, a severe and prolonged recession.

Even now, the consequences of earlier inflation and disinflation are still felt in the problems afflicting the American economy. The present level of unemployment is partly the heritage of past inflation and necessary actions to control it. Problems in agriculture, in industry, and in international trade are related to fluctuations in commodity prices, asset values, and the value of the dollar that, in turn, are linked to the process of inflation and disinflation and to the economic policies that underlie that process. Problems of the credit system—of borrowers, lenders, and government insurance agencies—derive partly from sharp, unexpected movements in interest rates, asset values, and income levels that accompany the inflation-disinflation process.

The healthy overall performance of the U.S. economy may be small comfort to those affected by its remaining problems. But with time and with appropriate policies, these remaining problems can be corrected. The cure, however, does not lie in policies that would reignite inflation and once again inflict its debilitating effects on the American economy. Rather, the cure lies with policies that will enhance private incentives for growth, while maintaining a stable macroeconomic environment.

THE RISE OF INFLATION AND THE TRANSITION TO PRICE STABILITY

THE LEGACY OF THE 1970s

The prevalent view of macroeconomic policymaking during much of the post-World War II period presumed a stable, long-term trade-off between inflation and unemployment. Policymakers believed that by accepting the increase in inflation associated with more expansionary monetary and fiscal policy, they could achieve an increase in the rate of real growth and a permanent reduction in the unemployment rate. As both inflation and unemployment generally rose during the 1970s, this view of the economy was repeatedly contradicted by events.

Table 1-1 compares the behavior of key macroeconomic indicators and policy variables during the relatively low-inflation period from the second quarter of 1954 through 1970 with the relatively high-inflation period from the fourth quarter of 1970 through 1982. The end points of these periods were chosen because they correspond to business cycle troughs. Between the two periods, the inflation rate, as measured by the GNP implicit price deflator, more than doubled. A higher rate of monetary expansion, a larger share of government spending in GNP, and a larger total government deficit as a share of GNP were all associated with this rise in inflation. The higher rate of inflation and the more expansionary monetary and fiscal policies, however, were not associated with either a lower unemployment rate or a higher rate of real GNP growth. Thus, the secular rise in inflation did not buy either more real growth or less unemployment.

TABLE 1-1.—*Macroeconomic indicators, 1954-82*

[Percent]

Period (trough to trough)	Average annual rate of change ¹			Average level			
	GNP implicit price deflator	Real GNP	M1	Unemployment rate ²	Corporate Aaa bond yields (Moody's)	Government deficit as percent of GNP ³	Government expenditures as percent of GNP ³
1954 II-1970 IV.....	3.0	3.4	3.1	4.8	4.70	0.3	27.7
1970 IV-1982 IV.....	7.5	2.3	6.8	6.7	9.48	1.2	32.1

¹ Change from 1954 II to 1970 IV and from 1970 IV to 1982 IV.

² Unemployed as percent of labor force including resident Armed Forces.

³ Government deficit and expenditures relate to Federal and State and local government sectors, national income and product accounts.

Note.—Based on seasonally adjusted data, except for bond yields.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), Board of Governors of the Federal Reserve System, and Moody's Investors Service.

The rise in inflation is also reflected in the secular rise in interest rates, represented in Table 1-1 by the corporate Aaa bond rate. Since the recession trough in 1954, each successive interest rate cycle

has generated both higher peaks and higher troughs in interest rates; each cyclical rise in interest rates has taken rates to new highs and each successive downturn has failed to bring rates back to their previous lows. The unemployment rate shows a similar upward trend over the same period.

THE ROLE OF MONEY GROWTH

There is a well-established causal link between money growth and inflation over the long run that has been supported by empirical evidence for the United States as well as many other countries. The exact nature of this relationship varies with time and institutions, but the long-run relationship between appropriately defined money growth and inflation is difficult to refute. The relationship between the trend rate of money growth and inflation is illustrated for the United States since 1959 in Chart 1-1. The secular rise in inflation from the mid-1960s through 1980 was associated with an upward drift in the trend rate of money growth. With a lag of 1 to 2 years, most significant slowdowns in money growth are also reflected in subsequent movements in the inflation rate. There are, however, several periods, notably the period since 1982, when the inflation rate has diverged from the trend rate of money growth. The period since 1982 is analyzed later in this chapter.

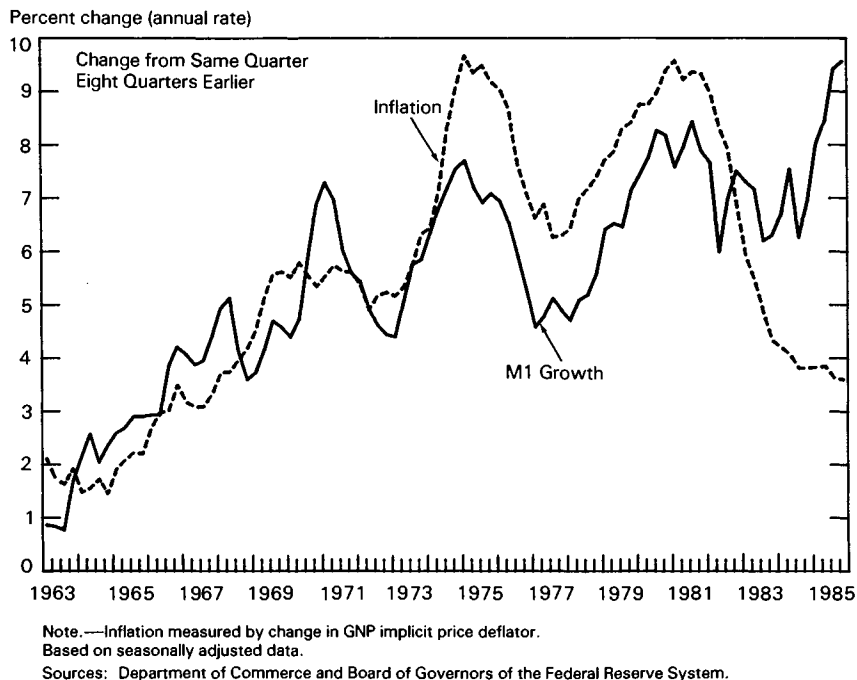
There are several reasons why the inflation rate may not track money growth closely in the short run. The short-run impact of a change in money growth may differ, depending on the state of inflation expectations. If, for example, an increase in money growth occurs when current inflation rates are already high, or when monetary or fiscal actions are already perceived as inflationary, the rise in money growth is likely to show up in the inflation rate more quickly. The immediate effect of a given change in money growth also depends on whether it is perceived as permanent or just a temporary deviation from a long-term policy path. An acceleration of money growth that is perceived to be a permanent move toward a more inflationary policy is likely to translate more immediately into a higher inflation rate.

THE ROLE OF RELATIVE PRICE CHANGES

In some periods, short-term deviations of the observed inflation rate around that implied by long-term money growth can be understood by recognizing the difference between relative price changes and inflation. A relative price change is a change in the price of one particular good or service relative to others. Movements in the prices of individual goods and services arise naturally from the interplay of market forces and reflect changes in costs of production or consum-

Chart 1-1

M1 Growth and Inflation M1 Growth Lagged Eight Quarters



ers' preferences. Changes in relative prices, however, should not be confused with inflation or deflation. Inflation is an ongoing increase and deflation is an ongoing decrease in the general price level. Relative price changes do not cause an ongoing change in the average price level unless they are accommodated and generalized by a change in money growth.

Changes in relative prices, however, may contribute to short-run movements in the price level. As Chart 1-1 illustrates, the observed inflation rate rose above that implied by the long-run trend of money growth during the 1970s. This partially reflects the short-term effects of the oil price shocks of 1974 and 1979. In addition, a poor harvest in 1974 helped push up agricultural prices. Another important contributing factor in the 1979-80 period was the depreciation of the U.S. dollar that began in 1977 and lasted until mid-1980. The decline in the real exchange rate (the observed exchange rate adjusted for price level differences between countries) was another example of

a relative price change that raised the prices of imported goods and added short-term upward pressure to the measured inflation rate.

As the trend rate of money growth rose during the 1970s, many significant relative price adjustments—in energy, food, and the dollar—all worked in the direction of raising the observed rate of inflation above the underlying rate determined by monetary growth. But these relative price changes tended to be self-limiting and self-reversing, while inflation was cumulative and ongoing. The annual average rate of M1 growth more than doubled from 3.5 percent during the 5-year period 1961–65 to 8.6 percent in the 5 years ending in 1980. Thus, the money was supplied to fuel an upward trend in the rate of inflation.

Although the decline of the dollar in the late 1970s contributed to a short-term rise in the measured inflation rate, in a more basic sense the rise in money growth and inflation also contributed importantly to dollar depreciation. Specifically, the rise in 1977 and 1978 of the inflation rate in the United States relative to that in its major trading partners, and the concern this generated about the future course of U.S. monetary policy, contributed to a depreciation of the dollar in the late 1970s. Similarly, the oil price increase in 1979 was probably not independent of either the U.S. inflation rate or the depreciation of the dollar. The reduction in the real price of oil received by oil exporters caused by the rise of U.S. inflation and the depreciation of the dollar likely helped induce additional increases in the price of oil. Therefore, in a short-term context the relative changes in both the value of the dollar and the price of oil helped increase the observed inflation rate. But those relative price shifts were related to a rising inflation rate and to the monetary policy that accommodated that rise.

The oil price increases induced a wealth transfer from oil-importing countries to oil-exporting countries. In an attempt to offset partially the wealth transfer and the associated reduction in real output, many industrialized countries increased the rate of money growth. The rise in money growth validated the upward pressure on the price level caused by the oil price increases and increased the rate of inflation. Despite the rise of inflation, real energy prices rose. Over time the resource allocation function of higher oil prices encouraged conservation and the development of more oil and alternative energy sources. But the wealth transfer to oil exporters was unavoidable. The rise in inflation merely redistributed wealth among U.S. citizens.

As inflation rose over the 1970s, the tendency to confuse relative price changes with inflation led to a series of short-term explanations or rationalizations of the rising inflation rate. Inflation was blamed on oil price increases, poor agricultural harvests, wage pressures, or

whatever relative price adjustment was topical. Relative price changes do not explain ongoing inflation of the magnitude experienced over the decade. But such anecdotes implied that the general rise in inflation somehow had little to do with monetary policy and was beyond the control of policymakers.

THE DISINFLATION OF THE 1980s

Many analysts date the new resolve to reduce inflation in the United States to October 1979, when the Federal Reserve announced a change in its operating procedures to more direct control of the money supply. M1 growth fluctuated widely in 1980 and showed no sustained deceleration until 1981. Despite this short-term variability, the trend rate of money growth (measured as the annual rate of change over eight quarters) fell from 8.4 percent in the third quarter of 1979 to 6.3 percent 3 years later. This monetary deceleration provided the initial disinflationary impetus. Inflation in 1982, as measured by the consumer price index (CPI), was less than half the 1980 rate and by 1983 had been reduced to less than one-fourth the 1980 rate. Thus, the decline in inflation was greater than would have been implied by the decline in the trend of money growth.

The important relative price shifts of the 1970s that had pushed the observed rate of inflation above its underlying rate ended or were reversed during the 1980s. The shift to a disinflationary monetary policy probably contributed to an appreciation of the dollar that began in mid-1980, that in the short term, has helped to hold down prices of imported goods and has generated added price competition for many domestically produced goods. Following decontrol, domestic crude oil prices (measured by the producer price index) dropped more than 21 percent from the end of 1981 to the end of 1985 and the energy products component of the CPI has registered very modest increases in each of the past 4 years. In addition, deregulation in some industries, such as transportation and telecommunications, has likely caused relative price declines that are important enough to affect the composite price indexes. All these relative price adjustments probably had some favorable effect on the observed inflation rate, holding it temporarily below the rate implied by long-term money growth.

In some cases, individual prices have actually declined in recent years. The index of raw commodities spot prices has, for example, declined 26 percent since early 1980; prices of some commodities are down as much as 40 to 50 percent. In each case, however, these relative price declines do not constitute deflation, anymore than the nearly 34 percent increase in the price of medical care services since 1982 constitutes rapid inflation. While relative price changes have

helped reduce the observed inflation rate in recent years, as long as the general price level continues to rise—albeit at a much slower pace—generalized inflation persists.

DISINFLATION AND THE VALUE OF THE DOLLAR

The dramatic move from inflation to disinflation had a marked impact on the U.S. dollar exchange rate. When analyzing exchange rate movements and their effects, it is important to distinguish between the nominal and the real exchange rate. The nominal exchange rate is observed in exchange markets; the real exchange rate is the nominal rate adjusted for price level differences across countries. If changes in the nominal rate reflected only relative price level changes across countries, the real rate would remain constant. By definition, real exchange rate changes reflect changing relative prices and, thus, both affect and are affected by real economic variables.

Nominal exchange rates are asset prices whose values depend not only on current market conditions and policies, but also on expected future market conditions and policies. Nominal exchange rates tend to be more forward looking than domestic price levels; that is, exchange rates adjust more rapidly to actual or expected events than do domestic price levels. As a result, nominal and real exchange rate movements tend to move together. For example, when market participants perceive that one country's policies have become relatively inflationary, the nominal exchange rate depreciates almost immediately. Because domestic prices do not rise immediately, a real depreciation also occurs. When domestic prices begin to rise, the real exchange rate also rises without a concomitant change in the nominal rate because it has already moved in anticipation of a rise in domestic prices.

An unprecedented appreciation in both the nominal and real exchange rate has accompanied the turnaround in the U.S. inflation rate. From July 1980 to February 1985 the multilateral trade-weighted value of the dollar rose 87 percent in nominal terms and 78 percent in real terms. No single factor explains the appreciation of the dollar. It appears, however, that the tightening of Federal Reserve policy and the market perception that future monetary policy would be markedly less inflationary, stimulated a substantial reversal of inflation expectations and contributed to a rise in the dollar. As would be expected, the U.S. domestic price level adjusted less rapidly to this change and, hence, the real exchange rate rose as well. The subsequent fall in the domestic inflation rate reinforced market expectations and may have contributed to further strengthening of both nominal and real dollar exchange rates in 1982. The continued rise of the dollar from 1982 to early 1985 apparently reflects factors

other than, or in addition to, changes in monetary policy. The strength of the U.S. recovery and the rise in the real after-tax rate of return on U.S. investment have probably played an important role in the rise of the dollar since 1982. Nonetheless, it is likely that at least the first stage of the dollar's rise was in large part due to the Federal Reserve's shift to a disinflationary policy and the subsequent success in bringing down U.S. inflation relative to the rest of the world.

THE COSTS OF INFLATION

The inflation of the 1970s, particularly the latter part of the decade, had widespread effects on economic behavior. Market interest rates in the United States rose to levels unprecedented in modern times. Many households shifted to real estate investment as a hedge against inflation. Workers demanded ever-rising wage rates as inflation eroded the real value of income and bracket creep imposed higher tax rates even on incomes that were not rising in real terms. Inflation-induced distortions in the tax code altered relative after-tax rates of return, thereby encouraging otherwise noneconomic investments purely on tax considerations. Profitability declined as many producers faced rising costs, declining productivity, and higher effective tax rates.

A rising inflation rate imposes significant costs on an economy. In theory, an economy can adjust to anticipated inflation if no institutional or legal constraints prevent adjustment. In practice, however, the evidence indicates that the variability of inflation rises with the inflation rate, so that it is likely to be more difficult to anticipate and adjust for higher inflation. In addition, in most economies—and the United States is no exception—many regulations, institutions, and laws are defined in nominal terms so that even if inflation is adequately anticipated, adjustment cannot be complete. To the extent that inflation is imperfectly foreseen or adjustment constrained, it is likely to distort price signals and economic incentives.

It is well recognized that unanticipated inflation causes an arbitrary redistribution of wealth and income. The redistribution of wealth from lenders to borrowers, for example, is well established, as is the adverse effect of inflation on those living on a fixed income. But these distributive effects are not a comprehensive measure of the economic costs of inflation. In addition, high and variable inflation harms allocative efficiency and thereby aggregate economic performance. This cost of inflation is especially important because everyone loses to the extent that the inefficiencies and distortions associated with inflation impair economic performance.

The most basic way in which inflation can impede economic efficiency is by interfering with the appropriate adjustment of relative

prices. In an inflationary environment, it is difficult to disentangle inflation-induced price increases from price changes caused by changes in underlying market conditions. With price signals more difficult to interpret, the ability of the market mechanism to allocate economic resources to their most efficient uses can be impaired. Moreover, a high and variable inflation rate encourages people to devote economic resources to adapt to higher prices, to protect against future inflation, and to attempt to gain from inflation. Activities undertaken to adjust to inflation and activities designed to beat inflation or offset its effects are a waste of economic resources; in an environment of stable prices, these resources would be put to more productive use.

These adverse effects of inflation can be exacerbated by laws and government regulations that are defined in nominal terms. Government regulations or tax policies frequently interact with rising inflation to encourage noneconomic activity designed to circumvent regulation or avoid taxes. Many of the distortions and disincentives that arose during the inflation of the 1970s resulted from the interaction of the inflation rate with government tax and regulatory policies that were defined in nominal terms.

Because a higher inflation rate is also likely to be more variable, rising inflation generates greater uncertainty about the outlook for inflation. Uncertainty about future inflation in general makes financial planning more complex and in particular makes investors less willing to hold long-term, fixed-rate financial assets. As both inflation and interest rates in the 1970s rose above what had been generally expected by financial market participants, holders of fixed-rate financial assets repeatedly incurred significant capital losses. Investors were encouraged to shift funds out of financial assets into certain real assets, such as real estate and gold, the prices of which rose more rapidly than did the general price level. The reluctance of investors to hold financial assets, particularly long-term financial assets, implies a less-than-optimal allocation of capital, as well as an economic loss to the extent that the resources used to adjust portfolios could be put to more productive uses.

Disinflationary policies were adopted on three separate occasions before 1981. As can be seen in Chart 1-1, in 1969-70 and in 1974-75 money growth was reduced substantially and, with a lag of 1½ to 2 years, inflation also declined. In addition, M1 growth fell in late 1979 and early 1980, but reaccelerated during the second half of the year. In all three episodes, a recession was associated with the advent of disinflationary monetary policy. In theory it may be possible to devise a monetary policy strategy that would reduce inflation without necessarily also causing an economic downturn. In practice, however, disinflationary monetary policy in the United States, as well as in

other countries, has frequently been associated with a slowdown in real economic activity in the short run. This is often the major cost of a rise in inflation: the disinflationary monetary policy that becomes necessary is, in practice, likely to result in lost output and employment.

Moreover, these are likely to be only the immediate costs of a disinflationary policy. To the extent that expectations of inflation are built into financial contracts, the effects of a disinflationary policy will linger after the actual inflation rate has fallen. Many of the credit market and other sectoral problems in the economy today are fundamentally related to the inflation-disinflation process. The rise in the inflation rate in the 1970s provided a powerful incentive to assume debt; the tax deductibility of interest expense strengthened this incentive. Assumption of debt is a reasonable strategy in a high-inflation environment, but it leaves both lenders and borrowers vulnerable to an unanticipated change in inflation. In the agriculture, real estate, and energy sectors, for example, debt was incurred in the late 1970s on the presumption that real asset values and some commodity prices would continue to rise at rapid rates. Much of the credit extended to less developed countries (LDCs) when inflation was high was made on the assumption that energy and raw materials prices would continue to rise rapidly enough to generate the foreign exchange earnings needed to service the debt. The subsequent sectoral debt problems arose when the actual inflation rate diverged from these expectations.

In the late 1970s and in 1980 those who borrowed money at fixed interest rates gained as inflation rates rose faster than expectations. A substantial part of their gain came at the expense of lenders and holders of fixed-rate financial assets. Later, when inflation declined more rapidly than anticipated, borrowers' real debt-service burdens rose. Thus the debt problems in various sectors, as well as the associated stress in some financial institutions, are related to the market revaluation of real assets and outstanding debt in a disinflationary environment. In addition, debt continued to be assumed and credit extended on the assumption of high inflation even as inflation fell. The failure of inflation expectations to decline with the inflation rate after 1981 has therefore prolonged the period of adjustment and exacerbated the debt problems in some sectors. The economic situation in LDCs is discussed in Chapter 2, the agriculture sector is analyzed in greater detail in Chapter 4, and the problems of financial institutions are examined in Chapter 6.

Although economists generally agree that reducing inflation requires a decline in the trend of money growth, they agree far less on what the appropriate disinflationary path is. Some adverse real and financial effects are almost inevitable, but it is not clear what policy path or pace of disinflation is most likely to minimize economic disruption. It is possible, however, to identify some aspects of a disinflationary policy that would be expected to facilitate the adjustment process and minimize the resultant economic dislocation.

Once the expectation of continued high inflation is built into economic institutions and behavior, the transition to disinflation requires that expectations and behavior, predicated on years of experience with a rising inflation rate, be realigned. The economic costs—lost jobs and output—associated with reducing inflation occurs when private behavior that is adapted to an inflationary environment confronts a disinflationary monetary policy. Even though money growth is ample to support real economic activity, it will be insufficient to support as well a level of nominal economic activity that presumes a continued high rate of inflation.

The extent of the economic disturbance associated with reducing inflation depends on the responsiveness of inflation expectations. The longer it takes for expectations to adjust, and therefore the longer inflation-based behavior persists, the longer is the likely period during which real growth is restricted by disinflationary monetary policy. Conversely, the more quickly the public comes to believe in lower inflation, and adjusts nominal behavior accordingly, the more quickly decreased money growth becomes sufficient to support adequate real economic growth. A disinflationary policy that assures the public of the government's commitment to controlling inflation and thereby fosters the adjustment of inflation expectations is therefore also likely to minimize the associated economic dislocation.

Inflation was temporarily reduced in two separate periods during the 1970s, then allowed to reaccelerate each time to a rate higher than the previous peak. This probably contributed to public skepticism about the government's ability or willingness to control inflation over the long run. In addition, policies adopted and events in 1980 probably added to this skepticism. Money growth declined in late 1979 and early 1980 and the money supply declined absolutely after credit controls were imposed in March 1980. Interest rates fell sharply, as did the short-term inflation rate. All these developments were abruptly reversed after mid-1980, however, as money growth, interest rates, and inflation all soared to double-digits. The extreme volatility of macroeconomic policy and the associated volatility in interest rates

and the inflation rate likely increased the uncertainty about future inflation and interest rates, as well as about policy itself.

Credible, pre-announced policies that are consistent with the stated goal of lower inflation can facilitate the downward adjustment of inflation expectations. This is true for fiscal as well as monetary policy. In contrast, when policy goals are unclear, and actions are unpredictable or inconsistent with long-term goals, adjustment of expectations is likely to be impeded and the economic cost of reducing inflation is likely to be raised.

The Administration recommended in 1981 that money growth be decelerated in a gradual and predictable pattern. To minimize the disruption to real economic activity and hasten the adjustment of inflation expectations, both the gradual and the predictable elements of that prescription were believed to be important. A gradual move to disinflationary monetary policy allows time for the public to recognize and believe in the new policy and to adjust inflation expectations and behavior accordingly. This gradualism should not only extend the period of adjustment to disinflation, but should also reduce the associated disruption to output and employment growth. A reasonably predictable deceleration of money growth can also provide the public with the assurance of lower inflation needed to reduce inflation expectations. A highly variable path of money growth is more unpredictable and therefore is likely to help maintain and reinforce the uncertainty about future inflation and to retard the adjustment of expectations.

It is difficult to characterize the deceleration of money growth in 1981-82 as either gradual or predictable. The Administration's recommendation assumed a gradual reduction in money growth to 3 percent in 1986. In fact, more than half of the deceleration in money growth that the Administration had envisioned occurring over 6 years occurred during 1981. Moreover, there were two 6-month periods during 1981 and early 1982 when M1 growth was negligible. As a result of the substantial slowdown in monetary growth, inflation probably fell more rapidly than it otherwise would have. However, the abrupt reduction in M1 growth, as well as the protracted periods of very slow money growth, probably contributed to the duration and depth of the 1981-82 recession.

In addition, the variability of M1 growth increased substantially after 1979; the standard deviation of quarterly M1 growth increased from 2.2 percent in the 6-year period preceding October 1979 to 4.8 percent in the 6-year period thereafter. During the seven-quarter period of decelerated money growth that began in 1981, for example, quarterly growth rates of M1 ranged from 3 to 9.2 percent. This

is considerably more variability in M1 growth than can be attributed to technical limitations of monetary control.

In the context of relatively stable prices, such monetary volatility might not be particularly important. But in the early 1980s a major challenge facing policymakers was to restore policy credibility. In that environment, each reacceleration of money growth helped raise anew the fear that disinflationary policy was not permanent and thereby helped maintain and reinforce inflationary expectations even as the actual inflation rate fell dramatically.

Uncertainty about future inflation may also have been exacerbated by the emergence of large budget deficits. Large current and prospective budget deficits may raise the perceived probability that the Federal Reserve will eventually increase money growth and thereby generate higher inflation that would ease the burden of accumulated debt. Concerns about the budget deficit therefore may have interacted with the uncertainty caused by volatile money growth and may have impeded the downward adjustment of inflation expectations.

Thus a number of factors may have effectively raised the cost of reducing inflation during the early 1980s. First, the abrupt and unanticipated deceleration of money growth in 1980-82 probably contributed to a more severe and prolonged recession in 1981-82 than would likely have occurred if a more gradual and predictable deceleration had occurred. Second, the sluggish adjustment of inflation expectations kept nominal interest rates high relative to the actual inflation rate. Moreover, the public's reluctance to revise its expectations of inflation is probably related to the volatile and unpredictable nature of monetary policy, to large budget deficits and the fear that they will be monetized, and to the memory of failed attempts to reduce inflation during the 1970s.

THE EXPANSION TO DATE

The current expansion that began in November 1982 marks an important departure from the pattern of persistently rising inflation rates, interest rates, and unemployment rates that characterized earlier expansions since the rise of general inflation began in the late 1960s. This expansion has been accompanied by a significant decline in inflation relative to historical experience. What is particularly unusual compared with the average postwar expansion is that the inflation rate has continued to decelerate during the third year of this expansion. The four-quarter change in the implicit GNP price deflator was lower in the fourth quarter of 1985 than at any other time in this expansion. For every other postwar expansion the GNP deflator began to accelerate by this stage of the expansion; on average a sub-

stantial reacceleration of inflation had been evident by the third year of the expansion.¹ There is some evidence that the secular rise of interest rates described above may have been broken in this expansion. During 1985 the monthly levels of most short- and long-term interest rates fell below their cyclical lows reached in mid-1980. After rising in 1983 and early 1984, rates declined and at year-end 1985 were below the levels that existed when the expansion began. Interest rates are 5 to 10 percentage points below their peaks in late 1981; in comparison with other postwar expansions, this is by far the largest decline in interest rates that has occurred 3 years into an expansion. In addition, total employment has increased by 9.1 million over the past 3 years. The decline in the unemployment rate in this expansion is the largest decline in any 3-year period since the expansion that began in 1949.

There are other ways in which this expansion has been unusual. The growth of capital investment has been the strongest in the postwar period. The substantial appreciation of the U.S. dollar and the strong growth in the United States relative to the rest of the world have contributed to an unprecedented trade deficit and capital inflow. Contrary to most historical experience around the world, large and persistent trade deficits have coexisted with a strong and, until 1985, appreciating exchange rate. The trade deficit, capital inflow, and relatively strong dollar all appear to be symptomatic of renewed worldwide confidence in the U.S. economy and reflect the availability of relatively attractive investment opportunities in the United States. Some have argued that the trade deficit is evidence of a "two-tiered" economy, with the United States concentrating on production of services and importing goods. Another unusual aspect of this expansion is the large deviation from trend of the growth of velocity, the relationship between the money supply and nominal GNP. With nearly flat velocity over the past 3 years, M1 growth has been very rapid during this expansion, but inflation has remained relatively subdued. Moreover, based on historical relations, the money growth that occurred in late 1984 and 1985 would have been expected to induce a more significant rebound in real growth than has yet occurred. These developments are discussed in greater detail below.

CHARACTERISTICS OF THE EXPANSION

In aggregate terms the current expansion resembles other postwar expansions, but its sectoral and temporal patterns differ from previ-

¹ Throughout this discussion the "average" expansion is defined as the average of post-World War II expansions excluding those beginning in the fourth quarter of 1945, the fourth quarter of 1949, the second quarter of 1958, and the third quarter of 1980. The 1945 and 1949 recoveries are excluded because of distortions relating to the transition from World War II and to the Korean war, respectively; the 1958 and 1980 expansions lasted 2 years or less.

ous experience. Table 1-2 shows growth rates for GNP and various components for the entire expansion, as well as its first and latest six quarters. It also reports growth rates for other selected macroeconomic variables.

TABLE 1-2.—*Growth rates of real GNP components, current expansion and average of previous expansions*

[Average annual percent change, except as noted]

Item	First 3 years of expansion		First six quarters of expansion		Second six quarters of expansion	
	Current ¹	Average ²	Current ¹	Average ²	Current ¹	Average ²
REAL GNP ³	4.5	4.5	6.9	5.2	2.1	3.8
Final sales ⁴	3.8	3.9	4.3	4.1	3.4	3.7
Personal consumption expenditures.....	3.9	4.3	5.2	5.1	2.5	3.4
Gross private domestic investment.....	17.4	10.6	38.0	15.7	—1	6.0
Nonresidential fixed investment.....	11.3	6.4	13.6	6.0	9.0	6.9
Structures.....	6.8	3.0	4.9	2.6	8.7	3.5
Producers' durable equipment.....	14.0	8.8	19.1	8.9	9.1	9.1
Residential fixed investment.....	15.1	9.3	29.2	15.0	2.6	4.2
Exports of goods and services.....	2.4	8.8	6.0	4.6	—1.1	13.2
Imports of goods and services.....	14.6	8.6	25.7	10.4	4.5	7.0
Government purchases of goods and services.....	4.0	1.1	1.7	.5	6.3	1.8
Federal.....	5.9	—1.1	1.2	—1.2	10.8	—9
State and local.....	2.4	3.7	2.1	3.1	2.7	4.2
Change in inventory accumulation (billions of 1982 dollars) ..	59.4	36.6	125.3	30.7	—65.9	5.9
ADDENDA:						
GNP implicit price deflator.....	3.6	4.5	3.8	4.2	3.4	4.7
Employment including resident Armed Forces ⁵	8.8	7.6	5.9	3.8	2.8	3.6
Industrial production.....	7.6	7.3	13.4	9.3	2.0	5.3
Corporate Aaa bond yields (Moody's) ⁶	—1.30	.12	1.34	—1.14	—2.64	.26

¹ Calculated from 1982 IV, the most recent recession trough.

² Average of expansions that began in 1954 II, 1961 I, 1970 IV, and 1975 I.

³ Real GNP and its components are in 1982 dollars.

⁴ GNP less change in business inventories.

⁵ Absolute percent change.

⁶ Absolute change.

Note.—For current expansion, change for first 3 years and second six quarters based on preliminary data for 1985 IV.

Sources: Department of Commerce (Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), Board of Governors of the Federal Reserve System, and Moody's Investors Service.

Over the 3 years of this expansion, aggregate measures of economic activity such as real GNP, real final sales, and industrial production all increased at rates similar to those registered in the typical postwar expansion. The temporal pattern of this expansion, however, differs from the average expansion. Growth rates of both real GNP and industrial production were significantly stronger in the first six quarters and subsequently have moderated. This is explained partly by the behavior of inventory accumulation that helped boost real growth early in the expansion, but reduced growth as inventories were depleted in the more moderate second phase of the expansion. While inventory drawdown has reduced GNP growth in recent quarters, current low

inventory-sales ratios suggest that no important inventory imbalances exist at this stage of the expansion.

The growth of personal consumption expenditures was below that of the average postwar expansion, particularly in the second six quarters of the expansion. Growth of government spending was somewhat higher than in previous expansions, but this growth has been concentrated in the latter six quarters of the current expansion when the overall growth rate was moderating. Thus, it does not appear that this expansion has been driven by especially strong growth of either consumer or government spending.

The sector that has uniformly outperformed average historical experience is gross private domestic investment. Despite high real interest rates and concern about crowding out of domestic investment by the Federal deficit, above-average growth was recorded for all major categories of private domestic fixed investment and was particularly prominent for real nonresidential fixed investment. From the recession trough through the fourth quarter of 1985, real nonresidential fixed investment increased 11.3 percent per year, compared with 6.4 percent in the average postwar expansion. The growth of real nonresidential fixed investment in this expansion has been more than twice that of consumption or real GNP. Both producers' durable equipment and structures have advanced at rates above normal for comparable expansions. As a consequence, the ratio of real nonresidential fixed investment to GNP has risen to a postwar high of 13.5 percent as of the fourth quarter of 1985. Nonresidential fixed investment has contributed nearly twice as much to real GNP growth in this expansion as in the average postwar expansion. While fixed investment has continued to grow rapidly during the second six quarters of this expansion, there has been a sharp reduction in total investment growth. This is attributable to the decline in inventory accumulation discussed above.

The expansion also compares favorably to recent experience in other industrialized countries. Since 1982, real growth in the United States has been substantially stronger than in every other industrial country except Canada and Japan, where growth rates have been similar to the United States. With relatively strong income growth in the United States, the demand for imports has risen more rapidly than the foreign demand for U.S. exports. This has been reinforced by the appreciation of the dollar and has helped generate a decline in the net export balance. Strong U.S. growth and weak growth in foreign countries have contributed to the increase in the U.S. trade deficit. This is a more appropriate interpretation of cause and effect than the suggestion that the growth of the trade deficit has caused slower real growth in the United States. Thus, an increase in foreign economic growth would reduce the trade deficit and increase U.S. GNP growth. As discussed in Chapter 3, protectionist measures designed

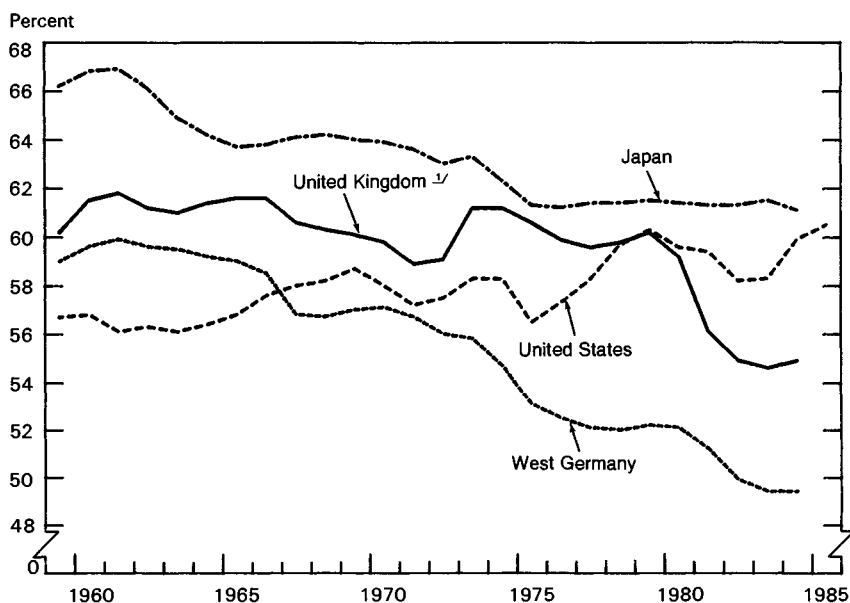
to reduce U.S. imports would likely also reduce U.S. GNP growth and might not lead to an improved trade balance.

EMPLOYMENT GROWTH IN THIS EXPANSION

Strong employment growth is an outstanding feature of the current economic expansion. The 9.1 million increase in employment represents an 8.8 percent increase since the trough of the recession, compared with a 7.6 percent increase in the average postwar expansion. As illustrated in Chart 1-2, a higher fraction of the U.S. population is now at work than at any time in the postwar period. The employment-to-population ratio increased by 3 percentage points during the current expansion, and is now at an all-time high of 60.8 percent.

Chart 1-2

Employment-Population Ratio An International Comparison (Annual Data)



✓ Excludes Northern Ireland.

Note.—For United States, employment as percent of noninstitutional population (both include resident Armed Forces); data relate to persons 16 years of age and over. For other countries, data approximate U.S. concepts.

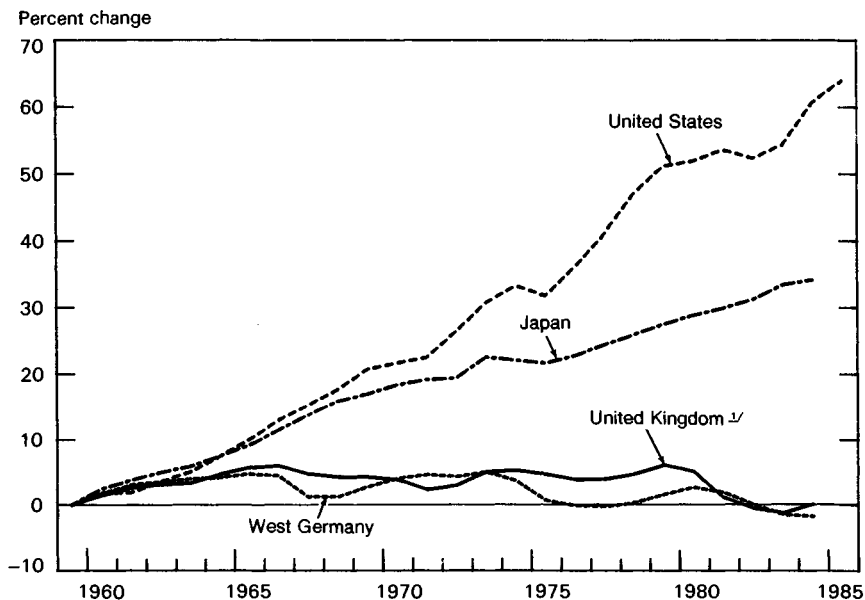
Source: Department of Labor.

This employment performance compares favorably with those of other major industrialized countries. As shown in Chart 1-2, the major European industrial countries as well as Japan employ a smaller percentage of their population today than they did 20 years ago.

Cumulative gains in employment in the United States compared with those for other major countries are presented in Chart 1-3. Over the past 25 years employment has remained stable in West Germany and the United Kingdom, while it has grown moderately in Japan. By contrast, U.S. employment growth has been vigorous, adding more than 40 million workers since 1959. For the 1980-84 period, employment has grown 5.7 percent in the United States, compared with a weighted-average decline of 0.6 percent in other major industrialized countries.

Chart 1-3

Cumulative Change in Employment Since 1959
An International Comparison
 (Annual Data)



✓Excludes Northern Ireland.

Note.—For United States, employment includes resident Armed Forces; data relate to persons 16 years of age and over. For other countries, data approximate U.S. concepts.

Source: Department of Labor.

The total unemployment rate has fallen 3.8 percentage points from 10.6 percent at the trough of the recession, to 6.8 percent in December 1985. This decline in the unemployment rate is nearly double the decline recorded in an average postwar expansion. At the outset of this expansion, however, the unemployment rate was at a postwar high. This reflects the secular rise in the unemployment rate noted earlier as well as the length and severity of the 1981-82 recession. As a result, the unemployment rate remains relatively high by historical standards despite the employment gains recorded in this expansion.

The long-term tendency of the unemployment rate to remain high is partly attributable to increases in the working-age population and in the labor force participation rate. The working-age population has increased substantially as the postwar baby boom generation entered the labor force. Increases in the labor force participation rate are also due to the increased participation of women. The total labor force grew from 71.5 million in 1960 to 117.2 million in 1985. Despite the strength of employment growth, it has not matched labor force growth and the unemployment rate has tended to rise secularly since 1957. In recent months the labor force participation rate has risen to an all-time high of 65.3 percent and the labor force has increased by 5.2 million people during this expansion.

Nominal and real wage rates as well as unit labor costs have all increased at rates below those in the average postwar expansion. Despite the limited growth in wage rates, employment gains have led to sizable gains in total wages; record increases in hours worked per employee have increased real wages per employee.

Labor productivity growth plays an important role in determining real wage rates. So far in this expansion, productivity in the nonfarm business sector has increased at an average annual rate of 1.4 percent and manufacturing productivity has increased at an average annual rate of 4.3 percent. This is considerably below productivity performance in the average postwar expansion. Even with slow productivity growth in this expansion, growth in unit labor costs has been well below average. This reflects the sharp slowdown in wage growth. It appears that the slowdown in output growth during the second half of this expansion has contributed to the slowdown in measured productivity growth. Over the longer run the rapid growth in investment and favorable shifts in the composition of the labor force are expected to lead to higher productivity growth.

THE "TWO-TIERED" ECONOMY

In any expansion, some industries and firms grow more rapidly than others. In this expansion, performance of some particularly visible industries such as steel and leather footwear has been especially weak. Because these industries produce goods, their relatively weak performance has led to concern that the United States is becoming a "two-tiered" economy in which the services sector expands at the expense of the goods-producing sector. Growth of the trade deficit has reinforced this view and raised concern that the U.S. economy will become predominantly a service producer. The performance of specific industries and the trade deficit are discussed in Chapter 3.

Long-term trends show no indication that overall production of goods is becoming less important in the U.S. economy.² For the past 25 years, goods production as a share of real GNP has been remarkably stable, fluctuating in a relatively narrow range of 41 to 45 percent of GNP. The share of goods production in GNP in 1985 is above the middle of this range and is higher than it has been in more than a decade. Furthermore, there is no indication that this secular pattern of goods production has been altered during this expansion.

Table 1-3 compares growth in goods- and service-producing sectors for the first 3 years of postwar expansions. Relative to real GNP growth, goods production has expanded more rapidly and service production has grown more slowly during the current expansion than in any other postwar expansion. These data demonstrate that the growth of U.S. demand has been sufficient during the current expansion to generate a substantial increase in the production of both goods and services.

TABLE 1-3.—*Output and employment growth, current and previous expansions*

[Absolute percent change 3 years from trough]

First 3 years of expansions beginning	Real GNP by type of product			Nonagricultural payroll employment by type of industry		
	Goods	Services	Total GNP ¹	Goods-producing	Service-producing	Total
1954 II.....	11.6	11.2	10.8	7.0	9.4	8.4
1961 I.....	17.4	15.5	16.6	5.8	8.7	7.6
1970 IV.....	17.6	12.0	14.5	10.3	10.5	10.4
1975 I.....	15.9	11.0	14.3	9.0	11.2	10.5
AVERAGE OF ABOVE.....	15.6	12.4	14.0	8.0	9.9	9.2
1982 IV ²	19.0	6.4	14.1	9.2	12.1	11.3

¹ Total GNP includes structures, not shown separately.

² Based on preliminary data for 1985 IV.

Sources: Department of Commerce (Bureau of Economic Analysis) and Department of Labor (Bureau of Labor Statistics).

Further, if the United States were becoming a two-tiered economy, a change in the historical relationship between real GNP (which measures production of goods and services) and industrial production (which is composed of goods) would be apparent. This relationship, however, does not reveal any weakening of industrial production growth relative to real GNP growth during this expansion.

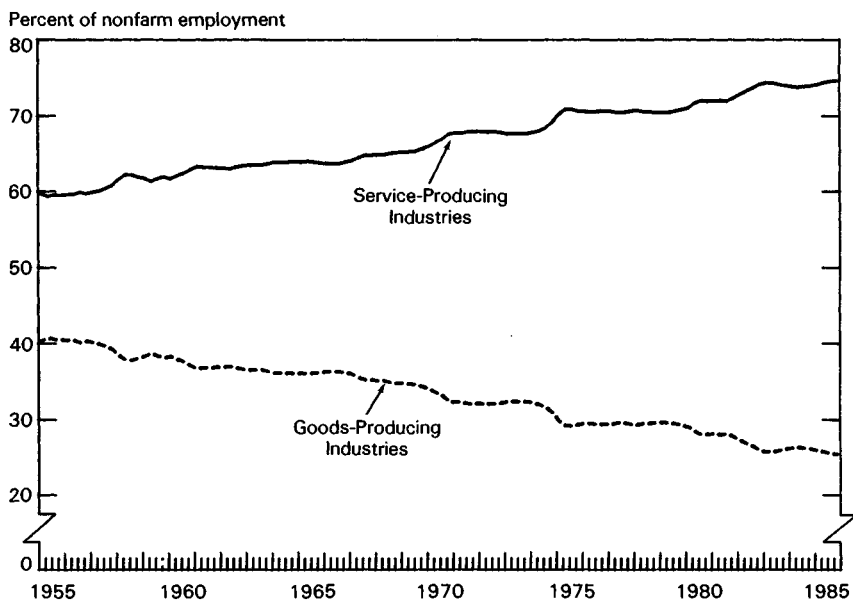
Inferences about the relative decline in the goods sector are often based on the fact that employment in goods-producing industries as a share of total employment is falling. However, this is not a phe-

² The qualitative conclusions drawn from this analysis are the same whether the analysis is based on goods production or industrial production.

nomenon peculiar to this expansion. As shown in Chart 1-4, the share of employment devoted to goods production has trended downward for the past 30 years, while the service-producing employment share has steadily increased. Neither of these trends appears to have changed during this expansion or the preceding recession. The coexistence of a declining share of goods-producing employment and a relatively constant share of goods production in GNP is evidence of relatively rapid productivity growth in the goods-producing sector, not a decline in output growth.

Chart 1-4

Employment Shares—Goods-Producing and Service-Producing Industries



Note.—Data relate to all employees on nonfarm payrolls (establishment data), seasonally adjusted.

Source: Department of Labor.

The comparison of employment growth contained in Table 1-3 shows that employment in goods-producing industries has grown more during the current expansion than in all but one of the other postwar expansions examined, and is above the average performance of these four previous cycles. Aggregate employment growth in this expansion has been sufficient to yield substantial employment gains in both the goods-producing and services sectors.

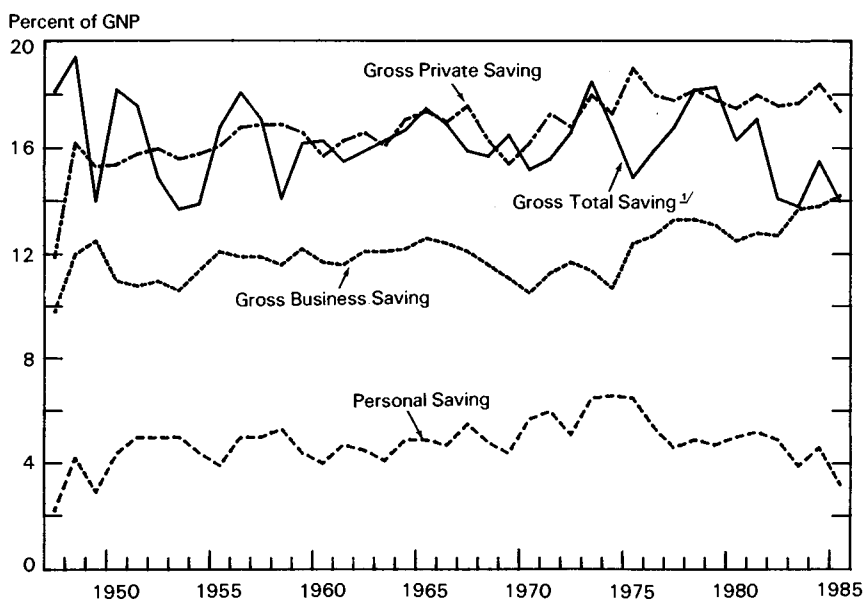
THE SAVING RATE AND CONSUMER DEBT

Saving and Investment

Aggregate saving provides the financing for business investment, housing, government deficits, and other lending. A lower saving rate, other things being equal, implies that fewer funds are available for capital formation. Chart 1-5 shows various components of saving represented relative to nominal GNP. Personal saving as a share of GNP has drifted downward since the mid-1970s and remains low relative to its historical norm. However, business saving as a share of GNP has increased since 1974, and this has offset the relative decline in personal saving. As a consequence, gross private saving (personal saving plus business saving) as a share of GNP is approximately at the 1970s level and is above the level achieved during most of the 1950s and 1960s.

Chart 1-5

Saving Measures as Percent of GNP



^{1/}Gross total saving is gross private saving plus government surplus or deficit.

Source: Department of Commerce.

What is relevant for inferences about the impact of saving on investment is the total amount of saving. In terms of funds available for borrowing, it makes no difference whether the funds originate from the household, business, or government sector. In addition, the

U.S. financial markets are part of an increasingly well-integrated world capital market. To the extent that investment opportunities are more profitable here than in the rest of the world, saving will be attracted to the United States to finance investment.

Gross total saving is private saving plus government saving (government saving is negative when governments run a deficit). As is illustrated in Chart 1-5, gross total saving relative to GNP has drifted downward since 1979. In recent years this is attributable in an arithmetic sense to the size of total government budget deficits. Despite large government deficits, it is important to note that the level of gross total domestic saving relative to GNP in recent years is not an unprecedented low for the postwar period. Nonetheless, it is a legitimate matter of concern that total domestic saving is relatively low. The absorption of saving by persistent budget deficits is detrimental to long-term capital formation.

In addition, the relative price of investment goods (as measured by the ratio of the price deflator for nonresidential fixed investment to the GNP deflator) has declined 11 percent since the fourth quarter of 1982. This means that a given nominal amount of saving translates into higher real investment because real saving—in terms of the investment that can be financed—is higher than is indicated by nominal saving as a share of GNP. In fact, private saving was 102 percent of total U.S. investment as of third quarter 1985.

Personal Saving and Consumer Debt

Low personal saving may also be of concern in conjunction with record levels of consumer indebtedness. Outstanding household debt as a share of disposable personal income reached a record high of 82 percent in the third quarter of 1985. With high household indebtedness and a low saving rate, some analysts have suggested that consumers might curtail consumption in order to reduce indebtedness. This raises concern that an economic slowdown could result from reduced consumer spending. However, other factors are relevant to the recent trends in saving and indebtedness.

First, while the ratio of debt to income has risen, the ratio of assets to income has risen faster. The ratio of household debt to liquid assets has fallen from a postwar peak of 69 percent in 1979 to 65 percent in the third quarter of 1985. As long as the asset position of households is strong, the servicing of debt should not be a problem.

Second, real household net worth, the difference between household assets and household debt, has increased 6.2 percent during this expansion. Increased household wealth, along with high real interest rates, may be related to the low personal saving rate. If households save to accumulate funds to finance a given amount of future consumption, then an increase in the market value of current asset

holdings reduces required saving relative to current income. Recent declines in private sector employer contributions to defined-benefit pension plans may reflect this effect. Increases in the market value of pension fund assets reduce required employer contributions. Because these contributions are included in personal income, the result is an observed decline in the personal saving rate even though savers' claims to future pension benefits are unchanged.

Demographic shifts may have also played a role in the decline in the personal saving rate. The proportion of the population between the ages of 25 and 44 has grown continuously since 1970. Because this age group typically saves relatively less and borrows relatively more, its higher representation in the population may contribute to a lower overall saving rate and higher consumer indebtedness. In addition, the over-65 age bracket has also grown since 1970. Because retired people tend to save less, this development also would be expected to reduce the personal saving rate.

REAL INVESTMENT AND GROWTH IN THIS EXPANSION

Real gross business fixed investment has grown much more rapidly during this expansion than it has in the average postwar expansion. Although it slowed in 1985 from its 1984 pace, real gross business fixed investment grew faster than real GNP in 1985 and for the second consecutive year reached a postwar high as a share of real GNP. However, real net business fixed investment as a share of real net national product has not reached a postwar high. The slower growth in net investment relative to gross investment is partly due to the direction of investment toward relatively shorter lived assets. The shortening of new investment lives is not necessarily undesirable, at least to the extent that it implies a more flexible capital stock that is more adaptable to technological change and to relative price changes.

A number of factors have contributed to the boom in gross investment. The robust expansion initially stimulated increased investment demand. The ratio of real investment to real GNP has a predominant cyclical component and moves closely with capacity utilization. When capacity utilization rises because of increased aggregate demand, real business investment generally rises relative to real GNP. The real economy and capacity utilization rose rapidly until mid-1984 and real business investment as a share of real GNP rose as well. Since the third quarter of 1984, real GNP growth has decelerated substantially and capacity utilization has actually fallen while real investment has continued to increase. Thus, the performance of real business investment thus far has exceeded that implied by typical cyclical behavior.

Because cyclical events cannot explain the continued strength of real investment, other influences must be at work. One important factor has been the dramatic decline in the relative price of investment goods. After rising somewhat faster than the general price level since the mid-1970s, investment goods prices have exhibited essentially no growth since the end of 1982 while the general price level has increased more than 11 percent.

More importantly, the tax changes in 1981 significantly improved the tax environment for business investment. During the 1970s the rise in inflation and existing depreciation schedules made depreciation allowances increasingly inadequate to cover the cost of replacement investment goods. That is, with the existing tax code, accelerating inflation raised the effective tax rate on income from investment in business plant and equipment. The net effect of tax law changes since 1981 has been shorter tax lives of many assets, more accelerated depreciation, and an expanded investment tax credit. These tax changes interacted with disinflation in the 1980s to reduce the effective tax rate on investment income. As a result, after-tax rates of return on new business investment rose and incentives to invest were enhanced.

The combination of high real interest rates and robust investment growth over the past 3 years may appear paradoxical. They are not. The initial rise in real interest rates was associated with the shift to disinflationary monetary policy. In addition, many have attributed the sustained high levels of real interest rates to the emergence of large Federal budget deficits. As the expansion progressed, however, neither explanation for high real rates was consistent with the strong investment growth that occurred. Either explanation would have involved a crowding out of real investment by high real rates, not the observed investment boom.

An explanation consistent with actual events is that real interest rates both determine and are determined by investment demand. It appears that the tax law changes in 1981 interacted with the decline in inflation to raise the internal rate of return on capital investment. As a result, more investment projects became profitable. To finance these projects, firms willingly bid up the real rate of interest in financial markets. Thus, a portion of the observed, historically high real interest rates reflects an increase in the underlying after-tax real return on plant and equipment.

As much as 20 to 25 percent of the rise in real business fixed investment during the period 1982-84 has been attributed to tax law changes. Thus, while other influences are clearly at work, tax changes have also played a critical role in the investment boom of this expansion. Furthermore, to the extent that tax changes have stimulated in-

vestment demand, they may also have had an effect on the level of real interest rates.

U.S. DOMESTIC INVESTMENT AND FOREIGN CAPITAL INFLOWS

Unprecedented net flows of foreign capital into the United States have accompanied the investment boom in this expansion. The counterpart of a net capital inflow is a current account deficit. The U.S. current account deficit has risen from \$8 billion in 1982 to an annual rate of \$110 billion during the first three quarters of 1985. This increase in net capital inflows has played an important role in financing the rapid investment growth in the presence of a large government deficit.

The capital account measures increases in foreigners' claims on U.S. residents (capital inflows) versus increases in U.S. claims on foreigners (capital outflows). Thus, a capital account surplus means that foreigners' claims on U.S. residents have risen relative to U.S. claims on foreigners. Traditionally, capital account surpluses or deficits have been viewed as passively adjusting to finance current account deficits or surpluses. Consequently, the relative demands for and supplies of goods and services across countries have been considered the major determinants of current account balances. Capital flows, however, should not be thought of as passively financing an independently determined current account balance. Rather, the desired capital account balance, determined by investors' efforts to earn the highest available risk-adjusted return, exerts an independent force on the payments balance. The current account adjusts to reflect the consequent net capital flows. This adjustment of the current account occurs primarily through changes in exchange rates, relative prices, and income levels at home and abroad.

Domestic investment is financed by private domestic saving and total government saving as well as net capital inflow from abroad. The links between these variables are summarized by the accounting identity:

$$\text{Private Saving} + \text{Government Saving} = \text{Domestic Investment} + \text{Net Foreign Investment},$$

where net foreign investment is the net accumulation of foreign assets by domestic residents. It corresponds to both a current account surplus and a net outflow of capital. Government saving is negative when the government runs a deficit, and net foreign investment is negative when the current account is in deficit. A necessary implication of this accounting identity is that when total domestic investment exceeds total domestic saving, the current account is in deficit and foreign capital flows into the United States and conversely. Furthermore, an increase in the government budget deficit, with con-

stant private saving and constant domestic investment, necessarily implies a worsening of the current account balance. A government budget deficit, however, is neither necessary nor sufficient for a current account deficit. A current account deficit could coexist with a budget surplus if domestic investment exceeded the sum of private saving and the budget surplus and conversely. Hence, to understand the relationship between budget deficits and the current account balance, it is necessary to take account of how economic forces affect private saving and domestic investment. Table 1-4 provides the data relevant to understanding these relationships.

When domestic investment was at a cyclical low in 1975, total domestic saving exceeded domestic investment and the current account was in surplus. This occurred despite a total government deficit in 1975 that, as a share of GNP, was larger than that in 1982 or 1985. As the economy expanded after 1975, domestic investment rose and the total government deficit fell as a share of GNP. By 1978 the total government budget was essentially balanced, but the current account balance, as a share of GNP, had deteriorated by about 2 percentage points. Foreign capital flowed into the United States as domestic investment expanded and outpaced domestic savings.

TABLE 1-4.—*Saving, investment, government deficit, and current account balance as percent of GNP, 1972-85*

[Percent of GNP]

Year	Government saving		Gross private saving	Gross private domestic investment	Current account balance
	Federal and State and local	Federal			
1972.....	-0.3	-1.4	16.8	16.7	-0.5
1973.....	.6	-.4	18.0	17.6	.5
1974.....	-.3	-.8	17.3	16.3	.1
1975.....	-4.1	-4.3	19.0	13.7	1.1
1976.....	-2.2	-3.0	18.0	15.6	.2
1977.....	-1.0	-2.3	17.8	17.3	-.7
1978.....	-.0	-1.3	18.2	18.5	-.7
1979.....	.5	-.6	17.8	18.1	-.0
1980.....	-1.3	-2.2	17.5	16.0	.1
1981.....	-1.0	-2.1	18.0	16.9	.2
1982.....	-3.5	-4.6	17.6	14.1	-.3
1983.....	-3.8	-5.3	17.7	14.8	-1.4
1984.....	-2.9	-4.6	18.4	17.9	-2.8
1985 ¹	-3.3	-4.8	17.5	16.8	-2.8

¹ Average for first three quarters.

Source: Department of Commerce, Bureau of Economic Analysis.

The situation in 1982 was similar to that in 1975. Both the Federal and the total government deficits were approximately the same share of GNP. Because domestic investment was at a cyclical low in 1982 and the excess of private domestic saving over domestic investment was nearly sufficient to finance the government budget deficit, the current account deficit was negligible.

Although more pronounced, the cyclical rebound of domestic investment from 1982 to 1985 was similar to that from 1975 to 1978. Contrary to the 1975-78 experience, however, the government deficit hardly receded at all. With the rise in domestic investment accompanied by a relatively constant government deficit as a share of GNP, private saving was insufficient to satisfy all domestic demand for credit. Consequently, foreign capital flowed in to finance the excess of the government deficit plus domestic investment over private saving. A current account deficit was the counterpart of this capital inflow.

The Role of the Dollar

The real appreciation of the U.S. dollar in foreign exchange markets since 1980 is widely believed to have played a key role in generating the current account deficit necessarily implied by the combination of the budget deficit and the levels of private saving and domestic investment. Increases in the real value of the dollar were initially associated with the actual and perceived shift to a tighter monetary policy in the United States and the attendant effects of this policy shift on nominal and real interest rates. As the recovery began in late 1982, however, the persistence of high U.S. real interest rates and a strong dollar were most likely due primarily to rapid real growth in the United States relative to that in the rest of the world. The robust expansion, low inflation, and business tax cuts all improved the after-tax real return to new business investment and raised the return on dollar-denominated assets in general, making the United States more attractive to investors worldwide. The increased demand for dollar-denominated assets bid up the real foreign exchange value of the dollar. As a result, the current account balance has deteriorated sufficiently to enable a net capital inflow to finance the excess of U.S. domestic investment over domestic saving.

Events other than the rise in the dollar have also contributed to the increased current account deficit. Because the U.S. expansion has been strong relative to those of other industrialized countries, U.S. demand for imports has grown more rapidly than foreign demand for U.S. exports. This real growth differential alone would have worsened the U.S. current account balance. In addition, efforts of developing countries to reduce imports in order to limit their external borrowing requirements has reduced demand for U.S. exports.

Resolving External Imbalances

Because an excess of investment over saving in the United States necessarily implies an excess of saving over investment in the rest of the world, the U.S. current account deficit is a product of macroeconomic policies and conditions abroad as well as in the United States.

The Group of Five Agreement in September 1985 was an important recognition that policy changes across countries, not just in the United States, are essential to correct external imbalances. Specifically, the Ministers of Finance and Central Bank Governors of France, West Germany, Japan, the United Kingdom, and the United States agreed that policies designed to achieve increased convergence of economic performance, especially sustained, noninflationary growth, were the responsibility of all of the participants. Hence, the United States reaffirmed its commitment to decrease the Federal Government's claim on domestic saving by reducing government spending as a share of GNP. The remaining four countries committed themselves to policies that promote internally generated economic growth, thereby providing increased demand for their own output as well as for U.S. and LDC exports. While the Ministers and Governors noted and agreed that a realignment of exchange rates should play a role in redressing external imbalances, such a realignment cannot be sustained unless policies are pursued to generate more balanced economic growth.

It is important to note that intervention in foreign exchange markets to force down the value of the dollar is not an appropriate long-term strategy to resolve external imbalances. Intervention that does not affect domestic money supplies has little if any long-run effect on nominal or real exchange rates. Intervention that does affect domestic money supplies is tantamount to conducting domestic monetary policy in foreign exchange markets. Such intervention can affect the long-run behavior of nominal exchange rates, and perhaps also the shorter run behavior of real exchange rates. However, commitment of monetary policy to the control of exchange rate movements interferes with its use for other important policy objectives—most importantly maintenance of price stability and avoidance of money-induced fluctuations in economic activity. The Group of Five's policy initiatives recognize these limitations of foreign exchange market intervention, and place appropriate emphasis on correcting investment and saving imbalances and divergent real growth rates as the means for resolving external payments imbalances.

Can the Current Situation Persist?

Whether, and for how long, the U.S. current account deficit can persist depends on foreign and domestic saving and investment decisions and on the macroeconomic policies that affect those decisions. Labor forces have been growing relatively more slowly in Japan and Western Europe than in the United States. Consequently, these countries require less investment than the United States to equip new members of the labor force with physical capital. Higher tax rates on capital and structural rigidities make investment in both Japan and

most of Western Europe less attractive. Furthermore, the average age of the populations of Western Europe and Japan is rising more rapidly than in the United States. Consequently, these countries require higher saving rates to finance future retirement benefits. These conditions suggest that investment may continue to exceed saving in the United States while saving may continue to outpace investment in Japan and Western Europe. Consequently, a continued net inflow of foreign capital into the United States can be expected.

As a result of persistent current account deficits for the past 4 years, the stock of U.S. assets held by foreigners now exceeds the stock of foreign assets held by U.S. residents. With this net debtor position currently expanding by more than \$100 billion per year, the U.S. situation has been termed a pending debt crisis similar to those experienced by some LDC debtors. However, there is little similarity between the positions of LDC debtors and that of the United States.

The foreign debt of LDCs is primarily government debt denominated in foreign currencies, while U.S. foreign debt is denominated mostly in dollars and is broadly diversified across public and private assets. Moreover, the United States has become a net debtor primarily because funds, especially those of U.S. banks, that used to flow abroad are now being invested in the United States. Finally, the extent to which the servicing of this debt becomes a future burden depends on whether the capital inflows are used productively to generate the future income needed to service the debt. With U.S. fixed real investment as a share of GNP at an all-time high, it does not appear that the capital inflow into the United States is being squandered.

RECENT BEHAVIOR OF VELOCITY

One of the unusual aspects of this recovery has been the behavior of velocity and the uncertainty it has generated about the meaning of money growth. The trend growth of velocity from 1959 to the last business cycle peak in 1981 has been 3.3 percent per year. In contrast, velocity has declined slightly during this expansion. Velocity has typically exhibited sizable fluctuations in the short run, but recent deviations of velocity growth from trend have been large and persistent by comparison with postwar experience.

Growth of M1 has been very strong in this expansion, yet the rise of inflation that would be inferred from the historical relationship between M1 growth and inflation has not occurred. Over the 12 quarters of this expansion, M1 growth has been about 9 percent and has exceeded the rates associated with the rise in inflation in the 1970s. In addition, M1 growth was more than 11 percent in 1985, but the rebound in the real economy recorded through the fourth quarter

has not been as strong as would be expected from the historical relationship between short-term changes in money growth and economic activity.

There are several competing explanations for this below-trend growth of velocity. Because a change in money growth affects economic activity with a lag and velocity is the ratio of nominal GNP to M1, part of the unusual fluctuations in velocity in recent years is related to increased volatility of money growth. While this may contribute to abnormal velocity behavior in the short run, monetary volatility does not explain the longer lived declines in velocity growth observed since 1982.

Some analysts relate the behavior of velocity in this expansion to inventory swings and to the increase in the trade deficit. A larger trade deficit may depress velocity because a larger share of the domestic spending facilitated by money growth is satisfied by imports and does not show up in GNP. By the same reasoning, relatively large swings in inventories might account for more volatile velocity behavior as domestic spending translates into changes in inventory accumulation rather than into production. There is, however, little difference over the past 5 years between the behavior of the conventional measure of velocity and a measure that accounts for changes in inventories and in the trade deficit. Hence, neither appears to be a major factor contributing to the prolonged period of abnormal velocity behavior.

The deregulation of deposits at financial institutions can have both transitory and permanent effects on velocity growth. The introduction of new types of deposit accounts can induce shifts of funds among various monetary aggregates that can affect observed money and velocity growth. But once completed these deposit shifts have no lasting effect on money or velocity growth. A permanent change in velocity growth may have been caused by the inclusion in M1 of interest-bearing checking accounts, which function partially as savings balances. As a result, the public's desire to hold M1 balances as either income or interest rates change may have been altered. The saving element in M1 may induce the public to build up M1 balances more rapidly as income rises; this would reduce the trend growth of velocity.

In addition, it is possible that the inclusion of interest-bearing deposits in M1 has altered the interest-elasticity of the demand for M1 balances. Because some M1 assets now pay interest, M1 balances may grow more rapidly and velocity more slowly if market interest rates fall relative to those paid on M1 deposits. The declines in velocity in early 1985 may be attributable to the decline in interest rates over

the same period. However, velocity continued to fall and M1 growth continued in double digits after interest rates stopped falling in June.

Disinflation has likely also contributed to abnormally low velocity growth. The secular rise in inflation and interest rates over the past few decades has probably contributed to the positive trend growth of velocity over that period. The decline in inflation after 1981 and the downward adjustment of both interest rates and inflation expectations may have been substantial enough to induce a realignment of velocity behavior. Some empirical evidence suggests that in the United States the decline in velocity in 1982-83 was related to falling inflation and interest rates, rather than to financial deregulation. Moreover, since 1981 most industrialized countries have experienced slower than normal velocity behavior, even though the substantial financial deregulation that occurred in the United States did not generally occur elsewhere. A common factor in all these countries is the decline in inflation and interest rates.

There is not now sufficient information to determine the nature and precise extent of any permanent change in velocity behavior. Nevertheless, it is difficult to see any evidence that would justify over the long run the money growth that occurred in 1985. Even if velocity remained constant rather than resuming its positive trend growth, 12 percent money growth combined with 4 percent annual real growth would imply 8 percent inflation over the long run. If velocity were to return to a positive trend, such money growth would imply an even higher long-term inflation rate.

Federal Reserve Policies Since 1982

The record of monetary policy actions and statements by Federal Reserve officials indicate that, in the absence of evidence of any significant reacceleration of inflation, the Federal Reserve has reacted to the uncertainty about velocity behavior by focusing attention on real economic activity. Based either on the path of interest rates or M1 growth, it is possible to discern three periods of different monetary policy since the period of restrained money growth in 1981-82.

The first began in the fall of 1982 when monetary policy turned more expansionary. At the time, inflation was falling rapidly, while the economy remained in a deep recession and some LDCs were experiencing difficulties servicing their external debt. In this environment, the Federal Reserve moved to a substantially more expansionary monetary policy. Simultaneously, the Federal Reserve effectively reversed the change in operating procedures adopted in October 1979 and deemphasized the role of M1 as a primary target variable. The introduction of new types of deposits caused considerable uncertainty about the meaning of the monetary aggregates in late 1982 and early 1983. In the face of this uncertainty, the Federal Reserve allowed M1

to grow at double-digit rates in the fourth quarter of 1982 and over the first half of 1983. The strength of the economic recovery in 1983 and early 1984 suggests that the Federal Reserve provided considerable monetary stimulus to the economy.

A period of substantially slower money growth began in mid-1983 as strong economic growth continued and the Federal Reserve apparently became more concerned about rapid money growth. Interest rates were allowed to rise in the late spring and M1 growth slowed substantially during the second half of 1983. As both nominal and real GNP expanded at a rapid rate in the first half of 1984, Federal Reserve officials became concerned that the expansion was overheating and would generate inflationary pressures. Interest rates rose again in the spring and M1 growth slowed further in the second half of 1984. M1 was consistently within its target range during 1984, but the substantial deceleration of money growth from 1983 to 1984 contributed to the slowdown in real economic activity after mid-1984.

The third period began late in 1984 as interest rates fell and money growth was accelerated and remained high throughout 1985. By June 1985 M1 was growing at a compound annual rate of nearly 12 percent and had risen well above its 4 to 7 percent target range. In July the Federal Reserve defined a new target range, 3 to 8 percent, and rebased the new target range to the second-quarter level of M1, incorporating nearly \$14 billion into the targeted level of M1. During the second half of the year, M1 growth averaged more than 11 percent and was consistently above the new target range. This more expansionary monetary policy coincided with a period of slower real economic growth and still moderate inflation. The short-term result of this combination of expansionary monetary policy with relatively slower growth of nominal GNP was an actual decline in velocity during 1985.

Thus, over the past 3 years, each of the major shifts in monetary policy appears to be a reaction to contemporaneous economic activity. In 1982-83 and 1985 monetary policy turned expansionary following periods of falling real growth. In both instances that concern was reinforced by international concerns. In both mid-1983 and 1984 the slowdown in money growth followed periods of strong real growth. These policy moves are consistent with the view that with a continued moderate inflation rate, real growth has been the primary target of monetary policy.

ECONOMIC OUTLOOK AND POLICY

POLICY PRINCIPLES AND ASSUMPTIONS

The President initiated an economic program in 1981 based on the belief that government policies can best foster economic prosperity and progress by allowing the private market system to function as freely as possible. Economic efficiency is maximized if inputs into the production process are put to their most productive uses. This is most likely to occur if market forces are left free to direct resources and the government does not interfere with the process. Moreover, the maintenance of a flexible relative price system promotes an adaptable macroeconomy that can adjust to unforeseen events in a timely and orderly way. Within this market-oriented framework, the task for macroeconomic policy is to provide a stable environment in which the market system can function freely.

One element of that environment is price stability. By controlling the rate of money growth, the Federal Reserve can control the price level over the long run. In the context of a long-run goal of restoring and maintaining price stability, the Administration has consistently recommended that the Federal Reserve provide a reasonably stable and predictable path of money growth in order to avoid the fluctuations in real economic activity that are typically associated with sharp swings in money growth. The Administration's outlook for 1986 and its long-term economic assumptions and goals that are presented below are conditional on a monetary policy that achieves a gradual reduction of monetary growth and ultimately restores price stability.

Little evidence supports the efficacy of either monetary or fiscal policy for short-term fine-tuning of the macroeconomy. In principle, discretionary, short-term adjustments to emerging economic conditions appear to be a reasonable approach to policymaking. In practice, however, the lags in economic policy, as well as lack of reliable information about the dynamic path of the economy, imply that policy actions designed in response to evolving economic conditions can be destabilizing. In some instances, actions undertaken to fine-tune the economy may turn out to be appropriate; but such policies rely on a high degree of luck to succeed and typically do not minimize the risk to economic performance.

THE OUTLOOK FOR 1986

By the end of 1986, the current expansion will have exceeded the 45-month average length of all previous postwar expansions. Based on the premise that expansions have a natural lifespan, it has been suggested that an economic downturn is increasingly likely. However, historical evidence indicates that the probability of a recession occurring does

not rise as an expansion proceeds. Economic conditions or imbalances can emerge that frequently are precursors of a slowdown or downturn in the economy, but none of these is now apparent. A substantial slowdown in inventory accumulation during 1985 left inventory levels very low, so that continued growth in final sales would be expected to trigger production increases. Most interest rates are at their lowest levels in over 6 years and inflation remains low. Money growth has been ample to support continued real growth. Despite substantial gains in employment during this expansion, considerable slack persists in labor markets and excess capacity remains in most industries. The rapid growth of capital investment in this expansion bodes well for future output and productivity growth. Thus, the real output constraints or financial imbalances that frequently precede a recession are not present, and in their absence there is no reason to expect that age itself will bring the expansion to an end.

The Full Employment and Balanced Growth Act of 1978 requires that the *Economic Report of the President*, together with the *Annual Report of the Council of Economic Advisers*, include an investment policy report and a review of progress in achieving the national economic goals specified in the act. Strong business investment, as discussed earlier, has been an important contributor to this expansion. Motivated in part by the Administration's tax changes, real nonresidential investment has contributed nearly twice as much to real GNP growth in this expansion as in previous postwar expansions. Furthermore, increased attractiveness of U.S. investment opportunities has generated a net inflow of foreign capital. Both of these issues are discussed in the preceding part of this chapter. In addition, Federal Government involvement in credit markets and the implications for investment are discussed in Chapter 6.

The Administration's projections for 1986, shown in Table 1-5, anticipate that real business investment will continue to lead the expansion. Real investment is expected to grow more rapidly than real GNP and to reach another postwar high as a share of real GNP in 1986. Residential investment should improve.

The remaining projections contained in the table depict continuing progress toward achieving the goals specified in the act—increased employment, higher real income and productivity growth, and low inflation. From the fourth quarter of 1985 to the fourth quarter of 1986 the Administration expects a 4 percent rise in real GNP. This growth is higher than the 2.5 percent growth of real GNP in 1985 because it reflects continued strong fixed investment plus a rebuilding of real inventories in 1986. Employment in 1986 is expected to increase by 1.7 million, leading to a further decline in the unemployment rate. Following the depreciation of the foreign exchange value of the

dollar during most of 1985, real net exports of goods and services are expected to increase; however, the nominal trade deficit will probably show little improvement. With the implementation of the Balanced Budget and Emergency Deficit Control Act of 1985, commonly referred to as the Gramm-Rudman-Hollings Act, Federal Government purchases will decline in 1986. This decline reflects a sharp reduction in projected Federal purchases of agricultural commodities by the fourth quarter of 1986 from the very high level in the fourth quarter of 1985. At the State and local government levels, growth in purchases, financed by continued growth in receipts, is expected to be maintained.

TABLE 1-5.—*Economic outlook for 1986*

Item	1985 ¹	1986 forecast
	Percent change, fourth quarter to fourth quarter	
Real gross national product.....	2.5	4.0
Personal consumption expenditures	2.9	2.6
Nonresidential fixed investment	6.0	5.0
Residential investment	6.4	8.0
Federal purchases of goods and services.....	11.8	-4.0
State and local purchases of goods and services.....	2.9	3.5
GNP implicit price deflator	3.2	3.8
Compensation per hour ²	3.7	5.5
Output per hour ²	-.1	1.8
	Fourth quarter level	
Unemployment rate (percent) ³	6.9	6.7
Housing starts (millions of units, annual rate).....	1.7	1.9

¹ Preliminary.

² Nonfarm business, all persons.

³ Unemployed as percent of labor force including resident Armed Forces.

Note.—Based on seasonally adjusted data.

Sources: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

After being lower than expected in 1985, the inflation rate, as measured by the GNP deflator, is expected to rise somewhat in 1986. Rapid monetary growth throughout 1985 as well as the depreciation of the dollar are expected to place upward pressure on prices. The projected rise in near-term inflation, however, is expected to be temporary, provided that a policy of gradual money-growth reduction is pursued. Due to anticipated productivity growth, hourly compensation is expected to rise faster than the rate of inflation. With average hours worked expected to remain steady, real incomes should continue to rise. The expected growth in hourly compensation and in productivity indicates that unit labor costs should rise less than the inflation rate. Consequently, business profits should improve in 1986.

FISCAL POLICY

Fiscal policy is concerned with the level and character of both government spending and taxation. The Administration's goals for fiscal

policy are to promote long-term economic growth by limiting the growth of government spending, keeping overall tax rates as low as possible, and enacting appropriate tax reform. These goals are consistent with the evidence that short-term, discretionary changes in fiscal policy are not effective for purposes of short-term macroeconomic stabilization, with the evidence that resources are generally used more efficiently in the private sector, and with the evidence that high and uneven marginal tax rates distort economic incentives and inhibit economic growth.

The Federal fiscal deficit is the excess of Federal spending over Federal revenues, and is estimated to be about \$200 billion on a current services basis for the 1986 fiscal year. Large and persistent Federal deficits are commonly believed to cause many of the economy's current problems, in particular high interest rates, the strong dollar, and the trade deficit. Evidence linking the fiscal deficit to interest rates, the value of the dollar, or even the trade balance is tenuous.

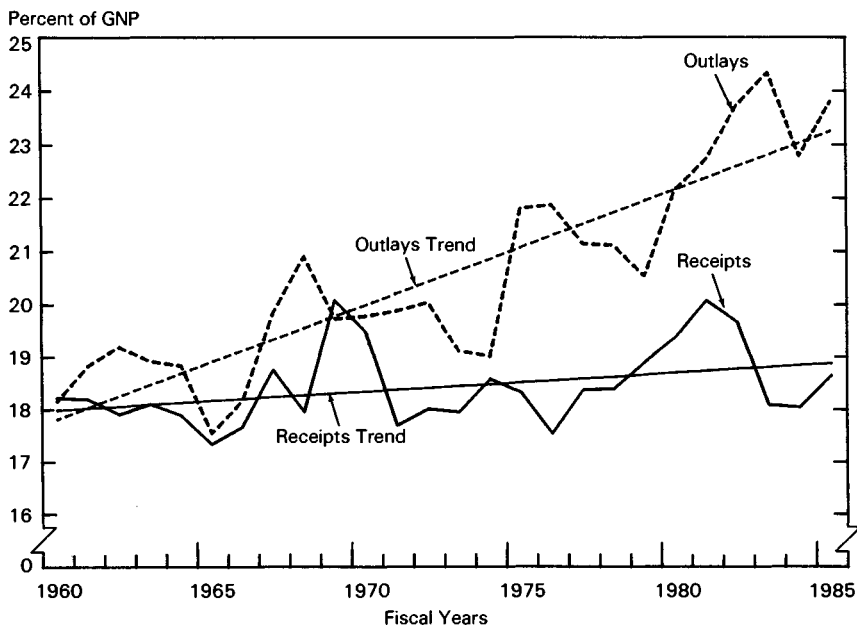
While the level of government spending rather than the deficit should be the primary focus of policy, large persistent deficits are nonetheless a cause of concern for several reasons. First, deficits may absorb saving that could otherwise be used to finance more productive private economic activity, thereby adversely affecting capital formation and the long-run growth of the economy. While little hard evidence supports the claim that deficits increase interest rates, deficits may have some effect on rates. Existing evidence, however, suggests that this relationship is weak and sensitive to the time period examined as well as to alternative measures of debt, deficits, and interest rates. Second, absent changes in government spending, deficits may shift tax burdens into the future. To the extent that citizens do not fully recognize this postponement of taxes, deficits may conceal the true cost (or reduce the perceived cost) of Federal expenditures. In response to this lower perceived price for government goods, citizen-taxpayers may increase their demand for publicly provided goods and services, thereby promoting more government spending than would otherwise be the case. Third, continuing deficits add to cumulative interest costs, thereby increasing the interest cost burden, or the portion of government spending that must be set aside for interest payments on debt. Fourth, persistent deficits contribute to the fear that the Federal Reserve will monetize the debt, thereby generating higher inflation and interest rates.

It is evident that increased government spending rather than lower revenue is the principal reason why deficits have increased so rapidly. Chart 1-6 illustrates that while government spending as a share of GNP increased to an unprecedented level, the share of tax revenue has generally remained around 19 to 20 percent of GNP. Tax reve-

nues as a share of GNP rose rapidly during the late 1970s, so that the overall effect of the 1981 tax cut has been to return revenue as a share of GNP to approximately its historical norm. Moreover, marginal tax rates were reduced only to levels prevailing in the late 1970s because the income tax cuts were in part offset by bracket creep and scheduled increases in the social security tax. Although no major new domestic spending initiatives have been undertaken, aggregate government spending still has increased in real terms for both defense and nondefense spending categories. This suggests that recent Federal budget deficits are symptomatic not of declining revenues, but of an inability to control the growth of government spending.

Chart 1-6

Federal Outlays and Receipts As a Share of GNP



Note.—Outlays and receipts include on-budget and off-budget items.

Trends estimated over the 1960-85 period.

Sources: Department of Commerce, Office of Management and Budget, and Council of Economic Advisers.

Several factors contribute to government spending growth. One basic force explaining such growth is that the benefits of individual government spending programs are typically concentrated among a relatively small number of beneficiaries whereas the costs of individual programs are widely dispersed among millions of taxpayers. The beneficiaries of government spending programs, including private

suppliers of inputs to such spending and government employees who administer such programs, have incentives to support and muster forces for lobbying efforts that may influence the final outcome of spending legislation. Moreover, because benefits are concentrated among a few, beneficiaries can easily join forces with one another to form coalitions endorsing spending programs. On the other hand, voters have little incentive to become informed about particular spending issues or to oppose specific spending projects that individually have little effect on their taxes. Hence, legislators may have little incentive to oppose individual spending projects because their constituents are largely unaware of the importance of doing so. At the same time, they will be under pressure from coalitions of beneficiaries to support increased government spending. Consequently, the incentives in the political process foster increases in government spending. Government spending continues to grow, therefore, not because the private sector fails to provide desired goods and services, but because of weaknesses in the political decisionmaking process.

The recognition that recent increases in the deficit are attributable to rapid increases in government spending, not declines in revenues, has strengthened the Administration's resolve to control government spending. Controlling government spending is a principle aim of fiscal policy, not primarily because of the size of the deficit, but because the real cost of government is the level of government spending. Spending diverts resources from the private sector to the public sector, regardless of whether it is financed by borrowing, taxation, or inflation.

Moreover, as discussed in Chapter 2, some evidence suggests that a high level of government spending tends to retard economic growth. European economies that have larger shares of government and heavier average tax burdens than the United States, Canada, and Japan have also had slower rates of economic growth. The disincentive effects of high tax rates on working, saving, and investing may well have contributed to this result. Also, while the evidence relating to deficits and interest rates is ambiguous, empirical studies have shown a positive and significant relationship between government spending and interest rates. This evidence suggests that it is government spending, regardless of how it is financed, that crowds out private economic activity.

The Gramm-Rudman-Hollings Act provides a mechanism for reducing spending and the deficit and is designed to produce a balanced budget by 1991, but does not guarantee a continued balanced budget thereafter. To institutionalize fiscal restraint, the Administration strongly supports a balanced-budget constitutional amendment with tax limitation. Another important improvement that would con-

tribute to spending control in the budgetary process is the line-item veto. This permits the President to veto individual items in congressional appropriations. In addition, tax reform is essential to reduce the tax code's distortion of relative prices and relative rates of return that have constrained the economy's ability to grow.

Gramm-Rudman-Hollings Act

The Gramm-Rudman-Hollings Act prescribes that Federal budget deficits cannot exceed targets that are gradually reduced until the budget is balanced in 1991. The President may not propose and the Congress may not consider budget resolutions that do not conform to these targets. If the Congress and the President fail to agree on a budget consistent with the deficit targets, a Presidential sequestering order will mandate across-the-board spending reductions in accordance with procedures specified by the act. Under sequestering, deficit targets are attained by reducing the growth of defense and nonexempt, nondefense government spending by an equal amount. Several programs or types of domestic spending are exempt, or partially exempt, from such reductions, including social security and medicaid.

The Administration does not intend to resort to tax increases to balance the budget. Higher tax rates adversely affect incentives to work, save, and invest and therefore are detrimental to both long-run economic growth and the tax base. As a result, tax rate increases may yield less than proportional increases in tax revenues. Moreover, tax increases may lead to further increases in government spending. Tax increases not only may weaken economic activity and thereby trigger automatic increases in government spending, but they also diminish the apparent need to slow the growth of government spending.

In addition, it has been argued that the Gramm-Rudman-Hollings Act may cause a contraction of aggregate demand that induces a slowdown in economic activity. Assuming discretionary tax increases are not used to meet the act's deficit targets, the largest reductions in real Federal spending will occur in fiscal 1987 and 1988. They will amount to only about 0.5 percent and 0.1 percent of GNP respectively. Historically, reductions this small have not been followed by recessions. Given anticipated economic growth, the scheduled reductions would reduce the share of Federal spending in GNP to about 19 percent by 1991. As long as the monetary authority maintains steady, predictable monetary growth, no serious or protracted economic disturbances are expected from reducing the deficit. Moreover, the legislation allows for delays in implementing the deficit reduction should real economic growth fall below 1 percent for two consecutive quarters, or a recession be forecast by the Congressional Budget Office or the Office of Management and Budget.

The longer term macroeconomic effects of the Gramm-Rudman-Hollings Act depend on the extent to which deficits are reduced by spending cuts or tax increases. As suggested above, government spending decreases would contribute to long-term economic growth and would therefore be beneficial. Tax increases, on the other hand, would be detrimental to long-term economic growth.

Tax Reform

The Administration has proposed significant improvements to the current tax code in accord with the following principles. First, marginal tax rates should be reduced for both individuals and corporations as a means of improving productive incentives. The supply of labor, capital, innovation, entrepreneurial skill, as well as market activity, should increase in response to lower marginal tax rates. Second, deductions and loopholes should be curtailed to broaden the tax base. These actions would reduce the incentive to avoid taxes and consequently encourage greater voluntary compliance with the tax laws. They would also make economic productivity, rather than tax consequences, the primary factor in individual and business decisions. Moreover, they would enable tax rates to be lowered without a loss of tax revenue. Third, the tax code should be simplified. Resources would be saved if taxpayers could comply with, and tax collectors could administer, the tax code more easily. Fourth, tax reform should promote a tax code that is equitable. The President's proposals address the concerns of families as well as the working poor by increasing the personal exemption and the zero bracket amount. This could virtually eliminate taxation of families with incomes below the poverty level. Tax reform should also provide for similar treatment of taxpayers with the same incomes (horizontal equity), rather than imposing differential tax rates on individuals with similar incomes, as is currently the case.

MONETARY POLICY

Uncertainty about M1 velocity behavior in recent years has made the formulation of monetary policy more difficult. Many observers have asserted that abnormal velocity behavior means that M1 is no longer a useful target for monetary policy. There is, however, no reason to believe that velocity behavior will not return to a reliable pattern. While the trend growth of velocity and its interest elasticity may have been permanently altered, neither change would render M1 permanently unreliable as a policy target. Moreover, the variables commonly suggested as alternatives to M1—such as nominal and real interest rates, commodity prices, or the broader monetary aggregates—have well-known drawbacks as targets for policy. The drawbacks of these alternatives derive either because the Federal Reserve

has imperfect control over them or because their relationship to economic activity is relatively unreliable.

Monetary policy actions in 1985 were generally accommodative over the year as interest rates fell, the dollar depreciated, and money growth was rapid. The Federal Reserve's accommodative actions were apparently motivated by a perceived need to foster stronger real growth. However, efforts to tailor monetary policy to contemporaneous economic conditions run the risk of being destabilizing. Because of the lags and inaccuracies in reported contemporaneous economic data, and the length and variability of the lags in the effect of monetary policy, policy actions aimed at a currently perceived problem will not affect the economy until well after the problem has appeared and perhaps disappeared. A policy of targeting real economic activity increases the probability that policy itself becomes destabilizing as economic developments emerge that are unanticipated or inaccurately forecasted.

Stable and moderate money growth will neither remove all of the uncertainty that surrounds policymaking nor prevent unforeseen shocks from affecting the economy. However, stable, predictable monetary policy can eliminate monetary policy itself as a source of uncertainty and as a potentially destabilizing force. In addition, an announced and well-articulated monetary policy can help reduce uncertainty about the economic outlook and foster a stable and predictable economic environment.

The setting and achieving of money-growth targets is a critical element of just such a credible monetary policy. In addition to providing monetary discipline, appropriate, pre-announced monetary targets that are achieved through consistent policy actions transmit important information to the public about prospective inflation. The principles of monetary targeting discussed at length in this *Report* last year are equally appropriate now. These include a targeting procedure that would eliminate year-to-year "base drift" in the target range and institute a target range constructed of parallel bands that would provide greater latitude for the targeted level of M1 early in the year.

Even recognizing the uncertainty about the current behavior of velocity, it is difficult to dismiss the inflationary threat that would be implied by persistence of the monetary growth rate experienced in 1985. Any plausible explanation of long-term velocity behavior indicates the need to decelerate money growth in order to limit the threat of higher inflation. The Administration strongly recommends that that deceleration be achieved gradually and predictably, in order to avoid the restriction of real economic activity that is associated

with abrupt declines in money growth and long periods of very slow money growth.

LONG-TERM OUTLOOK

The Administration's longer term projections are contingent on the following macroeconomic policies. First, the longer term inflation and real growth projections will require a gradual deceleration of money growth that is consistent with restoring price stability and that also avoids any policy-related disruption to the real economy. Second, the projections assume that the deficit reduction goals defined in the Gramm-Rudman-Hollings Act are achieved by a reduction in the growth of government spending. Third, it is assumed that a tax reform bill is enacted that is similar to the President's Tax Proposals for Fairness, Growth, and Simplicity. With a commitment to these policies, sustained growth and stable prices are not only possible, but probable.

Determinants of Real Growth

The growth of real GNP in the long run depends largely on the growth in productive resources and technological change. This concept provides the basis for the Administration's long-term projection of real GNP growth. In particular, the projected growth rate of real GNP for the period 1986-91 is based on assumptions of employment and productivity growth, the latter reflecting additions to the capital stock, additions to labor skills, and technological change.

Table 1-6 contains a convenient accounting progression from population growth to real GNP growth. This involves partitioning real GNP growth into the part associated with growth in total labor hours worked and the part associated with growth in output per hour worked (productivity growth). The first column reports average annual growth from the expansion peak in 1948 to that in 1981. The second column reports average growth from the peak in 1973 to the peak in 1981. The third column shows average growth from the 1981 peak through the fourth quarter of 1985, and the final column shows the Administration's projections for 1985-91.

The progression through the table is straightforward. The foundation for real GNP growth is population growth. The first five rows of Table 1-6 translate population growth into civilian employment growth. The process begins with Bureau of the Census estimates of population growth for past time periods and its projection for 1985-91 (row 1). Using historical growth rates and the Administration's projection for labor force participation growth (row 2) and growth in the civilian employment rate (row 4), past and projected growth rates for total civilian employment are calculated (row 5). The projected growth in civilian employment of 1.8 percent per year is only slightly

TABLE 1-6.—*Accounting for growth in real GNP, 1948-91*

(Average annual percent change)

Item	1948 IV to 1981 III	1973 IV to 1981 III	1981 III to 1985 IV ¹	1985 IV to 1991 IV ¹
GROWTH IN:				
(1) Civilian noninstitutional population aged 16 and over	1.5	1.8	1.2	0.9
(2) PLUS: Civilian labor force participation rate .....	.2	.5	.5	.6
(3) EQUALS: Civilian labor force	1.8	2.4	1.6	1.5
(4) PLUS: Civilian employment rate	-.1	-.4	.1	.3
(5) EQUALS: Civilian employment	1.7	2.0	1.7	1.8
(6) PLUS: Nonfarm business employment as a share of civilian employment .....	.1	.1	.2	.2
(7) EQUALS: Nonfarm business employment	1.7	2.1	2.0	2.0
(8) PLUS: Average weekly hours (nonfarm business)	-.4	-.6	.1	-.2
(9) EQUALS: Hours of all persons (nonfarm business)	1.4	1.5	2.0	1.8
(10) PLUS: Output per hour (productivity) (nonfarm business)	1.9	.6	.9	2.1
(11) EQUALS: Nonfarm business output	3.3	2.0	2.9	4.0
(12) LESS: Nonfarm business output as a share of real GNP .....	.0	-.1	.6	.2
(13) EQUALS: Real GNP	3.3	2.2	2.4	3.8

¹ Data for 1985 IV are preliminary.

Note.—Based on seasonally adjusted data.

Detail may not add to totals due to rounding.

Sources: Department of Commerce (Bureau of the Census and Bureau of Economic Analysis), Department of Labor (Bureau of Labor Statistics), and Council of Economic Advisers.

above the 1948-81 average and lower than the performance of the 1970s.

Conversion of employment growth into output growth requires measures of growth in productivity and hours worked, but these variables are not available for the entire economy. Consequently, total employment is transformed into total hours worked in the nonfarm business sector by the calculations performed in rows 6 to 9. The resulting expected growth in total nonfarm business hours worked for 1985-91 (row 9) is 1.8 percent per year. A crucial step in the projection of output growth involves the projection of nonfarm business productivity growth (row 10). The Administration expects a rebound in growth to the 1948-81 trend and has projected nonfarm business productivity growth of 2.1 percent per year from 1985 to 1991. The projection recognizes that current and proposed policies should generate strong, sustained productivity growth.

Many factors influence productivity growth. Capital formation is an important source of productivity growth. From 1948 to 1981 the net capital stock averaged growth of about 4 percent per year and, with hours worked growing at 1.4 percent, growth in capital per hour averaged 2.5 percent. This accounts for about 0.7 percent, or one-third, of productivity growth. The extent to which capital formation improves productivity depends critically on the accumulation of capital that can be used efficiently. Government policies that distort investment decisions either through subsidies, regulatory constraints,

or special tax provisions can erode the contribution of capital to growth. The President's tax reform proposals specifically address this through more equal effective tax rates across investment activities.

Combining the projected productivity growth with employment growth and adjusting for expected growth of the nonfarm business sector relative to the rest of the economy, yields the Administration's real GNP growth projection of 3.8 percent per year from 1985 to 1991 (row 13). As the progression through the growth accounting framework indicates, this projection does not require any unprecedented employment or productivity growth.

The Outlook for 1986-91

Table 1-7 summarizes the Administration's forecast for 1986 and its long-term economic projections for 1987-91. The longer term projections should not be interpreted as year-to-year forecasts, but rather as expected trends. To place these projections in a proper perspective, it is important to realize that in general they imply a return to the economy's postwar trend. They do not indicate unprecedented performance by the economy over the next 6 years.

TABLE 1-7.—Administration economic assumptions, 1986-91

[Calendar years]

Item	1986	1987	1988	1989	1990	1991
Percent change, year to year						
Real GNP.....	3.4	4.0	4.0	3.9	3.6	3.5
Real compensation per hour ¹.....	.9	2.3	2.5	2.4	2.3	2.2
Output per hour ¹.....	.9	2.0	2.1	2.1	2.2	2.3
Consumer price index ²	3.5	4.1	3.7	3.3	2.8	2.1
Annual level						
Employment (millions) ³	110.7	112.7	114.7	116.7	118.9	120.9
Unemployment rate (percent) ⁴	6.7	6.5	6.3	6.1	5.8	5.6

¹ Nonfarm business, all persons.

² For urban wage earners and clerical workers.

³ Includes resident Armed Forces.

⁴ Unemployed as percent of labor force including resident Armed Forces.

Source: Council of Economic Advisers.

These projections are based on the premise that stable, predictable policies will provide the economic environment that is conducive to growth. The policies of this Administration have generated an environment within which strong economic growth has already occurred. A continued commitment to this course is the key to sustained growth and the realization of these projections.

LESSON FOR THE FUTURE

The unsatisfactory economic performance associated with the rise of inflation and the adjustment problems that arise during disinflation provide a clear lesson: reacceleration of inflation must be prevented. The surest way to avoid the costs of both inflation and disinflation is to avoid the policies that lead to an acceleration of inflation. Moreover, the experience of the past 3 years has indicated that substantial economic growth can occur without rekindling inflation. The disinflation process has clearly caused financial stress in many sectors that incurred debt during the period of high inflation. But a reacceleration of inflation is not a proper policy response to this stress. The capital gains and losses associated with the market revaluation of debt have already largely occurred. A resurgence of inflation would set in motion another round of arbitrary capital gains and losses like those experienced in the 1970s.

Memories of rising inflation in the 1970s are still fresh in the public's mind. If inflation were allowed to resurge to the rates recorded in the late 1970s, inflation expectations would likely rise rapidly, and quickly and firmly become imbedded in economic behavior. Skepticism about the government's ability and willingness to provide long-run price stability could be validated and strengthened. There is every reason to believe that future attempts to reduce a rekindled rate of inflation would be very costly.

The government, particularly the Federal Reserve, has a responsibility to provide price stability. For reasons reflected throughout this *Report*, the Administration believes that price stability is a basic prerequisite for healthy economic growth. Given the economic dislocation and discomfort associated with reducing the inflation rate since 1981, the risk of allowing inflation to resurge carries with it the risk that those costs—and possibly even higher costs—will have to be borne again. The President remains committed to his original objectives of restoring price stability and sustaining economic growth and, with the cooperation of the Federal Reserve and the Congress, can meet these goals.

CHAPTER 2

The United States and Economic Development

AFTER WORLD WAR II, the United States in cooperation with other countries established the basic policies and institutions of the open system of world trade and investment that has since guided economic relations among nations. On the whole, the world has enjoyed an extraordinary record of economic progress under this system. Between 1950 and 1984, U.S. real per capita gross national product (GNP) rose at a 1.8 percent average annual rate, allowing nearly a doubling of average real living standards in 34 years. In the other nine largest Western industrial countries, real per capita income rose at a spectacular 3.7 percent average annual rate, implying that real living standards in these countries (as measured by real per capita GNP) rose by more than twice as much as they had in all of previous history. Despite disappointing economic performance of some developing countries, the average annual rate of growth of real per capita income for all developing countries was 2.8 percent between 1955 and 1984, implying more than a doubling of average real living standards in these countries in just 29 years.

The progress of developing countries over the past three decades is manifested in other important indicators of human welfare. Between 1955 and 1984, their population nearly doubled. Despite the problems of some developing countries, this increase in population was not accompanied by increasing human misery, as some feared, but rather by generally rising real living standards that were reflected in longer life expectancies, lower infant and child mortality rates, better nutrition and health care, and higher educational attainment. For example, between 1965 and 1983, average life expectancy rose by 9 years in lower income developing countries and by 8 years in middle-income developing countries.

This overall record of economic and social progress provides the context for this chapter's discussion of important economic problems that have recently afflicted a number of developing countries and of the policies that are needed to deal with these problems. The record of long-term economic success of many countries suggests that these problems can be successfully resolved. It also suggests that retention

and refinement of the policies and institutions that helped to generate this success, together with reform of practices that have contributed to recent difficulties, is the appropriate prescription for restoring prosperity and reviving growth in countries that have suffered economic slowdown or stagnation.

To develop this main theme, it is appropriate first to discuss the substantial and growing importance of developing countries in the world economy. This is followed by a description of the general economic performance and recent economic problems of developing countries, including the problems associated with the international debt crisis. The chapter next examines economic policies that experience suggests are conducive to rapid and sustainable economic growth. The chapter concludes with a discussion of contributions that the developed countries can make to the economic performance of the developing countries and of improvements of the international economic system that can benefit all nations.

Before embarking on this discussion, it is important to stress the interest of the United States in seeking more vigorous economic growth in both developed and developing countries. Beyond wishing its friends well, the United States has a strong national interest in the economic prosperity of its allies, and has an important national interest in economic prosperity of developing countries, including especially countries striving to strengthen their democratic institutions. The United States also has an economic interest in the prosperity of other countries. Economic growth appears to be a mutually reinforcing process. For example, the rapid recovery in the United States during the first six quarters of the current expansion contributed significantly to recovery and expansion in other countries and particularly to easing of some of the economic problems of developing countries. Conversely, as discussed in Chapter 1, relatively sluggish recovery of other industrial countries and recent economic problems in many developing countries are seen as factors contributing to the deterioration of the U.S. trade balance during the current recovery and perhaps also to the slowdown of that recovery since mid-1984. Thus, for economic as well as broader national purposes, the United States has an important interest in rapid and sustainable growth in other countries.

ECONOMIC PERFORMANCE AND PROBLEMS OF DEVELOPING COUNTRIES

Developing countries are the home of three-quarters of the world's population. Their aggregate national products in 1983 were more than half of that of the United States and nearly double that of Japan.

Merchandise trade (exports plus imports) of the developing countries (including high-income oil exporters) in 1983 accounted for more than a quarter of total world merchandise trade and was more than twice the size of that of the United States, the world's largest trading country. The substantial and growing economic importance of developing countries is reflected specifically in the extent of trade between these countries and the United States and, especially during the past decade, in the flow of credit from the United States and other industrial countries to the developing countries.

TRADE BETWEEN DEVELOPING COUNTRIES AND THE UNITED STATES

The importance of trade with developing countries has been growing along with the general importance of international trade for the U.S. economy in the postwar period, especially during the past 20 years. In 1965 exports to and imports from developing countries were, respectively, 1.2 and 1.0 percent of U.S. GNP. They rose to 3.0 and 4.4 percent of U.S. GNP, respectively, in 1980. By 1984 the share of exports to developing countries in GNP fell to 2.0 percent, and the share of imports from such countries fell to 3.3 percent. The relatively small shares of exports and imports in U.S. GNP are somewhat deceiving because industries that account for about 70 percent of U.S. GNP produce either services that do not enter into international merchandise trade, or produce products that are largely nontradable. For the industries that account for the remaining 30 percent of U.S. GNP, international merchandise trade is of considerable importance. On average for these industries in 1984, exports to developing countries accounted for about 7 percent of annual product, and imports from developing countries accounted for about 11 percent of annual product.

Increased imports of some categories of manufactured goods from developing countries have been a particular cause of concern for and complaint by U.S. competitors. Without attempting to judge the merits of individual complaints, it should be noted that the United States has until recently had a trade surplus in manufactured goods with developing countries and still exports large amounts of such goods to these countries. In 1980 the United States exported \$60 billion of manufactured goods to and imported \$32 billion of such goods from developing countries, for a net export surplus of \$28 billion. Although the magnitude of this surplus may have reflected temporary factors such as the weak dollar and the large borrowing of developing countries in 1980, the existence of such a surplus is consistent with past trends. By 1984 exports of manufactures to developing countries fell to \$52 billion, while imports of manufactures from these countries rose to \$64 billion, yielding a net export deficit of

\$12 billion. The deterioration in the net trade position in manufactured products with developing countries, however, is proportionately smaller than the deterioration of the overall U.S. net trade position between 1980 and 1984.

The explanation of the behavior of the overall U.S. trade balance or current account balance, of course, cannot be found in analyses of changes in the bilateral trade imbalances between the United States and individual countries or groups of countries. As emphasized in Chapter 1, the overall trade balance or current account balance is a macroeconomic phenomenon whose behavior is primarily to be explained by the behavior of other macroeconomic variables, in particular economic growth of the United States in comparison with other countries, levels of saving and investment in the United States and in other countries, expenditure and tax policies of the U.S. Government and the governments of other countries, anticipated real rates of return on investments in different countries, and the real foreign exchange value of the U.S. dollar.

CREDIT FLOWS TO DEVELOPING COUNTRIES

The growing importance of financial relationships between developed and developing countries is apparent in the rapid growth of the real flow of financial resources to developing countries, as reported in Table 2-1. The net flow of funds to developing countries (in 1983 dollars), as estimated by the Organization for Economic Cooperation and Development (OECD), nearly doubled in real terms between 1970 and 1980, from \$53.1 billion to \$93.9 billion. After peaking in 1983 at \$118.3 billion, this flow declined to \$92.3 billion in 1984. The sources of these funds have shifted substantially over the past 15 years. In 1970 official development assistance accounted for 42 percent of the net flow of funds to developing countries, while lending by commercial banks accounted for only 15 percent of the total. By 1983 the share of official development assistance declined to 29 percent, while the share of bank lending (including rescheduling) rose to 46 percent. This trend was reversed in 1984, when the share of official development assistance rose to 39 percent of net lending and the share of commercial banks fell to 26 percent. More recent information indicates a further substantial decline in commercial bank net lending to developing countries in 1985.

By 1983 total external liabilities of developing countries reached an estimated \$843 billion, equal to about one-third of the annual GNP of these countries and about 10 percent of the annual GNP of the developed countries. More than half of these liabilities were loans from commercial banks, and nearly a third of these bank loans were owed to U.S. financial institutions. The problems recently experi-

TABLE 2-1.—*Real net flow of funds to developing countries, selected years, 1970-84*

(Billions of 1983 dollars)

Type of receipt	1970	1975	1980	1981	1982	1983	1984
Official development assistance	22.2	31.6	36.1	36.2	33.7	33.8	35.8
Grants by private voluntary agencies	2.3	2.0	2.2	2.0	2.3	2.3	2.5
Nonconcessional flows	28.7	51.0	55.7	68.6	60.1	82.1	54.0
Official or officially supported flows	10.4	15.7	22.9	21.6	21.9	19.8	20.0
Private flows	18.3	35.4	32.8	47.0	38.2	62.3	34.0
Direct investment	9.7	16.9	9.9	16.8	11.8	7.8	9.5
Bank lending ¹	7.9	17.8	21.6	29.2	25.9	54.0	24.0
Bond lending .....	.8	.6	1.3	1.1	.5	.5	.5
TOTAL	53.1	84.6	93.9	106.8	96.1	118.3	92.3

¹ Includes for 1983 and 1984 significant amounts of rescheduled short-term debt.

Note.—Detail may not add to totals due to rounding.

Source: Organization for Economic Cooperation and Development.

enced by several of the high-debt countries in meeting their debt-service obligations, and the consequences of these problems for the financial institutions that hold their obligations, have dramatized the deepening financial relationships between developing countries and the United States and other developed countries.

ECONOMIC PROBLEMS OF DEVELOPING COUNTRIES

Economic growth in developing countries has been rapid over the past 30 years, on average, as indicated in Table 2-2. Some countries, however, have not shared in this progress over the long run, and, in the past few years, a number of countries with relatively good long-run performance have experienced economic difficulties. The chronic economic problems of many quite poor countries in Sub-Saharan Africa, South Asia, and Latin America deserve treatment separate from the acute difficulties recently experienced by middle-income countries with large debt burdens.

The low-income developing countries (those with per capita incomes of less than \$400 in 1983) had an average annual growth rate of real per capita GNP of 2.3 percent between 1955 and 1984. This result is dominated by the performance of China and India, which together account for three-quarters of the population of low-income developing countries and which had a combined average annual growth rate of real per capita GNP of 2.4 percent over this period. Interestingly, the combined growth performance of these two large countries has been improving recently as they have adopted more market-oriented, pro-growth economic policies. Some other low-income developing countries have also enjoyed vigorous growth, in-

cluding some spectacularly successful countries that earlier adopted market-oriented, pro-growth economic policies and have now graduated to the class of middle-income developing countries. In many other low-income countries growth performance has not been very strong. Between 1965 and 1984, real per capita income in the low-income countries of Sub-Saharan Africa rose at only a 0.5 percent average annual rate.

TABLE 2-2.—*Indicators of economic growth, 1955-84*

[Annual growth rate; percent]

Period	Population	Real GNP	Real GNP per capita
DEVELOPING COUNTRIES:¹			
1955-70	2.2	5.4	3.1
1970-80	2.2	5.3	3.1
1980-84	2.0	3.1	1.1
Low-income countries:			
1955-70	2.1	3.7	1.6
1970-80	2.1	4.5	2.4
1980-84	1.8	6.7	4.9
Middle-income countries:			
1955-70	2.4	6.0	3.5
1970-80	2.4	5.6	3.1
1980-84	2.4	1.8	-6
INDUSTRIAL MARKET COUNTRIES:			
1955-70	1.1	4.7	3.6
1970-80 .....	.8	3.2	2.4
1980-84 .....	.5	1.8	1.3

¹ Excludes the high-income oil exporters.

Source: International Bank for Reconstruction and Development.

The road to economic prosperity for many of the poorest countries will be a long and difficult one. In some extreme situations, such as the recent and continuing famine in Ethiopia, extraordinary external assistance has been essential to provide the bare requirements of human survival. The success of some formerly quite poor countries, however, gives hope that some of today's poorer countries will be able to graduate to the ranks of the middle-income developing countries by early in the next century.

The middle-income developing countries (those with per capita incomes between \$400 and \$7,000 in 1983) had good growth performance on average between 1955 and 1984. As a group, they recorded an average annual growth rate of real per capita income of 2.8 percent per year, enabling the real income of the average resident of these countries to rise by 123 percent in just 29 years. Some countries, of course, performed less well than the average, and a few even registered substantial declines in real per capita incomes over periods of two decades or longer. On the other hand, nine countries had growth rates of real per capita income of 5 percent per year or better

between 1965 and 1983, implying an increase in real per capita income of more than 140 percent in just 18 years.

The early 1980s have been a period of sharp contrasts in the economic performances of developing countries. For all developing countries, excluding the high-income oil exporters, the average growth rate of real per capita income was only 1.1 percent per year between 1980 and 1984. Thanks primarily to the good performance and large weight of China and India, low-income developing countries registered a 4.9 percent average annual growth rate of real per capita income over these 4 years. Other low-income countries in Asia did about as well as China and India, on average, but low-income countries in Africa suffered a cumulative 8.7 percent decline in average real per capita income over these 4 years. For the middle-income developing countries, average real per capita incomes declined at a 0.6 percent annual rate between 1980 and 1984. Despite the recession in the industrial countries, some of these countries, especially in Asia, continued to enjoy strong real growth. Other middle-income developing countries, especially in Latin America, had enjoyed generally good growth during the 1960s and 1970s, but experienced economic stagnation or decline in the early 1980s.

EFFECTS OF EXTERNAL SHOCKS

For developing countries that experienced poor economic performance in the early 1980s, adverse external economic developments explain part, but only part, of this poor performance. Some countries whose national incomes depend heavily on revenues from oil exports saw their real national incomes decline because of the fall in world oil prices and in the volume of oil exports. However, some oil-exporting countries that saved some of their oil-export revenues in the 1970s have been able to draw on those savings to support domestic consumption and investment during a period of lower oil prices and export volumes. Other oil exporters that spent all of their export revenues and even borrowed from world capital markets to spend on consumption and domestic investment have faced a more difficult task in adjusting to lower oil exports and oil prices. The same is true for developing countries that experienced export booms for other commodities during the 1970s and failed to foresee that these booms might not last forever.

Moreover, evidence suggests that adverse external events are not primarily responsible for the recent poor economic performance of some developing countries. As previously mentioned, other developing countries that faced similar external circumstances continued to perform well in the early 1980s. Table 2-3 summarizes results from a World Bank study that compared the magnitude of external shocks to

developing countries that needed to reschedule their external debts by the end of 1984 with countries that did not need to reschedule. The index of external shocks was calculated as the combined effects on a country's balance of payments of deteriorations in its terms of trade (the ratio of export prices to import prices), declines in world demand for its exports, and increases in interest rates on its outstanding external debt. In 1979-80 and 1981-82, the average adverse external shock was about the same for reschedulers and nonreschedulers. The average of annual growth rates of real gross domestic product (GDP) in 1979-83 for reschedulers, however, was only 0.9 percent, versus 4.3 percent for nonreschedulers.

TABLE 2-3.—*External shocks and real GDP growth in selected developing countries, 1979-83*

Country Category	Net external shocks as percent of GNP ¹		Growth of real GDP (percent) ²
	1979-80	1981-82	1979-83
Reschedulers ³	-2.6	-9.3	0.9
Nonreschedulers.....	-2.6	-8.4	4.3

¹ External shocks are defined as the impact on the balance of payments as a percentage of GNP of: (a) changes in the terms of trade; (b) a decline in the growth rate of world demand for a country's exports; and (c) increases in interest rates, averaged across countries.

² Averaged across countries and years.

³ Countries that had rescheduled debt as of the end of 1984.

Sources: International Bank for Reconstruction and Development, *World Development Report, 1985*, and International Monetary Fund, *International Financial Statistics Yearbook, 1985*.

External shocks did, of course, affect developing countries in the early 1980s. The disinflation of the early 1980s was associated with an unwinding of the effects of the inflation of the 1970s on relative commodity prices, including prices of some products exported by developing countries. The recession in the industrial countries in the early 1980s reduced demand for the exports of developing countries. The real burden of the external, dollar-denominated debt of many developing countries rose as the dollar appreciated in foreign exchange markets. Increased nominal and real interest rates, especially in 1981, increased the debt-service requirements of heavily indebted countries with large amounts of floating-rate loans. Countering these adverse developments have been the recovery in the industrial countries, especially the United States, and the decline in interest rates since 1982, plus the recent moderate decline of the dollar.

The effects of movements in interest rates and in the foreign exchange value of the dollar on debt-service burdens were important for developing countries that chose, as a consequence of the policies they pursued, to borrow large sums from international capital markets. The problems of these countries are best understood in the context of a general discussion of the role of international credit flows and the current international debt situation.

THE ROLE OF INTERNATIONAL CREDIT

The international flow of capital performs at least two important economic functions. It allows countries with more attractive investment opportunities than can be financed out of domestic saving to obtain resources from countries with excess savings. It also allows countries suffering temporary economic difficulties to borrow from world capital markets rather than institute sharp temporary reductions in consumption or costly cutbacks in investment.

International capital flows have performed these functions for many countries over a long span of time. In the 50 years prior to World War I, the United States, Canada, Australia, Argentina, and the Scandinavian countries financed domestic investments with substantial loans from Great Britain and other European countries. The evidence indicates that despite occasional defaults and other difficulties, the providers of this credit earned higher returns than those typically available on investments in their own countries. In most of the period since World War II, the United States has been a net supplier of capital to the rest of the world, especially through the mechanism of direct investment by U.S. firms in foreign countries. The generally higher real growth rates of other industrial countries up to 1975 and of developing countries up to 1980 suggest that this flow of capital out of the United States was generally in the direction of higher returns. During the current expansion, the United States has become a net borrower in world credit markets. This is consistent with the high rate of return on and rapid growth of investment in the United States, in comparison with other countries, and with the need to finance the Federal deficit. The suppliers of credit to the United States are primarily other industrial countries where desired saving rates exceed desired rates of domestic investment.

With the exception of some oil-exporting countries, developing countries have generally been recipients of net capital inflows in the postwar period. Evidence indicates that from the mid-1960s to the late 1970s, there was a generally positive relationship between the growth of external indebtedness of particular developing countries and the growth of investment in these countries. Evidence suggests a similarly positive relationship between the growth of external indebtedness and the growth rate of real gross domestic product. This is consistent with the notion that international capital flows were, on the whole, performing the desirable function of financing investment in countries with good growth opportunities. From 1979 to 1983, however, there is no significant relationship between growth of external indebtedness and growth of investment for developing countries, and there is a negative relationship between growth of external debt and growth of real domestic product.

In the 1960s and 1970s, a few developing countries experienced difficulties in meeting their debt-service obligations and had to re-schedule their external debts. At least up to 1979, however, these problems affected no more than two or three countries in any year, and the total amount of debt rescheduled in any year did not exceed \$2 billion. In 1979, 7 countries rescheduled \$6.2 billion of external debts; in 1980, 6 countries rescheduled \$3.7 billion; and in 1981, 13 countries rescheduled \$5.8 billion. In 1982 reschedulings fell when 9 countries rescheduled \$2.4 billion; but in 1983, 21 countries rescheduled \$5.1 billion; and in 1984, 24 countries (many of them the same as in the preceding year) rescheduled \$11.6 billion. Because rescheduling agreements are typically reached some time after a country begins to experience debt-servicing difficulties, it is reasonable to conclude that by 1982 many of the developing countries with large external debts were already in trouble.

THE INTERNATIONAL DEBT SITUATION

A stylized description of events leading up to the recent international debt crisis is the following. Starting in 1973, growth of balance of payments surpluses of some high-income oil-exporting countries stimulated expansion of the international banking system that recycled these surpluses. Increased availability of credit on attractive terms through the international banking system increased opportunities for many developing countries to become borrowers from that system in the mid-1970s. Initially, debt-service requirements did not rise relative to the export earnings of many of these countries because they enjoyed rapid economic growth and because the inflationary expansion of the 1970s contributed to a boom in demand for their exports. Moreover, nominal interest rates on dollar-denominated loans declined from 1974 to 1976 and rose modestly between 1976 and 1978. Real interest rates became increasingly negative during the late 1970s as inflation accelerated. In addition, depreciation of the dollar relative to the currencies of other industrial countries after 1976 reduced the value of the dollar-denominated debt of many countries, thereby making further borrowing seem even more attractive.

In 1981-83 difficulties arose for many developing countries that had borrowed extensively from the international banking system in the late 1970s and 1980. The recession in the industrial countries, the high level of nominal and real interest rates (especially from late 1980 through mid-1982), the strengthening of the U.S. dollar, and the declines in the dollar prices of many commodities exported by heavily indebted developing countries (associated with the undoing of the inflationary excesses of the 1970s) contributed to an increase

in the debt-service requirements of these countries relative to their export earnings, especially for countries with large volumes of dollar-denominated, floating-rate loans. To meet rising debt-service requirements, many debtor nations increased external borrowing. These high levels of borrowing, together with deteriorating export earnings and slackening economic growth, caused concern among lenders about the longer run capacity of these countries to meet their external debt-service obligations.

Table 2-4 presents data for two groups of debtor countries that are useful in understanding the debt crisis. Group A consists of indebted developing countries that incurred external payments arrears between 1981 and 1983 or rescheduled their external debts between 1981 and mid-1984. The 57 countries in group A accounted for 42.8 percent of GDP and 59.5 percent of the external debt of all developing countries in 1980. Group B consists of those indebted developing countries that did not experience recent debt-servicing difficulties. The 66 countries in group B accounted for 43.2 percent of GDP and 40.5 percent of the external debt of all developing countries in 1980. These two groups had the same average annual growth rate of real GDP, 5.5 percent per year, from 1967 to 1976. Both groups enjoyed substantial growth between 1976 and 1980, although even by this stage, countries in group B (with generally lower external debt burdens) were growing somewhat more rapidly. The growth rate of real GDP for group A fell to 1.1 percent in 1981, to -0.1 percent in 1982, and to -1.9 percent in 1983, and was estimated to be only 2.0 percent in 1984. In contrast, group B continued to enjoy impressive growth rates of real GDP, with annual growth rates of 5.1 percent in 1981, 4.0 percent in 1982, 5.4 percent in 1983, and an estimated 5.7 percent in 1984.

Another important difference between these two groups is the behavior of their respective current account balances. On average, from 1967 to 1976, group A had a slightly larger current account deficit as a percentage of exports of goods and services than group B. By 1977 the current account deficit as a percentage of exports had risen to 25.5 percent for group A, while it was only 6.1 percent of exports for group B. In the late 1970s and early 1980s the current account deficit of group B remained modest, peaking at 14 percent of exports in 1981. For group A the current account deficit remained much larger, peaking in absolute size in 1981, and relative to exports at 33.3 percent in 1982. An important factor contributing to the larger current account deficit of group A was the interest they had to pay on their larger external debt.

A current account deficit implies an excess of national spending over national income that must somehow be financed. The primary

TABLE 2-4.—*Debt indicators for developing countries, 1967-84*

Indicator by country group ¹	1967-76 average	1977	1978	1979	1980	1981	1982	1983	1984 ²
Percent									
Growth of real GDP									
Group A	5.5	5.4	3.7	5.3	3.9	1.1	-0.1	-1.9	2.0
Group B	5.5	6.3	8.2	4.7	4.9	5.1	4.0	5.4	5.7
Billions of U.S. dollars									
Exports of goods and services									
Group A		107.8	117.3	154.5	201.3	207.4	185.4	178.2	192.1
Group B		154.5	183.5	240.1	310.5	328.2	319.1	322.5	354.9
Percent of exports of goods and services									
Current account balance									
Group A	-18.5	-25.5	-31.9	-25.3	-23.7	-32.2	-33.3	-14.4	-7.6
Group B	-13.3	-6.1	-10.6	-9.4	-9.4	-14.0	-12.9	-10.5	-6.5
Net external borrowing									
Group A		29.5	36.1	28.8	32.3	37.5	32.2	18.3	11.0
Group B		8.9	10.9	10.5	10.6	12.9	11.9	10.2	7.2
Net asset transactions plus errors and omissions									
Group A		-7.4	-5.9	-3.4	-10.0	-14.5	-16.7	-6.2	
Group B		-3.1	-1.6	-2.5	-2.2	-2.1	-2.2	-2.7	-2.2
External debt									
Group A		171.7	195.8	178.1	167.1	194.5	246.0	268.1	256.8
Group B		95.3	91.9	81.6	73.6	78.3	91.1	97.0	94.2
Debt-service payments									
Group A		22.3	29.6	30.2	26.9	33.8	41.6	36.2	36.6
Group B		10.0	11.8	11.7	11.0	12.7	14.6	14.4	14.9

¹ Group A: countries with recent debt-servicing problems.

Group B: countries without debt-servicing problems.

² Estimates.Source: International Monetary Fund, *World Economic Outlook*, 1985.

means of finance for developing countries is usually external net borrowing. This is shown in Table 2-4 in the close relationship between net external borrowing as a percentage of exports and the current account balance as a percentage of exports for both groups of countries. Not surprisingly, debt-servicing difficulties are associated with countries that run large and persistent current account deficits that need to be financed by large and persistent net external borrowing.

Loss of confidence in a country's creditworthiness might be expected to affect internal as well as external creditors, leading to a flight of domestic capital. This is reflected in Table 2-4 in the behavior of net asset transactions plus errors and omissions in the balance of payments. As a percentage of exports, these items remain quite small for group B, which did not experience debt-servicing problems. For group A, however, these items grow quite large in 1980-82.

Adverse external developments can contribute to a loss of confidence in creditworthiness. A decline in export earnings due to a decline in world market demand for a country's exports may cause creditors to worry about the security for their loans. For a country

with a large amount of floating-rate debt, an increase in interest rates increases debt-service requirements. This tends to worsen the current account balance, thereby contributing to creditor worries.⁷ Such events did adversely affect many heavily indebted developing countries in the early 1980s. However, the extent of these effects depended on the size of a country's external debt. In Table 2-4, group A has a higher ratio of debt service to exports in both 1977 and 1982 and a larger increase in this ratio between 1977 and 1982 than group B. This is not because group A faced higher interest rates or a larger increase in interest rates. It is because they had a higher ratio of external debt to exports in 1977 and a larger increase in this debt ratio between 1977 and 1982. Especially in developing countries where most external debt is government debt, the effects of changing interest rates on debt-service problems are a mixture of the effects of external events and of past government policies.

When a country experiences debt-servicing difficulties, its creditors tend to want to reduce their exposure by collecting all interest and principal payments as they come due, while extending no new credit. This may be neither desirable nor feasible. For the countries that experienced debt-servicing difficulties to pay all of the interest and principal on their external debts in 1982, without any new gross external borrowing, they would have had to move from net external borrowing equal to 37.5 percent of exports in 1981 to net external lending equal to principal payments on outstanding external loans (probably about 20 percent of exports). This would have required these countries to improve their trade balances in 1982 by more than \$100 billion, relative to actual performance. Engineering such a massive change in the trade position of these countries was probably not feasible in so short a time, and it certainly would have been very costly. Moreover, it is questionable whether the major creditor countries, including the United States, would have wished to see a deterioration of more than \$100 billion in their own trade balances, which would have been the necessary counterpart of an improvement of similar magnitude in the trade balances of debtor countries. To deal with this problem, debtor countries and their creditors normally attempt to negotiate rescheduling arrangements under which the creditors agree to extend the time period for repayment of the principal and sometimes part of the interest on existing loans.

THE ROLE OF THE INTERNATIONAL MONETARY FUND

In most cases, debt rescheduling involves formal standby lending arrangements with the International Monetary Fund (IMF). The IMF establishes such arrangements as part of its general function to pro-

vide financial support to countries experiencing balance of payments difficulties, provided that they adopt policies holding promise of correcting these difficulties. Typically, under these agreements, the IMF provides only part of the new credit extended to a debtor country, but the agreement is frequently an effective precondition for a re-scheduling arrangement with other creditors. As a condition for IMF support, countries agree to pursue policies directed at improving their capacity to meet their external obligations. Usually, the agreed policies seek reductions or limitations of government spending, government borrowing, and credit and money creation. The policies are intended to reduce domestic spending relative to domestic income and thereby improve the current account balance. In many cases, a devaluation of the exchange rate is also adopted as a means of improving the current account balance by increasing the price of internationally traded goods relative to home goods. Such a relative price change tends to reduce imports, increase exports, and shift resources toward the tradable goods sector of the economy.

The IMF has been criticized, in some quarters, especially in developing countries, on the grounds that it recommends policies that focus too strongly on achieving short-term improvements in the balance of payments, rather than promoting longer term growth, and that contribute downward pressure on economic activity in countries already subject to strong recessionary forces. It is certainly true that several countries that adopted economic policies recommended by the IMF suffered severe recessions in the early 1980s. It is far less clear that these policies were primarily responsible for the severity of these recessions or that, under the circumstances, there was any real alternative to adopting some of these policies. These circumstances included the cumulative effects of past government policies and of adverse external events that contributed to the loss of confidence in the creditworthiness of a number of heavily indebted developing countries. A country that cannot borrow because of lost confidence in its creditworthiness must adopt policies that keep the excess of spending over income within the range of permitted borrowing. Because its own resources are limited, the IMF's capacity to expand the supply of credit (including borrowing to make debt-service payments) depends partly on its capacity to persuade other creditors that policies undertaken by debtor countries offer reasonable hope of restoring creditworthiness. Moreover, some of the countries that have established standby agreements with the IMF have improved their current account balances. This task might well have proved more difficult and more painful without the assistance of the IMF.

The critical issue for the future is how to resolve the economic problems of debtor countries in the manner most advantageous to

them, to their creditors, and to the world as a whole. The mutually advantageous resolution is clearly one that restores these countries to paths of rapid, sustainable, noninflationary economic growth, thereby assuring creditors of repayment and benefiting the world economy through a general expansion of trade and economic activity. This most desirable outcome requires that developing countries pursue policies that support their own economic growth and structural adjustment, that the United States and other industrial countries maintain high and stable rates of economic growth, and that the nations of the world cooperate in sustaining an open system of international trade and investment that enables each of them to realize its full economic potential.

POLICIES FOR ECONOMIC GROWTH AND DEVELOPMENT

Achievement of a rapid rate of economic growth has been a key objective of economic policy in many older and newly emergent developing countries for the past three decades. Different countries at different times have pursued a wide array of different policies in their efforts to stimulate and sustain rapid rates of growth, and have enjoyed varying degrees of success in these efforts. From this wealth of experience, it is possible to learn a good deal about economic policies likely to support successful development and about policies likely to inhibit economic growth.

ESTABLISHING APPROPRIATE INCENTIVES THROUGH RELATIVE PRICES

One basic lesson is that the rules governing economic behavior in developing countries do not fundamentally differ from the rules governing such behavior in more economically advanced countries. Allowed the opportunity to pursue their own interests, individuals respond to the incentives implicit in the relative prices of products they consume and produce and of factor services they sell or employ. Hence, it is crucial that economic policies operate to confront individuals with relative prices of products and factors that accurately reflect their true values and allow them to respond appropriately to the incentives embodied in these prices.

The importance of this point has not always been recognized in either developing or developed countries. For example, policies that depress prices of agricultural commodities in many developing countries are often seen as benefiting low-income consumers, without much reducing agricultural production. Experience demonstrates the error of this supposition. When prices of cash crops are depressed by export taxes, overvalued exchange rates, or price controls, production declines as farmers shift to crops with higher market prices or

shift back to subsistence agriculture, sometimes with disastrous consequences for the national food supply. The opposite side of this coin has been observed in many developed countries where programs to support prices of agricultural products have generated mountains of surplus grain, oceans of surplus dairy products, and enough sugar production to please even Mary Poppins.

Another recent example of this fallacy is the supposed lack of responsiveness of producers and consumers to changes in the price of energy. After 1973 the U.S. Government imposed controls on the prices paid to domestic producers of oil and natural gas and on standards for energy consumption, including fuel economy standards for automobiles. Part of the rationale for these controls was the supposition that allowing domestic energy prices to rise would redistribute income from energy consumers to domestic energy producers, but would have little effect on the quantities of energy produced and consumed. However, as discussed in Chapter 5, energy production in the United States responded strongly to the incentives provided by higher prices. Similarly, when consumers faced higher energy prices, they demanded higher gas mileage vehicles, better insulated homes and factories, and more energy-efficient equipment and appliances.

The relevance of this point is not limited to the United States. In some oil-exporting countries, domestic fuel prices were kept well below world market levels throughout the 1970s. When the economic situation of many of these countries deteriorated in the early 1980s, there was resistance to raising domestic fuel prices as a means of conserving a valuable resource because it was believed that price increases would reduce real incomes of fuel consumers without stimulating much conservation. Countries that raised domestic fuel prices, however, found that fuel consumption responded to the incentives created by higher prices.

MAINTAINING REASONABLE FISCAL DISCIPLINE

A second basic lesson from experiences with economic growth is the virtue of maintaining reasonable fiscal discipline. This requires that governments not run large and persistent fiscal deficits, especially deficits financed by inflationary money creation or by heavy foreign borrowing, and that the size of the public sector be limited.

The "reasonable" size of the fiscal deficit depends on the situation and circumstances of particular countries. A country that enjoys rapid economic growth can usually expand its money supply more rapidly without generating inflation than a country that suffers slower economic growth. A country with good credit standing can finance a temporary fiscal deficit by foreign borrowing, while a country with a

poorer credit rating may not have this option. A country that devotes a large fraction of its income to productive and profitable investments can sustain a higher rate of foreign borrowing than a country that does not invest as much in its future growth. However, the experience of many developing countries in the international debt crisis of the early 1980s demonstrates the dangers and disadvantages of policies that lead to persistent, large-scale foreign borrowing.

More generally, experience indicates that countries whose governments run large and persistent fiscal deficits (sometimes exceeding 8 or 10 percent of national income) may enjoy rapid economic growth for a while, but sooner or later they suffer severe economic difficulties. These difficulties may become acute during periods when deficits are being curtailed, thereby complicating observed relationships between fiscal deficits and economic performance. The painful effects of reducing government deficits, however, should be attributed to their basic cause. We suffer hangovers not because we stop drinking, but because we drank too much in the first place.

The appropriate size of the public sector is a critical issue to be resolved by any society. Experience does not provide unambiguous evidence that the size of the public sector, within a certain range, is strongly and negatively correlated with the rate of economic growth, but it does suggest that large public sectors are not associated with superior growth performance. For the industrial countries, the share of government spending in GNP has generally risen over the postwar period, and the rate of economic growth has generally declined. Japan has enjoyed the highest rate of economic growth among the major industrial countries and has also had the lowest share of government spending in GNP. In the 1950s and 1960s, Western European countries generally had higher rates of economic growth than the United States, even though they generally had somewhat larger public sectors. More recently, however, as many Western European countries have increased their share of public spending, their growth performance has fallen off, both absolutely and relative to the United States. Among developing countries, the evidence is mixed concerning the cross-sectional relationship between the size of the public sector and the rate of economic growth. There are, however, a number of examples where rapid growth of the public sector has been associated with a deterioration of growth performance. Moreover, large public sectors generally need to be supported (sooner or later) by high taxes. High tax rates create disincentives for working, saving, and investing, and, as some evidence shows, tend to be associated with lower rates of economic growth.

For a country with a large public sector, it is especially important that the public sector be run efficiently. Public sector enterprises that

provide services similar to those that might be provided by private firms (such as electricity or transportation) should meet the standards of efficiency and profitability normally expected of private sector enterprises. Some public sector enterprises may meet this performance criterion; many do not. Often, employment in public sector enterprises is artificially high and wage and benefit levels for workers and managers of such enterprises exceed levels generally prevailing in the private sector. As discussed in Chapter 5, public sector enterprises in the United States are less efficient than their private sector counterparts. Evidence suggests that public sector enterprises in developing countries also suffer from serious inefficiencies, implying that substantial gains can be made by making public sector enterprises behave more like private firms or, better still, by shifting their activities to private firms.

Restoring fiscal discipline is a politically painful exercise. The short-run effect of either a reduction in government spending or an increase in taxes may be a decline in economic activity. The longer run effect of higher taxes, which distort economic incentives, is likely to be a lower level of real income. Moreover, the beneficiaries of deficit spending see themselves harmed by spending cuts, by tax-rate increases, or by efforts to expand the tax base. There is an important asymmetry here. Recipients of subsidized public services, transfer payments, or special tax breaks frequently blame governments for reducing these benefits. They do not protest with similar intensity the failure to provide such benefits in the first place. Hence, to maintain reasonable fiscal discipline, it is important not to initiate programs that may become expensive and are likely to generate interest groups supporting their continuation.

RESTRAINING GENERAL PRICE INFLATION

A third basic lesson is that a rapid rate of price inflation is generally associated with relatively poor growth performance. For the industrial countries, the higher inflation period of the 1970s and early 1980s generally brought poorer economic performance than the lower inflation period of the 1950s and 1960s. Some developing countries with inflation rates in the range of 20 to 40 percent per year have enjoyed reasonably good real growth. When inflation rates have accelerated to 50 percent per year or higher, however, growth performance has generally been poor relative to lower inflation periods. Inflation rates of 100 percent per year or higher have frequently been associated with economic stagnation or decline. Successful efforts to reduce high inflation rates have usually been associated with higher real economic growth. Countries enjoying the highest real growth rates have generally had low or moderate inflation rates.

The causal linkage between high inflation and poor growth is complex. Because governments often resort to inflationary policies when their economies are not performing well, inflation can be a symptom as well as a cause of poor economic performance. In theory, a country could have a high and predictable rate of inflation, and could adjust its economic institutions (including its tax system) to such inflation. In practice, high inflation rates are usually variable and unpredictable. High and variable inflation rates tend to induce wide variations in relative prices that interfere with the signals concerning the appropriate allocation of resources. With high and variable inflation rates, economic agents divert time, effort, and resources from productive activities into socially unproductive efforts to profit or to avoid losses from inflation and its attendant effects. Inflation frequently interacts with other distortions of the economic system to impair economic performance. For example, taxation of interest and other returns from capital on a nominal rate of return basis produces high real effective rates of taxation in the presence of high inflation. Schemes for indexing wage rates and other economic variables to deal with the problems of inflation can reduce the flexibility of the economy to deal with other types of disturbances. Under general price inflation, controlled nominal prices of basic commodities and public services frequently result in low relative prices of these goods and services. Governments are often reluctant to raise these controlled prices for fear that it will contribute to inflation or stimulate political protests. Enlarged fiscal deficits necessary to finance high real subsidies on basic commodities and to pay for the deficits of public sector enterprises, however, can stimulate increased money creation that in turn accelerates inflation.

MAINTAINING AN OPEN POLICY TOWARD INTERNATIONAL TRADE

A fourth basic lesson is that an outward looking, open policy toward international trade tends to be conducive to rapid economic growth. The essence of such a policy is that internal relative prices of internationally traded goods are not forced to diverge too far from world market prices because of import tariffs or quotas, exports taxes or subsidies, multiple or misvalued exchange rates, or other government policies. An open policy toward international trade allows for relatively unrestricted importation of products cheaply available in world markets and for exportation of products in which a country has or can develop a comparative advantage.

This contrasts with the inward looking, import-substitution policies adopted by many developing countries early in the postwar period. The objective of these import-substitution policies was to stimulate economic growth by encouraging development of domestic industries

to produce products (especially manufactured products) previously imported. The tools were high-import tariffs, restrictive import quotas, foreign exchange licensing schemes, and other protective devices. In a few extreme cases, domestic producers could even obtain absolute prohibitions of imports on the promise that they would supply domestic substitutes.

Many studies have shown that relatively open policies toward international trade provide a better environment for economic growth in developing countries than policies of import-substitution. The most rapidly growing countries generally have relatively open trade policies. Countries that have shifted from import substitution to more open policies have generally improved economic performance. In contrast, import-substitution policies have produced large distortions between the domestic relative prices of tradable goods and the true costs of these goods, as reflected in world market relative prices. As a result, resources were diverted from potential export activities into production of high-cost domestic substitutes for products that could be purchased more cheaply in world markets. In addition, smaller countries that adopted import-substitution policies lost economies of scale by attempting to produce a diversified range of products for a small domestic market, rather than concentrating on a more limited range of products to be produced for export as well as domestic consumption. In some cases, loss of productive efficiency was exacerbated by a decline in market discipline on domestic firms and their workers because these firms faced little internal competition and were shielded from foreign competition.

Some countries with relatively open policies toward international trade have provided temporary protection for some import-competing industries or have given direct or indirect export subsidies to some industries (including preferential tax treatment and favorable tariff rates on imported inputs used in these industries). In some cases, special privileges accorded to particular industries may merely offset other distortions that impair the exploitation of natural comparative advantage. Although there are a few examples of successful industrial targeting, there are also many examples of industries that have become successful exporters without benefit of specific targeting by government authorities. There are also examples of industries targeted for development that never proved especially successful. Worst of all are the examples of targeted industries that continue to require subsidies or protection long after they were initially selected for special assistance. The general lesson appears to be that industrial targeting may occasionally succeed when a government has the luck to select the right industries for development. But there is a danger that special government privileges will be supplied

for long periods to industries with little development potential. Moreover, if private sector investors err in selecting an industry for development, they bear an important part of the cost of that mistake, rather than passing it on to the rest of society. For this reason, there is less danger that the private sector will prolong activities that prove unsuccessful.

Given that most countries will not pursue policies of complete free trade, it is important to recognize that some impediments to trade are worse than others. A uniform ad valorem import tariff applied to all imports is generally less distortionary than a tariff structure with the same average tariff rate but with wide variations in the tariffs applied to individual commodities. This is especially so when imported goods are used as inputs in producing other goods. In this situation, relatively small variations in nominal tariff rates can generate large differences in effective rates of protection for value added in different domestic production activities. Large differences in effective protection rates, in turn, imply large distortions of the incentives to devote domestic resources to different production activities.

In general, import tariffs are less harmful than import quotas that provide the same initial level of protection. Tariffs raise revenue for the government. The implicit revenue associated with an import quota is usually distributed to the private parties who receive quota allocations and who hence have an interest in preserving and enhancing the scarcity value of the right they have received. A tariff generally allows less latitude for the exercise of market power by domestic producers of import substitutes (or by suppliers of factors to such producers) than does an import quota. With an import tariff, the degree of protection for domestic producers relative to foreign competitors is fixed; domestic producers are therefore under pressure to match the efficiency gains of their foreign competitors. With an import quota, the discipline on domestic producers to remain efficient is often diminished because the level of protection rises to offset any deterioration in the efficiency of domestic producers relative to their foreign competitors. Systems of foreign exchange licenses, with different exchange rates for different classes of imports and exports and with complicated mechanisms for the allocation of licenses, share the disadvantages of import and export quotas and frequently offer even greater latitude for harmful manipulation.

MAINTAINING AN APPROPRIATELY VALUED EXCHANGE RATE

A fifth basic lesson from the growth experiences of developing countries is the importance of maintaining an appropriately valued exchange rate. The exchange rate is the price of domestic money in terms of foreign monies. The economically appropriate exchange

rate establishes the correct relationship between internal nominal prices of goods and services in terms of domestic money and the nominal prices of goods and services in terms of foreign monies. For most developing countries that maintain some form of pegged exchange rate, the economically appropriate exchange rate is difficult to identify with great precision. However, there is little doubt that some developing countries have injured their export industries and their overall growth performances by maintaining substantially overvalued exchange rates. Frequently, this has happened because rapid domestic inflation has transformed an initially appropriate nominal exchange rate into a substantially overvalued exchange rate.

The initial effect of an overvalued exchange rate is often to enlarge a country's trade deficit beyond the level that can be financed by the normal equilibrium level of capital inflow. In the short run, to sustain the foreign exchange value of its currency, the government may intervene in the foreign exchange market by using its official reserves or reserves borrowed on the world capital market. Alternatively, a large-scale capital inflow resulting from either official foreign borrowing or from private capital inflows can contribute to overvaluation of the exchange rate by financing an excess of domestic spending over domestic income. To sustain an overvalued exchange rate and stem reserve losses, governments frequently resort to trade restrictions and foreign exchange controls. Although the reason for imposing these restrictions may not be a desire to engage in import substitution, the effect is the same—a distortion of the economically appropriate relationship between internal and external prices and a corresponding distortion of incentives for the efficient allocation of resources.

LIMITING DISTORTIONS OF DOMESTIC PRODUCT AND FACTOR MARKETS

A sixth basic lesson from the experiences of developed and developing countries is the importance of limiting distortions of domestic product and factor markets. Such distortions can arise from the activities of private economic agents, in particular through the exercise of market power. The appropriate role of government policy in this regard is not to facilitate the exercise of market power by supporting cartels or other anticompetitive practices but to promote competition. Even more important, the government should not allow its own policies to distort excessively the markets for domestic products and factors.

Some distortion of domestic product and factor markets is the inevitable consequence of taxes used to raise revenue to finance essential government operations. The harmful distortionary effects of taxation generally rise more than proportionately with the rate of tax-

ation. They become especially acute when rates of taxation are highly variable across similar products or across different uses of the same factor of production. Hence, it is important to keep overall tax rates as low as possible and to keep tax rates relatively even across similar products and different uses of the same factor of production. Increasingly, experience suggests that low and even tax rates contribute to economic growth, presumably by maintaining incentives to work, save, and invest.

To keep overall tax rates low, it is vital to limit public spending financed by tax revenues. The appropriate rule with respect to public spending is that the marginal social value of such spending should exceed its direct cost by enough to compensate for the distortionary and collection costs of the taxes necessary to finance it. For the United States, the true social cost of Federal Government spending has been estimated at one and one-half times the direct budget cost. For many developing countries that may have higher tax collection costs and more distortionary tax systems than the United States, the marginal social cost of additional government spending is even higher relative to direct budget cost.

Further, public sector enterprises that supply goods and services in competition with private sector enterprises or that might plausibly function as private sector enterprises (such as electric utilities and suppliers of transport services) should charge prices that reflect the true costs of the goods and services they supply (adjusted for externalities associated with consumption or production of these goods and services). Such user charges do not have the distortionary effects of taxation because they make the users recognize the cost of the particular good or service they are using. Normally, public sector enterprises should generate profits that reflect a fair rate of return on the capital that the public has invested in these enterprises. The profits should be returned to the public treasury, not squandered on employment of unnecessary personnel, on excessively high wage rates for workers, or on benefits and perquisites for their managers.

Special tax exemptions, rebates, and privileges frequently cause economic distortions. They increase, sometimes to a great extent, the disparity between tax rates on activities benefiting from them and on similar activities. There also is the need to replace by raising other taxes the revenue lost because of exemptions, rebates, and privileges. Moreover, once granted, special benefits often prove to be politically difficult to remove and may stimulate others to seek similar benefits.

In addition to taxes, many other government policies can harm economic performance by distorting economic incentives. Such policies include regulations of prices, wages, and interest rates. Policies

that have maintained low prices of agricultural commodities in a number of developing countries have often discouraged agricultural production, thereby exacerbating problems of hunger and starvation while reducing the real income of rural families who are usually the poorest families in developing countries. Rent controls in both developing and developed countries generate housing shortages. Regulations that hold real wage rates above economic equilibrium levels contribute to unemployment among affected groups of workers. Restrictions on plant closings and work force reductions, such as have been used recently in some Western European countries, protect specific jobs for specific workers in the short run. However, they discourage workers who have protected jobs from seeking new jobs in which their social product (if not immediately their own income) would be higher. They also discourage creation of new jobs by making prospective employers fear that workers hired to expand output today will be a liability if demand contracts tomorrow.

Distortions also arise from controls on interest rates and credit allocations, especially in inflationary economies. Several developing countries have controlled nominal interest rates on deposits at financial institutions in the face of inflation rates that made real returns of such deposits substantially negative. This discouraged saving and investment and impaired the functioning of financial institutions as intermediaries of credit transactions. When real rates of return on savings were well below those on investment, financial institutions typically employed nonprice mechanisms for allocating the scarce supply of credit. Many factors other than the likely economic productivity of alternative investments can influence the allocation of credit in such an environment.

In its continuing studies of the effects of economic policies on economic growth, the World Bank has estimated for a number of developing countries the extent of economic distortions resulting from inappropriate exchange rates, protection of domestic manufacturing industries from import competition, protection or taxation of domestic agriculture, distortions of domestic capital markets, distortions of domestic labor markets, and distortions generated by inflation. The measures of these classes of distortions have been combined in a general distortion index, which has been related to measures of economic performance of developing countries in the 1970s. The results are summarized in Table 2-5. Countries with a low distortion index show a higher growth rate of real gross domestic product, a higher domestic savings ratio, a higher growth rate of industrial output, a higher growth rate of agricultural output, and a higher growth rate of exports than countries with a medium distortion index. Medium-dis-

tortion countries, in turn, show better economic performance in all of these categories than countries with a high distortion index.

TABLE 2-5.—*Price distortions and economic growth in the 1970s*
[Percent¹]

Country category	Annual growth rate of GDP	Domestic saving/GDP ratio	Return on investment	Annual growth rate of agriculture	Annual growth rate of industry	Annual growth rate of export volume
Low-distortion countries	6.8	21.4	27.6	4.4	9.1	6.7
Medium-distortion countries	5.7	17.8	26.9	2.9	6.8	3.9
High-distortion countries	3.1	13.8	16.8	1.8	3.2	.7

¹ Averaged across countries.

Source: International Bank for Reconstruction and Development, *World Development Report, 1983*.

MAINTAINING POLITICAL STABILITY

A final general lesson from the growth experiences of many countries over a long span of time is the importance of maintaining reasonable political and economic stability. Economic growth requires current sacrifice to obtain future reward. A political and economic system that does not provide reasonable assurance that those who make the sacrifices will enjoy a fair share of the reward will almost inevitably fail to generate much growth. This is apparent in countries where the insecurity created by war or political turmoil has caused economic stagnation or decline.

Even in less extreme circumstances, it is important that the political and economic system provide reasonable assurance that those who make the greatest contributions to economic progress enjoy a fair share of the fruits of that progress. This means that there is unlikely to be an absolutely even distribution of the benefits of economic growth. Those who work the hardest, save the most, exhibit the greatest skill and inventiveness, and provide the critical entrepreneurial efforts should be able to expect a greater share in the benefits of growth than those who make smaller contributions. On the other hand, economic "progress" that benefits only a very few, perhaps at the expense of a great many, is likely to prove unstable and ephemeral. Sustained economic growth requires the contributions of all elements of society and should be expected to benefit all elements of society.

The broad experience with economic growth and development over the past three decades demonstrates that rapid economic growth does benefit all of society, even if all do not benefit in the same proportion. A developing country that has enjoyed the average growth of real per capita income over the past three decades has more than doubled its real living standard. In some countries with average or

better than average growth rates, real per capita incomes of the poorest 20 percent of the population may have risen relatively less than real per capita incomes of the richest 20 percent of the population. But even the poorest 20 percent have benefited substantially from general economic growth. Along the coastline of economic progress the tide may rise more rapidly in some places than in others, but, as President Kennedy observed, "A rising tide lifts all boats."

There is, of course, no absolute guarantee that countries will always achieve rapid rates of economic growth even if their governments recognize the importance of economic incentives, maintain reasonable fiscal discipline, sustain moderate inflation rates, pursue open policies with respect to international trade, keep exchange rates near economically appropriate levels, avoid excessive distortions of their domestic economies, and provide reasonable assurance that those who make the sacrifices necessary for economic progress enjoy a fair share of the benefits of such progress. At times adverse external economic conditions will make growth difficult even for countries with growth-oriented economic policies. Moreover, in the final analysis, successful growth and development do not depend only or primarily on government policies. They depend on the effort, investment, ingenuity, and entrepreneurship of the citizens of a country. The fundamental task for economic policy is to provide the essential environment of economic stability and the right framework of economic incentives so that these basic forces can have their full effect in generating economic progress. The experience of many developed and developing countries indicates that in the longer run societies where economic policies perform these essential tasks do enjoy the fruits of economic progress and the improvements in human welfare that flow from such progress.

POLICIES FOR THE INDUSTRIAL COUNTRIES AND THE INTERNATIONAL ECONOMIC SYSTEM

Developing countries operate in an economic environment influenced by the economic performance and policies of the industrial countries and by the international system that guides economic relationships among nations. The industrial countries contribute to successful economic performance of developing countries by maintaining rapid and sustainable rates of economic growth and reasonable price stability, and by supporting an open system of international trade and investment that serves the interests of all nations.

POLICIES OF THE ADMINISTRATION

The Administration has directed its economic policies toward these fundamental goals. The Administration has sought a monetary policy that reduces the inflation rate gradually from the high rate it inherited in 1981 to the moderate rates experienced over the past 3 years and ultimately to the zero rate consistent with price stability. The Administration has pursued a tax policy that reduces marginal tax rates in order to strengthen incentives for productivity and growth. The Administration is actively seeking additional tax reform that will further reduce marginal tax rates and equalize tax treatment of different forms of investment, again with the objective of supporting more rapid economic growth. To increase the efficiency of resource use, the Administration has reduced the burden of government regulation and is pursuing further deregulation. The Administration has opposed protectionist measures that conflict with the basic principles of an open system of international trade and has sought to persuade other nations to adopt more open trade policies. In cooperation with other nations, the Administration has pursued efforts to strengthen the international financial system and has recently proposed new initiatives in this important area.

As discussed in detail in Chapter 1, under Administration policies, the United States has enjoyed a sharp decline in inflation and a robust recovery from the world recession of 1980–82. In the other industrial countries, inflation rates also generally are down substantially from the high levels prevailing in 1979–81, but recovery from the world recession has been sluggish. In many industrial countries, unemployment rates have risen to levels not experienced since the 1930s. Fortunately, recent evidence suggests that unemployment rates in many of these countries have peaked and that future growth will at least keep them from rising.

POLICIES TO REDUCE STRUCTURAL RIGIDITIES

One favorable sign of the prospects for more rapid and sustainable growth in the industrial countries is the increasing consensus that to deal with chronic problems of slow growth and high unemployment, structural rigidities (especially in labor markets) must be reduced. In part, this is a task for government. Explicit or implicit subsidies to provide public services at artificially low prices or to maintain high-wage jobs in unprofitable industries must ultimately be financed by taxes that tend to reduce employment, investment, and growth in other industries. The same is true of overly generous benefits to unemployed workers, which may also reduce incentives for finding new employment. Restrictions on plant closing or work force reductions may, in the short run, diminish chances of unemployment for work-

ers with jobs, but they probably also discourage new and existing firms from hiring more workers. The net result in the longer term is likely to be a less efficient distribution of the labor force and a lower level of total employment. Low-rent public housing and other heavily subsidized public services linked to residency in a particular area discourage labor mobility. Reform of these and other government policies that contribute to rigidities and inefficiencies of the economic system can contribute importantly to renewed growth.

From a broader perspective, the problem of structural rigidities must be addressed by all who participate in the economy and in the political system. The process of economic growth is not one in which each forward step benefits everyone or, at a minimum, harms no one. In a prosperous and growing economy, some industries expand while others contract. Some firms grow and earn above-average profits while others decline and confront bankruptcy. Some workers enjoy rapid increases in real wage rates and work overtime hours while others face real wage declines or unemployment. In the end, rigid insistence that such disparities should not exist is tantamount to insistence that rapid economic growth should not occur. The whole, vastly favorable experience with rapid economic growth in the postwar period demonstrates the error of such a posture. There is much to gain from reaching the social, political, and economic consensus necessary to move away from such a posture and toward more growth-oriented economic and social policies.

POLICIES FOR THE MULTILATERAL DEVELOPMENT BANKS

The recent and continuing problems of a number of heavily indebted developing countries suggest the desirability of further efforts to improve the international financial system. In considering these improvements, it is important to distinguish between the system of official lending and assistance, bilateral and multilateral, that serves the financial needs of both low- and middle-income developing countries, and the system of private lending and direct investment that supplies external capital primarily to middle-income developing countries. Given the problems that private creditors have recently experienced with loans to middle-income developing countries, it seems unlikely that private capital flows will anytime soon become the dominant source of external credit to low-income countries.

The Multilateral Development Banks (MDBs) are an important source of external credit and technical assistance to developing countries. The MDBs include the World Bank and its affiliates, the Inter-American Development Bank, the Asian Development Bank, and the African Development Bank. Aggregate new MDB loan commitments to both low- and middle-income developing countries cur-

rently run about \$20 billion per year. MDBs loan to low-income countries on a concessionary basis, while they loan to middle-income countries at or near market interest rates.

MDB loans are concentrated in areas for which it would be difficult to attract private external credit, including agricultural development projects, education, health, transportation, and water and sanitation systems. MDBs also frequently provide technical assistance on project design and operation to countries with shortages of skilled personnel, and they help to catalyze resource flows to developing countries from private sources. To continue these generally worthwhile activities, it is necessary for the industrial countries to provide continued support to the MDBs, especially for their concessional lending activities. To serve these same ends, the United States has suggested that reflows to the IMF Trust Fund (estimated to be \$2.7 billion over the next few years) be used to provide additional assistance to low-income countries pursuing policies to restructure their economies and improve prospects for growth.

MDB lending for industrial development projects and other projects that could be run as business enterprises (including some projects in the agricultural sector) raises issues that need to be carefully analyzed. A loan to finance a business investment is justified if that business can reasonably be expected to generate profits sufficient to repay the loan at an interest rate that appropriately reflects the scarcity value of capital. The scarcity value of capital in low-income developing countries is not the interest rate that MDBs charge on concessional loans, but rather is an interest rate that probably exceeds the rates charged on nonconcessional loans from these institutions. Moreover, in assessing the potential profitability of a prospective business investment, it is important to use appropriate "shadow pricing" techniques so that profitability is not artificially inflated by government policies that provide special privileges to a particular enterprise. For example, a textile mill or a fertilizer plant that is profitable only because a tariff protects it against competing imported products is not a worthwhile investment project based on an appropriate cost-benefit calculation.

MDBs also engage in "structural adjustment lending" to facilitate adoption of economic policies that provide a better environment for economic growth in the longer term but have significant costs in the short term. With respect to such lending, it is critical that the policies really do provide a better environment for economic growth and that these policies be implemented and maintained. Even for the poorest countries, additional resources made available through external loans do little long-run good if economic policies do not create an environment conducive to economic growth.

For most of the middle-income developing countries that have been the focus of the international debt crisis, lending from MDBs and other official sources has provided a relatively small part of external credit. Much of the external credit to countries involved in the debt crisis has come from private sources, especially from commercial banks in the developed countries. A key element in the problems of these countries has been the decline in confidence of their creditors concerning their ability to meet their debt-service obligations. These doubts affected not only foreign creditors who became reluctant to extend new loans or extend the terms of existing loans, but also domestic investors who sought safer foreign havens for their capital.

The key requirement for resolving the problems of these debtor nations is their adoption of economic policies that support sustainable growth and structural adjustment and afford to their creditors (foreign and domestic) confidence of receiving a fair rate of return on their capital. Absent such a return of confidence, based upon a genuine improvement in prospects for future economic growth, further extensions of credit from external sources, official or private, are at best a short-run palliative. If domestic residents cannot be persuaded to keep their capital at home and return some that they have moved abroad, there is little hope that foreign investors can be induced to fill the gap for very long.

The industrial countries, including the United States, can make a substantial contribution to resolving the problems of the debtor countries by supporting an environment conducive to the economic growth of developing countries. This means maintaining rapid and sustainable rates of economic growth and reasonable price stability in the industrial countries, and supporting an open international economic system that allows developing countries to grow and to meet their external obligations.

In addition, the industrial countries recognize that debtor countries pursuing appropriate policies supportive of economic growth and balance of payments adjustment require access to external credit adequate to finance implementation of these policies. Specifically, at the Williamsburg Summit in 1983 and the London Summit in 1984, the six major industrial countries agreed that the problems of debtor countries need to be addressed on a case-by-case basis in accord with the following principles: (1) Debtor countries need to adopt policies that will adjust their economies to the realities of their external payments situations. (2) Sustained growth and maintenance of open markets in the industrial countries are important for the successful resolution of the problems of many debtor countries. (3) The IMF should

have adequate resources to play its important role in providing credit and arranging programs for stabilization and adjustment in debtor countries. (4) Continued commercial bank lending is necessary and appropriate for countries making determined adjustment efforts. (5) Bridge financing from central banks should be provided when necessary to facilitate agreement on suitable adjustment programs.

More recently, at the IMF/World Bank Annual Meeting in Seoul in October 1985, the U.S. Secretary of the Treasury, proposed a Program for Sustained Growth that builds upon the principles established at the economic summits to foster growth and adjustment of developing countries. The program embodies three main elements: adoption by debtor countries of macroeconomic and microeconomic policies to promote growth, reduce inflation, and secure balance of payments adjustment; continued central involvement of the IMF in the arrangement of stabilization and adjustment programs, supplemented by structural and sectoral assistance lending by the multilateral development banks; and increased lending by commercial banks. The program calls for a 50 percent increase in loan disbursements by the MDBs and for \$20 billion of new loan commitments by commercial banks to a core group of 15 debtor nations over the next several years. These disbursements and loans will be tied to comprehensive economic reforms by the borrowers and to continued commercial bank lending to other developing countries that pursue appropriate policies.

Additional commercial bank lending will be required over the next few years to meet the financing needs of debtor countries pursuing appropriate policies. In the longer term, however, it would be desirable to reduce problems arising from the mismatch between the nature of the investment undertaken by developing countries and the nature of the external obligations issued to finance part of this investment. Developing countries have financed long-term equity investments in their own economies with short-term, foreign-currency-denominated, government-guaranteed, floating-interest-rate loans from large international commercial banks. If these bank loans had instead taken the form of equity investments, like common stocks, the effect of the adverse developments of the early 1980s would have been partly absorbed by foreign holders of these equities. If bank loans to developing countries had instead taken the form of long-term bonds, then at least the effect of the increase in market interest rates would have been absorbed by the bondholders in the form of a decline in the market value of their bonds. In addition, if the bonds were not government guaranteed, then the bondholders would have absorbed the increase in default risk associated with a deterioration in economic conditions.

Of course, potential foreign investors would require higher expected rates of return to compensate for the increased risks associated with equity investments or long-term, nonguaranteed bonds. A developing country that seeks to finance part of the expenses of its growth with foreign capital simply must decide whether it wishes to pay a higher expected return to foreign investors to induce them to bear part of the risk inevitably associated with any economic endeavor, or whether it wishes to absorb all the risk itself and pay a lower, but fully assured, return to foreign investors. It is relevant to note that most of the capital inflow into the United States in the 19th century took the form of foreign investments in securities issued by private sector enterprises, especially railroad bonds. Holders of these securities were exposed to some risk from interest rate fluctuations and from the possibility of default, but presumably were offered returns that compensated for these risks.

To encourage an appropriate share of equity investment in total credit flows to developing countries, it is important that creditor countries avoid policies that distort the nature of these credit flows. These distortionary policies include restrictions on foreign investment adopted in misguided efforts to protect domestic jobs. It is also especially important that developing countries desiring increased equity investment create an environment favorable to such investment. National treatment of foreign firms and investors (that is, treatment on the same basis as domestic firms and investors) generally contributes to such an environment. In contrast, differential taxation of domestic and foreign investors or enterprises, special limitations on the activities of foreign-owned firms, restrictions on repatriation of earnings, export performance requirements, insistence on domestic participation in or control over subsidiaries of foreign enterprises, and inadequate protection of patents, licenses, and intellectual property rights generally do not support such an environment.

POLICIES TO STRENGTHEN THE OPEN SYSTEM OF TRADE

In the area of international trade policy, there is the need to forestall new efforts at protectionism and to roll back protectionist measures in both developed and developing countries. The next chapter discusses the fallacies in arguments used to support protectionism. Here, it is important to stress the essential link between an open world trading system and the ability of many developing countries to meet their external payment obligations. Payment of just the interest on the external debts of indebted developing countries, without any new net borrowing, currently requires that these countries generate payments surpluses (primarily from net exports) of about \$80 billion per year. Even with a substantial flow of new net lending, payment of

a significant fraction of the interest on already outstanding loans requires that indebted developing countries generate substantial net export surpluses. Generation of such surpluses depends on the ability of debtor countries to sell their products in the markets of creditor countries.

Opposition to protectionism and support of the open system of world trade is in the community interest of all nations. In most countries, from time to time, strong political pressures arise to adopt protectionist measures that serve the interests of special groups, even though they do not serve the general interest. The ability to resist such pressures is strengthened when the international ethic supporting an open trading system is strong, and is weakened when other governments yield to special interests or adopt protectionist measures for other misguided reasons.

In this regard, the role of developing countries should not be ignored. Most rapidly growing developing countries have benefited substantially from the open system of international trade and investment. They have not, however, always been assiduous in abiding by the rules and adopting the ethic of that system. This is true not only for trade policies, where some developing countries have ignored or claimed exemption from the rules of the General Agreement on Tariffs and Trade, but also for important issues like the rules governing foreign investment and protection of patents and intellectual property rights. Such lapses once received little attention. As the economic importance of these countries grows, these lapses pose an increasing threat to the open system of international economic relations.

The extraordinary postwar record of economic progress under this open system of international trade and investment demonstrates the substantial benefits that this system provides to all nations. The United States, as the principal sponsor and supporter of this system, has a special interest in, and responsibility for, its preservation and improvement. Other nations, including many developing nations that have progressed rapidly under this open international economic system, share this interest and responsibility.

CHAPTER 3

Protectionism and the United States in the World Trading System

TRADE AMONG NATIONS benefits buyers and sellers alike. Adam Smith made this point more than 200 years ago when he attacked the mercantilist view that only the exporting nation gains from trade. Although the world trading system has never been entirely free, most observers agree that freer trade promotes more rapid growth, improves the use of a nation's resources, encourages innovation, and ensures a higher standard of living for all trading partners. A bipartisan consensus over the past 50 years has enabled the United States to lead the world toward a more open trading system.

On September 23, 1985, the President, in reconfirming the U.S. commitment to free trade, stated that, "if trade is not fair for all, then trade is 'free' in name only." This Nation benefits from free trade, but it particularly gains when trading partners also open their markets. Consequently, the Administration has rejected new calls for protectionism and has placed primary emphasis on reducing foreign barriers that restrict U.S. exports.

Nevertheless, protectionist bills have been introduced in the Congress in large numbers during the past year. Many of their supporters have focused on the current large trade deficit or on the decline of manufacturing employment compared to 1979. The remedy often proposed to deal with these situations is greater restriction of trade. Consequently, one purpose of this chapter is to analyze popular arguments for increased protectionism. The case for protectionism is found to be a misleading basis for policy.

A second purpose is to review recent trade policy developments affecting the following areas: footwear, steel, textiles, semiconductors, and agricultural exports. These examples do not exhaust the number of industries facing intense international competition, but raise representative policy issues addressed recently. The discussion of these examples suggests when trade intervention is not likely to be successful in promoting U.S. production in the intended industry and what costs are likely to be imposed on U.S. consumers, taxpayers, and other industries.

A third purpose is to explain the rationale behind the Administration's Trade Policy Action Plan. The policy requires interrelated actions by the United States and by its trading partners to ensure free and fair trade. Several aspects of the plan are discussed here. Major goals include promoting multilateral efforts to reduce current trade barriers, extending international trade rules to situations currently not covered, ensuring fair trade through rigorous enforcement of current trade laws and agreements, and assisting workers to adjust to changing patterns of world trade. An additional aspect of the plan, the pursuit of policies to promote more balanced world growth and thereby to reduce the current trade deficit, is discussed in Chapter 1.

CLAIMS FOR PROTECTIONISM

In spite of the generally recognized benefits of an open trading system, some argue for a broad reversal of this policy and for increased government control over international trade. For example, legislation has been introduced to impose both general and country-specific import surcharges to reduce the trade deficit. Some commentators blame increases in this deficit for massive job losses and a reduction in the U.S. growth rate. Others argue that the deficit is deindustrializing the economy and eliminating manufacturing jobs. These arguments are based on an inadequate understanding of the benefits of trade and of changes occurring in the U.S. economy. The remedies suggested are likely to be costly and inappropriate.

PROTECTIONISM AND THE TRADE DEFICIT

In the first 9 months of 1985 the U.S. merchandise trade deficit, the excess of imports over exports of goods, was about \$114 billion at an annual rate. The current account deficit, which also includes transfer payments and trade in services, was about \$110 billion. Some suggest that if this deficit were curtailed and spending were shifted to domestic goods through the imposition of a general import surcharge, the United States would benefit from expanding national output. Others elaborate on this argument by claiming that a surcharge would lower the value of the dollar, a step that would make domestic tradable goods more attractive.

Such a policy would be misguided for several reasons. In particular, it ignores the macroeconomic factors that determine the current account balance. Because the current account deficit represents an inflow of funds into the United States when domestic investment exceeds domestic saving, any successful policy to reduce this deficit must alter the underlying saving and investment incentives in the United States and abroad. Reliance on protectionism to reduce the

trade deficit by increasing the relative price of imports is unlikely to succeed. An import surcharge will reduce spending on imports, but in a world with flexible exchange rates and unchanged saving and investment incentives, the U.S. dollar will appreciate. As a result, exports will decline and imports will fail to decline as much as if exchange rates remained unchanged. The surcharge primarily introduces an inefficiency into the economy, which in turn reduces national income.

The most significant impacts of a surcharge are likely to be distributional. Returns to resources used primarily in the production of import-competing goods tend to rise, while returns to resources used primarily in export industries tend to fall. There will be an incentive to shift resources out of export industries into import-competing industries. Reduced imports in industries such as apparel, steel, and autos are likely to be offset by reduced exports from industries such as aircraft, chemicals, and machinery. A significant reduction of the trade deficit is unlikely.

An import surcharge is a particularly undesirable way of attempting to reduce the trade deficit because of likely foreign retaliation. The United States is not a small country whose actions will be ignored by others. When foreigners retaliate, they can be expected to choose U.S. export sectors that are particularly vulnerable and subject to intense foreign competition, such as agriculture.

While a general surcharge will not be particularly effective in reducing the trade deficit, a surcharge directed against a few countries promises even less chance of success. Countries exempted from the surcharge would tend to increase sales to the United States. Countries subject to the surcharge would divert their exports to markets previously served by the exempt suppliers. Such a policy might disrupt trade initially, but eventually it would have a minimal impact on the overall U.S. trade balance unless the targeted countries happened to produce goods with few substitutes and few alternative sources of supply.

A surcharge is unlikely to have even a short-run economic payoff, but it has considerable potential to alienate major trading partners and to set in motion market-closing measures on a worldwide scale. Because the current account balance is determined primarily by macroeconomic relationships, a commercial policy such as a surcharge is particularly unsuited to eliminating the present U.S. trade deficit.

PROTECTIONISM AND JOBS

Many argue that an import surcharge will save jobs. For example, some observers claim that each additional billion dollars worth of imports costs 25,000 to 30,000 jobs. Behind this assertion is the impli-

cation that reductions in imports must lead to greater spending on domestic goods. Protection may save jobs in import-competing industries, but this is likely to be matched by the less visible loss of jobs elsewhere in the economy. For example, a decline in U.S. exports can be expected when the dollar appreciates, but also when foreign countries earn less from their sales to the United States. The loss of exports will be particularly severe if foreign countries close their markets in retaliation against the U.S. surcharge.

One measure of whether current economic policy is costing jobs is the change in total employment in the economy. By that standard U.S. performance has been exceptional in recent years. The expansion of imports has not come at the expense of aggregate employment in the United States. Civilian employment has grown substantially and 8 million more people were employed at the end of 1985 than when the President took office. Such a record stands in contrast to those of other developed countries, many of which are running trade surpluses but which have failed to add significantly to their employment.

Inadequate employment growth can foster bad economic policy as countries adopt costly measures in an attempt to preserve existing jobs. All too often these efforts introduce rigidities and inefficiencies into the economy. Trade barriers, subsidies, and plant closing regulations are adopted in spite of market signals indicating that patterns of demand have shifted or that an industry's international competitiveness is declining. Other potentially competitive industries become so burdened with higher taxes and inflated input costs that they no longer offer the prospect of long-run growth. Ironically, the very goal of job preservation becomes less attainable when governments resort to greater protectionism and subsidization of politically powerful industries.

PROTECTIONISM AND DEINDUSTRIALIZATION

As shown in Chapter 1, goods production has accounted for a remarkably constant share of U.S. output. Nevertheless, in some major export- and import-competing industries, output has declined or has expanded less rapidly than in the rest of the economy. Total employment within manufacturing has not regained the level reached in 1979. Some commentators view these circumstances as symptoms of the deindustrialization of America. By failing to consider the rise in manufacturing productivity and output, this reasoning mistakenly attributes to the trade deficit changes in the observed pattern of input usage that have been caused by other factors.

Manufacturing Output Performance

Strong U.S. economic growth has allowed both imports and domestic output of manufactured goods to rise. Additionally, strong domestic demand can divert U.S. production from export markets. Increases in the trade deficit and the import share of the domestic market (the import-penetration ratio) do not indicate a weakened domestic industrial capability; in fact, U.S. manufacturing output has expanded. In particular, over the 1982–84 period, the import-penetration ratio for all manufactured goods rose from less than 9 percent to nearly 11 percent, and manufactured exports as a share of shipments declined from 8.8 percent to 7.6 percent. Nevertheless, U.S. industrial production in manufacturing rose 7.8 percent in 1983 and 12.4 percent in 1984. The 1984 performance allowed total manufacturing output to surpass the past peak established in 1979, and in 1985 manufacturing output continued to expand, although at a slower rate.

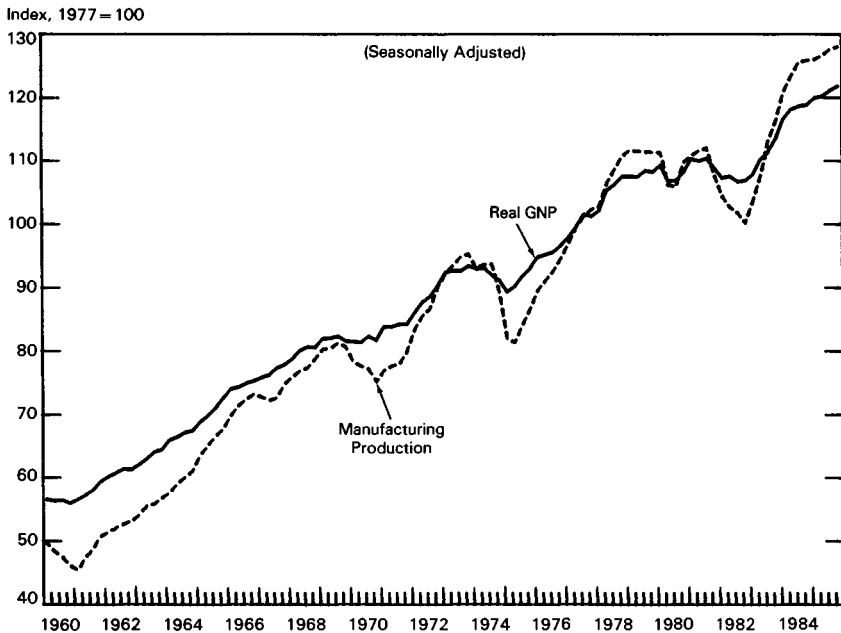
The index of industrial production in manufacturing is shown in Chart 3-1, together with the gross national product (GNP). Manufacturing production is more variable than total production over the business cycle, generally falling more in recessions and rising more in expansions. The economic decline in 1982, followed by an exceptionally strong recovery in 1983–84, is quite consistent with this pattern. The fact that manufacturing output has grown steadily with the economy is reflected by the very narrow band in which manufacturing's share of GNP has fluctuated over the past two decades, from 20 to 22 percent. There has been no radical shift in demand away from U.S. manufactured goods, nor has growing international competitive pressure substantially altered this relationship. Sales lost in import and export markets have been offset by the expansion of manufacturing output necessary to satisfy greater domestic consumption, investment, or government purchases.

Manufacturing Input Usage

Strong growth in manufacturing output during the current expansion has not required proportionate increases in capital and labor inputs. Such reductions in input requirements per unit of output are what allow increases in U.S. wage rates and the standard of living. In the case of labor, annual growth of output per hour worked (labor productivity) in manufacturing was 2.6 percent from 1948 to 1984. This exceeds the corresponding economy-wide rate of 1.6 percent, and helps explain why manufacturing's share of total employment has fallen steadily over the past three decades. Furthermore, the relatively more rapid growth of labor productivity in manufacturing has been accompanied by a more rapid rise in manufacturing wages than those

Chart 3-1

Manufacturing Production and Real GNP



Note.—Index for real GNP based on data in 1982 dollars.

Sources: Department of Commerce and Board of Governors of the Federal Reserve System.

in the rest of the economy. For example, average hourly earnings in manufacturing were 5 percent greater than in the economy as a whole in 1969, but this differential rose to 9 percent in 1979 and 11 percent in 1985.

One reason labor productivity has increased is the substitution of capital for labor. The capital-labor ratio in manufacturing was two and one-half times as great in 1984 as it was in 1948. However, as shown in Table 3-1, during the most recent expansion both capital and labor requirements per unit of output have fallen. A possible explanation of this result is technological improvement, generated by the electronics revolution in particular, which has allowed major input savings. Also, the composition of output within manufacturing has changed, shifting toward industries that appear best able to take advantage of newer, more efficient technologies.

Manufacturing employment may well continue to decline as productivity grows, especially if the wage gap in favor of manufacturing

TABLE 3-1.—*Manufacturing sector indicators, 1973-84*

Year	Import penetration (percent) ¹	Industrial production (1977=100)	Employment (thousands) ²	Productivity (1977=100) ³	Average hourly earnings (dollars) ⁴	Real net capital stock (billions of 1982 dollars) ⁵
1973.....	6.2	94.0	20,154	93.4	4.09	554.2
1974.....	7.2	92.6	20,077	90.6	4.42	581.1
1975.....	6.5	83.4	18,323	92.9	4.83	597.2
1976.....	6.7	91.9	18,997	97.1	5.22	612.5
1977.....	6.9	100.0	19,682	100.0	5.68	630.5
1978.....	7.8	107.1	20,505	101.5	6.17	655.1
1979.....	7.9	111.5	21,040	101.4	6.70	681.4
1980.....	8.2	108.2	20,285	101.4	7.27	707.2
1981.....	8.5	110.5	20,170	103.6	7.99	729.7
1982.....	8.9	102.2	18,781	105.9	8.49	741.3
1983.....	9.3	110.2	18,434	112.9	8.83	741.1
1984.....	10.9	123.9	19,412	118.5	9.18	752.9

¹ Imports as percent of manufacturers' shipments plus imports minus exports; based on value data.

² All employees; establishment data.

³ Output per hour of all persons.

⁴ For production workers.

⁵ End of year. Based on data to be published in *Survey of Current Business*.

Sources: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census), Department of Labor (Bureau of Labor Statistics), and Board of Governors of the Federal Reserve System.

widens. This outcome cannot be blamed on the trade deficit. Rather, this process of change is similar in many respects to the profound restructuring of the U.S. agricultural sector that has occurred over the past century. Compared with the situation 60 years ago, real agricultural output is now two and one-half times as great, but rising productivity has resulted in farm employment falling to less than one-third of its level in the 1920s.

A decline in sectoral employment need not signal a lack of efficiency or the inability of U.S. producers to compete internationally. Instead, it can be part of the process whereby U.S. producers become more efficient and competitive. Furthermore, in a competitive market productivity will grow as firms introduce new technologies when they become economically profitable, regardless of whether those technologies give a competitive advantage over other U.S. producers or over foreign producers.

RECENT AND PROSPECTIVE TRADE POLICY ACTIONS

The Administration has taken several trade policy actions in the past year that affect particular industries. A review of these actions demonstrates the variety of international competitive pressures confronted by U.S. producers and the extent to which government intervention may be ineffective in alleviating these pressures, especially in the long run. The effects of these actions on domestic consumers, taxpayers, and producers in other industries are also discussed, as are relevant U.S. international economic interests.

In 1985 the President rejected the domestic industry's petition for import relief brought under Section 201 of the Trade Act of 1974. The President concluded that import barriers would impose substantial costs on U.S. consumers and reduce U.S. exports, while likely saving jobs in the domestic industry only on a temporary basis. The Congress subsequently passed legislation to reduce footwear imports as part of a textile trade bill, but the President vetoed it. To evaluate this series of actions, it is necessary first to understand the background of Section 201 in general and then of the circumstances in the footwear industry.

Section 201 contains procedures for providing temporary protection to import-sensitive industries for the purpose of promoting adjustment to a loss of competitiveness internationally. This statute, and its counterpart in the General Agreement on Tariffs and Trade (GATT), are referred to as the "escape clause," because no demonstration of unfair trade practices is necessary to justify temporary protection. Rather, Section 201 specifies conditions under which temporary relief can be granted to an industry that has been seriously injured (or threatened with serious injury) by imports. In such cases, the International Trade Commission (ITC) determines whether the industry has been seriously injured and whether imports have been a substantial cause of this injury. If so, the ITC recommends to the President the appropriate remedy to promote adjustment by the domestic industry.

The President considers a broader set of criteria in determining what method and amount of relief, if any, is in the national interest. These factors include effects on consumers, international economic interests of the United States, the probable effectiveness of relief in promoting adjustment, the consequences on other industries if compensation is granted to foreign countries, and the economic costs incurred by workers and communities if import relief is or is not provided. If the President decides that some form of import relief is in the national interest, he is statutorily limited to granting a maximum of 8 years of protection. The domestic industry that emerges from this adjustment period is expected to be fully competitive with foreign producers.

Since 1975 the ITC has ruled on 55 escape clause relief petitions. The Commission recommended trade relief in 32 cases, and the President granted some form of trade relief in 13. Because the ITC and the President are charged with different responsibilities in Section 201 cases, this record of divergent views over the appropriateness of relief should not be surprising. Nevertheless, the Congress is considering legislation to ensure that a finding of injury to an indus-

try results in relief being granted. Other proposals would further amend conditions for relief and require only that imports be a cause, although not a substantial cause, of injury to the industry. Steps in this direction would result in an unbalanced assessment of trade policy, because they ignore the many other effects the President is charged to consider.

In the case of the nonrubber footwear industry, the prospects for industry revitalization could be inferred in part from the escape clause relief provided from 1977 to 1981. Orderly marketing agreements limited shipments from the two major suppliers, Taiwan and Korea. Growth in the quantity of imports slackened, although the effect on the import-penetration ratio measured in value terms was less pronounced. No increase in real investment to retool the industry occurred, while labor productivity actually fell. As shown in Table 3-2, employment declined less rapidly. But this industry is one of the most labor intensive in the manufacturing sector, and the opportunity to reduce labor costs substantially through greater capital investment is limited to only a few products. It is not surprising that protection did not enable most segments of the industry to become competitive with foreign producers who can pay much lower wages. Moreover, U.S. quotas gave foreign producers an incentive to reduce shipments of low-cost merchandise and to expand exports of higher quality footwear that competes more directly with U.S. production. Such incentives tend to undermine the efforts of U.S. firms to remain competitive when protection is removed.

TABLE 3-2.—*Manufacturing sector indicators: Nonrubber footwear, 1973-84*

Year	Import penetration (percent) ¹	Output (millions of pairs)	Employment (thousands) ²	Productivity (1977=100) ³	Average weekly earnings (dollars) ⁴	Profitability (percent) ⁵
1973	18.0	490.0	183	98.5	103.09	(^a)
1974	17.8	453.0	172	96.8	106.43	(^a)
1975	20.7	413.1	158	101.3	113.34	(^a)
1976	22.8	422.5	164	102.1	121.97	(^a)
1977	23.4	418.1	157	100.0	127.37	(^a)
1978	32.5	418.9	158	102.5	138.38	(^a)
1979	34.4	398.9	149	100.2	148.06	(^a)
1980	30.9	386.3	144	99.1	161.33	29.8
1981	31.3	372.0	146	95.6	174.97	31.4
1982	37.2	359.1	135	97.3	179.71	27.5
1983	41.6	344.3	126	102.0	190.77	29.4
1984	49.8	298.5	116	(^a)	196.02	18.2

¹ Imports as percent of manufacturers' shipments plus imports minus exports; based on value data; 1984 estimated.

² All employees; establishment data.

³ Output per hour of all employees.

⁴ For production workers.

⁵ Net income before taxes as percent of net worth.

^a Not available.

Sources: Department of Commerce (Bureau of the Census), Department of Labor (Bureau of Labor Statistics), and International Trade Commission.

With respect to the most recent footwear cases brought in 1984 and 1985, domestic output again has fallen. The reduction in domes-

tic capacity has been quite responsive to market signals; the return on operations for those still in the industry more than matched the return on equity in all manufacturing. Protectionism may raise the return to these successful producers, but it seldom results in the reopening of outmoded plants that already have closed.

Trade intervention has become an increasingly expensive way of attempting to save jobs in the footwear industry. As imports account for a larger share of the market, quotas that drive up import prices are more likely to result in large increases in profits for foreign producers than for domestic producers.

In summary, the President's decision to deny relief to the footwear industry recognized that its contraction represents an adjustment to world market forces that are not a temporary but a permanent source of competitive pressure. Any efforts to reverse this process would be exceedingly expensive for American consumers and at the same time would deny market access to many debt-ridden developing countries. The Administration is committed to effective use of Section 201 provisions, but only where that use can be expected to promote successful adjustment and further the national interest.

STEEL

Several bilateral export restraint agreements were negotiated with foreign steel producing countries in 1985 as part of the President's steel plan. An earlier agreement with the European Community (EC) covering finished steel was renegotiated, but the United States unilaterally imposed import quotas on semifinished steel from the EC. These steps were the latest in a series of trade actions involving the steel industry.

Over the 1970s, steel production facilities in the United States and Europe became increasingly outmoded relative to those in Japan and other recent entrants in the market. Many European governments intervened with large infusions of funds to restructure their domestic industries. The U.S. industry was partially insulated from the effects of growing world capacity as the result of a boom in steel demand in 1974, the depreciation of the U.S. dollar, and various protective schemes: voluntary restraint agreements to limit the quantity of imports and a trigger price mechanism to prevent foreign dumping of steel in the U.S. market at prices below costs of production.

As shown in Table 3-3, import penetration in the 1970s remained significantly below subsequent values in the 1980s. Since the mid-1970s, real gross investment declined, as investors apparently anticipated greater profits elsewhere in the economy. At the same time, wages rose very rapidly, at an average annual rate of 10 percent over the decade, and in relative terms increased from 45 percent above all

U.S. production workers' average weekly earnings in 1969 to 95 percent in 1979. Growth in labor productivity was less than the manufacturing average, and from 1973 to 1979 productivity rose at less than one-tenth of 1 percent a year. The sharp rise in unit labor costs suggests why the industry's competitive position did not improve over the decade, in spite of dollar depreciation and measures to restrict imports.

TABLE 3-3.—*Manufacturing sector indicators: Steel, 1965-84*

Year	Import penetration (percent) ¹	Output (millions of short tons)	Apparent consumption (millions of short tons) ²	Employment (thousands) ³	Productivity (1977=100) ⁴	Average weekly earnings ⁵		Real gross investment (millions of 1982 dollars) ⁶	Rate of return on equity (percent) ⁷
						Dollars	Ratio to total private nonagricultural		
1965	(*)	92.7	100.5	657	87.5	140.90	148	4,980	(*)
1966	(*)	90.0	99.0	652	89.2	144.73	146	5,210	(*)
1967	(*)	83.9	93.7	635	86.4	143.51	141	5,540	(*)
1968	(*)	91.9	107.6	636	89.5	154.16	143	5,630	(*)
1969	(*)	93.9	102.7	644	90.0	166.03	145	4,860	(*)
1970	7.8	90.8	97.1	627	87.6	166.40	139	4,150	(*)
1971	9.8	87.0	102.5	574	91.9	177.80	140	3,040	(*)
1972	9.6	91.8	106.6	568	97.3	206.25	151	2,470	(*)
1973	8.1	111.4	122.5	605	106.6	229.77	158	2,820	(*)
1974	10.6	109.5	119.6	610	106.5	258.95	167	4,000	17.0
1975	10.6	80.0	89.0	548	93.3	274.13	168	5,390	10.9
1976	9.0	89.4	101.1	549	99.0	305.88	174	5,090	9.0
1977	10.8	91.1	108.5	554	100.0	338.58	179	4,380	3.6
1978	11.4	97.9	116.6	561	108.3	389.69	191	3,670	8.9
1979	10.4	100.3	115.0	571	106.9	428.89	195	4,140	8.8
1980	10.9	83.9	95.2	512	102.9	448.77	191	4,050	9.0
1981	13.8	88.5	105.4	506	112.0	509.04	199	3,700	11.5
1982	16.8	61.6	76.4	396	90.9	505.97	189	3,780	-14.5
1983	12.3	67.6	83.5	341	116.8	509.16	181	3,200	-17.4
1984	16.7	73.7	98.9	334	132.0	527.39	179	3,440	.6

¹ Imports as percent of manufacturers' shipments plus imports minus exports; based on value data.

² Manufacturers' shipments plus imports minus exports.

³ All employees; establishment data.

⁴ Output per hour of all employees.

⁵ For production or nonsupervisory workers.

⁶ Expenditures for new plant and equipment.

⁷ Profits after taxes as percent of average stockholders' equity for the year.

⁸ Not available on same basis as for later years.

Sources: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census), Department of Labor (Bureau of Labor Statistics), and International Trade Commission.

A countervailing duty case brought against several European steel producers in 1982 was an important application of the GATT subsidies code to address the competitive effects of European government assistance programs. A Department of Commerce investigation disclosed large subsidy margins for several nationalized producers. However, the United States did not impose countervailing duties and agreed to the European request for a negotiated settlement. The EC was thereby able to allocate U.S. market shares to member countries consistent with its own restructuring plan. The subsequent limitations on Europe's market share were intended to reduce the ability of subsidized imported steel to drive down prices in the U.S. market. To the extent that U.S. prices rose, they benefited not only U.S. pro-

ducers, but also foreigners able to sell in the U.S. market. Although the volume of European sales declined, each ton would be sold at U.S. market prices and not at lower world prices. However, increased sales by uncontrolled suppliers would limit the extent of this U.S. price increase.

Total U.S. demand for steel has fallen considerably since 1979, as more products are designed to require less steel, and patterns of demand have shifted away from traditional products requiring relatively more steel toward electronically based capital goods and consumer products requiring less steel. Controlling European sales alone has not been sufficient to avoid substantial declines in domestic output and employment. The President rejected the relief proposed by the ITC in a Section 201 case in 1984. Instead, the Administration negotiated voluntary export restraints with 16 countries based on the stated goal of limiting imports of unfairly traded steel and preventing diversion of steel to the United States from other markets. Several countries have requested such agreements to ensure themselves a share of the U.S. market and to obtain immunity from unfair trade actions. These agreements will expire in 1989.

The U.S. steel industry continues to contract. Some diversification into other areas, such as oil and gas, has occurred. Traditional integrated producers have been challenged not only by imports but also by domestic minimills. The emergence of minimill producers, who generally roll particular finished steel products from semifinished steel, indicates that U.S. producers may be more competitive in some stages of steel production than in others. The below-average returns reported by large integrated producers suggest that their retrenchment and diversification are appropriate. The extent of industry contraction will be influenced not only by the reduction in steel usage, but also by the behavior of U.S. costs of production. Labor productivity has risen sharply since 1982. Recent moderation in wage demands and flexibility over work rules will contribute toward a less severe contraction of the domestic industry. Progress in these areas will be critical if the domestic industry is to adjust successfully by the termination of the President's steel plan.

TEXTILES AND APPAREL

One of the most visible trade policy confrontations in 1985 was the passage and subsequent veto of the Textile and Apparel Trade Enforcement Act. In 1986 the renegotiation with foreign countries of current export restraint agreements will be especially significant.

U.S. trade in textiles and apparel has been governed for many years by an extensive set of bilateral quota agreements. These two industries receive protection under the MultiFiber Arrangement

(MFA), a multilateral agreement that can be traced back to the 1950s and is scheduled to be renegotiated in 1986. Production in both industries has risen above its past cyclical peak, as shown in Table 3-4. In 1983 and 1984, profitability in the textile industry rose substantially to a level comparable to that of all manufacturing. Both industries have received considerable public attention due to declining employment, which is attributable primarily to sharply rising labor productivity rather than to a decline in output. Over the period 1974 to 1982, output per hour worked rose 4.4 percent annually in textiles, 2.9 percent in apparel, and 2.0 percent in all manufacturing. The growth in labor productivity has coincided with higher total multifactor productivity, a measure of output per unit of combined capital and labor inputs. The capital stock has declined from its 1978 peak. Investment in new equipment appears to embody more productive technologies that have allowed output to grow even as labor and capital input requirements fall. Any policy to slow down this rate of technological change would tend to result in a less competitive domestic industry.

TABLE 3-4.—*Manufacturing sector indicators: Textiles and apparel, 1973-84*

Year	Import penetration (percent) ¹		Real output (billions of 1982 dollars) ²	Employment (thousands) ³	Productivity (1977 = 100) ⁴		Real net capital stock (billions of 1982 dollars) ⁵	Textiles: Rate of return on equity (percent) ⁶
	Textiles	Apparel			Textiles	Apparel		
1973.....	4.5	7.1	30.5	2,448	80.2	89.1	26.0	(⁷)
1974.....	4.3	7.6	28.2	2,328	80.7	88.5	26.8	8.0
1975.....	3.6	8.3	27.3	2,111	89.6	94.5	26.6	4.3
1976.....	3.8	10.3	31.0	2,237	91.8	94.5	26.5	8.0
1977.....	3.7	10.0	34.4	2,227	100.0	100.0	26.7	8.6
1978.....	4.3	12.1	35.1	2,231	102.3	104.2	26.9	11.5
1979.....	4.1	12.4	35.7	2,189	104.8	98.1	26.8	12.0
1980.....	4.3	12.9	36.2	2,111	104.7	97.3	26.7	8.5
1981.....	4.9	13.8	36.1	2,067	106.6	103.6	26.3	9.5
1982.....	4.6	13.9	33.7	1,911	113.7	111.0	25.6	6.9
1983.....	4.7	15.4	37.3	1,905	(⁷)	(⁷)	24.6	12.0
1984.....	6.1	20.2	38.5	1,943	(⁷)	(⁷)	24.3	11.2

¹ Imports as percent of manufacturers' shipments plus imports minus exports; based on value data; 1984 estimated.

² Real gross domestic product.

³ All employees; establishment data.

⁴ Output per hour of all employees; based on unpublished data from Bureau of Labor Statistics.

⁵ End of year. Based on data to be published in *Survey of Current Business*.

⁶ Profits after taxes as percent of average stockholders' equity for the year.

⁷ Not available on same basis as for later years.

Sources: Department of Commerce (Bureau of Economic Analysis and Bureau of the Census) and Department of Labor (Bureau of Labor Statistics).

Industries seeking import relief generally prefer quotas, such as the MFA provides, rather than tariffs. The protective effect of a quota is less likely to be offset by dollar appreciation or declining domestic cost competitiveness. Nevertheless, imports still can surge rapidly over a short time period, as textiles and apparel imports did in 1983 and 1984, for several reasons. Quotas may not be binding initially, not all product categories from a controlled country may be covered,

not all countries may be controlled, or not all substitute fibers may be controlled. In the case of the MFA, a source of uncertainty has been the rapid growth of sales by the EC and Canada, which are not controlled. The United States does not face quotas in their markets either and as recently as 1980 was a net exporter of textiles.

In spite of the apparent ease of expanding imports in recent years, even from countries controlled by the MFA, foreign traders have been willing to pay increasingly more for the right to export to the U.S. market. In Hong Kong, where quota rights are sold openly, the average cost of acquiring an expanded quota for apparel products was estimated in early 1984 to be equivalent to a 47 percent tariff, whereas a comparable figure in 1982 was 10 percent. The gap between U.S. and world prices is even larger than this, because foreign exporters also face an average U.S. statutory tariff on apparel of 21 percent. Nevertheless, in 1985 legislation to tighten further import restrictions on textiles and apparel became a focal point for protectionist action in the Congress. The bill sent to the President would have rolled back imports by roughly 5 percent and stringently controlled future import growth.

The President vetoed this bill because of the high additional costs it would have imposed on consumers, and because of the offsetting negative effect on U.S. exports, a particular concern if retaliatory foreign trade barriers are imposed. The rollback probably would have resulted in consumers paying an extra \$4 billion to \$8 billion in 1986 for apparel and textile products. By breaking bilaterally negotiated agreements reached under the MFA, the rollback would have subjected the United States to demands for compensation or retaliation. For example, when the United States tightened its rules for determining the country of origin of imports in 1984, the Chinese stated that they were reducing purchases of U.S. agricultural exports in retaliation.

A tightening of trade restrictions would have raised international political pressures on the United States. In a situation where market shares are allocated on political grounds rather than on the basis of economic efficiency, countries with high-cost producers tend to lobby for control over sales that they otherwise could not make in an open market. Countries with low-cost producers tend to complain that their competitive strength is being arbitrarily eliminated by administrative fiat. Countries that already have a large established share of the market benefit from a system that allows them high returns from selling at prices in the United States that are above world market levels. Yet, in a competitive market they might be displaced by the expansion of more efficient countries and emerging new competitors. Any U.S. action leaves current or prospective quota holders displeased without benefiting U.S. consumers.

Several trade actions affecting the semiconductor industry were initiated in 1985. U.S. producers filed two antidumping cases against Japanese firms, and the Federal Government initiated another case. These cases address unfair pricing practices in the U.S. import market. Broader policy concerns regarding U.S. access to the Japanese market have been considered in one of the four bilateral U.S.-Japan market-oriented sector-selective talks initiated in early 1985 and in an unfair trade case brought by the domestic industry under Section 301 of the Trade Act of 1974. Market access in Japan is important because the competitive position of U.S. semiconductor producers depends upon their total volume of sales, over which large research and development expenditures are spread and which allow greater efficiencies in production. These various trade actions raise important issues relevant to carrying out government policy in this and other high-technology industries.

An antidumping case can be based on two alternative conditions: either foreigners are selling at a lower price in the U.S. market than in their own domestic market, or foreigners are selling at a price less than cost, specifically less than average total cost. Japanese practices do not seem to fall in the first category, as semiconductor prices reported in Japan are lower than in the United States. Rather, Japanese practices appear to reflect very rapid price cutting to promote greater sales volume, even if it may mean selling at a loss. Such a strategy potentially could be economically advantageous to Japanese firms if they could drive U.S. competitors from the market permanently and then raise prices collusively. It would also be advantageous to vertically integrated firms if success in semiconductor production allowed more timely development and introduction of other products.

The antidumping cases will address several challenging conceptual issues. Large research and development expenditures account for a significant share of product value and must be allocated over expected production. This cost calculation requires an estimate of the length of the relevant product cycle and prospective volume of production. The role of likely reductions in variable costs, as firms gain more production experience, must also be recognized.

If the Department of Commerce finds that positive dumping margins exist, and if the ITC rules that the domestic industry has been injured, antidumping duties will be levied. Higher Japanese prices in the U.S. market would tend to reduce their exports to the United States. Depending on demand and cost conditions, the profitability of Japanese producers could decline, too.

The ability to prevent pricing below cost in the U.S. market may not eliminate the competitive effects of alleged Japanese dumping. If

Japanese producers maintain lower prices in markets outside of the United States, a price differential between U.S. and world markets may cause U.S. users of semiconductors to locate operations offshore to take advantage of cheaper inputs. U.S. users of semiconductors are concentrated in the following sectors: data processing and office equipment (62 percent); consumer electronics (23 percent); communications equipment (8 percent); and testing and analytical instruments (5 percent). These users appear more likely to be hurt by higher input costs and more likely to shift production offshore than would minor users such as automobile producers. The effect of U.S. antidumping actions on the profitability of Japanese firms will depend not only on the availability of substitute products within the U.S. market but also on the likelihood that U.S. users maintain production in the United States. When alternative supplies are available domestically and U.S. users find offshore production economically unattractive, Japanese semiconductor profitability is more likely to fall and the capacity of Japanese firms to contract.

Other policy initiatives center on greater U.S. access to the Japanese market. The Section 301 case brought by the U.S. industry alleges that access has been denied as the result of horizontal collusion and buying practices among Japanese companies that have participated in government-coordinated research programs. The United States traditionally has sought greater access to sell in foreign markets, but not a mandated share of the market. Measuring progress toward more open markets, however, must be tied to some change in the current level of sales. If a satisfactory negotiated settlement of the Section 301 case is not reached, some observers have advocated prompt U.S. retaliation. Such actions are likely to result in higher semiconductor prices in the United States, thereby reducing the competitiveness of U.S. user industries. Therefore, if retaliation were considered appropriate, an important aspect of designing a response would be to determine in which products Japanese producers were most dependent upon sales to the U.S. market, but any resulting price disadvantage facing U.S. users would be small.

AGRICULTURAL EXPORTS

A particularly relevant agricultural trade policy issue is the establishment in 1985 of the export-enhancement program to promote U.S. commodity sales abroad. The possible consequences of this policy are also relevant in evaluating other efforts to subsidize U.S. exports on a permanent basis. Most significantly, subsidies generally can be expected to result in a loss in U.S. income, because foreign consumers benefit from the willingness of taxpayers to underwrite foreign sales on more favorable terms.

The responsiveness of foreign output to rising world market prices of agricultural commodities in the 1970s and the appreciation of the U.S. dollar in the 1980s mean that U.S. agricultural exports now face considerably more competition. EC export subsidies have helped European producers claim a larger share of world wheat markets. Domestic political support for higher U.S. target prices and loan rates has resulted in increased government acquisitions of commodities. Some of these commodity stocks have been released through the export-enhancement program established in 1985. This approach was extended further by the recently signed Food Security Act of 1985, which requires that, through September 1988, the Secretary of Agriculture use \$2 billion of agricultural commodities and products to provide export assistance.

Under the export-enhancement program, the government has made stocks available to U.S. exporters to increase the competitiveness of U.S. commodities. If such a policy could impose sales losses on exporting countries that subsidize their sales to gain a larger share of world markets, then it might force these countries to reduce their export subsidies. A targeted subsidy program, however, is particularly difficult to contain when the product being subsidized is homogeneous and sold in world rather than national markets. Sales in one market may be gained at the expense of a particular country; however, that foreign output may be diverted to other markets, once again displacing U.S. sales. If the export-enhancement program results in a larger total supply of wheat, for example, being offered on world markets, the price would fall for all exporters, not just the offending subsidizer. Net importing countries, such as the U.S.S.R., clearly would benefit from falling world prices. From the U.S. standpoint, greater sales under the enhancement program are likely to displace commercial agricultural sales to some extent.

Achieving some change in foreign subsidization practices is critical to the success of the program. Even committing all U.S. assistance to trade in a single commodity, wheat, would augment world trade by only 5 percent. The resulting pressure on the EC might be insufficient to cause a reduction in their subsidies. In that case, the United States benefits only if there are few alternative uses for the resources being given to foreigners on preferential terms. Given the uncertain success of this approach, the President has indicated his desire to work with the Congress to amend this legislation and to continue Administration efforts multilaterally to obtain a negotiated solution to limit agricultural subsidies.

POLICY INITIATIVES FOR THE 1980s—FREE AND FAIR TRADE

The President's Trade Policy Action Plan is based on the concept of free and fair trade. The guiding principle behind this policy is that opening foreign markets to enable greater U.S. sales is preferable to closing U.S. markets to foreigners.

BROADENING THE SCOPE OF FREE TRADE

An important goal of the President's Trade Policy Action Plan is to begin a new round of Multilateral Trade Negotiations under the auspices of GATT. The United States requested a meeting of the contracting parties of GATT, which took place in September, to begin the preparatory process. In November the parties established a preparatory committee to develop a timetable and an agenda for a new round of trade negotiations. The preparatory committee's work is expected to be discussed at a September 1986 GATT Ministerial Meeting.

U.S. objectives in the new round center on extending GATT discipline to areas where international rules are limited or nonexistent. Additionally, the United States seeks changes in the current operation of the GATT system in dispute settlement and conditions governing safeguard actions. Areas of particular interest are agriculture, services, intellectual property rights, and direct foreign investment.

Agricultural trade is of special interest to the United States because of this country's traditionally strong export position in a sector that largely falls outside of GATT control. In particular, agriculture is not included in the subsidies code on the same basis as manufactured goods. Rather, export subsidies are a cause for complaint only if they allow the subsidizing country to gain more than an equitable share of the world market or if subsidized products are priced significantly below those of other suppliers. Such vague standards often preclude any action under GATT.

Trade in services is growing rapidly. Many activities fall in this category—tourism, transportation, insurance, banking, advertising, engineering design, data processing, and the transmission of information. The United States has a comparative advantage in providing many services due to the availability of a skilled work force and a high rate of innovation to serve the large domestic market. A U.S. goal is to establish the right of entry in foreign markets and also to establish the principle of national treatment or nondiscrimination against foreign providers of services. Trade in many services is subject to government regulatory control. Agreement is needed regarding the transparency and reasonableness of regulations, as well as the appropriate role for government monopolies. Under conditions of limited

market access and inconsistent national standards and regulations, the world economy loses from small-scale, inefficient operations designed to serve single-country markets.

The protection of intellectual property is of growing importance to the United States. U.S. research creativity has resulted in the successful introduction of many new products and processes. When foreign producers can copy these innovations with impunity, the rewards to innovation decline and the pace of technical change slackens. A priority for the U.S. Government is to establish wider international agreements protecting intellectual property. Some U.S. concerns deal with the lack of patent, copyright, trademark, and trade secret protection or compulsory licensing provisions. Others center on the right to charge royalties payable in convertible currencies. Basic ground rules tend to be lacking in these areas, especially in countries that feel little need to protect domestic innovation.

U.S. goals regarding direct foreign investment center on reducing the distortions to world trade and production arising from conditions frequently placed on such investment by foreign countries. Foreign requirements that a certain percentage of output use locally produced inputs or that a certain share of output be exported distort patterns of international trade, just as other trade barriers do. Performance requirements can impede the flow of investment to foreign countries, a result also observed when national treatment is not granted foreign firms. As discussed in Chapter 2, developing the private sectors of these countries is an important step to improving their prospects for renewed growth.

If more traditional multilateral steps are unsuccessful, the United States also will explore other ways of opening markets. In 1985 the United States concluded negotiations with Israel to establish a bilateral free trade area. The United States now faces a historic opportunity in the possibility of establishing a free trade agreement with Canada. In September 1985 the Canadian Government proposed that both countries consider bilateral negotiations on the broadest possible package of mutually beneficial reductions in trade barriers. In 1935 Canada and the United States took bilateral steps to reverse the protectionism of that era, steps that became a catalyst for broader international cooperation then. The new Canadian-U.S. initiative offers similar prospects now.

ENSURING THE PRACTICE OF FAIR TRADE

Another important objective of Administration trade policy is to ensure that markets remain open and that competition takes place under internationally agreed trading rules. Countries should be expected to live up to their international commitments regarding

market access. The Administration has increasingly emphasized the standard of fair trade, because reduced market access generally reduces the profitability for U.S. exporters, worsens the U.S. terms of trade, and results in a lower U.S. standard of living.

Presidential Involvement in Section 301 Cases

One example of the Administration commitment to fair trade is the self-initiation since September 1985 of four cases against unfair foreign trade practices under Section 301 of the Trade Act. Deadlines for action were set in two other cases. Although the affected industry traditionally petitions to initiate action, a demonstration of official U.S. concern is necessary in particular instances.

The two cases in which the President set a deadline involved EC subsidization of canned fruit and Japanese quotas on leather and leather footwear. GATT panels had already supported the U.S. position. The EC blocked adoption of the panel report and Japan failed to bring its practices into conformity with GATT practice. Presidential involvement indicates the need to move beyond the current dispute-settlement procedures that allow such inaction and delay.

In the case of canned fruit, the EC agreed to a substantial reduction in its domestic subsidy program, a solution that completely avoided the need for compensation or retaliation. In the case of leather and leather footwear restrictions, Japan agreed to compensatory tariff reductions over a broad range of products. The Japanese made concessions in two sensitive areas, paper and aluminum, where the United States particularly had sought broader market access. The Administration will monitor trade in these areas to verify that these concessions will not be impaired by other government actions. Also, the United States retaliated against Japanese leather and leather footwear sales to the United States by imposing an additional 40 percent tariff on them.

Broader retaliatory measures had been considered for implementation if meaningful market access were not obtained. In such cases, U.S. objectives are best met by choosing retaliation targets where many competitive sources of supply exist and where the offending country is especially dependent upon sales to the U.S. market. If such retaliatory actions are likely to become permanent, then the appropriate tariff is one that will not eliminate the offending country from the market entirely. Rather, the tariff will drive down the price received by the foreign country on sales in the United States and raise U.S. Government tariff collections.

The government-initiated Section 301 cases include Brazilian measures to prevent foreign competition in its information industries, Korean restrictions on the operation of foreign insurance companies, Japanese controls over investment in and distribution of to-

bacco products, and Korea's lack of patent and copyright protection. An additional possible case, directed at Taiwanese restrictions on wine, beer, and tobacco sales, was resolved through negotiation. The United States initiated a GATT case to consider European wheat export subsidies rather than start a Section 301 investigation.

Unfair practices often extend beyond issues directly covered by GATT. However, U.S. actions embody the principle that nations benefiting from the current trading system have an obligation to apply to other areas of international commerce the spirit of open trading relationships established for merchandise trade. Negotiated settlements appear possible in some areas as like-minded nations recognize their own self-interest in moving toward a more open world economy with predictable, transparent rules of conduct.

Export Credit Competition

An Administration goal is to reduce export credit competition, a costly policy that distorts commercial trade patterns. Significant progress has been achieved in recent years. Through an agreement reached in November 1983 among countries of the Organization for Economic Cooperation and Development (OECD), minimum allowable interest rates have been established with respect to official export financing. The rates vary, based on the country destination of an export sale. This progress has reduced the need for a greater permanent commitment of funds to finance U.S. exports through the Export-Import Bank.

Foreign practices still distort export markets through export tied-aid credits, a situation where an exporting country grants foreign aid to make a commercial sale. In the past 2 years, agreements have been reached to ban tied-aid sales in the case of nuclear power plants and large-bodied aircraft. The Administration seeks further progress to cover all sales. Subsidization of these sales largely benefits the purchasing countries and involves negligible expansion of the market. In particular, a significant share of these tied-aid credits is received by middle-income developing countries that can usually finance these purchases on commercial terms. The Administration objective is to obtain international agreement that such tied-aid sales be limited to truly needy countries. The President has proposed an export credit fund to be used strategically against countries that thus far have been unwilling to negotiate limits on the use of such subsidies. The fund is intended to support an aggressive U.S. stance to deny export sales, or significantly raise the cost of making them, for noncooperative nations and thereby encourage these nations to agree to effective limitations on the use of tied-aid credits.

PROMOTING ADJUSTMENT TO CHANGING TRADE PATTERNS

Another important aspect of Administration trade policy involves the adjustment and reemployment of workers in trade-impacted industries. Strong U.S. performance in generating more jobs has been discussed above. A clear goal of Administration adjustment policies is to increase the likelihood that workers displaced in declining industries will share in the general expansion of the economy. This focus contrasts with the consequences of protection, which reduces overall job opportunities and thus worsens the prospects of workers actually displaced by rising imports.

Sound macroeconomic policy to ensure noninflationary growth is the first prerequisite of a successful adjustment policy. Other measures are likely to be unsuccessful if applied under recessionary conditions. Similarly, as discussed in Chapters 1 and 2, policies that promote labor market flexibility give employers a greater incentive to hire new workers.

An Administration goal is to create conditions for sustained growth that will attract workers out of declining industries. Other job opportunities are most attractive when relocation is not necessary, a condition more likely to be fulfilled in States with low unemployment rates. Many trade-impacted industries are located in such States. For example, Maine, Massachusetts, and Missouri are important shoe-producing States, yet each has a below-average unemployment rate and exhibits strong growth in aggregate employment. A similar situation exists in South Carolina and North Carolina, dominant textile-producing States.

The prospects for successful adjustment are greater in strong labor markets. Still, adjustment for many workers may be difficult. Displaced workers who are immobile may face high personal costs of adjustment if local labor markets are depressed. Under those circumstances, a worker's past job skills may be of little value. Prospects for adjustment are sometimes misinterpreted. The initial costs associated with retraining, relocating, or accepting a lower wage job are immediate, while the likelihood of increased earnings in future years may seem uncertain. Research indicates that even in severe cases of dislocation, earnings tend to recover in 3 to 5 years to the level they would have reached in the worker's previous job. These figures do not apply to workers who leave the labor force, nor do they control for changes in fringe benefits. Nevertheless, many dislocated workers make successful labor market adjustments.

Trade Adjustment Assistance (TAA), originally established under the Trade Expansion Act of 1962 and later modified in 1974 and 1981, is intended to promote adjustment of workers in import-impacted industries. The TAA system of readjustment allowances,

which expired on December 19, 1985, was based on an extension of unemployment insurance benefits. One rationale for such payments was that they provided partial income maintenance to those workers having the greatest difficulty finding alternative jobs. Yet, these payments also may have retarded adjustment. Benefit payments based on continued unemployment provide an incentive to delay seeking a new job and to wait for recall to the previous job. These expectations may be inappropriate, given changing patterns of production and competitiveness internationally.

The Administration has advocated continued funding of dislocated worker programs under Title III of the Job Training Partnership Act (JTPA) as a replacement for TAA. JTPA does not provide income-support payments to individual workers, but relies on local private industry councils, composed of business, labor, and local government representatives, to determine the most effective adjustment measures for dislocated workers. Also, rather than distinguish which workers are displaced by greater imports and which are displaced for other reasons, a procedure required under TAA, JTPA is intended to encourage adjustment by all dislocated workers. In his 1987 Budget, the President has requested that the Secretary of Labor be provided an additional \$74 million of discretionary JTPA funds in 1986 to address particular priority adjustment problems. For 1987, \$100 million is requested for that purpose. In recent trade cases involving steel, copper, and nonrubber footwear, the President has also charged the Secretary of Labor to use JTPA resources to promote the retraining, relocation, and reemployment of displaced workers.

Early experience under Title III of JTPA appears promising. Short-term job search assistance can be implemented quickly. Program participants have been committed to making job changes. JTPA does not focus exclusively on training, because that approach is not needed by many experienced workers and is not the most cost effective for them. Experience has demonstrated the difficulty of ensuring that government-provided training results in a long-term increase in worker earnings. A recent review of the record for steelworkers assisted under TAA reports that only a fourth of the workers who chose to retrain found jobs related to their training. This result indicates the difficulty of designing effective training programs and also the potential problems of making income-support payments contingent upon participation in training programs.

An inference that can be drawn from past experience is that no single program or approach can be counted on to succeed uniformly in promoting adjustment in all industries and locations. Experience under a variety of Federal policies has been mixed, often because these programs have other objectives in addition to effective adjust-

ment. From the standpoint of promoting successful economic adjustment, strong economic growth should be the principal goal of Federal policy.

THE THRUST OF U.S. TRADE POLICY

Government management of trade through protectionism will not solve problems that result from international macroeconomic imbalances. It will not recapture jobs lost to rising productivity. At the factory level, its dominant effect will be to shift burdens from one industry to another. Protectionism is likely to penalize U.S. export industries in particular, for they are the most vulnerable to foreign retaliation.

The United States has a strong self-interest in advocating and practicing free and fair trade. This is the course that the President has set for the Nation.

The United States seeks a major transformation of the world trading system, strengthening GATT discipline and extending it to many areas not presently addressed. If multilateral steps are taken to reduce existing trade and investment barriers, all countries will have to agree to politically sensitive changes in some of their current practices. Initial progress toward the opening of a new round of multilateral trade negotiations is encouraging. However, significant advances will occur only if world leaders place a high priority on trade liberalization and pursue economic policies that generate support for it.

Another important dimension of the Administration's trade policy is vigorous enforcement of trade laws and agreements. Unfair foreign practices are especially detrimental to U.S. export prospects. The Administration has aggressively used Section 301 of the Trade Act of 1974 against unfair foreign practices. Although these actions should result in greater U.S. exports of specific commodities and services, they will not, of course, eliminate the current trade deficit. That will depend on appropriate macroeconomic policies being followed. Rather, the purpose of recent U.S. trade actions is to hold all parties to their commitments to free and fair trade principles.

The world today is not static or unchanging. The world daily produces situations that Adam Smith never envisioned. But the accuracy of his policy prescriptions endures. A return to the mercantilist dogma that imports weaken an economy is likely to result in policies that yield slower growth, a lower standard of living, and lost opportunities for current and future generations of workers. The Administration program of free and fair trade provides a strong basis for continued economic expansion in the United States and the world.

CHAPTER 4

Income Transfers to Agriculture

AMERICAN AGRICULTURE IS EXPERIENCING severe financial problems. Agricultural export earnings have plummeted and land values have dropped sharply. Farmers are \$210 billion in debt, making U.S. agriculture a bigger debtor than Mexico and Brazil combined. When the debt-service burden of farmers is combined with the erosion in farm asset values, the magnitude of the adjustments that agriculture faces becomes apparent: farms lost \$111 billion after capital gains in 1984.

Industries closely tied to agriculture are also experiencing hardship. Demand has dropped for farm equipment and related products. Since 1979, for example, U.S. farm tractor sales have fallen more than 50 percent. Agricultural banks, once a bulwark of domestic finance, are failing at higher rates than similar-sized nonagricultural banks.

In the 1970s, many saw an "ever-expanding" export market curing the traditional "farm problems" of low relative earning power and excess capacity. American agriculture transformed from a sector using export subsidies and concessional sales to a large competitive exporter. This transformation was accompanied by an expansion in productive capacity financed largely by increased borrowing. Because real agricultural land values rose by as much as two-thirds in the 1970s the expanded borrowing seemed financially prudent to many. Land values, however, were predicated upon strong demand for U.S. exports and expectations of continued inflation. By 1983, however, agricultural export value had fallen from its 1981 peak of \$43 billion to \$36 billion, and is estimated for 1985 at about \$29 billion.

No definitive study of the export decline exists. But conventional wisdom runs something like: In the early 1980s both interest rates and the U.S. exchange rate rose. Besides making farm financing more difficult, rising interest rates hurt indebted third world countries that had been among our fastest growing export markets. These countries reduced their food imports. The appreciating U.S. dollar encouraged U.S. customers to switch to alternative suppliers only shortly after U.S. reliability had been damaged by the grain embargo.

Almost simultaneously the United States met stiff and, at times, subsidized competition in export markets. A commonly cited example is the European Community's use of export refunds (subsidies). In 1983 and 1984, these subsidies represented roughly 30 to 35 percent (in European currency units) of the common agricultural policy's authorized budget. Finally, as discussed below, U.S. agricultural programs often encouraged farmers to turn their commodities over to the government rather than to export them.

With agricultural export performance faltering and inflation under control, farm debt incurred in the late 1970s became increasingly difficult to manage and service. What had looked like sound business moves in a rapidly growing sector of a generally inflationary economy of the late 1970s had frequently become unsustainable.

These problems persist despite the existence of Federal Government price- and income-support programs that have cost—and continue to cost—taxpayers billions of dollars a year. Recently, direct Federal payments to farmers have been at record levels and now equal roughly 20 percent of farmers' net cash income. The Federal Government spent more than \$60 billion on farm programs in the past 4 years. Yet some of these programs may not help farmers. On the contrary, they can hurt farmers by distorting economic incentives. And some hurt consumers by driving up food prices. Moreover, they use billions of taxpayer dollars in a time of growing fiscal austerity.

A keystone of this Administration's farm policy is that farm programs can distort economic incentives enough to cause some of agriculture's problems. The President recommended in early 1985 that American agriculture be returned gradually to a free-market footing. The Food Security Act of 1985, which the President signed into law in mid-December 1985, implemented some of his suggested reforms. But it maintained the traditional structure of American farm programs. Thus, U.S. agriculture has turned toward the free market, but it still remains heavily dependent upon Federal Government programs. This chapter is devoted to an analysis of the economic implications of those programs that directly and indirectly support farm income.

FOOD SECURITY ACT OF 1985

The Food Security Act of 1985 is the latest omnibus farm bill that provides the basic authority for U.S. farm programs. This act has turned U.S. farm programs toward the free market. Most significantly, it lowered price support levels for several important commodities. Lowering price supports means lower prices for U.S. consumers and makes the United States more competitive internationally. The act

also gradually lowers direct income support for some commodities. A less distortionary method of direct income support has been instituted.

By and large, however, the Food Security Act of 1985 retains the traditional structure of most farm programs. Even though improvements have been made, farm programs still distort economic incentives and cause a misallocation of economic resources. Farm program costs under the act are currently expected to exceed \$52 billion for fiscal 1986-88. Moreover, in some instances, particularly export subsidies, sugar, and dairy, the act appears to have increased the distortions of American farm programs. In signing the act the President specifically noted that these programs require improvement and he promised to work with the Congress to achieve these goals. The dairy and sugar programs are addressed below; Chapter 3 considers the export subsidy program.

THE STRUCTURE OF AMERICAN AGRICULTURE

Revenue-generating ability in American agriculture is concentrated in relatively few farms (Table 4-1). The three highest sales classes, those with sales exceeding \$100,000, generate almost 70 percent of gross farm income but account for only about 14 percent of farms.

Farm income is also highly skewed toward the largest sales classes. Large-scale farms earn most of their income from farming while smaller scale farms earn a significant, and in many instances, a predominant share of their income off-farm. The average American farm family earns roughly 40 percent of its income from farming and the other 60 percent off-farm.

The emerging structure could be characterized as dominated by a relatively few large-scale farmers with most farmers running small-scale, part-time operations. This view is partially misleading. Roughly 30 percent of all farms can be classified as commercial, i.e., annual sales exceed \$40,000. And although farms in the \$40,000-\$100,000 sales category earn more income off-farm than on-farm, net equity per farm averages almost \$400,000 in this sales class. Even these relatively small-sized farms have significant equity invested in farming.

Farms with sales exceeding \$100,000 receive approximately 66 percent of direct government payments, and commercial farms receive 88 percent of direct government payments. Not all farms receive direct government payments, which are concentrated in the grains and cotton. In fact, the payment concentration is tighter than Table 4-1 suggests; only about 30 percent of farms participate in direct payment programs.

TABLE 4-1.—*The structure of American agriculture, 1984*

Item	Farm size, by annual sales (thousands of dollars)								
	500 and over	250 to 500	100 to 250	40 to 100	20 to 40	10 to 20	5 to 10	Less than 5	All farms
Thousands									
Number of farms.....	31	77	229	353	247	269	314	807	2,328
Percent of total									
Number of farms.....	1.3	3.3	9.9	15.2	10.6	11.6	13.5	34.7	100.0
Gross farm income.....	29.1	16.8	23.5	16.1	5.3	3.3	2.4	3.5	100.0
Direct government payments.....	12.4	18.7	35.4	22.2	6.4	2.8	1.3	.7	100.0
Billions of dollars									
Gross farm income.....	48.3	28.0	39.2	26.7	8.8	5.5	4.0	5.8	166.2
Direct government payments.....	1.0	1.6	3.0	1.9	.5	.2	.1	.1	8.4
Real estate debt ¹	18.9	16.5	25.8	20.1	6.9	4.8	3.6	6.5	102.9
Total liabilities ¹	43.1	33.0	48.1	37.6	12.6	8.4	6.1	10.1	198.9
Net equity ¹	73.8	91.1	156.3	136.6	60.4	43.5	35.9	59.7	657.2
Thousand dollars per farm									
Direct government payments.....	33.4	20.6	13.0	5.3	2.2	0.9	0.3	0.1	3.6
Total liabilities ¹	1,379.1	428.6	209.5	106.4	51.0	31.2	19.5	12.5	85.4
Net equity ¹	2,361.6	1,183.6	681.2	386.9	244.3	161.4	114.3	74.0	282.3
Thousand dollars per operator									
Farm income.....	423.1	81.9	31.9	6.1	0.4	-1.5	-1.5	-1.8	11.4
Off-farm income.....	14.4	11.5	10.7	9.7	21.1	17.7	20.2	20.4	17.2
Total income.....	437.5	93.3	42.6	15.8	21.5	16.3	18.6	18.6	28.6
Percent									
Direct government payments as percent of gross farm income.....	2.2	5.7	7.6	7.0	6.2	4.3	2.7	1.1	5.1
Ratio									
Debt to assets ¹	36.9	26.6	23.5	21.6	17.3	16.2	14.6	14.4	23.2

¹ December 31, 1984; excludes operator households.

Source: Department of Agriculture.

Because many larger scale operations produce commodities (live-stock, poultry, nurseries, and fruit and vegetables) not covered by direct payment programs, and because producers cannot usually receive payments exceeding \$50,000, the largest farms are not always the largest beneficiaries of these payments. Consequently, farms with sales exceeding \$500,000 account for 29 percent of gross farm income while receiving 12 percent of direct government payments. Among commercial farms, no other sales class contributes more relatively to total gross farm income than it receives in government payments. However, large direct payments to wealthy farmers do exist. Average net equity for farms with sales exceeding \$500,000 is more than \$2 million; on average these farms receive about \$33,000 annually in direct government payments.

A succinct indicator of U.S. agriculture's financial problem is the historical trend of its aggregate debt/asset ratio. Almost unprece-

tedly, this ratio fell 2 years in a row in the early 1970s, but in 1974 the debt/asset ratio again started to rise. In the 1980s, however, this ratio jumped to levels unseen since the Great Depression. A major reason was a rapid erosion of agricultural land and machinery values. Although total agricultural debt has declined slightly since 1982, land values nationwide fell an average of 19 percent between 1981 and 1985.

Not surprisingly, financial problems are concentrated in the regions with the largest land-value declines, i.e., the Corn Belt, the Lake States, and the Northern Plains. Roughly 60 percent of farms classified as financially distressed by the U.S. Department of Agriculture (USDA) were in these regions; a farm is considered financially distressed if its debt/asset ratio exceeds 40 percent and it cannot generate enough cash income to pay its bills. About 12½ percent of all farms were in this category on January 1, 1985.

Chart 4-1 decomposes financial stress by farm size. Sales classes encompassing \$40,000 to \$250,000 account for 25 percent of U.S. farms and 40 percent of gross farm income and include more than half of all financially stressed farmers. These sales classes contain the predominantly family-size, commercial farms on which the debt crisis centers. Compared with other sales classes, this category also contains a disproportionate number of commercial grain, dairy, and livestock operators in the Midwest.

PHILOSOPHY AND MECHANICS OF INCOME SUPPORT

The United States has developed an extensive array of programs designed to enhance the economic position of farmers. Since the 1930s, many farm groups have been convinced that the best way to address low farm incomes is to curtail production. Voluntary curtailment programs by producer groups were tried and failed, but the belief in production curtailment remained so strong that some form of it was embedded in virtually every piece of omnibus farm legislation.

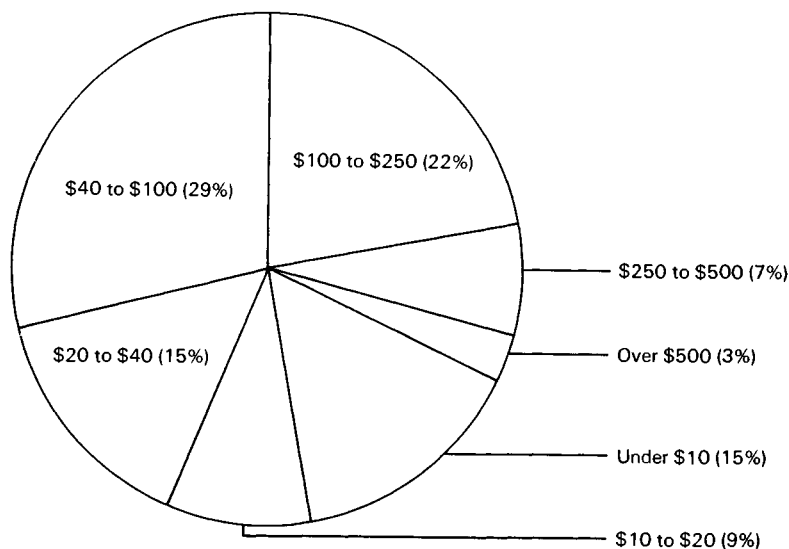
The ability of production curtailment to support income hinges upon the responsiveness of demand to price changes. If consumers, when faced with a given percentage supply curtailment, are willing to increase the price paid for the product by more in percentage terms than the supply curtailment, farmers can raise revenue by selling less. The price increase associated with restricting supply more than offsets the diminished sales volume. Economists refer to this condition as inelastic demand.

Demand for most agricultural products within any given country is usually believed to be inelastic. And as long as U.S. agriculture was

Chart 4-1

Distribution of Financially Distressed Farms by Sales Class,
January 1985

(Sales classes in thousands of dollars)



Note.—Financially distressed farms are defined as those with debt/asset ratio over 40 percent and negative cash flow.

Source: Department of Agriculture.

insulated from world markets, this probably described the situation facing domestic producers. But now that American agriculture operates in a worldwide setting, the efficacy of production or supply curtailment is being questioned. Demand for farm commodities in international markets appears more sensitive to changes in price than internally. If total demand is very responsive to price changes, production and marketing control programs will fail in the long run unless some mechanism insulates the domestic from the world market.

Farm programs can contribute to ends besides supporting income. Other goals which farm policy can ideally pursue include: the assurance of a steady and reasonably priced supply of food and fiber to U.S. consumers; farm income stabilization and more efficient production practices by reducing price risk; and the promotion of socially beneficial research and development programs. Besides benefiting farmers, therefore, farm programs may benefit consumers. What follows focuses on the gains to producers and losses to consumers and taxpayers associated with the major income-support programs. Pro-

grams analyzed include: price-support programs (loan programs and direct acquisitions), deficiency payments, production diversion programs, production and marketing quotas, and marketing orders.

PRICE-SUPPORT PROGRAMS

The Agricultural Adjustment Act of 1933 created the Commodity Credit Corporation (CCC) and authorized it to borrow from the Federal Treasury to execute its price-support programs. The CCC supports prices using nonrecourse loans and direct purchases.

Loan Programs

Under nonrecourse loan programs, farmers take out loans and pledge their crop as collateral. The size of the loan is the product of the loan rate times the amount put under loan. Loan maturity varies by commodity but typically is no longer than a year. At maturity, or anytime prior, the farmer can repay the loan plus any accrued interest to the CCC. The farmer can also freely default (hence the name nonrecourse) by delivering the commodity to the CCC in lieu of repaying the loan and any accumulated interest.

The CCC may resell commodities if market prices rise to prespecified levels above loan rates. The CCC's general pricing policy is to stabilize prices and protect the CCC's investment while not interfering with commercial marketing channels. An ideal loan program can operate as a buffer stock, but commodity groups often lobby effectively for release practices that do not depress domestic prices. Commodities having loan programs include wheat, corn, barley, oats, rice, cotton, honey, peanuts, sorghum, soybeans, rye, tobacco, and sugar (sugar loans are made to processors).

Loan programs provide short-term subsidized credit to farmers, and they also provide farmers with price insurance. Farmers receive subsidized credit because the interest rate CCC charges is below commercial rates. These credit subsidies offer farmers a low-cost way to market their commodities. If providing low-cost credit lets the farmer realize a higher average price for the crop, then low-cost loans enhance income. An alternative way to view the loan program is as a subsidy to the marketing and storage functions.

Loan rates also act as price insurance. If the market price stays below the loan rate and accumulated interest, forfeiting the crop under loan (in which case interest costs are forgiven) is more profitable than selling in the market and repaying the loan. The loan rate establishes a guaranteed minimum price for participating farmers. In the absence of direct income-support programs, loan rates can support farm income.

Over time, guaranteeing farmers a minimum price, by lessening price risk, may promote production of a higher amount of the com-

modity than otherwise. This could benefit consumers by assuring them an increased supply of the commodity at reasonable price levels. A great deal depends, however, upon where loan rates are set. Suppose, for example, that demand and supply conditions are such that without the program market-clearing prices would be chronically below loan levels. Producers will not sell at these lower prices, preferring instead to forfeit their crop to the CCC. Because, by law, the CCC cannot resell at prices below or only slightly above the loan rate, the forfeited commodities are effectively sheltered from the market. The CCC crowds consumers out of the market at prices lower than the loan rate. While producer revenues are protected, consumers are not. When compared with the situation that would have existed without loan programs, consumers lose to the extent that they buy a smaller quantity at a higher price. The producer gain, however, generally exceeds the consumer loss because the producer sells more to the government and consumers combined at a higher price. But taxpayer costs exist in addition to these consumer losses. Once a loan is forfeited, the CCC effectively buys the commodity at a price equal to the loan rate plus any accrued interest. Thus the CCC acquires commodity stocks that must generally be given away or disposed of at a much lower price than acquired. Moreover, the taxpayer also bears the storage costs until the commodity is disposed of. Adding these costs to the consumer loss, a clear social loss can emerge, i.e., the producer gain can be smaller than the sum of the consumer loss and taxpayer expense.

In recent years, loan rates were high enough relative to world prices to encourage farmers to forfeit to CCC rather than to sell. Because the United States exports many of these commodities, high loan rates effectively taxed agricultural exports. By slowing the flow of American commodities to international markets, world prices were held up. The loan rate became a minimum price under which competitors could undersell American farmers. The United States experienced a loss of market share in world markets. By holding up world prices, U.S. loan rates also supported foreign producer income at U.S. taxpayer expense and encouraged expanded production abroad.

A major accomplishment of the Food Security Act of 1985 was to lower loan rates for important export commodities. This change was meant to improve U.S. export performance by making sales into international markets more attractive than forfeiture to the CCC. Lowering loan rates should lower world prices and make it more difficult for others to compete in world export markets. The extent to which U.S. loan rates support foreign-producer prices and incomes will be diminished.

The recent history of the U.S. sugar program illustrates the losses caused by establishing loan rates above market-clearing levels. The raw cane sugar loan rate is 18 cents per pound. In 1985, the world price for raw sugar ranged from about 3 cents to 6 cents per pound. When the Agriculture and Food Act of 1981 established the sugar loan program that prevailed through 1985, it was realized that mandated loan levels were high relative to the world price. The Senate report accompanying this act urged the President to use available authorities to prevent adverse budgetary outlays. The danger was clear: A loan rate set above the world price meant that any sugar put under loan would be forfeited to the government if world prices prevailed.

To keep domestic prices above forfeiture levels, a country-by-country quota and a duty and fee system for sugar imports were established. The quota size has been continually reduced and in one instance the quota year was lengthened. Domestic raw sugar prices were at times seven times higher than world prices. Although the program avoided significant CCC budget outlays, this distortion of economic incentives had predictable effects. High domestic sugar prices made switching to alternative sweetener sources more profitable for sugar users. In 1980, before the quota system was implemented, production of high-fructose corn syrup (HFCS) was 2.0 million tons (roughly 15 percent of the total U.S. caloric sweetener market). By 1985, after the quota had been in place 3 years, HFCS production had more than doubled to about 5.0 million tons (about 33 percent of the total U.S. caloric sweetener market). Major soft-drink manufacturers have switched from sugar to HFCS. Furthermore, domestic manufacturers of high-content sugar products, such as chocolate and candy, are finding it difficult to compete with imports produced using low-cost, world sugar.

The vast internal-external price difference also made circumventing the quota lucrative. Entrepreneurs were importing high-sugar content products, such as iced-tea mix, and then sifting their sugar content from them and selling the sugar at the high domestic price. An emergency import quota was placed on several sugar-containing product categories in January 1985. This emergency quota had the unintended effect of excluding commodities (e.g., kosher pizza shells) from the domestic market for which quota circumvention was not an issue. Consequently, the scope of the emergency quota was narrowed in May 1985.

Assessing the exact gains and losses from the U.S. sugar program is difficult. The United States is not alone in protecting its domestic sugar industry, the European Community (EC) also has a sugar policy that engenders excess production. Exactly how much of the current low world price is due to U.S. or to EC policy is not clear.

Moreover, the sugar program has so distorted economic incentives that tracing the associated multimarket effects with any exact precision is difficult.

However, some estimates can be attached to the sugar program. Recent estimates indicate that the sugar program costs domestic consumers about \$2.5 billion to \$2.9 billion annually. Domestic producers gain about \$1.6 billion to \$1.8 billion. Domestically, therefore, producers gain about \$1 billion less than consumers lose. About a third to half of this \$1 billion is transferred to countries holding import quotas. Because these countries export sugar to the United States at higher than world prices, they can gain from the quota. At least in price ranges observed in recent empirical studies, these exporting countries compensate quantity declines by price increases. However, countries not having access to the American market lose because the quota lowers world prices. On balance, therefore, the U.S. sugar program transfers roughly \$1.9 billion to \$2.2 billion from domestic consumers to domestic and international producers.

Because there are roughly 12,000 to 13,000 sugar cane and sugar beet farmers in the United States, the average annual transfer from consumers is approximately \$120,000 to \$145,000 in profit per farm. In addition, domestic consumers pay about another \$80,000 per sugar farmer to make the transfer because of inefficiencies associated with the quota system.

On September 18, 1985, a sugar import quota of 1.85 million tons was announced for the December 1, 1985, to September 30, 1986, period. Some experts believed a quota of approximately 1.2 million tons was necessary to avoid significant sugar-loan forfeitures. This Administration's decision to set a quota at the higher level was made to avoid the adverse effects of a lower quota on domestic sugar consumers and a number of smaller countries that depend heavily on sugar exports to the United States for foreign exchange earnings. A deeper quota cut would have had significant economic consequences for the President's Caribbean Basin Initiative.

The Food Security Act of 1985 mandates beginning next quota year that the Secretary of Agriculture avoid loan forfeitures in operating the sugar program. The current quota year, ending on September 30, 1986, is either to be extended until December 31, 1986, or the Secretary is to administer the program so that forfeitures would be the same as achieved by extending the quota year. The President has asked the Congress to reconsider its sugar policy.

Extending the quota year means that a quota designed for a 10-month period would cover 13 months; the effective quota cut is about 25 percent. This quota cut could increase domestic U.S. prices by as much as \$40 per ton. U.S. consumers could lose more than

\$300 million. Because the sugar that would otherwise have been sold in the United States now must be sold or stored elsewhere, world sugar prices will probably decline.

In the past the objective of no loan forfeitures has been pursued by quota cuts. But maintaining high domestic sugar prices encourages expanded domestic sugar production. In recent years, domestic sugar production has grown. Continued growth could require a prohibitive quota on sugar imports. At some point, domestic production controls may be necessary to avoid loan forfeiture.

Like all programs transferring wealth to agricultural producers by maintaining artificially high prices, the sugar program most affects those consumers who spend the largest proportion of their income on foods and staple products. Poorer consumers tend to spend a higher percentage of their income on food products than richer consumers. This means that the relative burden of such programs falls heaviest on the poorest segments of society and is, therefore, a form of regressive taxation—a transfer of wealth from poorer to richer segments of society.

Direct Acquisition Programs

The CCC also supports some commodity prices by purchasing any of the commodity offered at a stated price—the support price. This technique is used indirectly to support milk prices. Fluid-milk perishability makes acquiring and storing large enough quantities of fluid milk to support prices effectively infeasible. Thus, CCC supports milk prices by purchasing butter, cheese, and nonfat dry milk. Because U.S. support prices for these products are generally higher than world prices, the United States also limits total imports of dairy products to less than 2 percent of domestic production. Without import controls, U.S. price-support operations would support world dairy prices.

The economic effects of direct acquisitions resemble those of commodity loans except that no loan subsidy is associated with direct acquisitions. Excess production can occur if the support price is chronically set at higher than market-clearing levels. Resources normally devoted to other uses may be diverted toward production of the supported commodity. This could be reflected in the milk market by herd overexpansion as well as overexpansion of processing capacity.

The potential economic losses associated with direct acquisition are illustrated by milk. In 1980–84, program costs to taxpayers exceeded \$9 billion. For the marketing year ending September 30, 1985, they exceeded \$2 billion. In 1985 the CCC purchased roughly 64 percent of all American nonfat dry milk production, 24 percent of butter production, and 20 percent of cheese production through price-support operations. Partly because of these large budgetary

outlays, the support price has been lowered in recent years from \$13.10 to \$11.60 per hundredweight. Even with these cuts, the CCC continues to accumulate processed milk products. The USDA estimates that at current support levels the CCC will acquire roughly 16.5 billion out of an estimated 145 billion pounds of milk products in the 1985-86 marketing year. Estimates indicate that eliminating price supports and allowing all production to come onto the open market would make prices fall about \$2.70 per hundredweight in the short run and \$1.25 in the long run. Consumer losses from price-support operations are, therefore, estimated at approximately \$1.7 billion to \$3.7 billion per year. All the consumer loss, plus a portion of the taxpayer expenditure (about \$1.9 billion), is transferred to milk producers who will gain somewhere in the neighborhood of \$1.8 billion to \$3.9 billion. The economic inefficiency of the program costs consumers and taxpayers an extra \$0.40 to \$1 for every \$1 transferred to producers.

DEFICIENCY PAYMENTS

The Agriculture and Consumer Protection Act of 1973 tried to separate price support from income support by introducing target prices and deficiency payments. Target prices are set above the loan rate and entitle participating farmers to receive per-unit deficiency payments equaling the difference between the average market price and the target price (not to exceed the difference between the target price and the loan rate) for program commodities. As long as the market price exceeds the loan rate by enough to cover accrued interest payments, farmers will find it profitable to sell the crop in the market and collect the deficiency payment. The government can then support agricultural incomes without acquiring agricultural commodities. However, target prices create an uncertain and potentially very large budget exposure. Receipt of deficiency payments frequently is contingent upon farmers retiring acreage from production.

As defined by the Agriculture and Food Act of 1981, target prices and deficiency payments tied income support to production levels. (As explained later, deficiency payments need not be tied to production levels.) When market prices are above target prices, such policies can have relatively little effect. With acreage retirement provisions in effect, target prices can even exceed market prices without encouraging significant producer participation. This is because the income forgone on acreage retired from production to qualify for deficiency payments may exceed the extra income generated through deficiency payments. Farmers will then prefer to rely only on the market for their income rather than on taxpayer subsidies.

Target prices above market-clearing levels can be distortionary. When income support is tied to production, participating farmers have incentives to overproduce. If acreage retirement provisions are not sufficient to counteract these incentives, excess production occurs and market prices are depressed. Because the United States exports most crops with target prices, this price-depressing effect can be transmitted to international markets. Consequently, the domestic producer price (the target price) may be higher than the price to foreign and domestic consumers (corrected for transportation differentials, marketing margins, and other factors).

A higher-than-market target price can distort markets closely linked to the supported commodity. For example, the 1985 corn target price was \$3.03 per bushel, while market prices were running significantly lower. Because corn is grown competitively with soybeans (which have no target price), these higher than market returns for corn could divert resources from soybean toward corn production. Even if competitive crops have deficiency payments, changing relative producer prices can distort market relationships.

Data on direct government payments suggest that government programs do not distribute benefits equally across crops (Table 4-2). Cotton and rice producers, in particular, receive more from government on a per-acre basis than either wheat or corn farmers.

TABLE 4-2.—*Government payments to producers of selected grains and cotton, 1985*

Commodity	Per acre	Per producer
Wheat	\$36	\$4,000
Corn	45	2,700
Cotton	84	3,800
Rice	138	9,500

Source: Preliminary estimates of Council of Economic Advisers.

Besides distorting markets for competitive crops, deficiency payments can distort input markets by bidding up input prices. This is particularly true of inputs, such as farmland, that are in relatively fixed supply. The amount a farmer pays for an acre of farmland, other things equal, varies directly with the cash returns that the farmland yields. If deficiency payments increase cash returns, they increase farmland value. Deficiency payments also enhance land rental rates because a renter who can use the land to grow crops yielding higher-than-market returns will pay a higher rental rate than otherwise.

Programs that increase land values and rental rates benefit most landowners holding the land at the beginning of the program. Farm-

ers acquiring land after program institution may pay up to the entire capitalized program benefit to acquire the right to receive the payments. Thus, by enhancing land values, deficiency payments also augment landowner wealth relative to nonlandowners. Moreover, the higher the returns deficiency payments generate, the more land values are bid up. With an 8 percent interest rate the capitalized values of the estimated per-acre direct payments for 1985 are: wheat \$450, corn \$562, cotton \$1,050, and rice \$1,725. The average value of an acre of farmland in the United States is \$679.

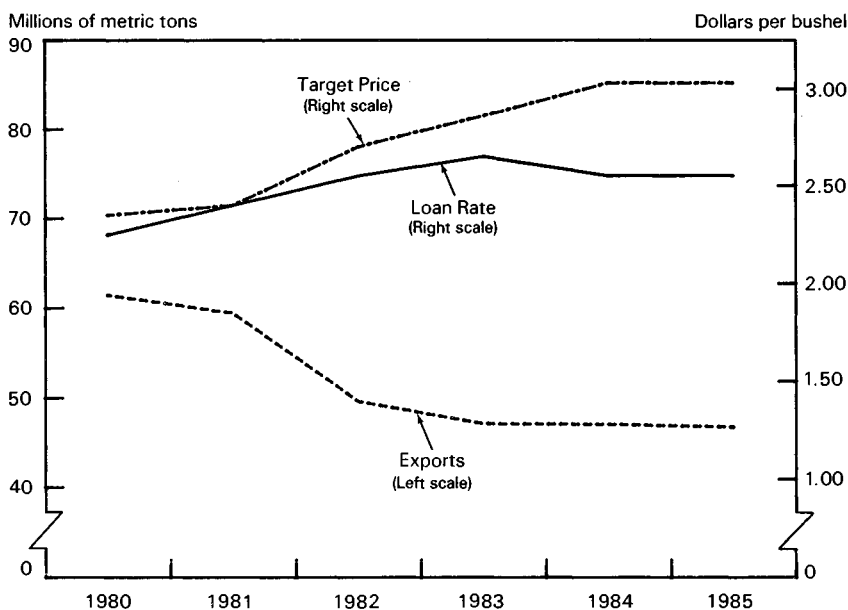
Acreage retirement programs frequently do not reduce production very much. In 1985 producers owning more than 50 percent of all corn acreage participated in the corn program and were required to retire 10 percent of their acreage base (the average of acreage planted and acreage considered planted to corn in 1983 and 1984). And yet the 1985 corn crop was nearly a record. Such events occur for several reasons. First, even significant acreage retirement can be offset by good growing conditions. Second, a farmer usually retires the poorest and least productive land first. Third, by planting fewer acres, the farmer frees resources to be used in more intensive farming of the remaining acres. And fourth, nonparticipating producers can expand their acreage. Hence, a given percentage acreage reduction to accommodate program provisions does not necessarily translate into an equal percentage production reduction. So even with relatively large acreage reduction programs, the price incentives of high target prices can encourage excess production. In some instances, this excess supply can depress market prices enough that forfeiture of commodities under loan to the CCC becomes attractive. When market prices are at such depressed levels, the loan-rate mechanism counters the export-enhancement characteristics of the target price. Now, instead of stimulating exports, the programs inhibit exports because a higher return can always be had by forfeiting commodities to the CCC. The CCC is then in the worst possible position from a budgetary perspective: it is at or near maximum deficiency payments and faces large loan forfeitures. Without significant downward adjustment in target prices or other program adjustments, farmers have no incentive to make the production reductions necessary to ameliorate the situation.

Most commodities with target prices and loan rates have suffered experiences similar to those described above. Payments to farmers have been large and large quantities of CCC stocks have accumulated. And while target prices and loan rates have risen, exports have fallen as illustrated for corn by Chart 4-2.

While these programs are burdensome from a budget perspective—in fiscal 1980 deficiency payments were \$80 million, by fiscal

Chart 4-2

Target Price, Loan Rate, and Exports of Corn



Source: Department of Agriculture.

1985 they had risen to about \$6 billion—they can also hurt farmers who rely on the free market rather than on taxpayer subsidies. These farmers must sell their commodities at depressed prices. Just as consumers are effectively taxed by direct acquisition schemes, nonparticipating producers can be indirectly taxed by selling at lower than free market prices. At the same time, because commodity programs can bid up input prices, nonparticipating producers also can face an implicit input tax by paying higher than free market input prices. Therefore, not only do nonparticipating producers not reap direct benefits from the programs, but they may end being taxed for relying on the market and not the taxpayer. This creates strong incentives for nonparticipants to participate in government programs. As target prices remain well above market-clearing levels, participation might be expected to rise. In the early 1980s less than 30 percent of corn acreage participated in government programs; in 1986 more than 70 percent of corn acreage is expected to participate.

The Food Security Act of 1985 initially freezes target prices at current levels. However, in an attempt gradually to return U.S. agriculture to a free-market, competitive footing while protecting farm income in the interim, this act lowers target prices slowly after 1988. This change should eventually reduce incentives to overproduce.

Quantitative estimates of the losses occurring in markets with target-price deficiency payment programs vary. Taxpayer costs for the wheat program are estimated at approximately \$3.2 billion while producer gains are around \$2.1 billion. Taxpayer cost in the corn, cotton, and rice programs are, respectively, estimated at \$3.0 billion to \$4.1 billion, \$1.5 billion, and \$0.71 billion. In all these markets producer gains are less than the taxpayer outlay being, respectively, \$2.1 billion to \$2.5 billion, \$1.1 billion, and \$0.58 billion annually. Some of the taxpayer costs are transferred to foreign consumers of the supported commodities.

PRODUCTION DIVERSION PROGRAMS

Programs exist which pay farmers not to produce. For example, in 1985 the wheat, cotton, and rice programs required unpaid retirement and the paid diversion of some of the farmer's base acreage. To be eligible for wheat deficiency payments and loans, wheat farmers had to idle 20 percent of their base acreage without payment and 10 percent of their acreage with a \$2.70 payment for each bushel that would normally have been produced on the diverted land.

Producers participate in such programs if the income received from the target price and the land diversion payment exceeds what the market would yield without program participation. Society loses from virtually all such programs when the taxpayer cost of the diversion and deficiency payments, added to the wastage of economic resources caused by diversion, exceed any producer or consumer gains.

Between January 1984 and April 1985 the United States had a paid milk diversion program. Producers were paid \$10 per hundredweight diverted. Forty-two thousand producers were paid roughly \$955 million, the average per-producer payment exceeded \$22,000. Program benefits were not evenly distributed throughout all sales classes or throughout all regions. Roughly 75 percent of participants received less than \$25,000 in payments, but they received only 38 percent of total payments. The remaining 25 percent, with payments exceeding \$25,000, received roughly 62 percent of the payments. Table 4-3 decomposes the payments to the top five recipient States by total State payments and average payment per participating producer in the State. These five States received 38 percent of all milk diversion payments. Average payments in Florida and California were both particularly large, exceeding \$100,000 per producer.

TABLE 4-3.—*Milk diversion payments: top five States*

State	Total payments (millions of dollars)	Payments to \$25,000+ payees		
		Average payment (dollars)	As percent of total payees	As percent of total dollar amount
Wisconsin	112.5	39,600	14.9	38.3
California	87.9	142,200	86.6	98.5
Minnesota	81.3	37,700	11.1	30.5
Texas	46.6	63,900	70.7	90.8
Florida	40.3	226,700	95.2	99.6
U.S. TOTAL	955.3	57,100	24.9	62.3

Source: Department of Agriculture.

One reason for large per-producer payments in California and Florida, as well as some other States, is that the milk diversion program was not designed to limit income transfers as some other programs are. For example, total deficiency payments per producer cannot exceed \$50,000. Milk diversion payments were only limited by the requirement that payments could only be made on 30 percent of the production base. Thus, very large-scale producers were potentially eligible for large diversion payments, and States with many large-scale producers received larger payments than States with smaller scale producers.

The Food Security Act of 1985 establishes a milk production termination program. Each dairy producer is to be taxed 40 cents per hundredweight of milk marketed between April 1, 1986, and January 1, 1987, and 25 cents per hundredweight of milk marketed between January 1, 1987, and October 1, 1987. The milk support price is left at its current level through 1986 and is then cut to \$11.35. This tax revenue is to finance partially whole-herd dairy buyouts. The goal of the program is to reduce U.S. milk production by 12 billion pounds. Producers wishing to participate must submit bids to the Secretary of Agriculture. If a contract is executed, these producers must sell for slaughter or export all their dairy cattle and refrain from milk production for a period of 5 years.

The exact effects of the dairy buyout program are difficult to predict. But several things are clear. First, the producer's bid to the Secretary will be large enough to cover the expected difference between what the producer would earn from the herd over time by selling milk and what the producer earns by selling the herd for slaughter or for export. Each producer bid estimates the economic cost of diverting productive resources, e.g., dairy cattle, to a less productive use, i.e., slaughter. The program, if effective, will reduce milk production.

But it will only raise a market's dairy prices if that market's production reduction is large enough to end CCC takeovers in that market. For the coming marketing year, with no production reduction programs, projected takeovers are more than 16 billion pounds. The CCC expenditures on milk support will fall to the extent that the production reduction program curbs takeovers.

The program-induced slaughtering of dairy cows will put downward pressure on meat prices. To minimize this effect, the Food Security Act of 1985 instructs the Secretary of Agriculture to purchase an extra 400 million pounds of meat. Two hundred million pounds are to be used domestically; the remainder goes to export programs and military commissaries. Much of these meat purchases, therefore, could be sold or given to foreign consumers at lower prices than U.S. consumers face.

If takeovers continue and market prices remain around support levels, consumers may not be seriously affected. But the program's goal is production reduction—consumers cannot gain. While CCC expenditures for milk support may go down, any savings here will tend to be offset by the increased expenditures for meat products and by the economic cost of diverting cattle to slaughter or export. Compared with the situation that would prevail under the policy advocated by the Administration, i.e., a lowering of support rates to market-clearing levels, clear social losses emerge.

Because the milk production reduction program does not immediately lower support prices, it does not address a fundamental cause of the current excess capacity. If support rates remain above market-clearing levels in the future, the production termination program will have only relatively short-run effects. With above market-clearing prices new producers will find dairy production attractive and may replace those who exit the industry under the program. An ultimate solution to excessive dairy production, excessive dairy processing capacity, and large CCC takeovers is gradually to lower support rates to at least market-clearing levels and not to further distort dairy production by taxing dairy producers to finance the slaughtering of cows.

PRODUCTION AND MARKETING QUOTAS

Some programs enhance farm income by limiting what farmers can produce or market in domestic markets. When mandatory production controls are effective, consumers lose because they buy less at a higher price. Production controls can increase producer revenues if demand is inelastic. Therefore, production controls effectively tax consumers to transfer income to producers. Effective production quotas also imply that resources whose best use without the program is producing the restricted commodity are devoted to less economi-

cally remunerative uses. These costs have to be added to consumer costs to determine whether the domestic costs associated with the program exceed producer benefits.

The economics underlying marketing quotas are similar. Marketing quotas limit the amount that can be sold in certain markets. For example, the U.S. peanut program sets no limits on domestic production and no limit on the amount sold internationally. However, it does limit the amount that can be sold domestically. Limiting the amount sold domestically results in losses to consumers because they purchase less at higher prices. Producers gain because on domestic sales they receive a higher price than otherwise.

Farm marketing quotas exist for tobacco. Tobacco prices are also supported by a loan program. By legislative mandate, these support operations are run at no net cost to the Federal Government. Hence, tobacco farmers are assessed on the basis of tobacco marketed to fund the no-net-cost-tobacco fund.

Marketing quotas for tobacco have decreased as the demand for U.S. tobacco exports has diminished. Loan rates for tobacco are also at levels that may make it difficult for U.S. tobacco to compete in world markets. As a consequence, the U.S. share of the world tobacco market has diminished (Chart 4-3).

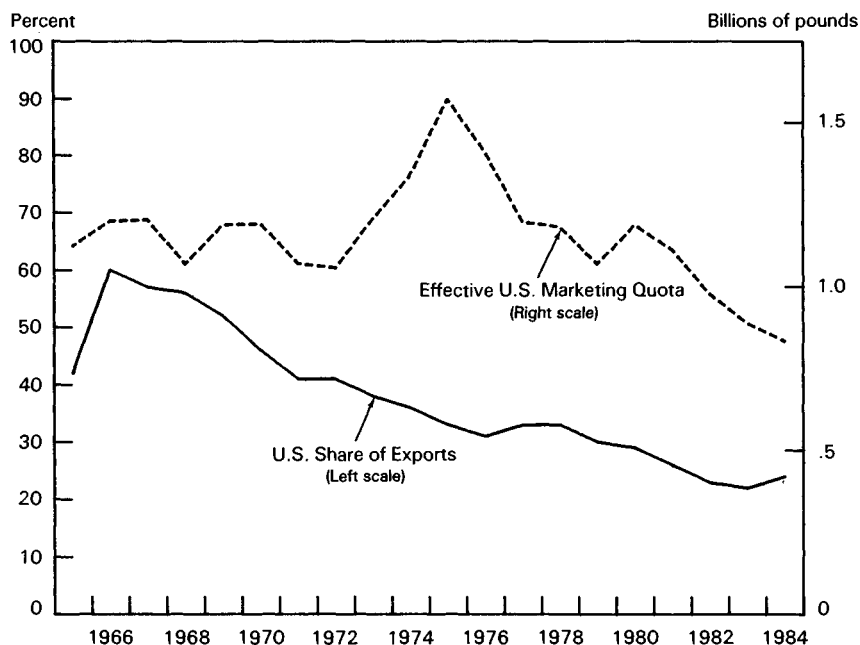
If quota limitations raise producer incomes, producers will pay a positive price for access to the quota. In burley and flue-cured markets, quota rights can be either sold or rented. Thus, establishing effective quotas creates income and, hence, wealth for quota owners. If quotas were abolished, quota owners would suffer a real wealth loss. An estimate suggests that quota abolition would entail losses of roughly \$700 million to \$800 million to current quota holders. Although these losses are large and real, their value equals only the value of income extracted from consumers and transferred to quota owners through the program.

Tobacco legislation was not included in the Food Security Act of 1985, but a new tobacco price-support program is to be considered by the Congress later this year. The present program was designed to be funded through producer assessments. Because of a drought in 1983, however, the burley tobacco crop was of extremely poor quality and almost one half remains unsold. An important provision of the proposed new legislation requires the government to help burley tobacco farmers cover some of the losses associated with this crop. This provision of the bill could cost more than \$0.5 billion.

The U.S. peanut program places a quota on domestic peanut marketings but no limitation on the amount of American peanuts sold in international markets. Peanut prices are also supported by nonrecourse storage loans. Support, however, is two-tiered: Peanuts eligi-

Chart 4-3

U.S. Share of World Exports of Flue-Cured Tobacco



Source: Department of Agriculture.

ble for domestic sale are supported at a higher rate than peanuts not eligible for domestic sale (nonquota or additional peanuts).

A rough estimate of the consumer losses and producer gains associated with the peanut program can be made by comparing the export and domestic prices. For 1982-84, the average price difference was about 9 cents per pound or \$180 per ton. Given domestic consumption at roughly 1 million tons, total producer gains were about \$180 million per year. Consumer losses were slightly larger at about \$184 million.

MARKETING ORDERS

The Congress has established special marketing arrangements, known as marketing orders, that operate separately from the CCC. In 1985, marketing orders covered 47 fruit, vegetable, and specialty crops in the United States and approximately 80 percent of fluid grade milk sales.

Marketing orders play roles that range from controlling quantity to generic advertising. The basic legislative authority for existing marketing orders is the Agricultural Marketing Agreement Act of 1937. The primary focus of marketing orders has been the achievement and maintenance of what have been called orderly marketing conditions.

Once established, orders apply to a specific commodity, to a specific geographic market, and to all commodity handlers in the market. Participation in established marketing orders is involuntary. Thus, marketing orders are sometimes controversial, because by law they can limit the freedom of independent producers to choose how, when, and where to market their crop.

Arguments made for marketing orders often revolve around quality control, stabilization, research and information, offsetting potential monopoly power, and income redistribution. Because many marketing-order commodities are highly perishable and/or seasonal, stabilization is often considered a main producer benefit. Furthermore, some orders cover tree crops requiring large capital investments well in advance of production. Because of these long lags some argue that producers need a stable price upon which to base their decisions to avoid under- or overinvestment.

Some marketing orders assess members to fund research programs that benefit all producers but which no single producer has the incentive to undertake. Problems appear in the dissemination of information about a commodity for which it is not easy to develop brand loyalties. For example, if an orange producer advertises and convinces consumers to buy more oranges, all orange producers likely benefit from the increased orange purchases. But only one producer bears the costs. As a result, no producer has the incentive to advertise at a socially optimal level. The formation of marketing orders that assess producers to pay for generic advertising can mitigate such problems.

Marketing orders use quality control, quantity controls, and market-support activities. The main economic issues are whether these tools serve their stated purpose and the magnitude of the economic costs and benefits associated with their use. Quantity controls are controversial because they can be used to enhance producer income by monopolistic-like pricing.

Volume Controls

The Agricultural Marketing Agreement Act of 1937 provides for three methods of volume control: producer allotments, market allocation, and reserve pools. With producer allotments each producer has a base allotment derived from historic marketings. Every marketing season producers are then told how much of the base they can sell. Producer allotments are similar to marketing quotas in their econom-

ic effects. When the controls restrict supply, consumers lose by paying more for less of the commodity than otherwise. Producers may gain if the price increase associated with restricting supply offsets the decrease in quantity marketed.

Research has shown, however, that orders with allotment schemes may not practice pure monopolistic pricing because the allotment decision is typically made by the order's administrative committee on the basis of a majority vote. The administrative committee generally has representatives from diverse industry interests; some orders even have a consumer representative. Under majority voting, one expects the outcome to reflect the allotment that maximizes the well-being of the majority. This outcome is not necessarily the monopolistic solution.

If producer allotments give order members a higher income than the free market, then producers will pay a positive price for an allotment. Although only three producer allotment schemes have been in effect recently (Florida celery, hops, and spearmint oil), in two of those orders (hops and spearmint oil) the right to purchase allotments has had large positive prices. (The hops order terminated on December 31, 1985.) This suggests that these orders may have enhanced producer incomes at consumer expense.

Market allocation schemes take advantage of demand differences across alternative markets for a commodity, for example, the markets for fresh and processed fruit. If commodities sold in one market cannot be easily resold in the other, and if one market's demand is more inelastic than the other's, producers may gain by price discriminating, i.e., charging different prices in the two markets. Consumers lose by such pricing arrangements. If one market's demand is more inelastic than another's, a price discriminator diverts some of what would have normally been sold in this market to the other market. Without retrading between markets, price rises in the first market and falls in the second. Consumers in the first market buy less at a higher price and, therefore, lose. Consumers in the second market gain by buying more at a lower price. The amount gained in the second market is less than the amount lost in the first; consumers in the aggregate lose.

Marketing orders using market allocation establish a "free" percentage that can be marketed without restriction. The remainder is marketed in a noncompetitive outlet. Like the peanut program, market-allocation orders do not control the quantity produced and further, they do not restrict entry of new producers. In the short run, the market allocation can enhance producer income from a given crop. Effectively, producers see a weighted-average price from the two markets that is higher than the market-clearing price for the

available supply. Without production control or barriers to entry, producers have incentives to expand production in response to this higher perceived price. As time wears on, entry and overproduction tend to erode the original profits that were enjoyed. An increasing amount of the order crop is diverted to the secondary market, effectively lowering the weighted-average price that producers receive. Orders with market allocation schemes include walnuts, filberts, California dates, and raisins.

Reserve pools temporarily remove some of the crop from the market. If used appropriately, a reserve pool can benefit both consumers and producers by operating as a buffer stock. However, reserve pools can artificially restrict supply to increase producer income. For example, produce could be diverted to the reserve pool without bringing it back onto the market for later resale or for resale in a secondary market. If producer revenues are thus enhanced, these practices are tantamount to the price discrimination practiced under market allocation orders. The economic effects would be the same. Orders with reserve pools include tart cherries, California walnuts, spearmint oil, prunes, and California raisins.

Market Flow Regulations

Two main types of market flow regulations exist: shipping holidays and handler prorates. Shipping holidays restrict the flow of the commodity to the market for certain days of the year—frequently right after a peak demand period. Handler prorates, which specify amounts of the commodity that can be marketed during certain time periods, tend to be more controversial. For some marketing orders, prorates apply for only part of the year. But in three western citrus crop orders (navel oranges, valencia oranges, and lemons) season-long prorates are permitted. These season-long prorates could be used to price discriminate by segmenting the fresh-fruit market from the processed market. Fruit marketed in excess of the prorate must be marketed in a secondary market, which usually means the processed market or wastage markets such as livestock feed. Season-long prorates used to limit total deliveries to primary markets should generate basically the same economic effects as direct market allocation—consumer losses, overproduction, and larger sales in secondary markets. For the three western citrus orders with season-long prorates, chronic overproduction has occurred. And in the navel orange order, revenue from sales to the processing market by growers has at times not been enough to cover grower costs. This evidence suggests that these orders may have used the prorate to price discriminate.

In 1985 the Secretary of Agriculture responded to shortages caused by severe freeze damage to the Texas and Florida citrus crops by suspending the prorate provisions for California-Arizona navel or-

anges. The prorated suspension occurred after approximately 52 percent of the navel crop had been shipped. An analysis concluded that the suspension had no significant effects on either the average price level or price variability. The suspension also had minimal effects on producer incomes. Income under the suspension was higher than it would have been under the utilization schedule proposed by the Navel Orange Administration Committee. Order suspension apparently did not result in less orderly marketing. These results should be interpreted with caution, however, because they are based on an unusual supply situation. A recent study has found that consumer losses from the California-Arizona Navel Orange marketing order for the 1985-86 marketing year will be about \$47 million while producers will gain about \$26 million. In the longer run consumers would gain about \$59 million from ending the prorated while producers would lose about \$43 million annually.

Even if prorates are not used to price discriminate through market allocation, both they and shipping holidays can be used to price discriminate over time. Just as one can price discriminate across markets, one can market the same commodity at different times at different prices. To discriminate effectively requires that the commodity once sold should be highly perishable and that the character of demand change over time. For example, some citrus products can be stored on the tree for several months without undue product deterioration but deteriorate fairly quickly once harvested. Also the demand for some order crops bears a distinctly seasonal character (higher, for example, around Christmas time). Intertemporal price discrimination involves charging a higher price during periods when demand is more inelastic and a lower price in periods when demand is more elastic.

Quality Control

Marketing orders can control quality through the setting and enforcing of minimum grade, size, and maturity standards. An argument made for quality control is that removing below-standard produce improves the average quality of produce marketed. But removing fruit or vegetables from the market lowers the quantity marketed; quality controls can be effective quantity controls.

In assessing the effects of quality controls, a primary question is whether consumers can distinguish quality at purchase time. If consumers can distinguish product quality, quality controls can engender consumer losses by limiting the range of alternative purchases. For example, some consumers may prefer to consume fruit that others would find overripe. If ripeness can be determined by examination, eliminating this overripe fruit deprives these consumers of their preferred fruit quality.

Some also argue that quality controls, by improving perceived average quality, enhance demand and therefore result in higher producer prices. This argument relies on the commodity not being priced according to quality. For example, a bad orange might fetch the same price as a good orange. If, however, commodities are priced according to quality differences, the argument may be invalid. Presumably, providing higher quality produce incurs higher costs than providing low-quality produce. Producers will then weigh the cost and price differences and choose the quality of produce that maximizes profit. Product quality would then be determined by the free interaction of consumers and producers and not by the marketing order.

To the extent, however, that quality is not easily perceptible at purchase time, some form of mandatory grading and grade labeling might be desirable to inform buyers about quality. Unless health risks are involved, however, this does not justify the use of minimum quality standards to eliminate lower grades of produce that some consumers might otherwise choose to buy.

An alternative approach is the use of a grading and inspection system similar to that existing in the U.S. beef market. Consumers could be informed about product quality based on publicly available, objective standards applied industry-wide. Then the consumer and not the marketing order would choose what quality of produce to buy.

FEDERAL MILK MARKETING ORDERS

The basic laws underlying Federal milk marketing orders are the Agricultural Marketing Agreement Act of 1937 and the Agricultural Adjustment Acts of 1933 and 1935. Federal milk orders cover only Grade A milk, i.e., milk potentially marketable in fluid form.

The main tools of Federal milk orders are classified pricing and revenue pooling to arrive at a blend price. Although Federal milk orders have no explicit quantity controls, the setting of minimum prices, under classified pricing, may constrain the amount that consumers purchase and thus have the same welfare implications as quantity controls.

Classified pricing separates milk consumption into at least two classes: milk for fluid use (Class I) and milk not for fluid use (for example, ice cream). Minimum prices are then set for each class with Class I milk the higher priced. Minimum prices for lower class milk are related by transportation differentials to the price of manufacturing-grade milk in Minnesota and Wisconsin. Each order then has its own fixed differentials between minimum prices for these classes and Class I.

With uniform blend pricing, market-wide revenues from Grade A sales are distributed to producers by paying each producer a weighted-average price of milk sold in all classes (the blend price) for each unit of Grade A marketed.

Studies have found that the minimum Class I prices are above the prices that would clear the market in the absence of classified pricing. Consumers, therefore, buy less Class I products than otherwise, and fluid grade milk is diverted to manufacturing uses. This diversion depresses prices in the manufacturing market. However, studies indicate that the demand for processed milk products is more elastic than the demand for Class I milk, implying that the resulting blend price is higher than the market-clearing price in the absence of the order. Producers seeing this higher price overexpand production. This extra production further depresses manufacturing grade prices and lowers the blend price. As with market allocation schemes, Federal milk marketing orders can result in oversupply for lower class usages. Estimates of the price-depressing effect on manufacturing grade milk range as high as 9 percent, while the price-enhancing effect for Class I milk has been placed as high as 8 percent. Blend pricing has been estimated to raise average producer prices by as much as 9 percent.

Isolating the total effects of the Federal milk orders is difficult because they co-exist with the price-support program. But by not allowing certain classes of milk to sell for less than the minimum price, orders can constrain consumer purchases. In such instances, consumers lose from classified pricing. Producers of manufacturing grade milk can be hurt if classified and blend pricing depress manufacturing-grade prices. Finally, by placing downward pressure on lower grade milk prices, classified milk pricing can increase the cost of CCC price-support operations.

Because classified pricing can raise producer prices, processors in order areas might want to buy milk at lower prices from non-order producers. To prevent such practices from disrupting classified pricing, a system for out-of-order purchases guarantees that all milk sold in an order area effectively receives the same price. Compensatory charges may be levied if a handler purchases milk from a non-federally regulated handler or uses milk concentrates to produce reconstituted milk. In the case of reconstituted milk, the compensatory charge is the difference between the lowest class price and the Class I price. Reconstituted milk, which is actually competitive with Class I milk, is, therefore, effectively priced as manufacturing grade milk to the handler. The main incentive for reconstitution is removed. Studies show that the efficiency losses from stifling the transportation of milk concentrates for reconstitution from surplus areas to high-cost areas may be substantial.

ALTERNATIVE METHODS OF INCOME SUPPORT

Income-support programs redistribute income away from consumers and taxpayers toward farmers. As such, consumers and taxpayers generally lose from such programs while participating farmers generally gain. But income-support programs by inhibiting the efficient operation of agricultural markets can impose extra costs on consumers and taxpayers that exceed the amount of income transferred to farmers. When such losses occur, the programs are doing more than redistributing income, they are wasting valuable economic resources that could be used to make every one better off. Table 4-4 summarizes estimates of the costs to consumers and taxpayers as well as the producer gains of the major commodity programs discussed above. In all instances, economic resources appear to be wasted because producer gains are always less than consumer and taxpayer losses. However, this table may underestimate the total losses from U.S. farm programs because it does not cover all commodities affected by farm programs. A recent USDA study, covering all program commodities, found that extending the Agriculture and Food Act of 1981 through 1990 would raise annual net cash income to farmers an average of \$4 billion above what it would be with no programs. Consumer expenditures for food, however, would increase an average of \$5 billion while taxpayer cost would average \$16 billion. For every dollar of net cash income transferred from consumers and taxpayers to farmers, an extra \$4.25 would be incurred because of program provisions that inhibit the efficient operation of farm markets. Much of the \$21 billion consumer and taxpayer expenditure would go not to farmers but would be dissipated throughout the agricultural industry in the form of higher input prices (including land) and increased profits to suppliers of materials and services to farmers.

Farm income can be supported with less waste. The most efficient way to transfer, say, \$4 billion a year in net cash income to farmers is simply to pay them this amount directly, independent of what they produce and sell in the marketplace. This would minimize the wastage of economic resources. Consumers and taxpayers would still lose the \$4 billion but no more. As a practical matter, however, to avoid encouraging people to enter farming only to receive the government payments, such payments can be made only to farmers in farming at the beginning of the program. New farmers would then decide to enter farming on the basis of whether they could be competitive in a freely functioning market. Finally, these government payments to farmers can be gradually phased down.

The targeting of government payments would be the major issue unresolved by this approach. This is important, because some argue

TABLE 4-4.—*Losses and gains from income-support programs (annual costs)*¹

[Billions of dollars]

Commodity	Consumer loss	Taxpayer cost ²	Producer gain	Total loss
Sugar.....	2.5 to 2.9		1.6 to 1.8	0.9 to 1.1
Milk.....	1.7 to 3.7	1.9	1.8 to 3.9	1.7 to 1.8
Wheat.....	.1	3.2	2.1	1.2
Corn.....	.5 to .6	3.0 to 4.1	2.1 to 2.5	1.5 to 2.1
Cotton.....	(³)	1.5	1.1	.4
Rice.....	.09	.71	.58	.22
Peanuts.....	.184		.180	.004
Oranges ⁴.....	.047 to .059		.026 to .043	.016 to .021
TOTAL.....	5.12 to 7.63	10.31 to 11.41	9.49 to 12.20	5.94 to 6.85

¹ Estimates are not adjusted for program changes contained in the Food Security Act of 1985.² Includes CCC expenses after cost recovery.³ Less than \$50 million.⁴ California-Arizona navel oranges.

Source: Compiled by the Council of Economic Advisers from various sources.

that changing income-support methods would endanger those farmers who are currently the most stressed. This argument lacks empirical support. The largest deficiency payments go to those program participants who produce the most. Typically, these farmers are not the most troubled. The USDA characterizes as most stressed those farmers with a debt/asset ratio exceeding 70 percent and a negative cash flow. These farms receive only 11 percent of all direct government payments. The next most severely stressed are those with debt/asset ratios in the 40 to 70 percent range and negative cash flow; these farmers receive only about 13 percent of all direct government payments.

Where do these payments go if not to the most economically stressed farmers? The answer is—to the unstressed farmers who constitute the majority of all U.S. farmers. The deficiency payment method used in the Agriculture and Food Act of 1981 made it likely that larger farmers would benefit more from government programs than smaller farmers.

Thus, one is hard-pressed to argue that deficiency payments have provided a safety net for troubled farmers. In fact, they may benefit unstressed farmers more. If society's goal is to provide a safety net for troubled farmers, then replacing deficiency payments with income supplements for the most stressed would seem cheaper and more economically efficient.

However, if the present distributional aspects of current programs are desired, income can still be transferred in roughly the same amounts to the same producers with less distortion of production incentives.

One method is to make per-acre payments that approximate current benefits. Farmers would be allowed to plant as much of any crop as they wish. In terms of Table 4-2, this might mean, for example, paying wheat producers \$36 per acre, corn producers \$45 per acre, cotton producers \$84 per acre, and rice producers \$138 per acre. If these payments were tied to ownership of specific parcels of land and producers could do anything with the land they wished—including not producing—then program benefits would be capitalized into land prices. But production incentives would not be distorted and land would rent at rates equaling the cash returns it would fetch in the marketplace. When dramatic land price declines are the norm in the Midwest and other areas, a program of such payments that is gradually phased out could ease long-run adjustments in land values that are dictated by market realities.

A second approach is to retain deficiency payments *pro forma* while changing how payments are calculated. Under the Agriculture and Food Act of 1981, the total deficiency payment a farmer received was the difference between the target and season average price times the farmer's eligible program acreage and the program yield. Both the program acreage and the program yield varied from year to year. Clearly, the higher is the eligible program acreage, the larger is the total deficiency payment. With target prices above market prices, farmers have incentives to expand acreage. Excess production results. A change that fractures the link between income support and production would be to freeze permanently both the program acreage and the program yield. Farmers would receive payments on the basis of these frozen program acreages and yields regardless of how much of any crop they produced. With each individual's payment depending only upon historical production, individuals would have the incentive to produce only what could be sold profitably in the market. A major program change contained in the Food Security Act of 1985 was to freeze program yields at the 1981-85 average (excluding high and low years) and to calculate base acreage as the most recent 5-year average of acreage planted or considered to be planted. Furthermore, to be eligible for payments, farmers need plant only 50 percent of a commodity's program acreage to that commodity. Thus, the Food Security Act of 1985 reduces incentives to overproduction and permits participating farmers more flexibility in choosing the mix of crops planted. However, eligible program acreages are not yet completely frozen, and farmers are still not allowed to plant as much of any crop as they want and still receive deficiency payments. Farmers of program commodities will continue to produce in response to government programs.

Farm incomes are also supported indirectly through price-support programs and market intervention programs (such as quotas and import controls). Although quotas and import controls clearly support income, some would argue that price-support programs are not designed primarily as income supports and thus serve a useful purpose distinct from income support.

To the extent that price supports operate as buffer stocks, they may benefit society at large. For this argument to be valid, however, support prices must bear some relation to market reality. For example, setting loan rates far in excess of free-market prices (as in the sugar program) is hard to construe as anything but income enhancement. Establishing loan rates and support prices well above market-clearing levels prevents rather than smooths price adjustments. Milk price supports fall in this category. They have engendered a chronic surplus that the CCC must remove from the market at taxpayer expense. Milk consumers are taxed twice, once in the marketplace by higher prices and second by the government to fund CCC dairy product takeovers. For such markets, economic efficiency suggests lowering price supports at least to free market-clearing levels.

For many commodities, however, price supports probably have had a stabilizing influence. But recent developments in agricultural commodity markets have lessened the need for government intervention. Recently, the long-term ban on trading agricultural option contracts was lifted. Option markets allow producers to take advantage of favorable price movements while avoiding much of the risk associated with harmful price movements. A put option gives a commodity seller the right, but not the obligation, to sell a futures contract at a given value (the strike price) on or before a specified date. The buyer of the put option (the seller of the commodity) pays a premium to the party writing the contract for this right. A producer, therefore, can guarantee a price for the crop at harvest time or, thereafter, by purchasing a put option. In effect, the producer buys price insurance. If, later, a higher price can be realized by selling the commodity than by executing the futures contract, the producer is free to do so. Thus, the farmer avoids downside price risk without being locked into a contract that inhibits his or her ability to take advantage of favorable price movements. Unlike the loan contract, however, the producer and not the taxpayer pays for the price insurance. The CCC makes loans on and options markets exist for corn, wheat, soybeans, cotton, and sugar.

Basically, as the President recommended in 1985, agricultural policy should be shaped to return farming to a freer market. This means separating income supports from production and lowering loan rates or eliminating them. Future agricultural programs should be flexible and should minimize market distortions in achieving their goals.

CHAPTER 5

Reforming Regulation: Strengthening Market Incentives

MARKETS GENERATE AND USE enormous quantities of specialized information that is extremely difficult and costly for government officials to obtain. When government substitutes for markets, either through regulation or government ownership, this information is usually lost and economic performance is sacrificed. Regulation often reduces the ability of firms to innovate and it frequently restrains competition, leading to higher costs and prices. Where the government itself produces a good, incentives for efficient operation can be stifled. Even where regulation is necessary to deal with incomplete markets, as in the environmental area, greater reliance on market incentives can improve performance.

This chapter points to benefits of using market incentives. It also discusses extending market incentives to other sectors of the economy. In particular, this chapter discusses the effects of deregulation, where deregulation might be extended, where necessary government regulation could benefit from market incentives, and the potential for privatizing certain government activity.

TRANSPORTATION: DEREGULATION SUCCESS

A great deal of economic research has shown that transport regulation served the interest of regulated companies and their unionized workers at the expense of the consuming public. Restrictions on the entry of trucking firms and airlines limited competition and kept prices high. Railroad regulation produced prices that were largely unrelated to demand and cost conditions and that were too rigid to allow railroads to compete with other transportation modes.

By the late 1970s a major deregulation effort was underway. Under deregulation, firms have been able to set prices based on market demand, but constrained by competition. As a result, average passenger fares and many shipping rates have declined and the service variety has increased. Firms have responded to the pressure of competition by seeking wage concessions and improved productivity.

AIRLINES

During the regulatory period from 1938 to 1978, not a single new interstate trunk airline received permission to provide service. Since Congress passed the Airline Deregulation Act in 1978, 26 new scheduled interstate carriers have entered the industry and 19 have exited. Existing airlines also expanded into new markets. The number of city-pairs served by more than one airline increased by 55 percent from 1979 to 1984.

Increased entry has led to lower average fares. The Civil Aeronautics Board (CAB) price formula, adjusted for input price changes, shows that except for the smallest markets, average actual fares in 1983 were below those that would have been permitted by regulation. While all fares were not set exactly equal to formula prior to deregulation, the fact that in almost all market types average fares are below formula suggests that deregulation has led to lower average fares.

Since deregulation, a host of new types of fares have been introduced, increasing consumer choice. Peak and off-peak fares are increasingly common, with special fares for very slack periods. New airlines have sprung up serving different segments of the market, with some airlines specializing in low-cost and no-frills flights, while others are offering premium service at higher rates.

By limiting fare competition, regulation greatly restricted consumers' choices. The tradeoff between price and quality is manifested in the airlines' load factor, a measure of the percentage of seats that are filled. The fewer the empty seats flown, the lower the unit costs of operation, but the smaller the probability of a passenger getting a seat on the most convenient flight.

Since 1977, when the CAB began to grant greater fare-setting flexibility, average load factors have increased. In the years 1973-77 average load factors ranged between 51.7 and 56 percent. Since 1977, load factors have ranged between 57.5 and 62.8 percent. Airlines now compete on fares as well as on the frequency of flights. However, those willing to pay for higher quality service can purchase it. First-class seats or nondiscount fares are available on shorter notice, but at higher cost.

Under regulation, the CAB set route structures administratively. Under deregulation, a hub and spoke system has emerged as regional airlines and trunks entered new markets. The carriers found that by concentrating departures in hubs they could serve more markets at lower cost. For many passengers, more extensive hubbing means more convenient service since on a given trip they will change airlines less often. The percentage of passengers completing trips without changing airlines increased from 89.1 to 96.7 percent between

1978 and 1983. Moreover, while some passengers no longer have direct flights, the percentage of passengers changing planes actually decreased slightly from 27 percent to 25.3 percent between 1978 and 1984.

With greater competition, airlines have been forced to improve their cost performance. For example, ton-miles per employee for the "systems majors" increased by 19.5 percent between 1978 and 1985. In sum, the deregulated industry is able to provide greater variety in service at lower unit cost than the industry did during 40 years of regulation.

Accompanying the airline deregulation debate was concern about what would happen to service for small communities. While no one knows what would have happened had regulation continued, service in terms of flights to non-hubs and to small hubs has actually increased by 20 and 31.6 percent, respectively, since 1977. However, airlines have switched to smaller planes to serve non-hubs, and available seats departing from non-hubs have declined by 7.2 percent.

TRUCKING

Similar positive results characterize trucking deregulation. With passage of the Motor Carrier Act of 1980, entry of new carriers into the trucking industry expanded dramatically. The Interstate Commerce Commission (ICC) reported that processed applications for operating authorities rose from 5,910 in fiscal 1976 to 27,706 in fiscal 1981 before declining to 13,544 in 1985. The percentage of those cases where authority was granted rose from 70 percent in 1976 to 99.9 percent in 1985. Overall, the number of ICC-authorized carriers increased from approximately 18,000 in 1980 to 33,548 in 1984. Restrictions on many existing operating licenses were also removed as requests for broader territorial authority or broader commodity descriptions were readily granted.

There is not a great deal of information on shipping costs since deregulation, but one recent survey found that average real truckload rates for large shippers declined by 25 percent between 1977 and 1982, while less-than-truckload rates declined by 15 percent over the same period. Several surveys also have found that service, as described by shippers, improved. Even smaller communities report no deterioration in service since deregulation.

SAFETY

Some argue that too much competition forces cost-cutting and leads to skimping on safety. But competition will not normally induce firms to lower safety expenditures. An airline or trucking firm that has high accident rates will lose business and face higher insurance

rates. Although firms close to bankruptcy might arguably find they have less to lose by reducing safety expenditures than a solvent firm, the firms are still subject to inspections and regulation by the Federal Aviation Administration and the Federal Highway Administration.

The available data on airline safety show no increase in accident rates since deregulation. A good way to measure safety is to look at accident rates per 100,000 departures. This controls for the increased number of flights over time and abstracts from the effect of changes in load factors. Table 5-1 shows accident rates over the past 14 years for scheduled airlines. Total accidents per 100,000 departures have been low over the entire period, but reached their lowest levels in 1980 and 1984. Fatal accidents also reached their lowest levels in 1980 and 1984. In 1985 much attention has been focused on safety. Worldwide, 1985 was the worst year in terms of total fatalities. Nevertheless, looking at U.S. accident rates, 1985 was not an unusual year. As Table 5-1 shows, accident rates, both fatal and nonfatal, were exceeded in several years under regulation and deregulation as well. In 1985 commuter airlines, the fastest growing segment of the airline industry, experienced the lowest number and rate of accidents in the history of commuter aviation.

TABLE 5-1.—*Airline accidents per 100,000 departures, 1972-85*

(Airlines using large aircraft in revenue operations)

Year	Total	Fatal Accidents
1972.....	0.926	0.141
1973.....	.701	.156
1974.....	.889	.127
1975.....	.616	.043
1976.....	.435	.041
1977.....	.385	.061
1978.....	.399	.100
1979.....	.426	.074
1980.....	.280	0
1981.....	.480	.077
1982.....	.282	.060
1983.....	.457	.079
1984.....	.259	.019
1985.....	.319	.071

Source: National Transportation Safety Board.

The number of trucking accidents, as shown in Table 5-2, generally has increased over the past 8 years with a large increase in 1984. The difficulty for analysis is that reliable data on miles driven are not available, thus making it impossible to calculate reliable accident rates. The pattern of accidents, however, suggests no relationship between the increase in total accidents and deregulation. In 4 of the years for which data are available since deregulation, the total number of accidents was lower than in the pre-deregulation years of 1978 and 1979. Furthermore, the percentage of total accidents ac-

counted for by ICC-authorized carriage has remained close to 79 percent throughout the period. One would expect that if deregulation were causing the increase in accidents, ICC-licensed carriers, a category that has probably increased its market share under deregulation, would show a larger percentage increase in accidents than private carriers. This appears not to be the case.

TABLE 5-2.—*Trucking accidents, 1976-84*
[Number, except as noted]

Year	Total	Type of carrier			Authorized as percent of total
		Mail and other	Private	Authorized ¹	
1976	25,666	109	5,017	20,073	78.2
1977	29,936	44	5,781	23,726	79.3
1978	33,998	53	6,493	26,955	79.3
1979	35,541	59	6,872	28,206	79.4
1980	31,389	41	6,323	24,724	78.8
1981	32,306	35	6,330	25,588	79.2
1982	31,759	104	6,341	24,493	77.1
1983	31,628	147	5,781	24,849	78.6
1984	37,323	225	6,255	29,893	80.1

¹ Carriers authorized by Interstate Commerce Commission.

Source: Department of Transportation, Bureau of Motor Carrier Safety, and Interstate Commerce Commission.

RAILROADS

In the railroad industry, regulation produced price structures largely unrelated to underlying cost and demand conditions. Absent regulation, the market conveys signals as to what rates can be charged on what freight in order to compete with other modes. Furthermore, changing patterns of demand and supply call for adjusting rates. Regulators found the task of efficiently controlling these rates to be impossible. The problems worsened in the 1970s when regulatory lag in adjusting rates during inflation resulted in rates moving up more slowly than the cost of doing business. Because of the varying degree of competition across the different commodities shipped and the changing demand and cost conditions for different types of traffic, adjusting all rates by the same percentage increase was not efficient.

The most dramatic effect of regulation was the bankruptcies of several railroads in the 1970s, including the Penn Central and the Rock Island. In order to improve the performance of the railroads by restoring profitability, Congress granted a greater degree of rate-making freedom to the railroads in the Staggers Rail Act of 1980. The act freed railroads to set rates as long as the rate is less than 180 percent of variable cost as measured by ICC procedures. For rates above this threshold, if the shipper has no competitive alternative, the ICC can review the "reasonableness" of the rate. Deregulation

was a response to a bureaucratic regulatory system that was cumbersome and largely unnecessary because railroads faced competition on much of the freight they shipped.

Overall, the Staggers Act has performed well. While railroads have been able to increase profits, rates have declined modestly in real terms, and productivity has substantially increased. Since passage of the Staggers Act, not a single Class I railroad has gone bankrupt. Moreover, average real freight rates for all commodity groups as measured by the Bureau of Labor Statistics have decreased by 1.6 percent between the third quarter of 1980 and the third quarter of 1985. Even these numbers may overstate rates because they exclude contract rates, which tend to be lower. Productivity as measured by ton-miles per employee hour was up by 44 percent in the first 4 years after passage of the Staggers Act. The ratio of empty car-miles to full car-miles declined from 0.828 in 1980 to 0.756 in 1984, an increase of 10 percent in capacity utilization in the rolling stock. Rate flexibility contributed to these productivity gains. Now a railroad is able to offer a low rate on back-hauls so that rather than shipping empty cars, it can lower rates and capture freight from competing transport modes.

Service quality also has improved as railroads have been able to invest and upgrade the quality of the track and equipment. Route miles over which train speeds were reduced because of the poor quality of the roadbed have gone down from 30,000 miles in 1978 to fewer than 12,000 in 1984. While some of this improvement reflects abandonment of low density track, the improvement is significant.

Railroad Rates for Hauling Coal

Electric utilities and coal companies have asserted that the Staggers Act has allowed railroads to exploit market power in shipping coal. Coal rates, however, as measured by the Bureau of Labor Statistics, have decreased by about 0.7 percent in real terms since passage of the Staggers Act. Many contract rates have also declined. This is not surprising because railroads face competition on much of their coal traffic from other railroads or barges. For plants not yet sited, inter-regional and interrailroad competition can be intense.

One study estimated that 40 percent of coal shipments are captive to a single railroad. Another study, using a different methodology and definition of captive, estimated that 13 percent were captive. Furthermore, even though some shippers may be constrained now, as old contracts expire or as old plants become obsolete, more choices will be available to utilities. Nevertheless, there undoubtedly are circumstances in which individual shippers find themselves with no alternative to a single railroad.

The Congress intended that there be limits on the ability of railroads to raise rates to captive shippers. The ICC has established two criteria to determine whether rates are reasonable. First, the railroad must be "revenue adequate"—total revenue must generate a return equal to the cost of capital. Second, rates cannot exceed "stand-alone cost," that is, the cost a shipper or group of shippers would incur to build and operate the most efficient transport system. This can be a rail or a slurry pipeline system. These limits have theoretical appeal, but their practical implementation presents problems. To determine revenue adequacy, one must not only estimate the cost of capital, but also measure the capital stock. The Railroad Accounting Principles Board, established by the Congress in the Staggers Act, is confronting these issues.

Many shippers acknowledge the theoretical validity but question the practicality of the stand-alone cost concept, which is intended to estimate long-run marginal cost. Shippers argue that it is costly to prepare and present such a case before the ICC. It is also difficult to determine what other freight would be attracted to the hypothetical system. Small shippers, in particular, might find that the costs of litigating are not justified given relatively small coal movements. Experience with the stand-alone cost guideline is as yet too limited to know whether these potential problems will be significant.

FURTHER TRANSPORTATION DEREGULATION

Great progress has been made in deregulating transport industries. In addition to the sectors discussed above, in 1982 intercity buses were substantially deregulated. Yet, there are still other areas where progress can be made. The Administration in 1985 sent to the Congress a bill to remove the last vestiges of regulation, which would free motor carriers from having to secure operating rights from the government or from filing tariffs. Only safety regulation would remain.

More than 1 million tariffs are filed each year. Rate-filing involves staff and expenditures that serve no useful purpose. Paperwork requirements may also serve as a barrier to the entry of small trucking firms. Even now the ICC sometimes turns down a tariff filing. The Administration bill would make it impossible, without new legislation, for a future ICC to interfere with market-determined rates. The Administration proposal also would eliminate any statutory authority for reviewing applications for operating rights. The ICC now approves more than 99 percent of applications. Total deregulation of trucking would prevent a future ICC from reimposing entry restrictions.

Finally, the bill would eliminate the remaining antitrust immunity enjoyed by rate bureaus. While anticompetitive behavior is unlikely in

an industry with such easy entry, removal of antitrust immunity would subject behavior in trucking to the same legal constraints faced by other industries.

An Administration bill deregulating freight forwarders has also been submitted to the Congress. Freight forwarders provide transportation services by consolidating small shipments and arranging with motor carriers for truckload shipping. Entry is easy and competition would be vigorous absent regulation. Rates on domestic water traffic are largely deregulated, and an Administration proposal would remove controls on the remaining water traffic still subject to regulation by the ICC.

To recapitulate, the experience in transportation demonstrates that prices usually decline when government-imposed limitations on competition are removed. It turns out that the market is a much more efficient processor of information than the regulatory system. Deregulation provides a much greater variety of services compared with the uniformity of service under regulation. The various wants of consumers are satisfied better when consumers are free to compare the costs and benefits of various product offerings and firms are free to respond to their demands.

THE EFFECTS OF CONTINUING REGULATION

Sectors of the economy remain where the benefits of market incentives are not being fully exploited. The rest of this chapter examines some areas where increased reliance on market forces would greatly enhance economic performance. It begins with the energy sector, where vestiges of the controls of the past still linger.

THE NATURAL GAS MARKET

Natural gas markets are subject to complex controls producing distortions and inefficiencies that contrast with developments in the oil market since oil price deregulation. It is instructive to review briefly experience in the United States oil market since 1981.

In January 1981, the President accelerated the decontrol process by removing oil price controls 8 months before they had been set to expire. Many observers warned of a rapid increase in prices. Experience has been the opposite. Beginning in 1981 the downward trend in U.S. oil production outside Alaska began to moderate and by 1982 production was increasing. Lower 48 States' production climbed to a level of 7.2 million barrels per day in 1984, a level last reached in 1979.

Under price controls, imports of oil were artificially increased because domestic production was held down and consumer prices were

held below the true cost of imported oil. The price paid for crude oil by all refiners was equal to a weighted average of high-cost imports and low-cost controlled oil. A complicated system of entitlements equalized the average cost of crude among refiners. In effect, price-controlled domestic crude was averaged with imported crude, keeping the cost to consumers below world levels.

With decontrol, imported and domestic oil sold at the same price. Consumers no longer paid an artificially low price. Partly as a result, oil consumption declined by 8 percent, from 17.1 million barrels a day in 1980 to 15.7 million in 1984. The reduction in demand plus increased domestic production led to a fall in net U.S. imports from 6.4 million barrels a day in 1980 to 4.1 million in the first 8 months of 1985, a decrease of 36 percent. These developments, together with growth in production outside of the Organization of Petroleum Exporting Countries (OPEC) helped reduce the market power of OPEC and ultimately led to declines in oil prices.

The experience with oil price controls provides important lessons. Natural gas controls produce effects similar to those that occurred in oil markets. Production and consumption of high-cost gas are artificially encouraged at the expense of production and consumption of low-cost gas. Efforts to shield consumers from higher prices have delayed inevitable adjustment and now may be hurting the very consumers they sought to protect.

Natural Gas Price Controls and Their Effects

The Supreme Court decided in 1954 (*Phillips Petroleum Co. v. Wisconsin*) that the Natural Gas Act of 1938 required the Federal Power Commission (FPC) to set the wellhead price of natural gas sold into interstate markets. Over time, as demand grew and costs increased, price ceilings set by the FPC proved too low to generate sufficient incentives for firms to explore for new reserves. By the late 1960s and early 1970s shortages of gas developed in midwestern and north-eastern markets. After the oil price shock in 1973-74, the situation became worse as gas prices were further out of line with the cost of energy production elsewhere in the economy. Proved reserves of gas declined from 290.7 trillion cubic feet in 1970 to 200.3 trillion cubic feet in 1978.

While gas was becoming scarcer, those who were lucky enough to have contracted for the low-cost controlled gas had little incentive to conserve. As shortages became worse, many States instituted moratoria on new gas hookups and the FPC developed "curtailment" policies to determine who had priority in receiving the limited supplies of gas. Gas that did not cross State lines was not subject to the same controls. In markets such as Texas and Louisiana, gas was bought and sold at higher uncontrolled prices. But gas was available.

The Natural Gas Policy Act of 1978 was an attempt to deal with the shortages in the interstate market. The act extended price controls to the intrastate market. Old gas, gas discovered before 1977, was subject to price ceilings that would escalate with the general rate of price increase in the economy. New gas was subject to higher ceilings and price controls on this new gas were to be eliminated on January 1, 1985. Lastly, gas from deep wells exceeding 15,000 feet was deregulated as of November 1979.

The apparent logic behind this act was that higher prices were needed to encourage exploration and production of new high-cost sources of gas. Supporters apparently felt such incentives were not necessary for more readily available low-cost gas, and that as a matter of equity, those who had discovered gas before 1977 should not benefit at all from decontrol of gas prices.

A pipeline buying both controlled low-price gas and high-price decontrolled gas sells at a single average price to industrial users and to local gas distribution companies. The greater the amount of low-cost gas for which a pipeline had previously contracted, the more it could bid for high-priced gas. The pipeline's customers would see only an average price cushioned by the amount of controlled gas available to the pipeline.

Soon after passage of the act, oil prices rose from \$15 per barrel to more than \$30. In a decontrolled market, this would have led to higher gas prices as consumers shifted from oil to gas. Under the Natural Gas Policy Act, however, controlled prices could not rise and the price distortions became greater. As a consequence, pipelines bid up the price of decontrolled gas because this was the only market where additional supplies could be coaxed through higher prices. In addition, pipelines reacted to the increased energy prices and fears of shortages in 1979 and 1980 by signing long-term contracts for large quantities of this high-cost gas. Because price controls were binding on new gas, pipelines were forced to compete for the available controlled gas on other contract terms. Pipelines promised to pay for a certain amount of gas whether they took it or not. A study by the Department of Energy details how "take" percentages went from about 60 percent on older contracts into the 80 to 85 percent range on newer contracts. By stemming price competition, regulation channeled buyer competition into other forms just as airline price-fixing by the CAB had caused producers to compete by offering more frequent flights.

Gas consumers paid an average price made up of all the different supplies to the pipeline. This average price was below the actual cost of incremental supplies, so consumers continued to consume too

much high-cost gas. The effect was similar to what averaging oil prices did to oil imports during the period of oil price controls.

The other side of the regulatory coin was the inefficient incentives provided for producers. Price controls substantially reduced the incentive to invest in and maintain the production of old gas. The flawed logic of the 1978 act was that, because producers had been willing to find and produce the old gas at past prices that were much lower, they did not need higher prices for this gas. This overlooked the possibility that producers could have stemmed the natural decline of old gas fields by investing to maintain or even to increase production from old gas reservoirs.

From Shortage to Surplus: The 1980s

Due to these rigidities, the system was ill-equipped to deal with energy markets of the 1980s. Declining oil prices starting in 1981 meant that oil in some uses became less expensive than the gas available from many pipelines. Refiner sales prices for No. 2 fuel oil, a substitute for natural gas in many uses, declined from \$1.02 per gallon in March 1981, to \$0.76 per gallon in March 1985. Those energy consumers who were able to switch back to oil, lowering the demand for gas. The recession of 1981-82 augmented this effect. Gas deliveries for many pipelines declined. Between 1981 and 1983, total sales declined by 14 percent, although deliveries rose slightly in the following year. In a free market, this lower demand then would have been translated into lower prices, but in fact, gas prices to pipelines continued to rise through 1983. Prices paid by residential consumers rose through 1984 and data for 1985 indicate that, through September, residential gas prices continued to rise. Prices to industrial users and electric utilities began to decline only in 1984.

These consumer price increases are in part attributable to the decline in throughput that resulted in higher transportation and distribution charges. Under regulation, pipelines are entitled to recover their cost plus a "just and reasonable" rate of return. As throughput declines, the fixed capital charges are spread over a smaller volume of gas, raising the average transport cost. The charge by major pipelines, as measured by the difference between wellhead price and the price paid in sales for resale, increased by 31 percent between 1980 and 1983 before declining by 8 percent in 1984, for a net increase of 21 percent. The margin charged by distribution companies increased by 84 percent between 1980 and 1984. Another factor contributing to the rising prices was the high level of take-or-pays on newer, relatively high-priced gas. As demand slackened, because a pipeline had to pay for the higher cost gas whether it took that gas or not, cut-backs came disproportionately from the older lower cost gas with

lower take-or-pay levels. This, too, raised the average cost of gas in spite of a declining demand and declining spot price.

With the approval of the Federal Energy Regulatory Commission (FERC), pipelines began to offer special marketing programs to their most price-sensitive customers. To gain incremental volume, producers were willing to take a price lower than the current contract prices being paid by the pipeline. Pipelines increased their throughput, lowered average transportation costs, and gained incremental sales credited against their take liability in the take-or-pay contracts.

Special marketing programs were challenged and were found in 1985 by the U.S. Court of Appeals for the D.C. Circuit to be price discrimination contrary to the Natural Gas Act of 1938. A few months after this ruling, FERC promulgated new rules requiring pipelines offering transportation service to any customer to offer the same service to all. In return for this nondiscriminatory pricing, FERC would grant to the pipeline simplified and accelerated certification for any pipeline services. Pipeline response to these regulations has, so far, been less than enthusiastic. Pipelines fear that if all customers can avail themselves of lower cost gas at the wellhead, the pipelines will be unable to sell the gas that they are committed to take on long-term, high-price contracts. Furthermore, the FERC ruling would allow local distribution companies to reduce their contract commitments. As a result, many pipelines are refusing to offer nondiscriminatory transportation services to all consumers.

FERC is considering another regulatory change that would segregate gas sales into two blocks—old gas and all other. Customers would receive a fixed allocation of old gas at the old gas price. The rest would be sold at the average price of new gas supplies. Because the old gas allocation is fixed, the price of incremental consumption would be the higher new gas price. Consumers therefore would base their consumption decisions on a price much closer to market price.

Such a mechanism, by removing the cushioning effect of old gas on average prices, eliminates the bias toward consumption of high-cost gas. Not surprisingly, many gas producers and pipelines with long-term purchase agreements for high-cost gas oppose block-billing. Others correctly point out that block-billing simply transfers the old gas cushion to pipelines' customers—the local distribution companies. State public utility commissions can continue to allow the local distribution companies to average price, blunting the benefits of more efficient pricing by the pipelines. Furthermore, old gas prices still would be controlled and no gains would be obtained from inducing more efficient producer behavior. FERC's proposals, at best, are very partial measures aimed at correcting the distortions in consumer incentives, but with very uncertain prospects for success.

The Administration Deregulation Initiative

In January 1985 new gas prices were decontrolled under the 1978 act. Rather than rising as had been predicted, new gas prices declined from an average of \$3.78 per million cubic feet in January to \$3.58 in August. In view of this experience, the Administration has decided again to seek complete deregulation of natural gas prices. Only deregulation provides the proper incentives to both consumers and producers. In one attempt to improve natural gas markets, the Department of Energy suggested in recent filings that FERC, using current authority, end the vintaging of gas prices, that is, allowing different prices for gas depending upon when the gas was found. The Department also argues that FERC then can set all prices closer to market-clearing levels.

Recently, the Administration decided to propose legislation that would completely remove all remaining controls on natural gas prices. The Department of Energy estimates that the present value of benefits to the economy are in the neighborhood of \$15 billion to \$27 billion (1982 constant dollars). These benefits come from the increased supply of relatively low-cost gas and the decrease in the use of high-cost gas. In addition, the Department of Energy estimates that the marginal wellhead price of gas will decline by 2 to 15 percent in the 1985-95 period under deregulation. It calculates that additional supplies of old gas from currently shut-in wells, infill drilling, production enhancement, and delayed abandonment would be enough to lower not only the average but also the marginal price. The Administration approach couples deregulation of wellhead price with mandatory contract carriage. The latter feature means that consumers will have the choice of buying transportation services when pipeline capacity permits or buying gas directly from the pipeline, allowing the market to choose who will bear the risks of demand fluctuations.

Lessons of Natural Gas Regulation

Natural gas regulation demonstrates the difficulties with price controls. Gas competes with oil and oil prices are not controlled. As prices of oil change, so does the demand for gas. What might have been a rational price for gas at oil prices of \$15 per barrel was no longer meaningful at oil prices of \$30 per barrel and higher. When oil prices declined, the excess supply of gas should have diminished as lower gas prices induced greater consumption.

To be sure, even in an uncontrolled market, the volatility of the energy market would have led to adjustment difficulties. Pipelines that had signed long-term contracts still would have been saddled with these high-priced commitments when prices began to fall. Regu-

lation, however, exacerbated the difficulties. Price controls meant that firms agreed to higher take-or-pay commitments than they would have, had prices been free to adjust. Also, price controls on old gas limited the availability of this gas and caused greater reliance on high-cost substitutes and oil imports. Partial deregulation created problems not anticipated at the time of passage of the Natural Gas Policy Act, problems that FERC has been trying to solve with yet a new set of regulations. In turn, FERC's proposals will transfer these problems to the next level of regulation—the local public utility commissions. Deregulating all natural gas prices, as the Administration has proposed, will avoid these difficulties.

END-USE STANDARDS: A VESTIGE OF OIL PRICE CONTROLS

In 1975 the Congress was concerned that incentives for energy conservation were inadequate. It enacted several laws that dealt with the energy efficiency of major consumer durables. The major legislative effort was the Energy Policy and Conservation Act (EPCA). EPCA established procedures for setting energy efficiency standards on consumer appliances and established corporate average fuel economy (CAFE) standards for new automobiles. These standards required that the sales-weighted average fuel efficiency of the passenger car fleet of each automobile manufacturer reach 18 miles per gallon by 1978 and increase each year until 1985, when the standard was to be 27.5 miles per gallon from then on. The Congress was aware of the great uncertainty surrounding the future energy situation and technological feasibility of the standards. Consequently, the Congress authorized the Secretary of Transportation to amend the standards to the “maximum feasible” level.

At the time of passage of this act, the United States controlled oil and gas prices. Gasoline and other energy prices were artificially low. These low prices affected consumer decisions for a host of consumer durables. A consumer buying a refrigerator, for example, has the choice of paying more for a unit that, due to greater insulation, will use less electricity. The value of lower energy costs over time trades off against the higher initial price and convenience of other energy-using features. Similarly, an auto purchaser is faced with numerous options in performance, size, and gasoline consumption. If energy prices are held below their true cost, consumers will choose larger cars and less efficient refrigerators than they would if faced with the true higher prices.

Because the Congress was unwilling to allow U.S. prices to rise to world market levels, and was also unwilling to accept the consumption and production decisions that resulted from regulated prices, it passed laws that regulated end-use consumption. The practical prob-

lems with this approach are many. First, the Congress only selected specific end uses as the objects of controls. Letting prices find their market-clearing level would have induced the proper amount of conservation across all types of energy consumption. Second, the Congress could only guess at the cost-effective level of conservation. Finally, the conservation levels set in 1975 have little relevance in a world that has changed in ways unforeseen 10 years ago. The flexibility of a market cannot be duplicated by rigid legislatively mandated end-use standards.

While one might have argued in 1975 that end-use regulation, clumsy as it is, was necessary, the situation today is dramatically different. Oil prices have been decontrolled. Consumers can make their own tradeoff between gasoline consumption and automobile performance or between low-efficiency and high-efficiency appliances. The United States is also less vulnerable to potential disruptions in the oil market with an oil stockpile equal to more than 100 days of imports. End-use standards are a costly and unnecessary way to provide protection against oil supply disruptions.

CAFE STANDARDS

The most visible remaining end-use standards are the CAFE requirements. CAFE averages for each manufacturer are calculated separately for automobiles produced in the United States and Canada and for automobiles that the manufacturer imports. If the average level of fuel economy realized by a manufacturer falls below the standard, the manufacturer is subject to a fine of \$5 per vehicle sold per one-tenth of a mile per gallon of difference between the standard and the actually realized level of gasoline efficiency. For a firm producing several million automobiles per year, the fine for noncompliance could be in the hundreds of millions of dollars. A firm can use accumulated credits earned from exceeding the standards in the previous 3 years to offset fines in a given year. Furthermore, if the firm can demonstrate that it will exceed standards in the next 3 years, it can borrow against those future credits to offset fines.

Table 5-3 presents the passenger car standards and the levels achieved by the big three automobile manufacturers in the United States. Chrysler met or exceeded the standards in all years. General Motors and Ford met the standards in each year until 1983. Ford avoided fines in 1983 and 1984 by using previously accumulated credits. General Motors used previously earned credits in 1983 and in 1984 used previously earned credits and borrowed expected future credits to avoid fines. For 1985 both firms are expected to propose borrowing against future credits.

TABLE 5-3.—*Mileage per gallon for domestic cars, 1978-85*

Year	CAFE standard	Chrysler	Ford	General Motors
1978	18.0	18.4	18.4	19.0
1979	19.0	20.5	19.2	19.1
1980	20.0	22.3	22.9	22.6
1981	22.0	26.8	24.1	23.8
1982	24.0	27.6	25.0	24.6
1983	26.0	26.9	24.3	24.0
1984	27.0	27.8	25.8	24.9
1985	27.5	¹ 27.9	¹ 26.3	¹ 25.5

¹ Projections.

Note.—The 1986 corporate average fuel economy (CAFE) standard is 26 miles per gallon.

Source: Department of Transportation.

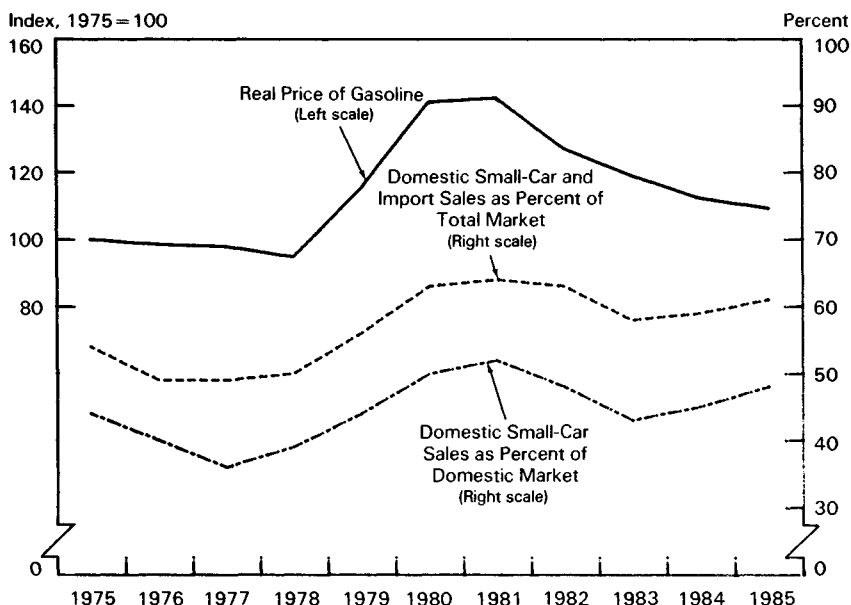
An automobile manufacturer can take several actions to meet the CAFE standards. It can use lighter materials and design more efficient engines. It can lower the weight and size of its cars to increase fuel efficiency. By changing relative prices on its small and large cars, it can affect the mix of cars purchased by consumers. A substantial part of the realized average level of fuel efficiency, however, is beyond the control of the firm. One of the most important of these factors is the price of gasoline. When gasoline prices rise and are expected to stay high, more consumers turn to fuel-efficient cars. Conversely, when gasoline prices fall and are expected to stay down, consumers return to less fuel-efficient cars because the operating cost associated with their greater comfort and other amenities declines.

While many factors affect car purchase decisions, the general correlation between gasoline prices and small-car sales is shown in Chart 5-1. As the real price of gasoline fell between 1975 and 1978, small car (compact, subcompact, and imports) sales, as a percentage of the market, fell from 54 to 49 percent in 1977 and to 50 percent in 1978. The oil price increases in 1979 and 1980 raised this to 65 percent by 1981. As oil prices began to fall in 1982, smaller car sales fell again, reaching 58 percent in 1984. The data on imports include a relatively small amount of larger cars, yet the response in the domestic market alone shows a similar pattern. Between 1981 and 1984 sales of smaller cars, as a percentage of the domestic market, decreased from 50 to 46 percent.

When the standards call for greater fuel economy than would obtain in an unregulated market, their effect is to further encourage the production of smaller, more energy-efficient cars at the expense of larger cars by changing the relative profitability of each type of car. One estimate of the impacts of CAFE standards on large and small cars is presented in Table 5-4. The table indicates the effects of CAFE on the profitability of large and small cars based on a calcu-

Chart 5-1

Real Price of Gasoline and Small-Car Sales



Note.—Real price of gasoline is consumer price index for gasoline deflated by consumer price index for all items.

Car sales are measured in units.

Sources: Department of Labor and Board of Governors of the Federal Reserve System.

lation of the increase or decrease in fines a firm would have to pay if it sold an additional car with the fuel-efficiency level shown, assuming the CAFE standard to be 27.5 miles per gallon and the average efficiency of the firm's fleet to be 25.5 miles per gallon. These changes in profitability are passed on by automobile companies, much as a per car tax or subsidy would be, raising the price of less fuel-efficient cars and lowering the price of more fuel-efficient ones. The major automobile firms have stated that they will not engage in "unlawful conduct," which is the statutory concept of failing to meet the standards after offsetting credits. These firms said, in effect, that in order not to pay fines they are willing to take drastic actions and make large expenditures to reduce the average gasoline consumption of their fleet. For them the net incentives and disincentives are larger than shown in Table 5-4. Given the large declines in oil prices in early 1986, one can expect large-car purchases as a percentage of the total market to increase. This too, will exacerbate the difficulty in

meeting the standard and increases the relative disincentive effect on larger cars.

TABLE 5-4.—*Effects of corporate average fuel economy (CAFE) standards on incremental profitability of automobiles of different fuel economy levels*

Miles per gallon	Increase or decrease (–) in profitability per automobile
15.....	–\$980
20.....	–449
25.....	–125
30.....	92
35.....	248
40.....	366

Note.—Assumes that a firm currently realizes 25.5 miles per gallon, on average, on its fleet and that the standard is set at 27.5 miles per gallon, and it produces 4.7 million cars per year, and has no offsetting credits.

Source: Council of Economic Advisers.

Costs to Consumers

While there is some question whether CAFE standards had any independent effect when consumers were responding to rising gasoline prices, they now constrain the behavior of the two largest U.S. automobile companies. In filings with the National Highway Traffic Safety Administration (NHTSA) both General Motors and Ford described the difficulties they would have had in meeting the 27.5 miles per gallon standard for the 1986 model year. As a consequence of the economic dislocation a 27.5 miles per gallon standard would have caused and because the Administrator of NHTSA found that the companies made reasonable efforts to meet the standards, the standards for model year 1986 were lowered to 26 miles per gallon. Both Ford and General Motors argue that similar relief is necessary for 1987 and beyond.

As discussed above, the CAFE regulations can affect the price of large and small cars in amounts reaching hundreds of dollars per car. The result is distortions in producer and consumer behavior. A consumer chooses a car such that the sacrifice made in comfort and performance by buying a smaller car is equal, at the margin, to the value of the fuel saved. CAFE standards artificially raise the cost of comfort and performance. Because the true cost of larger cars is less than implied by CAFE standards, consumers are induced to accept less of the attributes they value than is justified by the true cost of production. Similarly, CAFE standards induce automobile manufacturers to excessive expenditures on fuel efficiency that are a net loss to the entire economy.

Fuel Savings

The purpose of CAFE was to save gasoline. Has it done so? As Table 5-3 shows, the energy efficiency of the U.S. automobile stock

has increased substantially. Yet factors other than CAFE have contributed to this development. The response of consumers to the dramatic increases in the 1970s in oil prices gave a powerful signal to the manufacturers that the market demanded small cars. Absent CAFE, U.S. automobile firms would have taken many of the actions they did take to increase fuel efficiency.

Given the lag, at least 4 years, in design and introduction of new models, major improvement in fuel efficiency before 1979 probably should not be attributed to CAFE. Yet, between 1973 and 1979 average fuel economy in the U.S. market increased by 43 percent, from 14.2 to 20.3 miles per gallon. Between 1973 and 1975, the year the Energy Policy and Conservation Act was passed, average fuel efficiency of the fleet improved 12 percent. The market response to higher gasoline prices contributed to significant increases in fuel economy. One recent study suggests that, given actual gasoline price increases, the automobile firms responded precisely as they would have without CAFE.

Other considerations make it difficult to estimate CAFE's effect on fuel consumption. The law establishes average standards, yet the concern of the Congress was total gasoline consumption. One effect of CAFE is to raise the cost of larger, less fuel-efficient automobiles. This means that people who want to drive large cars are more likely to hold on longer to their older, less fuel-efficient large automobiles. In addition, because the price of smaller cars declines due to the implicit subsidy, more small cars are sold. If total automobile ownership increases, fuel consumption also may increase despite greater average efficiency of the automobile fleet. In addition, a more efficient fleet will probably be driven more, tending to increase total gasoline consumption.

CAFE Effects on Imports

Fleet averages are calculated separately for a manufacturer's imports and for cars it manufactures in the United States and Canada. Because the bulk of North American small-car production takes place in the United States, the effect of separate calculations is to encourage domestic automobile companies to manufacture small cars in the United States rather than import them. To sell a large car manufactured here, some small-car production must take place in the United States. The tighter the CAFE standard, the more small cars will be produced domestically. Some see this as a way to protect domestic car production and employment.

However, while domestic small-car production is increased by CAFE, domestic large-car production is disadvantaged by these efficiency standards. The limitations CAFE places on large cars are much more restricting on domestic manufacturers than on Japanese

producers. The latter have concentrated on small-car production and have built up tremendous CAFE credits. Japanese producers can now enter the large-car or high-performance market without having to worry about CAFE standards, as do Ford and General Motors. Because these firms need not pay fines if they increase large-car or high-performance car sales, foreign manufacturers gain an incremental cost advantage amounting to hundreds of dollars per car from CAFE in this end of the market. If gasoline prices fall even further, and CAFE compliance becomes more difficult for U.S. manufacturers, this advantage for Japanese producers will increase further. In the long run, CAFE will induce greater penetration of imports in the larger size and high-performance end of the market.

Recent developments suggest that automobile companies may have already responded to this incentive. Honda announced in October 1985 that it would be exporting a luxury sedan to this country to compete in the higher priced market. Ford has threatened that CAFE standards will cause it to take some large-car production abroad. The statute defines a car as "nondomestic" if more than 25 percent of its value was manufactured outside of the United States or Canada. Ford claims it will import more than 25 percent of the value for some of its larger models. This action would allow it to average some large-car production with small-car imports and thereby satisfy CAFE. This possibility suggests that any cost advantage of the United States over foreign production of large cars is, in fact, diminished by CAFE. In the long run, this could counter any job gains in the United States that may come from the implicit subsidy of small-car production.

REGULATORY USE OF MARKET INCENTIVES

The Federal Government controls access to many resources such as mineral lands and offshore oil resources. The government must determine who gets the right to use these resources. Offshore oil resources and some mineral lands have long been allocated to the highest bidder. The government accepts a market allocation. Normally this leads to an efficient allocation of the resources. Firms that value the resource most highly and can use it at lowest cost will bid the highest price.

AIRPORT SLOTS

Recently the Administration decided to apply this concept to the allocation of airport landing and takeoff slots at the four capacity-constrained airports—Washington's National, New York's LaGuardia and Kennedy, and Chicago's O'Hare. These airports cannot accommodate additional flights during peak periods. Until now the avail-

able slots were allocated by unanimous agreement of scheduling committees made up of airlines either serving or desiring to serve an airport. These committees often could not agree on allocations, though the Federal Aviation Administration (FAA) could try to cajole agreement. When agreements were reached, they represented compromises and not the most efficient allocation of slots.

The new rules create a market in takeoff and landing slots. Subject to limitations that ensure usage and service to small communities, firms holding slots will be able to sell or lease slots to any airline. Those airlines valuing additional slots the most will pay the highest price. An airline that wants a slot to rationalize its route structure and lower its costs, or an airline that wants to provide service to a market where demand for the service is great, can bid a high price and acquire a slot. An allocation of slots will result that accommodates new entrants and is more efficient than an administratively determined allocation.

ENVIRONMENTAL REGULATION

Trading as a method of efficient allocation has also been applied in pollution control. Under certain circumstances, firms can trade credit for surplus emission reductions among themselves. One firm reduces its emissions not only to meet its own requirements, but also to meet requirements of other firms facing higher costs. The firm that generates surplus emissions reduction credits can sell the credits to others. Firms can also trade reductions at one emission source in a plant for increases at another location within the same plant or at other nearby plants owned by the same firm. The Environmental Protection Agency (EPA) has approved arrangements of this type, and more trading offers a way of substantially improving the efficiency of pollution regulations. The following sections describe the significant benefits and potential problems that come from these emissions trading approaches.

Overview of Air Pollution Laws

The Clean Air Act established National Ambient Air Quality Standards that must be met by each air quality control region. To meet these standards, States must put into place State implementation plans that describe steps that will be taken to attain the ambient standards. In addition, the act and its amendments establish requirements for emissions from all major new plants or significant modifications of existing plants.

The traditional approach to pollution regulation, often called command and control, specifies uniform standards that apply to all plants of a particular category. Thus, for example, all new coal burning electric plants commencing operation after 1972 were required to

emit no more than 1.2 pounds of sulfur dioxide per million Btu. Coal-fired powerplants commencing operation after 1979 must meet a tighter "percent reduction" standard that effectively mandates stack-gas scrubbing devices regardless of the sulfur content of the coal. Existing sources must also use specific technology in many cases. Such uniformity of requirements minimizes the discretion firms have in meeting the overall goal of emissions reduction.

The Concept of Emissions Trading

Emissions trading is a market-based method of pollution control. The costs of reducing pollution vary substantially among plants and even within plants. At some plants or individual stacks, it is relatively inexpensive to meet a given emission standard. At others, because of the particular production process or because of the age of the plant, it is much more expensive. The traditional approach has been to require both to meet the same standard. A more efficient method is to ask plants where pollution reduction can be accomplished at low cost to reduce emissions to a greater extent than where pollution reduction is more expensive. In this way, total emissions can be the same as under uniform standards, but the cost is lower.

The difficulty with different standards for different plants or stacks is that regulators do not know which firms fall into which cost category. There are huge numbers of plants in an area, each with a different technology and different cost structure. This information problem usually causes regulators to choose uniform standards. However, an emissions trading approach uses a market to ferret out this information. The total areawide allowable emissions are fixed by regulators. Then trading takes place among firms. A firm with high costs of pollution reduction, instead of actually lowering emissions, pays for emissions reduction credits that it uses to satisfy regulations. The low-cost firms sell the surplus credits they have earned by lowering their own emissions below the level required under the uniform standards, the so-called "baseline."

With trading, regulators need not determine the least-cost level of pollution from each plant. Consequently, they do not need the detailed cost information required for an efficient command and control system. Each firm knows better than regulators how to reduce pollution, whether by new capital equipment, enhanced use of existing equipment, varying production processes, or purchase of an emissions reduction credit. Using market incentives minimizes the costs of meeting any overall target of pollution reduction, whereas a uniform standard would not take advantage of some firms' lower cost of pollution reduction, nor provide incentives for that firm to use its own expertise to improve pollution control.

Use and Assessment of Emissions Trading

Approved emissions trading has actually been conducted in several ways. The specific mechanism depends on whether trading takes place in attainment areas, that is, areas in compliance with the ambient air standards, in nonattainment areas that have EPA-approved plans for attaining the standards, or in nonattainment areas lacking such plans. Furthermore, the allowable mechanism depends upon whether the plant represents a new source of pollution. In all trading situations, however, the basic idea is the same. Several sources of pollution are combined for the purposes of establishing acceptable total aggregate emissions as if a bubble enclosed the various smokestacks or emission sources.

Regardless of the ambient air quality status of an area, emissions reduction trading offers a way to reduce substantially the costs of meeting emissions requirements. One study of the costs of reducing emissions of volatile organic compounds found that costs per ton of emission reduction varied from \$60 to \$12,000, depending on the emission source. The wide variance in these costs indicates the kinds of savings that can result. By reducing emissions where reduction costs are \$60 per ton, for the same total cost, more than two hundred times as much reduction can be obtained than at the source with incremental reduction costs of \$12,000 per ton. These potential cost savings as well as potential additional reductions in emissions are an important justification for emissions trading.

Specific examples demonstrate the type of savings achievable with emissions trading. In one recent application, EPA proposed to approve an electric utility plan that would allow the firm to treat two units at a plant site as a bubble. Normally each unit must meet the new source performance standard for sulfur dioxide of 1.2 pounds emitted per million Btu. In the bubble treatment, the two sources together must average no more than the 1.2 pounds standard. Under this bubble the first unit will reduce emissions to approximately 0.6 pounds, the second unit will be controlled so that the average for both sources will be 1.1 pounds, below what would have been achieved had each individual source met the new source performance standards. EPA estimates that emissions will be 3,000 tons less per year than with the traditional approach. The firm estimates that it will save \$20 million per year and \$500 million over the plant's life. In another example, a manufacturing firm leased several hundred tons of emissions reduction from a firm that had "deposited" these credits in an "emissions bank." In this manner, the firm renting these credits did not have to choose between expensive new capital equipment for an aging production facility or the premature shutdown of the plant.

Some critics of trading reject the notion of surplus emissions no matter where trading takes place. They are reluctant to give up the perceived opportunity to force greater reductions, even in areas that have attained the ambient air quality standards regardless of the cost savings that can be generated. However, the use of bubbles in nonattainment areas that lack approved attainment plans receives the most criticism. It is argued that in those areas the cost savings of trading are irrelevant. Emission reductions are required by law. If an area has not reached or determined the level of reductions required for attainment, then allowing one emitter to sell a so-called surplus simply will reduce pressure on someone else to make needed reductions.

In many cases, it is argued, the so-called surplus results from actions that would have taken place without the added incentives of emissions trading. For example, a firm closes a unit or changes the manufacturing process and thereby gains an emissions reduction surplus that it may sell. It might have closed the plant or changed the technology even if it were not able to sell the emissions reduction. Or the surplus might result from an emission reduction technology exceeding original performance expectations. Granting emissions credits for these reductions, it is argued, means giving up a chance to reduce emissions in the nonattainment area.

In nonattainment areas, the debate is actually about how trading affects the ability to improve air quality. In order to assess these arguments, one must ask whether emissions trading in fact does make attainment more or less difficult. The answer depends on what would occur without the trades. Is compliance less likely if trading is made more difficult? Behind the opposing views on emissions trading lie two different views of the regulatory process.

The argument that there is no surplus is really an argument that through traditional command and control methods regulators will achieve reductions at each emissions source that surpass the reductions achievable with trades. It assumes that regulators, at a reasonable cost, will achieve these surplus reductions anyway and will gain additional reductions from other sources. But this is a highly idealized view of environmental regulation.

In fact, noncompliance is common. Regulators typically lack information about emissions from specific sources. Firms have incentives not to report the amount of reduction that is feasible because they fear, with good reason, that the information will stimulate even more stringent regulatory standards. Regulators must frequently negotiate reductions with firms and often settle for less than the maximum amount implicit in the arguments of critics of emissions trading. The less cost-effective the regulations, the greater the firm's resistance to reductions and the more negotiation and delay in achieving reduc-

tions. In essence, the opportunity forgone is not the low level of emissions envisioned in the critique of trades, but something often far short of that.

Market incentives can improve this imperfect system by encouraging compliance and hastening attainment of ambient air standards. Firms that know they can do better than the standards require will find it in their interest to come forward voluntarily because the surplus reduction now has value. It is in their interest to do better and to demonstrate the feasibility of greater reductions if they can sell these credits immediately or bank them for future sale. Lowering the costs of emissions reductions can also make firms less resistant to taking the necessary actions to lower emissions further.

Firms increasingly will regard pollution reduction as an element in the production process. A firm that can realize a monetary reward from efficient emissions reduction will choose technology that takes this into account. Rather than having regulators choose technology, as is often done now under command and control regulation, trading schemes encourage firms to choose technology to surpass minimum requirements or to select production processes that are less polluting and that cannot be mandated.

As a practical matter, it is difficult to second guess firms' actions. If the regulators could determine what the firm would have done, they probably could have required efficient action in the first place. In fact, the information problems that plague command and control systems make a policy of ex post analysis difficult.

Inevitably some firms will benefit under a trading policy from doing what they would have done anyway. In these cases, opportunities for additional emissions reductions will be lost. This is only a problem in nonattainment areas without approved plans, where there is still a requirement to reduce emissions further but no plan on how to do so. But, the obvious cases can be readily dealt with. EPA, for example, could decide not to grant credits for actions taken before application for a bubble. Safety margins could also be built into a bubble by requiring a bubble to lower emissions below current required levels in nonattainment areas. Of course, constraining bubbles too much will prevent the cost and emission reduction benefits from being widely realized.

In summary, as in all economic policy decisions, the question comes down to one of the appropriate opportunity cost. Emissions trading makes sense if the alternative is a highly imperfect and costly command and control regime. If, on the other hand, regulators can set standards and mandate technology that, at relatively low cost, will reduce emissions and achieve ambient standards, a trading mechanism is not necessary. However, major emission reduction cost differ-

ences, and the fact that many air quality control regions still have not attained the ambient air quality standards, suggest that command and control regulation is not efficient.

Experience with other regulatory solutions also suggests that market incentives are likely to be considerably more efficient. Benefits similar to those realized in other sectors can be obtained by employing market incentives more in environmental regulation. Many issues are the same. Plant managers who know the costs of production and of emission reduction are given an incentive to act upon that information. The alternative is to have regulators determine, from a much more limited information base, how firms should act. Just as the CAB could not determine what service configuration satisfied consumers at lowest cost, regulators are unable to determine how to produce emissions reductions most efficiently. Realizing this fact, it is the policy of this Administration to encourage the use of market-based incentives.

EXTENDING MARKET INCENTIVES

Another area where market incentives can improve economic efficiency is in the provision of goods and services by the government itself. The major ways to infuse market-based incentives in these activities are contracting out to the private sector through competitive bidding and the outright sale of government assets.

There are three primary sources of efficiency gains. First, managers not responsible to shareholders have greater latitude to pursue managerial objectives other than value maximization. Consequently, government-owned firms might be expected to operate less efficiently than privately owned businesses. Second, the monopoly constraints that often accompany government production are reduced. Third, the price of products produced by the government often reflects hidden subsidies that distort market outcomes.

The range of government-provided services and products is wide and offers many opportunities for what has come to be called privatization. The Federal Government provides many products and services similar to products and services provided in the private sector. A partial list includes mail delivery, electricity generation, land management, and the financing and management of housing developments.

Currently, there is great interest in privatization as a way to reduce government deficits. Indeed, the Administration in its budget for fiscal 1987, has proposed several privatization initiatives. While privatization can be a strategy of budget reduction, the long-run gains of privatization to the economy are increases in economic efficiency.

Over the past few years Great Britain has sold a large number of government-owned corporations. Other countries, including Brazil, Japan, and India, are also divesting themselves of government assets and returning them to the private sector. In the United States there have been several efforts aimed at contracting with private firms to do what have traditionally been governmental functions. The Government Printing Office, for example, contracts out for \$548 million of printing services. The Office of Management and Budget (OMB) estimates that \$6.0 billion of government-provided services such as data processing, accounts management, and facilities maintenance should be considered as candidates for contracting out to private firms. OMB estimates that more than \$1 billion could be saved annually from contracting out these services.

Substantial empirical evidence suggests that private firms are more efficient than government suppliers of similar products or services. A recent study compared the costs of municipal services such as laying asphalt, tree maintenance, and refuse collection in cities contracting out for service with costs in cities performing the functions themselves. The municipalities were all in the same geographical area. After controlling for scale of operation and quality of service, contracting out lowered costs for most services by amounts ranging from 37 to 95 percent. Only payroll preparation showed no significant cost savings through contracting out to private firms. While it is difficult to control for all possible differences in quality of services and to measure costs precisely, these large percentage differences suggest that contracting out has been an important cost-saving measure. Additional evidence comes from a study of water utilities. After controlling for scale and adjusting for differences in input prices, the study found that average production costs were lower for privately owned than for publicly owned firms.

A study of Australia's two interstate airlines, one government-owned and the other private but heavily regulated, found that the private airline was more efficient as measured by tons of freight and mail carried per employee. A study of mutual savings banks in the United States also points to the importance of shareholder control. Depositors technically own mutual banks but in practice they exercise no control over management. Furthermore, regulation limits the ability of management to capture profits in higher salaries. The result: Mutuals appear to be less efficient, incurring larger expenses than for similar operations in stockholder controlled firms.

At the Federal level, cost savings can be realized by transferring production of goods and services to the private sector. The General Accounting Office found that in hydroelectric power generation, after

adjusting for scale and degree of automation, government operating costs were 20 percent higher than those for private firms. In addition, public hydroelectric plants were slower to innovate. Similar findings by the President's Private Sector Survey on Cost Control point to other potential reductions in cost where private firms replace government production.

STEPS FOR FURTHER PRIVATIZATION

The United States has begun to take steps to sell assets that would be managed more efficiently in the private sector. This Administration has proposed selling Conrail, the federally owned freight railroad. It also has suggested ending subsidies to Amtrak, leaving it to the private sector to determine whether and to what extent rail passenger service was worth maintaining. Recently, a proposal to sell the power marketing authorities has been put forward.

The power marketing authorities are government agencies that sell the power produced by government-owned hydroelectric dams. Sales of these authorities, such as Bonneville Power, to the private sector would increase efficiency in several ways other than improving managerial incentives. The Federal Government currently subsidizes borrowing rates through the Federal Financing Bank. This subsidization misinforms management about the true cost of maintaining or expanding the system. Also, the President's Private Sector Survey on Cost Control calculated that power marketing authorities' subsidized borrowing rates and current pricing methods significantly underprice the cost of electricity that they sell. If regulations allow, a transfer of the assets to the private sector at prices that reflect the true value of the assets would lead to more efficient pricing.

An additional opportunity is the introduction of more market-based incentives in the U.S. Postal System (USPS). The USPS is, in effect, a transport monopoly maintained by law. The private express statutes reserve "letters" for the USPS. A letter, for the purposes of the private express statutes, is defined by USPS itself. The effects of this monopoly are similar to the effects of other transport regulation: Average rates are higher than they need be and service is poorer.

The costs of the USPS are elevated, much as the costs of trucking were elevated under regulation. Wages of postal workers are higher than wages of comparable employees in the private sector. A recent study found that after adjusting for education and skill level, a postal worker earned in excess of 20 percent more than comparable private sector workers. Lacking competition, these higher wages lead to higher rates as the costs are passed on to consumers. Rates are distorted in another way. Although costs vary with distance and destination, all first-class mail is priced at the same rate based on average

cost. This is, in effect, a subsidy for rural and long-distance delivery that is paid for largely by shippers of first-class mail within urban areas.

There have been different proposals for bringing market incentives into the USPS. One is the greater use of private contractors. At present, many private firms pre-sort bulk mailings in order to realize the pre-sort discount offered by the USPS. Operations such as inter-city transport of mail are contracted out to private firms. Extending contracting to rural delivery routes as they become vacant and contracting out the sorting of letter mail through competitive bidding have been suggested as ways to bring some of the benefits of competition to the system. Other proposals would chip away at the USPS monopoly by allowing private firms to deliver some selected types of letters.

The most direct approach would simply eliminate the private express statutes. Without a government monopoly, private firms would be free to enter and compete for business. Proponents of this approach point out that there is no convincing evidence of economies of scale in the Postal System that justify a monopoly and, even if there were, competition would ensure that the most efficient firm would survive. Furthermore, the incentives of profit-oriented firms would lead to costs lower than those of the USPS.

A concern with a purely private system is that while prices for most consumers would decline, prices to rural areas would increase or service would be poorer. Similar arguments were made in the debate about airline and trucking deregulation. Undoubtedly, under deregulation the cost of mailing will depend on the cost of providing the service and it will probably cost more to mail a letter a longer distance or to a remote location. However, because postal system costs will tend to go down, it is not clear, on balance, whether rural rates will increase.

In sum, privatization should be seen as a method to improve economic performance in many areas of the economy. The evidence suggests that in many cases private firms can provide services more efficiently than can government enterprises. Contracting out or selling assets to private firms are two methods to carry out such a policy. Of course, not all governmental activities can be privatized, yet those discussed above and others as well offer possibilities for enhancing economic efficiency.

CONCLUSION

Economic performance can be improved through greater reliance on market incentives. In some cases regulation itself causes ineffi-

ciency, and deregulation is an appropriate policy. In other areas, as in the environmental area, government regulation is necessary to correct an underlying market failure. Yet, even here greater reliance on market incentives can produce desired social outcomes at lower cost. Finally, where government produces a good or service such as producing electric power or delivering mail, a better incentive structure can be brought to bear through privatization. This Administration is committed to increasing efficiency throughout the economy, using these different approaches, where appropriate.

CHAPTER 6

The Federal Role in Credit Markets

THE INSTABILITY OF INTEREST RATES and inflation through the 1970s and early 1980s resulted in substantial difficulties for many institutions in U.S. credit markets. Home mortgage lenders experienced an enormous capital loss from which they are not yet fully recovered. Lenders to real estate, including agricultural real estate, suffered losses when real property values, once buoyed by inflation, fell with the return of lower inflation. Similarly, institutions that lent dollars abroad when inflation was high and the dollar was low face borrowers struggling to repay in now stronger dollars.

In this episode of instability, well-meaning government policies aimed at protecting savers and accommodating borrowers interfered with risk bearing and risk management. Encouraged by regulation and tax policy, the thrifts and a government-sponsored financial intermediary lent to homeowners on a long-term, fixed-rate basis. These loans were financed by shorter term deposits and bonds guaranteed by the government. The increased volatility of interest rates made this a very risky strategy. Fluctuations in real property values revealed the deficiencies of limited-purpose lenders such as the Farm Credit System. Barriers to interstate banking inhibited diversification of lending risks, many of which have large regional components, and increased the likelihood of the insolvency of many financial institutions. Concern for the security of pension beneficiaries created a pension insurance system that generates a large subsidy, encourages abuse, and in only 10 years of operation, has created a large liability that the taxpayers may have to assume.

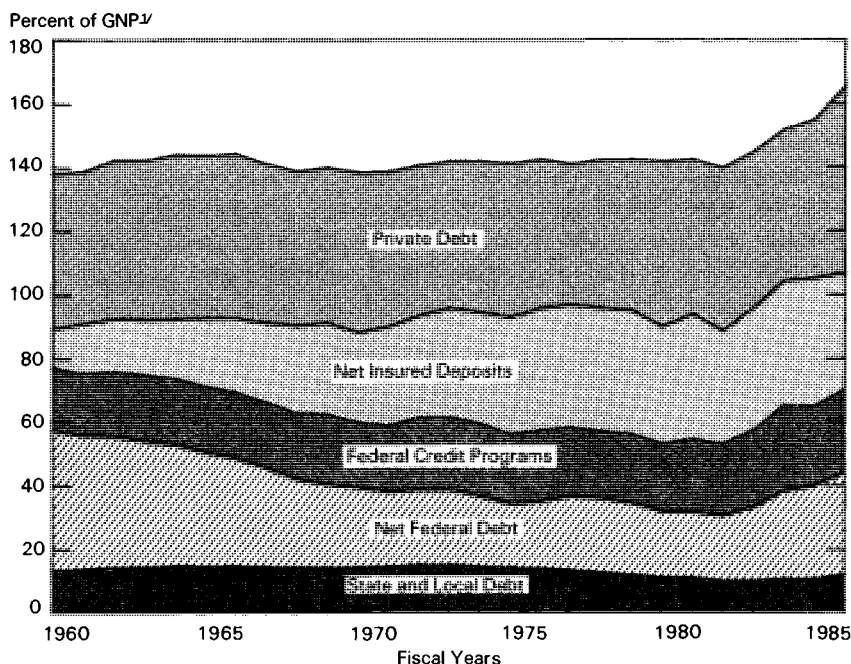
This chapter analyzes government policy as it shapes the institutions that must cope with both the risks of lending and the risks of macroeconomic policy as well. It examines Federal loan programs and five government-sponsored financial intermediaries which execute much of government credit policy. It also analyzes the incentives and outcomes of insuring deposits at commercial banks and thrift institutions and insuring the income from certain pension plans. This chapter concludes with a discussion of the relationship between the deregulation of financial institutions and some of the problems these institutions have recently experienced.

THE SIZE OF THE FEDERAL ROLE IN CREDIT MARKETS

At the end of fiscal 1985 nonfinancial debt outstanding (the sum of the debt of households, nonfinancial businesses, and Federal, State, and local governments) totaled \$6.5 trillion. Chart 6-1 shows the development of Federal involvement in the credit markets between 1959 and 1985, by type of debt outstanding, as a percent of gross national product (GNP).

Chart 6-1

Debt of All Nonfinancial Sectors As Percent of GNP



Source: Council of Economic Advisers, based on data from various government agencies.

The bottom layer of the chart represents the outstanding debt of State and local governments, which has remained stable in relation to GNP. The next layer up is Federal debt outstanding less direct Federal loans (made to households and businesses). Direct Federal loans are subtracted because they represent government borrowing for the purpose of relending, and hence constitute a portion of the Federal debt that is financial. Direct Federal loans are included in the next layer of debt.

The third layer of debt consists of loans made or guaranteed directly by the government, plus loans made or guaranteed indirectly by the government through government-sponsored financial intermediaries. The total outstanding debt from these Federal credit activities was \$1,038 billion at the close of fiscal 1985, which is approximately the same as the total assets of thrift institutions and just under half of the total assets of the commercial banks. These activities account for 22 percent of private (nongovernment) nonfinancial debt.

The Federal Government insured over \$2 trillion of deposits at commercial banks, thrift institutions, and credit unions at the close of fiscal 1985. Many institutions use money raised through insured deposits to acquire instruments that already carry Federal guarantees or are obligations of the Federal Government. These instruments are federally guaranteed loans, Treasury debt, the debt of the government-sponsored intermediaries, cash, and reserves held at the Federal Reserve Bank. Subtracting the sum of these instruments from insured deposits yields the fourth layer—the net additional involvement of the Federal Government arising from deposit insurance.

Completely privately intermediated debt is represented in the top layer of the chart. Bank loans financed by bank capital coming from sources other than insured deposits are represented here. The debt of private corporations that issue bonds not guaranteed by the government is also represented here.

The level of government involvement as both borrower and lender has remained fairly stable between 1959 and 1985 at a surprisingly high 63 to 69 percent of total nonfinancial debt (including State and local debt). But the composition of borrowing versus lending has changed. The relative amount of Federal debt outstanding fell from the end of World War II until very recently, but was offset by a rise in the government's role as a lender and insurer of credit, from 23 percent of total nonfinancial debt in 1959 to 38 percent in 1985.

FEDERAL LOAN AND LOAN-GUARANTEE PROGRAMS

Federal credit programs have two primary effects on credit markets. First, they all provide subsidies transferring wealth to government-favored borrowers from the rest of the public. These subsidies create distortions in the economy by reallocating resources from higher to lower valued uses.

Second, these credit programs disperse lending risk nationally, bypassing barriers to interstate banking. Two benefits flow from national dispersion of risk. First, a more broadly based loan portfolio effectively diversifies away a significant portion of lending risk. In addi-

tion, the remaining nondiversifiable lending risk can be more easily borne if widely dispersed rather than concentrated in one region or one institution. Ultimately, diversification lowers interest rates for borrowers and reduces potential instability for the financial system as a whole.

DIRECT FEDERAL LOANS AND GUARANTEES

The government makes direct loans to finance agriculture, housing, education, medical facilities, purchases of arms by foreign governments, rural development, railroads, and other activities. These loans must be financed with either taxes or Federal borrowing. The Federal Government also redirects credit by guaranteeing the loans of certain borrowers, notably homebuyers, students, and small business owners.

Because the public bears the lending risk for direct Federal loans and loan guarantees, that risk is more widely dispersed than if the risk-bearer were a small commercial bank. In case of a default, the public absorbs the loss either in the form of higher taxes or higher government debt.

The costs of the direct loan and loan-guarantee programs are not measured in the cash-based Federal budget. The budget generally records outlays when cash is disbursed and records receipts when funds are received. The budget shows the cost of a new direct Federal loan to be the amount lent, and the net cost of direct lending programs to be new lending less payments of interest and principal on existing loans. For loan guarantees, a budgetary cost appears only if a guaranteed borrower defaults and the government has to make good on its guarantee.

To understand the cost to the public of Federal credit activity, consider the budgetary impact resulting from having the government contract with private lenders and loan insurers to loan to or insure parties for whom the legislature desired to subsidize borrowing. Private lenders and loan insurers would base their fees on the degree of risk assumed and the degree of subsidy provided, and would charge the government more for guaranteeing risky loans than sure ones. If the government paid up front for direct loan subsidies and guarantees, the cost would be accurately reflected even in the cash-based budget.

The Federal direct loan and loan-guarantee programs are not small. At the close of fiscal 1985, the Federal direct loan portfolio totaled \$257 billion. This loan portfolio is larger than the combined loan portfolios of the two largest U.S. commercial banks, and represents 17 percent of the outstanding national debt held by the public. Federally guaranteed loans totaled another \$410 billion.

The Office of Management and Budget estimates the subsidies provided through Federal credit programs. The Administration's 1987 (cash) budget proposes to reduce the subsidies by charging Federal credit programs for the use of the government's good name in the credit market. This would entail raising the fees on insurance programs such as the Government National Mortgage Association (Ginnie Mae), the Veterans Administration, and the Federal Housing Administration and imposing fees on the five sponsored intermediaries. While fees would not result in putting the cost of Federal lending and guarantees into the budget, it would put revenues into the budget to offset some of the costs borne by the taxpaying public from guaranteeing government loans and would reduce credit market distortions caused by these programs.

GOVERNMENT-SPONSORED FINANCIAL INTERMEDIARIES

The government moved in the direction of using the private sector in serving its credit goals by establishing five government-sponsored financial intermediaries. Three of these, the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac), and the Federal Home Loan Banks, serve the housing finance market. The Farm Credit System finances agriculture, and the fifth, the Student Loan Marketing Association (Sallie Mae), makes a secondary market in federally guaranteed student loans. Each issues securities (bonds, notes, and/or mortgage pass-throughs) and uses the proceeds to fund its lending activities. All of the five sponsored enterprises are now privately owned but maintain a special relationship with the Federal Government. Among the privileges enjoyed in this special relationship are exemption of their earnings from State and local income taxes, exemption of their securities from registration with the Securities and Exchange Commission, and eligibility of their debt securities for unlimited investment by most depository institutions.

Ideally, these institutions would pool and diversify risks and distribute any remaining risk to the parties most willing to bear it via national distribution of their debt and equity securities. Three of the sponsored intermediaries, Fannie Mae, Freddie Mac, and Sallie Mae, come close to this result. To what degree the government also shares the risk by guaranteeing their bonds remains an open question. In principle, the Farm Credit System distributes risk nationally through its bonds; but again, it is not clear how much risk is borne by the government rather than the bondholders. The Farm Credit System fails to disperse its equity risk nationally because the equity holders of the system are its borrowers.

Fannie Mae and Freddie Mac assist in providing lower cost credit to private financial institutions that in turn provide lower cost credit to homebuyers. There are two fundamental sources of this cost advantage: the implicit subsidy from association with the Federal Government, and the opportunities to diversify regional components of real estate lending risk.

The usefulness of the secondary market created by Fannie Mae and Freddie Mac resulted from restrictions on interstate banking. Large interstate banks could diversify mortgage-lending risks by holding portfolios of mortgages on properties across the country and by nationally distributing their equity shares. Without a secondary market for mortgages, equity holders of smaller banks and thrifts would be forced to bear all of the risk associated with changes in the value of property within a confined geographic area. They would naturally require compensation for bearing this risk. By creating a national market for mortgages, Fannie Mae and Freddie Mac provided a mechanism for diversifying away much of the geographically specific risk in mortgage lending, thereby lowering the rate of return required by the lenders and ultimately lowering the cost of borrowing.

Fannie Mae and Freddie Mac both make secondary markets in mortgages, but differ in the potential liabilities that they create for the public. Freddie Mac is owned by the thrifts and by the Federal Home Loan Banks, and acts primarily as an agent that buys, repackages, and sells mortgages. At the end of fiscal 1985 Freddie Mac held a portfolio of mortgages of only \$13 billion and had an outstanding portfolio of mortgage-backed securities of \$92 billion. Hence, Freddie Mac is exposed to relatively little risk from changes in interest rates.

Fannie Mae's equity is held by the public and its equity shares are traded on the New York Stock Exchange. In its mortgage pass-through operations, totaling \$49 billion, Fannie Mae assumes no interest rate risk. But in its direct funding operations, another \$97 billion, Fannie Mae takes considerable risk from possible fluctuations in interest rates because the average maturity of Fannie Mae's assets is longer than the average maturity of its liabilities. As a result, any rise in interest rates causes greater declines in the value of Fannie Mae's assets than in the value of its debt. As late as April 1984, when interest rates had already declined substantially from the peaks in 1981, Fannie Mae still had negative net equity on a market-value basis. Yet Fannie Mae's bonds continued to be priced as if they were near-Treasury securities, (rather than claims on Fannie Mae's portfolio) presumably because bondholders imputed a value to Fannie Mae's special relationship with the Federal Government.

The special relationship of Fannie Mae to the Federal Government benefits the equity holders of Fannie Mae as well. If Fannie Mae speculates on interest rates successfully, the profits belong to the equity holders. If the speculation is unsuccessful, the government is expected to absorb the loss. The continued success of the home mortgage market does not depend on government sponsorship of term intermediation. This is demonstrated by the success of the pass-through operations of both Fannie Mae and Freddie Mac, by the existence of markets in which institutions can hedge interest rate risk, and by the growing role of adjustable-rate mortgages.

Moreover, although substantial barriers to interstate and intrastate branch banking remain, the emergence of private firms in the secondary market for mortgages shows that government subsidies and government sponsorship are not necessary to support secondary mortgage markets. Fannie Mae and Freddie Mac do still enjoy subsidies and have a comparative advantage over private firms in their niche of the market. Private firms have concentrated on mortgages exceeding the size limits imposed on Fannie Mae and Freddie Mac. Fannie Mae and Freddie Mac are no longer unique in providing diversification services, but they are unique in operating under the aegis of the Federal Government.

THE FEDERAL HOME LOAN BANKS

The Federal Home Loan Banks (FHLBs) lend to the thrifts on substantial collateral and hence face very little risk through this lending. FHLB funding of the thrifts resembles the funding that the Federal Reserve provides to commercial banks through its discount window, except in term and size. The FHLB loans are both short- and long-term (\$15 billion out of \$80 billion is of more than 5-year term), while discount funding is typically overnight. As of August 1985 discount window borrowing totaled slightly more than \$1 billion, financing less than 0.05 percent of commercial bank assets, while FHLB borrowing totaled \$80 billion, financing 8 percent of thrift assets. The role of the FHLBs in diversifying thrift lending risk is minimal.

THE FARM CREDIT SYSTEM

The Farm Credit System (FCS) operates a network of primary and secondary lenders. The 12 Federal Land Banks (FLBs) make mortgage loans on farms and real estate, through 306 (as of the end of 1985) local Federal Land Bank Associations (FLBAs), to farmers and ranchers, rural homeowners, and farm-related businesses on terms of up to 40 years. Twelve Federal Intermediate Credit Banks provide loan funds to 216 Production Credit Associations (PCAs) and can discount agricultural loans from other financial institutions as well.

The PCAs make primarily 1-year operating loans to agricultural borrowers. In addition, the Central Bank for Cooperatives makes loans to the 12 district Banks for Cooperatives, which make short- and long-term loans for cooperative agricultural facilities.

The smallest entities of the FCS, the PCAs and FLBAs, are owned by their borrowers, who must buy stock in them in proportion to their loans. The PCAs in turn own the Federal Intermediate Credit Banks and the FLBAs own the Federal Land Banks. These, together with the Banks For Cooperatives and the Central Bank for Cooperatives, make up the Farm Credit System. The borrowers of these organizations reap the benefits of any profits made by the FCS in the form of lower interest rates on subsequent loans or in patronage refunds.

Much publicity was given to the losses of the FCS in 1985, a difficult year for agriculture. While the FCS as a whole did report a loss of \$426 million for the first 9 months of 1985, it also reported remaining total capital of \$8.5 billion on total assets of \$80.5 billion. While the FCS will probably experience further losses through 1987, these income and equity figures show that the FCS as a whole is solvent.

The troubles of the FCS in 1985 varied greatly by region, supporting the contention that there is a strong regional element in agricultural lending risk. For the quarter ending September 1985 the FLBs in Omaha and Wichita reported losses exceeding 2 percent of total assets, while the FLBs in Texas and Sacramento reported positive income. Legislation passed in December 1985 established a regulator for the FCS and empowered the regulator to impose assessments on the district banks to pool their resources. The Administration believes that with this pooling of capital, the FCS will be able to cover anticipated losses.

The Farm Credit System has not inspired competitors, as have Fannie Mae and Freddie Mac. On the contrary, both the FCS and direct Federal lending to agriculture have gained ground compared with private alternatives. Market shares of agricultural lending for 1970, 1975, 1980, and 1984 are shown in Table 6-1.

Why has government and government-sponsored lending to the farm sector steadily displaced private lending? Private financial institutions have been at a disadvantage to the FCS and Federal direct loans on at least two grounds. First, the FCS's special agency status has lowered its borrowing costs, and of course, the funding for direct loans comes from the U.S. Treasury. Second, important actual and potential competitors, specifically commercial banks, have only limited ability to pool agricultural risk because of restrictions on interstate and intrastate branch banking. Insurance companies competing with

TABLE 6-1.—*Market shares of agricultural lending, 1970-84*

[Percent of total]

Source of lending	1970	1975	1980	1984
Government direct and sponsored programs.....	32.6	35.6	44.5	48.1
Farm Credit System.....	23.2	29.6	31.1	31.9
Farmers Home Administration.....	6.0	5.6	10.7	12.1
Commodity Credit Corporation.....	3.4	.4	2.7	4.1
Private sources.....	67.4	64.4	55.5	51.9
Commercial banks.....	27.3	28.9	22.1	23.5
Individuals and others.....	29.8	28.2	26.3	22.5
Life insurance companies.....	10.3	7.3	7.1	5.9

Note.—Data for end of year.

Source: Department of Agriculture.

the FCS, however, do have access to national capital markets. Over these potential competitors, the FCS had no advantage except its subsidy. These comparisons suggest that the subsidy, not the access to national markets, was the primary force behind the increased share of government-affiliated lending to the farm sector.

The FCS has a method of allocating equity risk that exacerbates the difficulties of agricultural borrowers in hard times. Each owner/equity holder's share of the capital in the local borrower-owned unit is a proportion of his or her borrowing from the institution. When capital contributors believe their capital is at risk, they can withdraw it by going to another institution and borrowing a sufficient amount to pay off their FCS loans. The remaining borrowers are those who cannot go to alternative institutions for loans except at much higher interest rates, if at all. This system has two unfortunate consequences. First, "equity runs" can leave the FCS with only the lower quality loans when times are difficult. Second, when farmers have a difficult year due to poor crops or low prices, their equity investment in their local FCS institution does very poorly.

Strictly speaking, agricultural credit has been subsidized through the special relationship of the FCS and the Federal Government. But all things considered, it seems that agricultural borrowers are not well served by their credit markets. Commercial banks cannot serve the agricultural borrowers as well as they might because of the barriers to interstate and intrastate branch banking. The FCS makes only agricultural loans, and hence can diversify only across agriculture. By forcing farmers who borrow from it to be its equity holders, the FCS prevents them from transferring equity lending risk to other parties.

SALLIE MAE

The youngest and smallest of the government-sponsored intermediaries, Sallie Mae, makes a secondary market in federally guaranteed student loans. It also buys these loans for its own portfolio, financing

the purchases by selling bonds. Organized as a private corporation with shares traded on the New York Stock Exchange, Sallie Mae has earned on average slightly more than 30 percent of net worth annually over the past 5 years. Little implicit government subsidy is currently provided directly to Sallie Mae (as distinct from the large subsidy that is provided on the federally guaranteed student loans). If the role of this enterprise was to demonstrate, with a temporary subsidy, that a secondary market could be profitably made in guaranteed student loans, its mission is accomplished. It is therefore appropriate to consider making Sallie Mae a fully private organization. The Administration will investigate this possibility in 1986.

FEDERAL DEPOSIT INSURANCE

Insured deposits in commercial banks, thrift institutions, and credit unions now stand at more than \$2 trillion, making deposit insurance by far the largest of the Federal guarantees in the credit markets. Deposit insurance is intended to prevent runs on these depository institutions (here called "banks" when discussed as a group) that can degenerate into general banking panics. Runs occur when depositors become concerned that an institution's assets may not be able to cover all of its deposits. Depositors "run" to be first in line to withdraw their deposits. Because the typical bank's assets are for the most part illiquid, even a bank whose assets are larger than deposits plus other liabilities can have considerable difficulties in accommodating large, sudden withdrawals of deposits.

From the point of view of averting runs, it does not matter whether a deposit insurance corporation stands ready to make deposits good or a lender of last resort is ready to lend to institutions plagued by runs, so long as depositors believe that the backer will in fact support the deposits. Assuring this support is a particularly difficult problem for deposit insurance. Conventional insurance, for example life insurance, operates on the principle of insuring many uncorrelated risks. But bank runs tend to be contagious. The only insurer that unambiguously has the capacity to meet any run, no matter how large, is one with the power to print money. This gives the government a comparative advantage in providing deposit insurance.

The role of deposit insurance is not so much to pool, diversify, and eliminate risks, as conventional insurance does, but to change the way in which certain risks are borne. While there is a large diversifiable component to lending risk, there remains a large nondiversifiable component that must simply be borne. Without deposit insurance, the risk is borne by both equity holders and depositors, leaving the

banking system vulnerable to occasional collapses through runs. With deposit insurance, the risk is borne by bank equity holders and by the public.

Deposit insurance imposes risk on the public because it prevents loss to depositors not only from runs on solvent institutions but also from defaults on loans and, if the maturity of the bank's assets and liabilities are not matched, from changes in interest rates. Without the inherent uncertainty regarding the value of bank assets there would be no reason for runs. Thus, maintaining deposit insurance requires insuring against these events, as well as against mere illiquidity.

When a bank is insolvent due either to defaults on loans or fluctuations in interest rates, the loss may be treated several different ways. First, it could be met by an insurance fund capitalized with accumulated insurance premiums. Should the loss exhaust the fund, the additional loss could be borne either by collecting taxes to pay off depositors or printing money to pay off depositors. If printed money is the solution, the cost is borne in the form of a general rise in the price level. The government could, of course, issue bonds to cover the loss, but these bonds would ultimately be repaid either by collecting taxes or by printing money.

On the other hand, when no real insolvency is present, the central bank can be called upon to serve simply as a temporary provider of liquidity. The central bank extends a loan to the temporarily illiquid bank and receives repayment; this imposes on the public only the cost of administering the transaction less interest collected on the loan.

ADVERSE INCENTIVES OF DEPOSIT INSURANCE

Insuring deposits encourages bank owners to take on more risk than they otherwise would. As long as the bank pays interest competitive with rates available on similarly safe investments, insured depositors have no reason to withdraw their deposits, even from a bank engaging in risky lending.

Equity holders of banks are usually not protected when a bank fails, but even when they lose their entire investment they still are not responsible for all of the losses of unsuccessful lending. Part of the loss falls on the deposit insurer. Because the deposit insurance fee is not adjusted to reflect the increase in risk borne by the deposit insurer, the bank owners have incentives to take account of only that part of increased risk that is borne by equity holders—and not the increased risk absorbed by the deposit insurer.

For depository institutions with substantial amounts of equity capital relative to their assets and other liabilities, the incentive to

engage in excessively risky activities is limited. After all, equity holders have a lot to lose before the deposit insurer steps in. For depository institutions with low equity capital, and especially for institutions with negative equity capital on a market-value basis, the incentive for excessive risk-taking can be quite strong.

To reduce excessive risk-taking encouraged by deposit insurance, regulators impose two kinds of restrictions on depository institutions. First, they subject institutions to "capital adequacy" requirements. Second, they impose portfolio regulations that restrict institutions as to the kinds and amounts of different activities. Two other approaches have been suggested: risk-adjusted deposit insurance and risk-adjusted capital requirements.

CONTROLLING ADVERSE INCENTIVES: CAPITAL REQUIREMENTS

In principle, the goal of capital requirements is to ensure that bank owners have much to lose if they do not invest the bank's funds prudently. Of course, the deposit insurer must be willing to carry through with its threat to close institutions not meeting the requirements. If capital requirements worked perfectly, regulators would close a bank with insufficient capital before the capital was zero or negative, and the public would bear no loss through deposit insurance. In practice, capital requirements have some serious flaws.

The most serious flaw is that the regulators' measure of capital is a poor gauge of the true market value of the owner's stake. Regulatory measures of capital generally reflect changes in the value of bank assets and liabilities on the bank's financial statements only when assets and liabilities are bought or sold. However, market values of many assets and liabilities change, sometimes quite substantially, without any transactions being made. In particular, the market value of long-term, fixed-rate loans and mortgages fluctuates with changes in interest rates, just as does the market value of long-term bonds. Regulatory methods of accounting, however, value long-term, fixed-rate loans and mortgages at the interest rates that prevailed when the loans and mortgages were made, that is, at book value rather than at market value.

Fluctuations in interest rates are not the only force that changes the market value of bank assets. Loans to foreign countries, for example, or on real estate or agricultural properties, may change in value because of changes in expectations about when and if the borrower will repay. For these kinds of loans, there is a limit to the use that can be made of observable, competitive market prices to adjust asset values. Banks do, after all, find their comparative advantage in gathering and assessing information about borrowers, and it is unlikely that other parties could provide better information on asset

quality than do the banks themselves. Nonetheless all loans change in value with changes in interest rates, and more accurate accounting can be achieved even for these loans by making adjustments for interest fluctuations.

Flaws in the measures of net worth used to set capital standards lead to two problems. First, capital requirements often do not control the adverse incentives for risk-taking that they were designed to combat. Because capital requirements are based on book rather than market measures of capital, a fall in the value of a bank's assets often does not affect its capital adequacy until the cash-flow consequences begin to impinge on its ability to pay its bills. This event could be many years hence. But the fall in value immediately affects the incentives of the owners of the institution. As pointed out above, insured institutions with very low or negative net worth have especially strong incentives to engage in excessive risk-taking.

The second problem is that transactions that impair book capital, but otherwise are desirable for both the institution and the economy, are discouraged, and transactions that enhance book capital, but are otherwise undesirable, are encouraged. For example, a bank that forecloses on property due to a loan default typically takes that property onto its books at assessed value. Banks have for the most part not found their comparative advantage in managing real property, and would probably want to sell the property, even if it fell further in value. But if the market value is less than the book value, sale will lower the bank's regulatory capital; hence the property may not be sold. On the other hand, a bank with a big capital gain on its own building may sell that building simply to get the capital gain onto its books and thus raise its regulatory capital.

PORTFOLIO REGULATION

Besides imposing capital requirements, regulators of financial institutions attempt to control risk exposure by directly imposing limits on investment activities. These controls impose a considerable burden on the regulator in terms of risk assessment and prediction. In addition, they reduce market flexibility in allocating credit. They do not merely introduce incentives, but legally limit many kinds of activities and preclude others.

RISK-ADJUSTED DEPOSIT INSURANCE

A suggestion for reducing risk-taking incentives is to risk-adjust deposit insurance premiums. The Vice President's Task Group on the Regulation of Financial Services recommended that deposit insurers be permitted to do this. Risk-adjusting deposit insurance premiums would have two beneficial consequences. First, institutions in-

volved in more risky activities would be charged for increasing the public's risk exposure. Second, basing the premiums on risk would reduce incentives for risk-taking and thus promote overall financial stability.

The principle of risk-adjusted deposit insurance is appealing. In practice, however, it presents unresolved practical problems. First, how do regulators assess the riskiness of different lines of bank activity? Second, would such assessments be useful in predicting the future riskiness of the same lines of activity? For example, it is unlikely that the deposit insurer could have foreseen either the change in the riskiness of lending to oil and gas concerns or the significant change in the volatility of interest rates that occurred in the 1970s. Third, can the deposit insurer appropriately capture the portfolio effects of bank activity? A bank that has equal proportions of its assets in real estate loans, farm loans, oil and gas loans, consumer loans, and so on, may have a loan portfolio consisting entirely of activities judged risky by the deposit insurer. But with the wide assortment of lending activity, the exposure to the deposit insurer could be small as a result of portfolio effects. Fourth, how much will the institutions that present the biggest problems in terms of risk control—those that are nearly insolvent anyway—be influenced by deposit insurance rates? If the equity in an institution is inconsequential, equity holders will not hesitate much to spend someone else's money (the deposit insurer's) in order to take on more risk.

RISK-ADJUSTED CAPITAL REQUIREMENTS

In January 1986, the Board of Governors of the Federal Reserve announced that it will formally consider the imposition of capital requirements based on assessments of the risk of bank assets. In terms of implementation, risk-adjusted capital requirements are subject to the same practical problems of risk assessment as risk-adjusted deposit insurance premiums.

Risk-adjusting capital requirements versus deposit insurance is analogous to varying insurance deductibles versus insurance rates. The risk faced by an automobile insurer for a given policy, for example, is a function of the age and record of the driver, and also of the amount deductible before the insurance coverage begins. Generally speaking, the larger the deductible, the cheaper the insurance. Risk-adjusted capital requirements force a bank to have a higher deductible if it engages in more risky activities. Risk-adjusted deposit insurance with the standard capital requirement allows all the banks the same deductible but charges them different rates depending on their activities.

In principle, there seems no reason not to use both devices to control risk exposure. The risk-adjusted capital requirements give the regulators one more lever against the exaggerated risk-taking incentives of nearly insolvent institutions. If a nearly insolvent institution increases the risk of its portfolio without increasing the owner's stake, it can be closed. But of course this could be done simply with more strict enforcement of existing capital requirements.

None of the devices for controlling adverse incentives introduced by deposit insurance is perfect. Risk-based deposit insurance premiums and capital requirements introduce desirable incentives, but may be weak and difficult to administer effectively. Portfolio regulation helps to control the public's risk exposure, but it also requires the regulator to make difficult judgments regarding lending risk and reduces the role for markets in allocating credit. The last, capital requirements, corrects for the adverse incentives of deposit insurance and helps control the risk exposure of the public, but it is effective only if the requirements are based on definitions of capital that are economically meaningful and are executed by a regulator willing to close institutions with insufficient capital.

THE THRIFTS

The most serious challenge to the system of deposit insurance since it began in 1933 was the insolvency of the thrift institutions in the early 1980s. This industry is composed of more than 3,000 lending institutions (savings and loan associations and some mutual savings banks) with total assets (at book value) of about \$1 trillion in 1985. Congress intended the thrifts to serve the home mortgage market and offered them tax incentives to hold a large fraction of their portfolios in home mortgages. Deposits with interest ceilings and loans from the Federal Home Loan Banks financed the thrifts at lower-than-market interest rates. Responding to these incentives, thrifts typically held 60 percent or more of their assets in long-term mortgages, virtually all of which were fixed-rate prior to 1981.

Until the 1970s thrift institutions lived comfortably with their mismatched portfolios because interest rates remained relatively low and stable. With the rise in interest rates from the early 1970s to 1981, however, the cost of funds to thrift institutions rose above the interest earned on their portfolios of long-term, fixed-rate mortgages. By generally accepted accounting principles (GAAP), many thrifts began to show negative net incomes in the early 1980s as their long-term assets fell in value much more than did their liabilities. As of 1981 the thrift industry as a whole had an estimated negative net worth of \$110 billion on a market-value basis. Interest rates have moved in favor of the thrifts since 1981, and the June 1985 estimate of their

value corrected for changes in interest rates (but not asset quality) is above zero for the first time in many years.

To deal with the insolvency of the early 1980s, thrift regulators lowered capital requirements and redefined capital. For regulatory purposes, thrift regulatory capital is no longer defined by GAAP (the standards applied to commercial banks) but by regulatory accounting principles (RAP). RAP allows thrifts to reassess certain fixed assets. If the appraised equity value exceeds the price originally paid, which is the book value, the appraised equity value may be entered on the balance sheet. An institution whose property has gone down in value, however, need not declare the lower value on its balance sheet. In addition, thrifts can amortize losses on assets they sell. For example, if a thrift sold a home mortgage that was 10 years from maturity for \$50,000 less than its book value, the institution could declare its loss at \$5,000 per year for 10 years. The loss would have only a gradual impact on the regulatory capital.

In addition, two programs were created in order to give certain thrifts the appearance of having more equity. These were the net worth certificate program and the income capital certificate program. Both involve a mere bookkeeping entry in which the Federal Savings and Loan Insurance Corporation (FSLIC) becomes an equity holder in a thrift, with a few strings attached in terms of the investments thrifts can undertake. FSLIC counts its paper "investment" in the thrift as an asset, and the thrift counts FSLIC's "contribution" of capital as equity for purposes of meeting capital requirements.

These programs to boost the regulatory net worth of thrifts kept many of them officially solvent when on the basis of GAAP—let alone market-value—they were insolvent. The programs did not affect the market value of these institutions, but merely bought time during which regulators hoped, not in vain, for lower interest rates. In effect, the thrift regulators made a judgment (like the judgments frequently made by creditors of insolvent enterprises) that the deposit insurance funds and ultimately the Treasury and the country had more to gain from keeping insolvent thrifts operating than from closing them down.

Although the thrifts, as a group, no longer have negative equity by market value, the full returns of this experiment in term intermediation are not yet complete. Four serious problems still remain. First, many thrifts with negative net worth continue to operate, and many of these continue to lose money. Second, the resources FSLIC has available to close failed institutions are very strained. Third, the industry as a whole is poorly capitalized, even by its own standards, and the capital standards of the thrifts are well below those of the

commercial banks. And fourth, the thrifts are still exposed to considerable interest rate risk.

As of June 1985 there were 88 thrifts with total assets of \$16.8 billion with negative net worth by RAP measures. By GAAP measures, 461 institutions with total assets of \$111.4 billion had negative net worth. Allowing insolvent institutions to operate greatly increases the burdens of the Federal Home Loan Bank Board (FHLBB) and the FSLIC in controlling the continuing losses and risk-taking of insured institutions. It is not yet clear how successful thrift regulators have been in controlling the incentives for excessive risk-taking by insolvent insured institutions.

Many of the currently insolvent institutions will likely remain insolvent. What to do about these institutions will involve difficult choices. During fiscal 1984, FSLIC found the cost of closing insolvent institutions to be 14.7 percent of the book value of their assets, and found that many institutions had serious asset quality problems. If asset quality problems worsen, the costs could rise. But interest rates have fallen, so the costs may fall.

Many insolvent institutions could be taken over by solvent institutions, and with infusions of capital from them (and perhaps other sources) once again have sufficient equity to inhibit excessive risk-taking. Hence, a judgment must be made regarding which financial institutions will be allowed to buy failed thrifts. For the most part, the FHLBB has attempted to resolve problem cases by merging failing institutions within the traditional boundaries of the thrift industry. Regulators have sought acquirers for insolvent institutions first among nearby thrifts, then in the same State, then in adjacent States, and only after these avenues proved unfruitful have they opened the market nationally. The cost to the public of closing these institutions may well be lower if the market is widened to commercial banks and other financial institutions as well.

As FSLIC has closed and liquidated insolvent institutions for which it could not find a merger partner, it has acquired a portfolio of assets from institutions whose depositors it paid off. FSLIC itself needs to liquidate these assets in order to have cash with which to close additional insolvent thrifts. But FSLIC has found some of these assets, such as unfinished real estate development projects, to be difficult to dispose of. To be able to liquidate troublesome properties more quickly and at better prices, the FHLBB has set up a new quasi-government organization, the Federal Asset Disposition Association (FADA), which will be exempt from many of the salary and staffing restrictions FSLIC faces as a government entity.

The FHLBB has announced that it intends to restrict FADA to operating only as a sales management organization and only for FSLIC.

Should these restrictions be relaxed, potential problems with FADA include the possibility of it growing into another liability for taxpayers.

Resolution of the problems in the thrift industry should involve first, closing or recapitalizing insolvent institutions. Recapitalizing is not a simple task, as it entails either finding new investors (possibly institutions) that will invest their own funds, or reorganizing debt holders of the failed thrift into equity holders. Second, the thrifts should use capital requirements and definitions of capital that are economically realistic and consistent with the standards of commercial banks. Third, it may be appropriate to reconsider the wisdom of designating limited-purpose lenders, including mortgage lenders. The commercial banks have been very active in mortgage lending, and their activity plus the success of firms in the secondary market for mortgages makes clear that mortgage lending does not require a separate, subsidized financial sector. Fourth, term intermediation is risky not only for individual institutions, but also for the economy as a whole. The effort succeeds only so long as interest rates and inflation rates are stable. Consequently, existing regulatory incentives for exposure to interest rate risk should be eliminated, and policies that result in stable interest rates and price levels should be promoted.

INSURED PENSION BENEFITS

The Employee Retirement Income Security Act (ERISA) of 1974 requires almost all companies having "defined benefit" pension plans to purchase insurance from the Pension Benefit Guaranty Corporation (PBGC), a government entity established by the ERISA. Insured firms may terminate their pension plans at any time by filing with the PBGC. When a firm terminates its plan, the PBGC assumes both the liabilities (the promises made by the employer to the employees in terms of retirement benefits) and the assets of the pension plan. The PBGC also has the right to as much as 30 percent of the company's equity. Currently, the PBGC insures the pension benefits of 38 million people. By October 1985, the PBGC had taken over more than 1,200 pension plans covering 190,000 persons, and had accumulated a deficit of about \$1.3 billion, more than two-thirds of it in 1985. Because the PBGC operates under public auspices, the public may ultimately have to assume the difference between the premiums it collects and the pensions it pays. Legislation to raise the premiums charged by the PBGC is pending.

“Defined contribution” pension plans resemble ordinary savings accounts, except that contributions (deposits) are tax-deductible and interest accumulates tax-free. In a defined contribution plan, employee and employer contribute to an account; after a vesting period (typically 3 to 5 years), the account essentially belongs to the employee, although use of it is generally restricted. Defined benefit pension plans typically promise an employee income in retirement based on (“defined by”) the number of years of employment and the wages earned in the last years of employment. Strictly speaking, the promise is independent of how much the employer actually sets aside to pay these promised benefits, although ERISA imposes minimum funding standards. Assets set aside to fund these promises are held in trust. A pension plan is “fully funded” if the assets are at least adequate to cover the present value of the employer’s promises, and “underfunded” if the assets are inadequate.

Insurance premiums collected by the PBGC are set by statute and are currently far too low to cover its anticipated liabilities. Because the government assumes responsibility for the soundness of the pensions and collects far less from the insured parties than its guarantees are worth, its insurance performs as a subsidy. Prior to the passage of ERISA, the degree to which ailing companies with underfunded pension plans could substitute pension promises for wages was limited by employees’ assessments of the company’s ability to make good on such promises. With the establishment of the PBGC, a company can make generous retirement benefit promises to employees, and pay employees lower wages than it otherwise would, because both parties know that if the company fails, the PBGC will honor the pension obligations (up to ERISA-limited amounts).

The companies most likely to abuse PBGC pension insurance are those doing poorly. Companies losing money enjoy no tax benefits from fully funding a pension plan and are also less likely to be able to deliver on pension promises with company assets. Yet premiums depend neither on the riskiness of the assets with which the portfolio is funded nor on the level of funding (above ERISA’s minimum). This implies that even if premiums were set so that on average they covered the expected liabilities of the PBGC, ERISA would redistribute wealth from the employees and employers of healthy, low-risk companies with funded plans to the employees and employers of ailing or high-risk companies with underfunded plans.

In analyzing the economic effects of ERISA, it is instructive to consider how private companies would price pension insurance and how pension sponsors would respond. For the sake of the argument, suppose the government simply required all firms to insure their pension plans, much as State governments require individuals who own

and operate automobiles to carry liability insurance, and left it up to private firms to provide that insurance. Insurance premiums would then reflect the riskiness of the assets securing the pension benefits. Premiums for an underfunded plan would primarily reflect the riskiness of the assets of the sponsoring company. Premiums for a funded plan would reflect the riskiness of the portfolio of securities with which it was funded. Incentives to underfund the pension plan or to fund it with more risky securities would be reduced. The ERISA-caused redistribution of wealth from employees and employers of fully funded plans in healthy companies to employees and employers of underfunded plans in ailing companies would disappear.

A full analysis of the pension insurance issue must consider the question of why some pension plans were underfunded in the first place. Did these underfunded plans simply occur because employers were irresponsible and employees were ignorant of the situation?

Several studies by economists conclude that underfunded pension plans are a device that gives unions and firms a common interest and helps to resolve disputes over how to divide the firm's revenues. By underfunding the pension plan, a firm effectively makes employees who are covered by the plan long-term bondholders in the firm.

This need for a common interest is acute in industries where firms have large "sunk" costs, such as those involved in heavy manufacturing. Firms invest in capital only when they believe that long-run income will cover the costs of the capital. The costs are paid up front. Because its capital costs are sunk, the firm will continue to operate as long as it can cover variable costs, even if its income falls considerably below what was expected. Thus, unions could raise wages and lower the firm's income, without endangering jobs, once the capital investment has been made.

Anticipating that the union will raise wages once an investment is complete, the firm will be less likely to make the capital investment in the first place. Both parties, as well as consumers, are potential losers. The firm loses income from a profitable investment. Workers lose jobs. Consumers lose the value of the firm's products. This conflict of interest can be resolved to the benefit of both the firm and the union by creating a common interest—making the employees security holders in the firm via underfunding of the pension plan.

The evidence in favor of this view is first, the association of defined-benefit pension plans with unions. One study shows that while 25 percent of non-union participants are covered primarily or solely by a defined-contribution plan, virtually no unionized participants have such coverage. Second, virtually all systematic underfunding is associated with unions. Pre-ERISA, plans for union members had

funding ratios (funded assets as a proportion of total liabilities) that were on average 30 percent lower than the funding ratios for plans covering non-union employees.

If the underfunded plan was a device for aligning the interests of firms and unions, the passage of ERISA should give cause for companies to seek other devices, and they have. Employee stock option and profit-sharing plans are other ways to give employees an interest in the value of the firm as a whole and not just in the wages they will collect from it. One study shows that companies with unions were 1.3 times more likely to introduce employee stock option or profit-sharing plans, post-ERISA, than were companies without unions. The same study found that over the pre-ERISA period 1968–73 unionized companies were only 0.6 times as likely to introduce such plans.

The passage of ERISA reflects the judgment that although underfunded pensions may have had an economic rationale, the security of retirement income is too important to be left hostage to union/firm disputes. The administration supports this judgment. But the agency that currently provides pension insurance, the PBGC, faces a serious and deteriorating situation. There are several options for dealing with PBGC's burgeoning deficit, including raising the premiums and also risk-adjusting the premiums. Policy in this area should seek to ensure that the Federal Government is not left holding the promises of employers who walk out on their pension responsibilities. It should also ensure that employees who have worked for their pensions—in some cases an entire lifetime—are provided with income in their old age. The cost of making good on underfunded pension promises should not be pushed onto the employers and employees of more responsible firms.

DEREGULATION AND THE FINANCIAL SYSTEM

The recent period of difficulty for many financial institutions coincided with a limited deregulation of financial institutions. Deregulation progressively eliminated ceilings on interest rates paid to depositors and gradually reduced restrictions on types of assets that could be held by thrift institutions. Legislative, legal, and regulatory actions substantially broadened the eligible range of securities market activities of depository institutions, and opened, although only partially, opportunities for interstate operation of depository institutions. The coincidence of deregulation with the problems of some financial institutions has led to the suggestion that deregulation is somehow responsible for these problems.

A more persuasive case can be made for the opposite conclusion—that inappropriate and excessive regulation, combined with inflation and then disinflation, contributed to an environment in which many depository institutions could not have continued to operate without deregulation.

The problems of the thrift industry derive fundamentally from funding long-term, fixed-rate mortgages with short-term deposits. The rise in interest rates made the thrifts temporarily insolvent. True, if the thrifts could have maintained pre-1979 interest rates on deposits, they would not have suffered so severely in 1981 and later, but these institutions could not have retained deposits at low, controlled interest rates. Much more attractive opportunities, notably money market mutual funds, had become available to their depositors elsewhere. And a massive outflow of deposits would have meant the collapse of many thrifts in 1981 or 1982, as they liquidated their mortgage portfolios—at well below book value—to pay off depositors. Therefore, deregulation of interest rates on deposits cannot be the reason for the problems of thrifts. Moreover, even if it had been possible to suppress the new alternatives to deposits, that would only have shifted the problems of the thrifts onto their depositors.

Relaxation of restrictions on assets held by thrift institutions can allow thrifts some benefits from diversification, but may also provide greater latitude for exploiting the deposit insurance system by undertaking highly risky loans and investments. Indeed, some of the current problems involve thrifts that have been established or have expanded rapidly since 1982. But the expansion of activities has two faces. Institutions may expose themselves to more risk, but they may also ultimately bear less risk as a result of more broadly based activities. Risk-adjusted deposit insurance premiums and more economically meaningful capital requirements can reduce the necessity for portfolio regulation.

The recent difficulties of the Farm Credit System and of many smaller commercial banks that lend heavily to agriculture are similar in important respects to those of thrift institutions. Due to either Federal designation or Federal barriers to interstate banking, these institutions have concentrated their lending in such a way that the value of their loan portfolios has been strongly and adversely affected by events associated with the inflationary and disinflationary process. The inflation that fed the boom in agricultural land values in the 1970s also fed the appetite for borrowing to finance farmland and equipment and made lending appear attractive. The decline in farmland values in the disinflation of the early 1980s undermined the security for these loans. In the case of the Farm Credit System, these problems were exacerbated by structural defects of that system. De-

regulation of financial markets and institutions played no role. Further deregulation, however, might reduce such problems by allowing broader diversification of agricultural lending risk through lowering of barriers to interstate banking.

Similarly, the recent problems of some larger commercial banks derive primarily from their choices of loans and investments, and are not the consequence of deregulation. Some large banks that have lent to developing countries have suffered declines in the market value of their equity as the dollar rose and the market reassessed the value of those loans. Some banks that aggressively expanded their loan portfolios by making loans that other institutions were reluctant to fund have suffered losses. Other banks that concentrated lending in industries such as oil and gas drilling have suffered from the declines in these industries.

The episode of increased volatility of interest rates and inflation has resulted in some changes that have made U.S. financial institutions better able to cope with risk of all kinds. Some changes, notably deregulating interest rates, lessening of the barriers to interstate banking, and loosening of portfolio restrictions, were made by regulators. Other changes, such as the introduction of new financial instruments for hedging risks, were the innovations of private markets.

The deregulatory effort should not be regarded as complete. The most promising changes would eliminate aspects of government policy that inhibit diversification. First, it is time to move toward true interstate banking. It is no accident that 97 percent of the outstanding financing provided by the five government-sponsored intermediaries goes to housing and agriculture. Regional components are large in both housing and agricultural credit risk, and if the financial institutions are able to diversify this risk, credit for these borrowers will be less expensive and the markets will allocate credit more efficiently than if it cannot be diversified.

Banks keep, rather than sell, many mortgage, farm, and other loans for which there are currently secondary markets. This suggests that there are costs to gathering and disseminating information about borrowers that make it efficient for loan originators to keep many loans. Given that this is so, there are probably many loans—those with large regional risk components but also complex information about borrowers—for which the most efficient and lowest cost holder is neither a small local bank nor a secondary market customer, but rather a large interstate bank. Large States, such as California and New York, have greater opportunities for intrastate diversification than do smaller States with less variety in their economies. The experience of the large States shows that big banks, little banks, and sec-

ondary markets all have a natural place in the financial sector of the economy.

A similar argument for diversification calls for rethinking the designation of limited-purpose lenders, such as the thrift industry and the Farm Credit System. Eliminating the barriers to diversifying across activities would decrease the probability of failure of these institutions. It would also decrease the likelihood that these institutions might ever pose a macroeconomic threat to the financial system.

Second, the risk that cannot be eliminated through diversification needs to be controlled more effectively by the system of deposit insurance. Deposit insurance can be reformed so that it no longer provides incentives for depository institutions to undertake excessive risk, including the risk inevitably associated with funding long-term, fixed-rate mortgages via short-term, interest-sensitive deposits. Deposit insurance reform should include revisions of regulatory accounting. Shareholders and managers of financial institutions should be made to bear—promptly and effectively—the good and bad consequences of the operations of the institutions they own and control.

Finally, it is essential to avoid the strains on the economy and the financial system that result from macroeconomic policies that induce volatile inflation and interest rates. In the recent episode of volatility, the financial services industry continued to operate smoothly in spite of the failure of many individual institutions. Many reforms have already made the remaining institutions more resilient to such risks, and further reforms can do still more. But even more robust institutions are not invulnerable. Life is risky enough without macroeconomic policy introducing additional uncertainty.

CHAPTER 7

The Economic Effects of Immigration

THE MOVEMENT OF PEOPLE BETWEEN COUNTRIES links national economies. Like international trade in goods, services, and financial claims, international migration connects domestic and international markets. The free flow of resources in response to market signals promotes efficiency and produces economic gains for both producers and consumers. The migration of labor, both domestically and internationally, represents such a flow of productive resources.

Most countries restrict the flow of international migrants. Emigration from a country is a basic human right established by the United Nations Universal Declaration of Human Rights, which states: "Everyone has the right to leave any country, including his own, and to return to his country." The right of immigration into a country, however, is not recognized in international law. Every country has sovereign power over the admission of foreign nationals, either as temporary visitors or as permanent residents. Many countries, most notably the U.S.S.R., restrict emigration as well as immigration.

The United States has a long tradition of assimilating diverse groups into the economic and political life of the Nation. Citizenship has been a traditional consequence of immigration to the United States, and persons born here are automatically citizens regardless of parentage. In many other countries, citizenship is based on lineage, not on birth in the country.

This Nation was largely populated and built by immigrants and their descendents. It remains one of the few major immigrant-receiving countries of the world, symbolizing personal freedom and economic opportunity. For more than 200 years, the U.S. economy has been strong, creating many millions of jobs at growing real income levels. For more than a century, per capita income has been many times higher than the level for most of the world's population. This strength and stability have attracted inflows of foreign capital and immigration.

Economic instability and poor prospects for advancement in many countries have encouraged emigration, while wars and political oppression have induced mass migration of persons in search of safety and political freedom. International migration has also been made

easier by falling transportation costs and better information. Air transportation has significantly reduced travel times, and today's migrants can more easily maintain ties with friends and relatives in their home countries through modern communications.

An individual's decision to migrate, either within a country or across international borders, depends on whether the expected gains outweigh the expected costs. As with most investments, migration has initial costs while its gains are realized over time. An individual's moving costs are personal as well as financial, especially for an international move. Many migrants leave behind a known way of life, friends, and relatives, and they face a period of adjustment in their new country. The gains from migration are also personal as well as economic. In the case of a move to the United States, for example, gains may include greater freedom as well as the expectation of higher income. The economic success achieved by migrants depends on their ambition and entrepreneurial ability, on the skills and capital they bring with them, and on the skills they develop in the United States. Migrants are self-selected based on their ability and motivation to succeed in their new country.

National concern has arisen about the effects of international migration, especially illegal migration, on the United States. Immigration policy and the ability to control the country's borders have serious implications for the definition of national sovereignty. Although many illegal aliens are productive members of society who have established strong community ties, their presence violates U.S. law. Concerns exist as well regarding the social, political, and environmental consequences of immigration.

Immigration policy is not shaped by economic considerations alone, but immigration has important economic effects. Immigrants work, save, pay taxes, and consume public services. At the same time, there is concern that an influx of migrants might reduce job opportunities for some groups of native-born workers and reduce wages. Many are concerned that immigrants may increase the use of public services, including services they are not legally entitled to receive. Examination of these economic issues is a necessary part of the broader analysis of immigration policy. Although economic analysis helps illuminate some of the consequences of immigration, it does not address the fundamental importance of enforcing the law, nor does it suggest that illegal immigration is condoned.

MIGRATION TO THE UNITED STATES

From colonial times until the last quarter of the 19th century, the United States was open to immigrants from all over the world. The

first restrictions on immigration were qualitative, barring convicts and prostitutes. Restrictions on immigration by nationality began in 1882 with the exclusion of the Chinese. Numerical restrictions were first instituted in 1921. These applied to immigration from the Eastern Hemisphere and were based on the composition by national origin of the U.S. population. Numerical restrictions on immigration from countries in the Western Hemisphere were first enacted in 1965.

The 1965 amendments to the Immigration and Nationality Act of 1952, which remain substantially unchanged, abolished the national origin system and set an annual ceiling on immigration to the United States. The worldwide annual ceiling for numerically restricted immigrants is now 270,000, with uniform per-country ceilings of 20,000. The amendments also established a preference system that emphasizes family reunification and, secondarily, employment considerations. The immediate relatives of U.S. citizens are, however, exempt from these provisions and ceilings, as are refugees and persons seeking political asylum.

The 1965 amendments permitted a shift of immigration from Europe to Asia. Prior to the 1960s, the majority of immigrants were European. European immigration first fell below 50 percent of the total in the 1960s, and it has continued to fall to just over 10 percent in the early 1980s. Asians represent an increasing share of total immigration, rising from 13 percent in the 1960s to about 50 percent in the 1980s. Asian immigration also increased because of the admission of Indo-Chinese refugees, beginning in the 1970s. The proportion of legal immigrants from Mexico has been stable at 10 to 15 percent for the past 35 years.

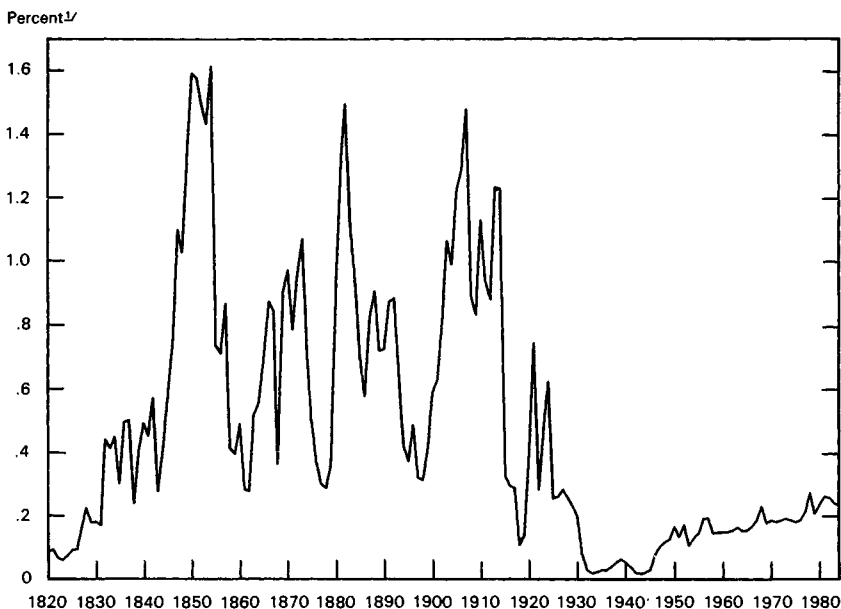
In recent years, legal immigration flows have been about 550,000 per year. These levels are significantly lower than they were early in the 20th century. Chart 7-1 shows immigration to the United States as a percent of the total U.S. population. Legal flows in recent years have been less than one-quarter of 1 percent of the population annually, about half the historical average. Including the estimated flow of illegal settlers does not raise this percentage to the historical average.

Flows of immigrants to the United States are also low relative to domestic migration. Between 1975 and 1980, approximately 20 million people migrated to a new State of residence in the United States. This compares with an overall inflow of 2.5 million immigrants over the same period.

The total foreign-born population in the United States in 1980 was 14.1 million. This represents 6.2 percent of the total U.S. population, which is also low by historical standards. This percentage fell steadily after 1910, but increased in the 1970s. Between 1970 and 1980, the

Chart 7-1

Legal Immigration as Percent of Population, 1820-1984



1/ Legal immigration for fiscal year as percent of July 1 resident population (including Alaska and Hawaii beginning 1940).

Sources: Department of Commerce and Department of Justice.

foreign-born proportion of the population grew from 4.8 to 6.2 percent. Much of this increase can be attributed to low U.S. birth rates and to an increasing flow of immigrants over the period. Even with this recent increase, however, the foreign-born proportion of the population in 1980 was less than half of what it was in 1910.

ALIENS ENTERING THE UNITED STATES

Aliens legally admitted to the United States can be classified into two broad categories—immigrants and nonimmigrants. Immigrants are admitted to the United States for permanent residence and are eligible to become U.S. citizens. Nonimmigrants are admitted for a temporary stay and for a specific purpose.

Immigrant admissions fall into three classes—numerically restricted, numerically unrestricted (mainly immediate relatives of U.S. citizens), and refugees and asylees. Nonimmigrants are composed for the most part of visitors who come to the United States for pleasure

or business. They include temporary workers and students. Although nonimmigrants are admitted for a temporary stay, many of them, such as investors and students, remain here for a number of years. In addition, many aliens are in the United States illegally. Aliens may shift from one category to another during their time in this country. For example, visitors may apply to remain here permanently and undocumented settlers may attain legal resident status.

Table 7-1 shows the number of alien entrants to the United States in fiscal 1984. The figures vary in precision. Inflows of immigrants and nonimmigrants are based on administrative records and are reasonably accurate. Figures for deportable aliens and return migrants are far less reliable.

TABLE 7-1.—*Alien entrants to the United States, fiscal 1984*

Category	Number of persons
IMMIGRANTS	
Numerically restricted.....	262,000
Numerically unrestricted.....	190,000
Refugees and asylees adjusting to immigrant status.....	92,000
Total	544,000
Estimated return migration.....	133,000
Estimated net inflow	411,000
NONIMMIGRANTS	
Visitors for pleasure	6,595,000
Visitors for business.....	1,623,000
Temporary workers.....	69,000
Other ¹	1,140,000
Total	9,427,000
ESTIMATED DEPORTABLE ALIENS	
Settlers (net inflow).....	100,000 to 300,000
Temporary migrants (average stock).....	Less than 1,000,000

¹These include but are not limited to foreign government officials, students, treaty traders and investors, and employees of multinational corporations.

Note.—Data are from U.S. Government administrative records, except for return migrants and deportable aliens.

Sources: Department of Commerce (Bureau of the Census) and Department of Justice (Immigration and Naturalization Service).

Immigrants and Refugees

A preference system controls the admission of numerically restricted immigrants. Preferential status is based on either a family relationship or a prospective job. A prospective immigrant must also prove that he is not likely to become a public charge. About 80 percent of numerically restricted immigrants are admitted under family preferences; the rest receive preference on the basis of occupation. In 1984, 262,000 immigrants entered the United States under this preference system.

Numerically unrestricted immigrants include alien spouses, minor children, and parents of adult citizens. In 1984 these immediate family members and a small number of numerically unlimited "special immigrants" totaled 190,000.

A separate system determines the admission of refugees. Under the Refugee Act of 1980, the President, in consultation with the Congress, annually determines the number and regional allocation of refugee admissions. Political asylum may also be granted to individuals who are in the United States and are able to prove to the Immigration and Naturalization Service (INS) and the Department of State that they are in danger of persecution on return to their home country. Refugees and asylees may adjust to permanent resident alien status after a year. In fiscal 1984, 79,000 refugees and asylees were admitted and 92,000 adjusted to immigrant status. By comparison, there are an estimated 10 million refugees worldwide.

Return migration is estimated by the Bureau of the Census to be about 133,000 per year, yielding a net inflow of legal immigrants and refugees in 1984 of about 411,000.

Nonimmigrants

Of the nearly 10 million nonimmigrants admitted to the United States in 1984, most were visitors for pleasure (6.6 million) or business (1.6 million). The 69,000 admitted for employment included temporary seasonal workers, trainees, or temporary workers of distinguished merit and ability such as scholars and musicians. More than a million others were in diverse categories such as foreign government officials and students.

Deportable Aliens

Millions of aliens cross the U.S. border every year; a small fraction stay legally, and fewer still stay illegally. The flow of undocumented migrants has been difficult to measure. Undocumented aliens, almost by definition, are not identified by any administrative system. The Bureau of the Census estimates that in recent years the net annual increase of undocumented settlers has ranged from 100,000 to 300,000. Thus, as many as 40 percent of all aliens who annually settle in the United States may be here illegally.

Many people believe that illegal crossing of the U.S.-Mexican border is the most common method of entry for deportable aliens. Ninety-four percent of apprehensions of illegal aliens are made at the border. Available information, however, shows that only about half of resident deportable aliens entered the country illegally. The other half of those illegally present in the United States are violating the terms of their nonimmigrant visas by overstaying or working. Because the annual flow of legal nonimmigrants is so large—almost 10

million—even a small proportion of overstayers can amount to a large absolute number who remain in the country illegally.

The Bureau of the Census estimates that the total number of illegal aliens in the United States in 1985 was 4 million to 6 million. Estimates are made separately for settlers and temporary migrants. The Bureau of the Census estimate for settlers is based primarily on its finding that it counted approximately 2.1 million undocumented aliens in the 1980 census. This estimate is derived by subtracting the estimated legal foreign-born population from the 1980 census count of the total foreign-born population. Other demographic evidence is used to take into account those undocumented aliens not counted in the census, yielding a range of 2.5 million to 3.5 million undocumented settlers in 1980. Comparing data from a 1983 Current Population Survey with the Decennial Census shows a net increase of 100,000 to 300,000 per year in the number of undocumented settlers. Assuming the same annual growth between 1980 and 1985 yields an increase in the undocumented alien population of 500,000 to 1,500,000 for the 5-year period. This increase, added to the estimate for 1980, results in an estimated range of 3 million to 5 million undocumented settlers in 1985.

The number of illegal temporary migrants is unknown, but demographers at both the Bureau of the Census and the INS believe that their average population is probably less than 1 million. Temporary migrants may work in the United States for years, months, or every day on a commuter basis.

Unsubstantiated estimates of the illegal alien population have ranged from 2 million to 15 million people. Some of these estimates reflect the number of illegal aliens apprehended by the INS, which increased sharply over the 1970s and reached 1.3 million in fiscal 1985. Apprehensions, however, are not an accurate basis for estimating the size or the growth of the illegal population. Apprehensions count incidents and not individuals. According to INS statistics, about 30 percent of those apprehended admit to at least one previous apprehension. Because the INS focuses its enforcement operations at the border, these counts underrepresent illegal aliens who have violated nonimmigrant visas. In addition, apprehensions reflect the effectiveness of enforcement as well as the volume of attempted illegal entries.

CHARACTERISTICS OF THE FOREIGN-BORN

The foreign-born population enumerated in the Decennial Census includes naturalized U.S. citizens as well as aliens, some of whom live here illegally.

Census data show that newly arrived foreign-born residents are younger on average than native-born Americans. The median age of those who entered the country between 1970 and 1980 was 26.8 in 1980, compared with 30.0 for the population as a whole. The newly arrived foreign-born are predominantly of working age. Seventy-seven percent of those arriving in the United States between 1970 and 1980 were 15 to 64 years of age in 1980, compared with 66 percent of the entire population. The Bureau of the Census estimates that illegal aliens are younger, on average, than legal immigrants.

The 1980 census shows that about half of the foreign-born who entered the United States between 1970 and 1980 were female. The proportion of females among illegal aliens, however, is estimated to be lower.

The recently arrived foreign-born have larger families than the native-born. On the average, there were 3.8 persons in families of those who came in the 1970s compared with 3.3 persons in native-born families. In addition, the proportion of the foreign-born more than 15 years of age who are married is higher than that of the native-born, and the proportion who are divorced is lower.

The distribution of educational achievement is much broader for the recently arrived foreign-born than for the native-born. A significant fraction has little education. Among those 25 years of age and older who entered the United States between 1970 and 1980, 13 percent completed fewer than 5 years of school as compared with 3 percent of the native-born. In contrast, 22 percent of the recent arrivals completed 4 or more years of college compared with 16 percent of the native-born.

Although U.S. immigration policy is based primarily on the humanitarian principles of family reunification and refugee resettlement, most of the foreign-born, including illegal aliens, enter the labor force. The employment-to-population ratio of recent arrivals is higher than that of the native-born. A higher proportion of the foreign-born work in blue-collar and service jobs: 39 percent of recent arrivals had blue-collar jobs compared with 32 percent for all U.S. employed persons; 18 percent held service jobs compared with 13 percent of the U.S. total. The incomes of those who entered the United States between 1970 and 1980 are lower on average than incomes of the native-born, but incomes of those who arrived before 1970 are similar.

The recently arrived foreign-born are concentrated in a few States. More than half live in California, New York, and Texas. Ten States accounted for 80 percent of total immigrants, and no other States had more than 2 percent of the total. The vast majority of the foreign-born live in metropolitan areas; one in five of the recently ar-

rived foreign-born live in the Los Angeles area. Illegal alien residents tend to settle in the same areas as legal aliens, but they are even more geographically concentrated. According to estimates based on the 1980 census and INS data, 70 percent of illegal aliens were living in California, New York, and Texas, compared with 53 percent of legal alien residents.

EFFECTS OF IMMIGRATION ON OUTPUT AND INCOME

Market principles suggest that immigration in a competitive economy increases output and improves productivity. An increase in the supply of immigrant workers increases the output and earnings of other factors of production in the receiving country. Immigration provides increased returns to a wide range of inputs—capital, land, and workers with skills different from those of the immigrants. Inputs to production can become more effective as they acquire greater quantities of labor with which to work. This concept may be illustrated by several examples. A bulldozer on a road construction project is more productive if there are workers to keep it running for multiple shifts, repair it, and redirect traffic away from the construction site. A scientist is more productive if there are assistants to wash the test tubes and type manuscripts. A worker with family responsibilities is more productive if there are others in the household to help with child care and home maintenance. Increased economic returns that result from immigration may also lead to an increase in investment, producing an additional source of growth in output.

Although immigrant workers increase output, their addition to the supply of labor may change the distribution of income. Whenever the supply of labor increases, either because of immigration or increased labor force participation of native-born workers, wage rates in the immediately affected market are bid down. Although total employment in that market will rise, some of those who were initially employed at the higher pre-immigration wage rate may not accept work at the lower wage. Thus, native-born workers who compete with immigrants for jobs may experience reduced earnings or reduced employment.

Those who are concerned about job displacement caused by immigration often focus only on this initial effect. Job opportunities in labor markets where immigrant labor is complementary with native-born labor, however, are likely to rise. This increase in labor demand will raise wage rates and increase the employment of native-born workers—including those who may have been displaced from employment elsewhere. Demand for labor will also increase because the availability of immigrant workers encourages investment in industries

that might not have been competitive otherwise. Moreover, the increased demand for goods and services that results from the consumer purchases of immigrants also tends to increase domestic employment. The aggregate effect of immigration depends on the responsiveness of workers and employers to changing labor market conditions and on the presence of market rigidities, such as the minimum wage, that may impede normal adjustment. As a general rule, increases in output, brought about by a greater abundance of labor and increased returns to other factors of production, outweigh reductions that may occur in the wages of workers who compete with immigrants. Consequently, the net effect of an increase in labor supply due to immigration is to increase the aggregate income of the native-born population.

The economic benefits of immigration are spread throughout the economy. These include increased job opportunities and higher wages for some workers as well as the widely diffused benefits of lower product prices and higher profits. Many people share in the higher returns on capital because capital ownership is widespread through personal and pension holdings. One in four Americans holds stock directly in U.S. firms. In addition, wage and salary workers own a considerable portion of productive capital, mainly through assets in pension funds. In contrast, job losses or wage reductions that may occur as a result of immigration are likely to be more visible than the economic gains. Such losses are likely to be concentrated among groups who compete directly with immigrant labor.

Some have suggested that labor market displacement may be widespread: In 1980, 6.5 million foreign-born residents held jobs, while a total of 7.6 million workers were unemployed. This view implicitly assumes that the number of jobs is fixed and that if immigrants find employment, fewer jobs will be available for the native-born.

Arguments supporting the restriction of immigration to protect American jobs are similar to those favoring protectionism in international trade, which is discussed in Chapter 3. Restrictions on immigration, however, like restrictions on trade, are costly. Limiting the entry of immigrant labor may increase the demand for some groups of native-born workers, but it will impose costs on consumers, investors, and other workers.

EVIDENCE ON LABOR MARKET EFFECTS

Studies have examined the effects of immigration on the employment levels and wage rates of the native-born. It is difficult, however, to isolate the effects of immigration from other factors that simultaneously influence job opportunities. These factors include characteristics of the immigrants themselves as well as industrial and other un-

derlying characteristics of the labor market. A number of studies have attempted to identify these factors.

Some observers have pointed to immigrants who are employed in narrowly defined occupations and geographic areas as *prima facie* evidence that immigrant jobholders displace native-born workers. They cite the growth of ethnic enclaves in several industries, including agriculture, as evidence of possible displacement. It has been observed, for example, that the language of the workplace changes with the concentration of immigrants and that English-speaking workers may consequently be excluded from jobs.

Studies that focus on specific low-skilled occupations or on small segments of the labor market, however, are likely to overstate displacement effects by ignoring job and occupational mobility. Native-born Americans who hold jobs in one sector may move into other lines of work. This appears to be confirmed by more systematic studies of the labor market effects of immigration. Studies that take a broad view of the labor market have found no significant evidence of unemployment among native-born workers attributable to immigration. Any direct effects of immigration on domestic employment have either been too small to measure or have been quickly dissipated with job mobility. Although existing studies may not be conclusive, the evidence currently available does not suggest that native-born American workers experience significant labor market difficulties in areas that have attracted immigrants. Several studies, moreover, have shown that the presence of immigrants in labor markets is associated with increased job opportunities overall, including job opportunities for native-born minority groups.

Some studies of the effects of immigration on wage levels have revealed evidence of adverse wage effects. For example, one study concluded that real wages were 8 to 10 percent lower on average in cities near the Mexican border. Several studies found a reduction in the wages of unskilled workers in areas with high concentrations of unskilled immigrant workers.

Other studies, however, have shown that greater concentrations of aliens in labor markets are associated with higher earnings of native-born workers. Increased wages have been found both for broad groups of workers and also for native-born minority groups with whom immigrants might compete directly for jobs.

The experience of the Los Angeles labor market in adjusting to a growing concentration of unskilled immigrant labor is instructive. One study estimated that more than a million foreign-born persons settled in Los Angeles County between 1970 and 1983. During the early 1980s the foreign-born in Los Angeles County represented close to a third of the total population. Job growth in the area was

strong, and the new immigrants were quickly absorbed into the labor market. New immigrant workers accounted for some 70 percent of the net growth in employment in the 1970s. Job gains by native-born workers were predominantly in white-collar occupations, which expanded rapidly. Job growth among immigrants was concentrated mainly in unskilled jobs. Wage growth was lower than the national average for workers in manufacturing, particularly unskilled manufacturing jobs. In jobs outside manufacturing, however, including jobs in services and retail trade, wage growth was higher than the national average. This study also showed that the unemployment rate in Los Angeles, which had exceeded the national average in 1970, fell below the average by the early 1980s. These results were not, of course, the consequence of international migration alone, but they suggest a smooth labor market adjustment to the inflow of migrants.

Legal and Illegal Aliens

Although aliens who are eligible to hold jobs in the United States are clearly distinct from those who are not, researchers have not been able to isolate separate economic effects of illegal alien workers. Demographic differences between legal and illegal aliens may affect their patterns of labor market activity, but those differences appear to be small. Illegal aliens have a higher proportion of males than legal aliens, are younger, and are less likely to bring family members with them. Illegal migrants are likely to remain in the United States for shorter periods of time than legal migrants. Illegal migrants also tend to have lower levels of education and to work in jobs requiring lower skill levels. Illegal aliens may have less incentive to invest in schooling or other activities that are specifically useful in the U.S. labor market.

Legal and illegal aliens tend to settle in the same geographic areas, making it difficult to distinguish their separate labor market effects. Also, deportation risk notwithstanding, many illegal aliens have been living in the United States for a long time; it is estimated that a quarter have been U.S. residents for more than 10 years. The economic distinction between legal and illegal aliens is further blurred by the fact that many legal resident aliens were undocumented when they initially entered the United States, but later acquired legal status.

Labor Market Absorption of the Foreign-Born

Migrants have initial disadvantages in the labor market because many do not speak English, lack familiarity with national customs and institutions, and are not educated and trained for jobs in the United States. As they invest in education and develop skills, their labor market experiences and earnings can be expected to resemble those of the native-born.

Although the labor market success of immigrant groups depends on their skills and other characteristics, the evidence suggests that immigrant workers have been readily absorbed into the labor market. One dimension of the labor market adjustment of immigrants is their employment over the year. It has been estimated that on average the foreign-born catch up with the native-born in weeks worked in about 5 years; after 5 years there is no observed difference.

Census and other data show that, although the foreign-born initially earn less than the native-born, like the native-born their earnings rise with increased schooling and with U.S. labor market experience. Some results suggest that after 10 to 20 years, the earnings of foreign-born males equal and then exceed the earnings of native-born males with similar characteristics. This implies that the disadvantages of foreign origin diminish, while the favorable effects of self-selection and motivation remain. Apparently migrants work hard to capture the benefits of their investment in coming to the United States.

Many immigrants are entrepreneurs. One study found that foreign-born males are significantly more likely to be self-employed than native-born males with similar skills. Self-employed workers, both foreign- and native-born, had higher annual incomes than salaried workers. Returns on capital owned by self-employed workers may partially explain these differences in incomes. Self-employment also provides greater potential for high work effort. The self-employed work more hours per week than do wage-and-salary workers.

Refugees may not adjust to the U.S. labor market as rapidly as other migrants. Because economic factors are not the primary determinants of their migration, refugees are likely to have fewer of the characteristics associated with high labor market performance. Some refugees, however, may bring substantial amounts of physical as well as human capital. Also, because refugees may not be able to return to their country of origin, they may have greater incentives than other immigrants to adapt rapidly to the U.S. labor market. Limited evidence, based on the experience of Cuban refugees in the early 1960s, suggests that the earnings of political refugees approach, but do not overtake, those of comparable native-born workers.

The children of the foreign-born have better-than-average success in the labor market. Earnings of children of the foreign-born are about 5 percent higher than earnings of children of native-born parents with similar characteristics. Any disadvantages to the second generation that may arise from being raised in a home less familiar with the language and customs of the United States are apparently outweighed by the advantages of having parents who are foreign-born. One study of the children of foreign-born parents found that they have higher investments in schooling than do children of com-

parable native-born Americans, and also better reported health status.

One study of illegal aliens found that their labor market adjustment patterns were similar to those for legal immigrants. Earnings rose with years of schooling and labor market experience in the country of origin, but especially with U.S. labor market experience.

A recent study of apprehended illegal aliens in Chicago showed that they use market opportunities to improve their economic status. The subjects of the study were able to benefit from a competitive labor market, with opportunities for skill improvement and upward job mobility. These illegal aliens were apparently able to work their way up from entry-level jobs. Only 16 percent of those in the Chicago study had wage rates below the Federal minimum of \$3.35 per hour, and some of these were in sectors not covered by the minimum wage. The average hourly wage of these illegal aliens at the time of their apprehension, in 1983, was \$4.50. The INS reports that in fiscal 1985, 14 percent of apprehended illegal aliens who had jobs received wages below the Federal minimum.

One reason for the successful absorption of immigrants into the U.S. labor market is that overall migrant inflows have been low relative to the size of the population, to labor force growth, and to domestic migration. International migrant flows, moreover, historically respond to labor market demands. Before legal restrictions were imposed, immigration increased when the demand for labor was relatively high and decreased when labor demand was relatively low. During the Great Depression, for instance, immigration to the United States dropped sharply and return migration increased. In recent years, numerical restrictions have resulted in queues of potential immigrants waiting for visas and, as a result, have limited the response of legal migration inflows to U.S. labor market conditions. Illegal migrant flows may be more responsive to economic conditions, but are not precisely measurable on an annual basis. Still, migrant flows appear to respond to labor market demands.

Perhaps most important for the absorption of immigrant labor is the strength and flexibility of the U.S. labor market. Workers and employers are generally free to respond to market signals, and to negotiate wages and other terms of employment either directly or through the collective bargaining process. The absence of significant barriers to change and growth has enabled the U.S. labor market to adjust easily to immigrant flows, as well as to other changes in the labor force and the economy.

Over the past several decades, the United States has generated tens of millions of new jobs as it accommodated a substantial influx of new workers. The vast majority of that influx stemmed from the

baby-boom generation reaching working age, coupled with sharply increased labor force participation by women. Roughly 33 million more people were employed in 1980 than in 1960, an increase of about 50 percent. Over the same period, 2 million more foreign-born were employed, or 6 percent of the total increase in U.S. employment. Even allowing for an increased number of employed illegal aliens over the period, however, these figures suggest that immigration has been a relatively small factor in long-term employment growth and in the adjustment of the economy to changing conditions.

IMMIGRATION AND TRADE

The countries of the world are economically linked by the exchange of people, goods, and capital. Both parties gain from trade and, in the absence of restrictions, exchange will continue until potential benefits are exhausted. The movement of labor across borders can be a partial substitute for the movement of goods and capital. When international trade in goods or capital flows is hindered, pressures are heightened for people to migrate instead.

Countries that are relatively well-endowed with natural resources but thinly populated will tend to export products that have a relatively high natural resource content but relatively low labor content. Such countries will tend to import products that require relatively greater inputs of labor. Developing countries, similarly, would have a comparative advantage in producing and exporting products that embody relatively high proportions of low-skilled labor and less capital than would be the case for U.S. production and exports.

Restrictions on trade between developing countries and the United States provide powerful incentives for the migration of low-skilled workers into the United States. The presence of these additional workers in the United States enables domestic business enterprises to produce goods profitably that would not otherwise have been produced here. In the absence of trade restrictions, such goods might have been imported. In the presence of both trade restrictions and effective restrictions on immigration, however, such goods may be available to American consumers only at higher prices.

The production of certain fresh fruits and vegetables in the United States is a frequently cited example of an industry that draws heavily on low-skilled alien labor. Many alien workers are seasonally employed to pick perishable crops. About 15,000 to 20,000 are legally admitted each year, subject to Department of Labor certification. This certification is contingent on a job offer and on a labor market test. Certification is granted if it is determined that qualified workers are not available in the United States and that the wages and working

conditions of the job will not adversely affect similarly employed U.S. workers.

The largest alien work force in agriculture, however, appears to consist of undocumented workers who come primarily from countries in the Western Hemisphere. The inflow of low-skilled alien workers to pick U.S. crops has a long history. The *bracero* program allowed U.S. employers to recruit large numbers of temporary workers from Mexico. The *bracero* program was begun during World War II to alleviate the labor shortage when rural workers left the farms for the higher wages of urban factory jobs. In its peak years, during the late 1950s, more than 400,000 such short-term work permits were issued annually. The program was terminated officially in 1964, but many migrant workers from Mexico still come to the United States without legal sanction.

Although many aliens work on farms illegally, the availability of such workers may enable U.S. production of certain fruit and vegetable crops to remain competitive with that of other nations. The argument is sometimes made, however, that alien labor benefits agricultural producers only in the short run, and that it delays shifts toward mechanization that are necessary to maintain long-run competitiveness with foreign producers. Although restricting the supply of alien farm labor would encourage the substitution of machinery for human labor, it would increase the costs of farm production. Capital-intensive production methods are not inherently more cost-effective than labor-intensive methods. Steps that would induce scarcity by reducing the supply of labor to an industry raise costs and prices and reduce output and growth. A policy of restricting international migration to improve the long-run competitiveness of the United States would have the opposite effect.

FISCAL EFFECTS OF IMMIGRATION

A major concern regarding immigration is the use of public services such as education and low-income assistance by aliens. If international migrants use services that cost more than the taxes they pay, they are a fiscal burden on native-born Americans. If their tax payments exceed the cost of services, however, immigrants are a net fiscal gain for the country. Both the tax payments and the services used are spread over the years after an immigrant first arrives in the United States. Consequently, any assessment of the fiscal effects of immigration must consider whether the present value of tax payments exceeds that of service costs, measured over the years the immigrant is in the United States.

As with native-born Americans, an immigrant's use of public services and the ability to pay for those services through taxation depend on personal and family characteristics and, crucially, on success in the labor market. People in their twenties and thirties and in good health—both the native-born and immigrants—are more likely to be working and paying taxes, and less likely to be dependent on government assistance, than are children, the elderly, or the disabled. Immigrants are typically adults arriving near the start of their working lives. Thus, immigrants, on average, are better able to support themselves through work than is the native-born population, which has a higher proportion of dependents.

A great deal of variation can be observed in the labor market success and consequently the fiscal burden of immigrant groups. As immigrants adjust to their new environment and as their families grow, their demand for public education and other services—and their ability to pay for those services—increases. As with the native-born population, when immigrants age and their children mature, their reliance on government retirement benefits grows but is offset by the entry of their children into the labor market.

PUBLIC SERVICES USED

International migrants, like the native-born, may use three major types of public programs: low-income assistance, social insurance, and education and health. These programs provide benefits directly to recipients. Other public services, such as fire and police protection, that provide general benefit to the community may also have greater demands placed on them by the presence of greater numbers of people. In addition, the presence of immigrants in the United States entails a more intensive use of the country's publicly financed infrastructure—its transportation system, recreational areas, and other facilities.

Eligibility for Services

Legal immigrants to the United States are eligible for most benefits available to citizens. Aliens admitted temporarily and illegal aliens are in many cases ineligible for such benefits.

The major low-income assistance programs funded by the Federal Government, usually in conjunction with State funding, generally restrict eligibility to aliens who permanently and lawfully reside in the United States. These include aid to families of dependent children, food stamps, medicaid, supplemental security income, and housing assistance. What constitutes sufficient legal standing for benefits varies with each program; regulations list specific conditions under which aliens may participate. Some recent court rulings require that benefits under supplementary security income and other programs be

made available to certain aliens who may be in the United States illegally.

Eligibility for benefits under social security and medicare depends on worker and employer contributions to the programs, and not on immigration status. Social security recipients may reside outside the United States, although nonresidents receive less than 1 percent of total benefits. Unemployment compensation is generally restricted to lawful permanent residents of the United States who qualify through their previous work experience.

Local public health facilities normally serve patients without regard to their immigration status; elective treatment in public health facilities is usually limited to persons who are able to pay for services. Public education at the elementary and secondary levels is also available to all residents regardless of immigration status. Legal precedent was established in 1982 by the Supreme Court, which held that Texas could not deny free public education to undocumented alien children. Even prior to this decision, however, most States did not check the legal status of school children or their parents. Moreover, many children of illegal aliens are born in the United States and consequently are citizens eligible for education services without qualification.

Financial aid for higher education and training programs under the Job Training Partnership Act are largely restricted to lawful permanent residents and refugees. The Federal Government funds bilingual education programs that are of use to immigrants, and it also funds a refugee assistance program.

Benefits Received

Little is known about the use of government services by immigrants. Most available studies examine disparate immigrant groups in various time periods, often focusing on immigrants living in particular locations in the country. The evidence that exists, however, suggests that immigrants are not heavy users of public services. Illegal residents are less likely to avail themselves of government programs than are legal immigrants, but the determining factor in service use is not immigration status. The major reasons why illegal residents may receive lower benefits than others is that they are younger and have fewer dependents, which reduces their eligibility for programs.

A recent study shows that some groups of immigrants, such as Asians and Hispanics, have higher participation rates in welfare programs than do their ethnic counterparts born in the United States. Other groups of immigrants, however, use welfare less than the native-born. For Asian immigrants, higher participation is due partly to the relocation assistance offered to political refugees from South-

east Asia in the 1970s. Immigrant groups other than Asians rely on public assistance less than do the native-born with similar incomes.

A study of Mexican migrants in Los Angeles focuses on State and local public services. This study, which includes both legal and illegal residents, finds that these families have more children and thus place greater demands on public schools and health facilities than does the average family. The Mexican immigrant households in this study do not appear to make disproportionate use of other services.

Direct evidence on public service use by deportable aliens is sketchy. Deportable aliens are generally ineligible for Federal and many local benefit programs, but the extent to which they are actually screened out is unknown. The INS is developing a project called SAVE (Systematic Alien Verification for Entitlements), which gives State and local government agencies access to an automated data system to verify the eligibility of alien applicants for selected programs. The INS also provides data on immigration status to many programs and areas through other channels.

Systematic screening is most cost-effective in areas where the concentration of illegal aliens is high. California has one of the oldest alien verification programs in the country, having routinely screened alien applicants for social services for about 10 years. In 1984, almost 30,000 persons or 3 percent of all applicants were denied welfare benefits in Los Angeles because of immigration status. The figure understates the full impact of this program, however, because it excludes ineligible aliens who were deterred from applying by the knowledge that their immigrant status would be checked.

Several studies suggest that illegal aliens use below-average amounts of welfare and other social services. This may be due not only to their demographic characteristics, but also to a fear of detection by authorities and to heightened efforts by some government agencies to limit access to those eligible. In addition, extended family networks may provide a partial means of support in emergencies. It is likely that illegal aliens use public education and health facilities more than welfare and other services because of easier access. This imposes a direct fiscal burden on State and local governments, which provide most of the funding for public schools; local governments also provide funding for local hospitals.

A 1976 study of apprehended illegal workers found that their use of government benefits was very low, reflecting the fact that they were typically young, male, and single. Studies of illegal migrants with longer stays in the country tend to show higher rates of participation in social programs. A recent study of illegal residents in Texas found very little use of social and other welfare services, but substantial use of health and education services. Illegal aliens appear to use

health services more frequently than other services, but most appear to pay for those services.

The stream of benefits received by immigrants over their lifetimes has not been directly surveyed. One study suggests that the benefits received by legal (and some illegal) migrants are initially well below those of the average native-born family. During their first 5 years in the United States, immigrants receive similar welfare and education benefits but lower social security payments. As immigrants remain longer in the country, they receive more education and social insurance benefits. The study estimates that overall use of benefits among immigrants equals the average usage by native-born families only after 15 years of residence.

TAXES PAID

All residents of the United States, regardless of legal status, are required to pay taxes. Employed migrants in most cases are subject to Federal and State income tax withholding and social security taxes. They also pay sales and property taxes.

The extent of tax payments by illegal aliens has been the subject of much debate and analysis. Sales taxes and property taxes, important sources of local revenue, are collected from illegal aliens without substantial avoidance directly at the point of sale or implicitly as part of a rent payment. Social security taxes are automatically deducted from paychecks and may not be avoided easily by illegal aliens, although some employers may fail to make the required payment to the Federal Government. The amount withheld for income taxes may be substantially reduced, however, if an illegal alien claims a large number of exemptions. False exemption claims are difficult to prevent and, according to some accounts, income tax avoidance may be pervasive among illegal aliens. The extent of such tax evasion, however, is not clear.

A study of illegal migrants in Texas found that the vast majority made substantial payments for Federal income and social security taxes, as well as sales and excise taxes. The study did not estimate property taxes, and Texas had no State income tax. A study of Mexican migrants, both legal and illegal, in Los Angeles found that migrants paid below-average State and local taxes (including property taxes), reflecting their below-average levels of income.

These studies reflect tax payments in a single year and reveal little about the lifetime flow of immigrants' tax payments. No survey directly measures the lifetime pattern of tax payments by immigrants. One cross-sectional analysis roughly estimates that the total tax payments of immigrants are below those of the average native-born family only during the first few years after entry. With rising family

incomes in subsequent years, immigrants' tax payments rise. Taxes paid by immigrants are estimated to be higher after 10 years in this country, on average, than taxes paid by the native-born. The estimated differential continues to grow as the immigrants' length of stay in the United States increases.

NET FISCAL EFFECTS

Because of differences in their family characteristics and economic circumstances, immigrant groups may generate greatly varying net fiscal effects. Political refugees may have particular difficulties adjusting to life in a new land, and they benefit from special refugee assistance programs. Those who arrive without basic educational and job skills may find initial problems in the labor market, but the evidence shows that they are able eventually to increase their earnings and reduce their program dependency. Illegal aliens may find it possible to evade some taxes, but they use fewer public services (especially social security benefits) than do other groups.

On the whole, however, international migrants appear to pay their own way from a public finance standpoint. Most come to the United States to work, and government benefits do not appear to be a major attraction. Some immigrants arrive with fairly high educational levels, and their training imposes no substantial costs on the public. Their rising levels of income produce a rising stream of tax payments to all levels of government. Their initial dependence on welfare benefits is usually limited, and they finance their participation in social security retirement benefits with years of contributions.

The distribution of these net fiscal benefits is not uniform. Many of the fiscal costs of migration, such as those arising from pressures on school systems and hospitals, are incurred in areas where there is a high concentration of migrants. Tax collections from migrants in these areas may not fully cover these additional costs. An increase in population, however, generally imposes a fiscal burden on local areas, which is offset by increased local fiscal capacity.

There may also be fiscal spillovers of immigration to other workers. For example, those who face stronger labor market competition may experience a reduction in annual earnings and a corresponding increased reliance on government benefit programs, such as unemployment compensation. Although some workers may be adversely affected, the extent of displacement appears to be small. The net spillover depends on the size of the offsetting reduction in benefit payments to (and increase in tax payments from) persons whose incomes have improved because of the positive economic effects of immigrants. The net fiscal spillover seems likely to be positive, with

greater tax payments and lower benefit costs than would occur in the absence of immigration.

CONCLUSION

For much of the Nation's history, U.S. immigration policy has been based on the premise that immigrants have a favorable effect on the overall standard of living and on economic development. Analysis of the effects of recent migrant flows bears out this premise. Although an increasing number of migrants, including many illegal aliens, have entered the country in recent years, inflows are still low relative to population and relative to U.S. labor force growth.

International migrants have been readily absorbed into the labor market. Although some displacement may occur, it does not appear that migrants have displaced the native-born from jobs or have reduced wage levels on a broad scale. There is evidence that immigration has increased job opportunities and wage levels for other workers. Aliens may also provide a net fiscal benefit to the Nation, often paying more in taxes than they use in public services. Immigrants come to this country seeking a better life, and their personal investments and hard work provide economic benefits to themselves and to the country as a whole.

The economic gains provided by international migration, however, do not justify the presence or employment of aliens in the United States on an illegal basis. Illegal aliens knowingly defy American laws while their presence establishes claims to economic opportunity and Constitutional protections. As a sovereign Nation, the United States must responsibly decide not only who may cross its borders, but also who may stay.