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FOREWORD

This twentieth volume in a series of annual reports entitled *An Economic Report to the Governor of the State of Tennessee* has been compiled in response to requests by state government officials for assistance in achieving greater interdepartmental consistency in planning and budgeting efforts sensitive to the overall economic environment. Both short-term or business cycle-sensitive forecasts and longer-term or trend forecasts are provided in this 1996 report.

The quarterly state forecast through the fourth quarter of 1997 and annual forecasts through 2004 represent the collective judgement of the staff of the Center for Business and Economic Research, College of Business Administration, at The University of Tennessee, Knoxville, in conjunction with the Quarterly and Annual Tennessee Econometric Models. The national forecasts were prepared by the WEFA Group in Bala Cynwyd, Pennsylvania. Both the quarterly U.S. forecast and the annual U.S. forecast are current as of November 1995. Tennessee forecasts, also current as of November 1995, are based on an array of assumptions, particularly at the national level, which are described in Chapter 1. Chapter 2 provides detailed evaluations for each major sector of the Tennessee economy, and Chapter 3 presents the long-run forecast and outlook for the state. This year Chapter 4 concerns the issue of health reform and its consequences for Tennessee and the nation.

The primary purpose of this annual volume--published, distributed, and financed through Economic and Community Development, Department of Revenue, and Department of Employment Security--is to provide wide public dissemination of the most current possible economic analysis to planners and decision-makers in the public and private sectors.

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EXECUTIVE SUMMARY

The U. S. Outlook

Despite rapid growth during the third quarter of 1995, inflation-adjusted U. S. gross domestic product (GDP) is expected to grow at a moderate 2.5 percent pace during 1996. The U.S. unemployment rate is expected to finish 1996 at the relatively low level of 5.8 percent. Inflation appears to be under control, with a moderate 2.5 percent consumer inflation rate expected during 1996. On December 19th, 1995, the Federal Reserve moved to cut the federal funds interest rate one quarter point to 5.5 percent per annum. Provided the federal government demonstrates a credible effort toward deficit reduction, low inflation could translate into deeper cuts in interest rates during 1996.

At a more disaggregated level, the greatest strength during 1996 will be in the investment and international sectors of the U.S. economy. Although consumer debt has been rising fairly rapidly in recent quarters, it is still below its peak prior to the last recession, and consumer confidence remains strong. Low-tech capital spending by businesses is slowing, but investment in information processing equipment is expected to remain strong in 1996. Additionally, the fundamentals for a good housing market appear to be in place. While federal government purchases are expected to decline in 1996, state and local government purchases are expected to rise. Due to a relatively weak dollar combined with slowing U.S. gross domestic product growth, net exports are expected to exhibit strong growth in 1996.

Highlights of the U.S. forecast include the following projections:

- Inflation-adjusted GDP will grow at a modest 2.5 percent annual rate in 1996.
• The unemployment rate will remain relatively low, at 5.8 percent.
• Inflation, based on the consumer price index, will equal 2.5 percent.
• The Federal funds interest rate will be 4.9 percent.

**Short-Term Outlook for Tennessee**

Tennessee has sustained strong economic growth for nearly four years, engineering important gains in employment and income for the state's residents. However, not all regions of the state have enjoyed the same degree of economic progress, as evidenced by substantial variations in unemployment rates and per capita personal income across Tennessee counties. As expected, economic growth slowed somewhat in 1995 relative to the heated pace of 1994. Nonagricultural jobs, which advanced 4.0 percent in 1994, were up at the slower--but healthy--rate of 2.8 percent in 1995. Tennessee nominal personal income climbed 7.0 percent in 1994, cooling off to 5.9 percent growth in 1995.

The slowdown in economic activity in both Tennessee and the U.S. has created some anxiety over the increased likelihood of a more serious economic downturn. Admittedly, both the national and state economies have their weak spots. At the same time, there are ample reasons for optimism, including prospects for lower interest rates through 1996 that will help buoy interest-sensitive sectors of the economy, ranging from automobiles to housing.

The short-term forecast through 1997 reflects continued optimism regarding state and national economic prospects. Modest, noninflationary growth is projected through the forecast horizon, and the state economy should continue to outperform its national counterpart.
Highlights of the short-term forecast for Tennessee include the following projections:

- Tennessee nonagricultural jobs are projected to rise by 2.2 percent in 1996 and 2.4 percent in 1997. The state's manufacturing sector will contract 0.2 percent in 1996, with growth in durable goods employment almost offsetting contraction in nondurable goods manufacturing. The manufacturing sector will enjoy job growth in 1997, although nondurable goods employment will still show contraction. The state's unemployment rate will inch up to 5.3 percent in 1996 and to 5.4 percent in 1997, though these rates are consistent with full employment.

- Tennessee inflation-adjusted personal income will grow 3.4 percent and 3.3 percent in 1996 and 1997, respectively, and nominal personal income is expected to advance 5.8 percent and 6.0 percent. Nominal per capita personal income will climb 4.5 percent in 1996 and 4.7 percent in 1997.


**Long-Term Outlook for Tennessee**

The 1990s have seen impressive growth for both the U.S. and Tennessee as the economy rebounded from recession. Since 1990, the state has registered impressive compound annual growth rates of 4.8 percent and 2.5 percent for output and employment, respectively. This recent growth, coupled with the longer-term trend of relatively stronger growth in Tennessee than in the U.S., has enabled the quality of life in Tennessee to more closely mirror the quality of life for the nation as a whole.

Over the longer term, the service sector has emerged as Tennessee’s largest employer, providing 25 percent of nonagricultural jobs in 1994. The state’s second largest sectoral employer is wholesale and retail trade, which provides 23 percent of Tennessee’s nonagricultural jobs. Growth in services and trade employment has displaced
manufacturing’s dominance, with manufacturing accounting for 22 percent of the state’s jobs in 1994.

Coincident with changes in the mix of state employment are important changes in the composition of total state output. A declining employment share in manufacturing has been met by a stable output share, signifying strong gains in productivity. The steep rise in services employment has not, however, been matched by similarly strong growth in output, indicating stagnant productivity growth.

Tennessee’s strong historical growth is the result of many factors, including important investments in human capital, public infrastructure and private capital. Sustained investments will be needed in the years to come to ensure that Tennessee surpasses national standards of economic well-being.

Highlights of the Tennessee long-term forecast include the following projections:

- Inflation-adjusted output of goods and services will grow at 3.5 percent (CAGR) in Tennessee from 1995 to 2004.

- Tennessee will create 650,000 new jobs by 2004 as nonagricultural employment grows at 2.6 percent (CAGR) over the forecast horizon.

- Tennessee per capita personal income will increase to an inflation-adjusted $18,957 dollars in 2004. Most of the gain will accrue from sources of income other than wages and salary, such as dividend and proprietor’s income, rents, and interest.

- Inflation in the national economy will be quite mild, rising above 3 percent in only one year of the forecast. Interest rates, measured by the bank prime lending rate, are expected to fall to 6.7 percent by 2004.

- Tennessee productivity growth will be 2.5 percent (CAGR) over the forecast horizon. Each Tennessee manufacturing worker will account for $65,000 of output in 2004.
CHAPTER 1
THE U.S. ECONOMIC OUTLOOK

The U.S. economy appears to be neither booming nor busting, with inflation-adjusted gross domestic product (GDP) expected to finish 1996 with a 2.5 percent annual growth rate. The relatively modest growth forecast for inflation-adjusted U.S. GDP is based on mixed signals coming from the U.S. economy. During the first two quarters of 1995, inflation-adjusted GDP grew at the modest seasonally adjusted, annualized rate of 2.0 percent, then in the third quarter revved up to a rapid, seasonally adjusted annualized rate of 4.2 percent. At the same time, the unemployment rate has remained relatively low--in the range of 5.4-5.7 percent--with the October unemployment rate coming in at 5.5 percent, down 0.1 percent from September. But recent indices show some declines. The National Association of Purchasing Management's business index declined to 46.8 in October of 1995.1 Similarly, the index of leading economic indicators fell 0.1 percent in September. See Figure 1.1.

While the economy is providing mixed signals, modest growth is anticipated throughout 1996. It does not appear that the fundamentals for a resurgence of growth similar to that experienced in the third quarter of 1995 are in place. Currently available information appears to signal more moderate consumption growth in 1996 than 1995. In particular, while unemployment is relatively low, job growth during 1995 has been stuck at about half the pace it averaged during 1994. While consumer debt levels are still below their peak prior to

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1This index provides a composite measure of industrial production, orders, inventories, and employment. A number below fifty indicates that the manufacturing sector of the economy is contracting.
the last recession, they have been rising fairly rapidly in recent quarters. At the same time, credit card interest rates remain at relatively low levels and consumer sentiment remains fairly strong. As a whole, these signals seem to indicate that the consumption sector will continue to grow throughout 1996, although at a slower pace than in 1995.

At the same time, the investment boom of the past two years appears to be cooling off. Low-tech capital spending by businesses, which accounts for about two-thirds of all new equipment spending, is slowing down. In the wake of an inventory bubble during the spring
of 1995, business inventories have been exhibiting slow growth recently, due in part to cautious expectations for retail sales during the 1995 holiday season. While federal nondefense purchases were a key factor in the rapid third-quarter growth of GDP, the government sector is expected to contribute little to GDP growth during 1996. On the other hand, strong growth in net exports is expected in 1996 due to a relatively weak dollar and decelerating growth in U.S. GDP relative to that for a number of our key trading partners.

While both bright and dark spots can be found at a more disaggregated level, the overall picture appears to be one of moderate growth for the U.S. economy in 1996. Fortunately, this growth is expected to be realized in an environment with low inflation. In spite of the strong third-quarter showing for GDP, third-quarter inflation, as

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**The New Chain-Weighted Price Deflator**

Traditionally, the GDP Price Deflator has been measured using a fixed-weight price index, which involves a weighted average of price changes from the different sectors of the economy. Under a fixed-weight regime, weights in the price deflator are determined via the importance of the various sectors of GDP in a given (fixed) year. For example, the GDP price deflator for 1995, which used 1987 as the base year, would be calculated as a weighted average of the price changes for the different sectors of the economy between 1994 and 1995. Weights used in this calculation would be determined by the proportion of nominal GDP each sector accounted for during the base year 1987.

The principal problem involved with the fixed-weight GDP Price Deflator is that it ignores the fact that the composition of GDP will change in response to relative prices. For example, if the price of computers was falling over time, then the share of GDP accounted for by computers might change due to altered purchasing patterns. In particular, if the share of GDP accounted for by computers was rising over time, then the weight which should be applied to computer prices in computing the aggregate price index should likewise rise over time. Under the fixed-weight regime, however, the weight applied to computers remains constant at the proportion of GDP accounted for by computers during the base year. Under the fixed-weight regime, then, the weight applied to prices in any sector of the economy would change only when the base year was redefined.

To deal more effectively with this problem--known as substitution bias--the Bureau of Economic Analysis (BEA) will be releasing its new chain-weighted price index in 1996. The chain-weighted GDP Price Deflator is calculated as follows: (1) Price changes in goods and services throughout the economy are weighted by the previous year's weights and are summed to give the aggregate price change implied by the previous year's weights; (2) Price changes in goods and services throughout the economy are weighted by the current year's weights and are summed to give the aggregate price change implied by the current year's weights; and, (3) The two measures of aggregate price change calculated in steps (1) and (2) are then geometrically averaged using the square root of their product to form a new measure of aggregate price change.

The WEFA Group expects the introduction of the chain-weighted price measures to cause a downward revision of 0.3 percent from its current forecast of real GDP in 1996. This will be due, however, solely to a redefinition of what is meant by inflation-adjusted GDP, not to a reevaluation of growth prospects for the U.S. economy. It is important to note that the consumer price index and the producer price
measured by the consumer price index, came in at 2.1 percent, which is the lowest level in two years. If the federal government signs off on a budget that demonstrates a credible effort toward deficit reduction, low inflation should eventually translate into a drop in interest rates, providing an additional spur to U.S. GDP growth.

**Personal Consumption Expenditures**

Since GDP is defined as the value of total goods and services produced in the United States, a convenient format for this chapter involves examining the components that constitute this aggregate quantity. In particular, GDP can be broken down into four categories: personal consumption expenditures, gross private domestic investment, government purchases of goods and services, and net exports (i.e., exports of U.S. goods and services minus imports of foreign goods and services). The first section examines the largest component of GDP—personal consumption expenditures. The second section examines the historically most volatile component of GDP—gross private domestic investment. The third section examines government purchases of goods and services. Due, in large part, to the rapid growth of national debt during the 1980s, government purchases of goods and services have become an increasingly important component of GDP. The fourth section examines our nation's international sector. The chapter concludes with a summary of the outlook for the U.S. economy.

Although personal consumption expenditures account for about two-thirds of GDP, there is a good deal of debate as to their actual importance in determining the time path of GDP. In large part, this debate centers around the nature of movements in personal
consumption expenditures. At one extreme, movements in personal consumption expenditures might be interpreted as a result of changes intrinsic to consumer behavior. Under this interpretation, personal consumption expenditures would be an important determinant of the time path of GDP. At the other extreme, movements in personal consumption expenditures might result solely from consumer expectations regarding other components of GDP. Under this interpretation, personal consumption expenditures merely reflect more fundamental changes in growth prospects for the economy and play no direct role in the determination of the trend path of GDP. See Figure 1.2.
Regardless of the structural interpretation placed on personal consumption expenditures, inflation-adjusted personal consumption expenditures are expected to grow at a rate of 2.2 percent during 1996. Personal consumption expenditures are themselves broken down into three categories: durable goods, nondurable goods, and services. It is anticipated that durable goods, nondurable goods, and services will average inflation-adjusted growth rates of 3.1 percent, 1.4 percent, and 2.3 percent, respectively, during 1996.

To understand the basis for this forecast, it is useful to consider the underlying factors that influence consumer spending. The two most prominent measures of consumer confidence--the U.S. Conference Board's Index of Consumer Confidence and the University of Michigan's Index of Consumer Sentiment--have been subject to fairly substantial swings with an overall, slight downward trend from about January of 1995. While the level of each confidence index indicates that consumers are still fairly optimistic, the slight downward trend can be interpreted to mean that consumers are becoming more cautious.

The anticipated growth in durable goods is fueled by expectations of strong growth in furniture and household equipment sales. The anticipation of strong growth in furniture and household equipment sales is, in turn, due in part to anticipated improvements in the market for new housing and in part to conditions in consumer credit markets. In particular, credit card interest rates are at relatively low levels and credit cards are now easier to obtain. Provided the current consumer debt burden is not excessive, the combination of low interest rates and easier access to credit are promising signs for furniture and household equipment sales in the near term.
Based on such indicators as payments of interest and principal on installment and mortgage debt and the 30-day delinquency rate, there is little evidence that the current debt load on consumers is excessive. Payments of interest and principal on installment and mortgage debt as a percent of personal income are rising, but still remain well below their previous peak in late 1989. Similarly, the 30-day delinquency rate, while also rising, is still below its position at the beginning of the last economic downturn. Nevertheless, the increasingly tight debt situation confronting many consumers will limit their contribution to GDP growth in the short term.

While the outlook for durable goods consumption as a whole is favorable, inflation-adjusted consumer spending on new automobiles in the national economy is expected to finish 1995 down 7.1 percent from 1994. While many of the new automobile product lines introduced in 1995 have more product content than the ones they replaced, it appears that consumers have become increasingly more interested in the bottom-line price. In particular, models that have been selling well have been characterized by low cost and few frills (e.g., the GM Cavalier/Sunfire and the Lumina). Additionally, it is expected that used automobile sales, a low-priced substitute for new automobiles, will finish 1995 10.1 percent higher than in 1994. Used automobile sales will be buoyed by a large influx of previously leased vehicles.

Employment prospects are intimately related to income expectations and hence to consumption decisions. An interesting question involves why this recovery has exhibited such lackluster employment growth. Long-term U.S. unemployment typically rises sharply
during recessions, followed by rapid declines during recoveries.\textsuperscript{2} During this recovery, long-term unemployment has declined only about 3 percent from its 1992 peak. When contrasted with the 10 percent decline following its previous peak in 1983, this number seems rather anemic. For some reason, currently unemployed individuals remaining in the labor force are now choosing to search longer for new employment. This may be due in part to reduced geographical mobility. In particular, the recovery has not occurred uniformly throughout the U.S. Rather, some regions have experienced relatively slow growth (e.g., the New England and Middle Atlantic States), while others have experienced rapid growth (e.g., the Mountain and East South Central States, including Tennessee). It appears that many out-of-work individuals are averse to incurring the economic and social costs associated with relocation, especially when the new employment opportunity may prove not to be permanent. With the rise of two-worker households, many families feel less need to relocate to a new job when just one of the breadwinners is out of work. If geographical mobility is declining, then the natural rate of U.S. unemployment may be rising.

In summary, while sales of durable goods are anticipated to remain strong through 1996, it is expected that inflation-adjusted personal consumption expenditures as a whole will grow at a slightly lower rate than inflation-adjusted GDP. Nonetheless, the consumption sector does not appear to be exhibiting the kinds of signals that would anticipate recession in 1996. Additionally, consumer price inflation, as measured by the consumer price index, appears to be under control. Subject to a sound resolution of the federal budget, these

\textsuperscript{2}An unemployment spell is classified as long-term if it persists more than six months.
conditions translate into lower consumer interest rates, which would provide an additional spur to consumption expenditures in 1996.

**Gross Private Domestic Investment**

Gross private domestic investment includes investments in residential housing, business equipment and structures, and inventories. This component of GDP is historically the most volatile one. While typically constituting less than one-fifth of GDP, it is considered by many to be the most important GDP category, because downturns in business investment spending often precede downward movements in GDP. See Figure 1.3.

It is a concern that investment may taper off, compromising the nation's prospects for growth. However, it is expected that inflation-adjusted gross private domestic investment will finish 1995 with a strong 8.7 percent annual growth rate. While this is down 7.4 percentage points from the 1994 growth rate, it still represents healthy growth in gross private domestic investment and is consistent with the belief that inflation-adjusted GDP will continue to expand in 1996. However, inflation-adjusted gross private domestic investment is expected to grow at a more moderate 4.4 percent pace during 1996.

Among the categories of gross private domestic investment, several are expected to display especially strong performances. Due to low vacancy rates nationwide, inflation-adjusted commercial and industrial buildings are expected to finish 1995 with over 12 percent growth rates. However, these categories are expected to display more modest growth rates of 2.6 and 1.7 percent, respectively, in 1996. For the third straight year, inflation-adjusted producers' durable equipment is expected to exhibit a robust performance, finishing
1995 with a 16.2 percent annual growth rate. Also, for the third straight year, these gains are primarily due to advances in inflation-adjusted information processing equipment. Inflation-adjusted information processing equipment is expected to finish 1995 25.2 percent higher than its 1994 level, in spite of the fact that inflation-adjusted information processing equipment finished 1994 at 24.0 percent higher than in 1993, and finished 1993 at 28.1 percent higher than in 1992. It is anticipated that producers' durable equipment will average a more modest, but still robust, 8.2 percent growth rate in 1996. The expectation of a decline
in the growth rate of producers' durable equipment during 1996 is based on an anticipated decline in the rate of growth of information-processing equipment to the more sustainable rate of 14.2 percent during 1996. Also, substantial declines in the rates of growth of inflation-adjusted industrial equipment and transportation equipment are anticipated.

One of the big disappointments during the first two quarters of 1995 was the lackluster performance of single-unit residential structures (i.e., housing). Following exceptionally strong performances in 1992, 1993, and the first two quarters of 1994, the housing market collapsed in the third and fourth quarters of 1994. The dip in housing continued into 1995 where, during the first two quarters, housing displayed seasonally adjusted, annualized inflation-adjusted growth rates of negative 6.8 percent and negative 26.2 percent, respectively.

Despite disappointing performance in recent quarters, the fundamentals for a good housing market in the near future are in place. As mentioned earlier, payments of interest and principal on installment and mortgage debt as a percent of disposable income are rising, but they are still well below their late 1989 peaks. Additionally, both fixed and adjustable mortgage interest rates are about 2 percentage points below their 1989 peaks, and further declines in mortgage interest rates during 1996 are expected. Based on these fundamentals and the expectation for continued growth in inflation-adjusted GDP, we can expect single-unit residential housing to grow at a 2.8 percent rate during 1996.
Government Purchases of Goods and Services

Federal, state, and local government purchases of goods and services account for less than one-fifth of GDP. However, there are good reasons to believe that government spending and borrowing decisions are important determinants of economic growth. Governments can influence GDP through three channels: taxes, spending, and interest rates. Taxes affect GDP by influencing consumption and investment decisions. Government spending impacts GDP directly through the government purchases of goods and services category of GDP. Governments influence interest rates both through their direct participation in capital markets, and indirectly through the Federal Reserve's response to government spending and tax decisions. See Figure 1.4.

At the aggregate level, inflation-adjusted government purchases of goods and services are expected to finish 1995 at 0.1 percent higher than in 1994 and to finish 1996 0.5 percent higher than in 1995. This means that government purchases should decline as a share of GDP in 1996. Even though little change is expected in inflation-adjusted government purchases, the story of federal government purchases versus state and local government purchases is considerably more interesting. In particular, inflation-adjusted federal government purchases are expected to finish 1995 down 3.4 percent, and to finish 1996 down 2.2 percent from their anticipated 1995 level. On the other hand, inflation-adjusted state and local government purchases are expected to finish 1995 up 2.1 percent, and to finish 1996 up 1.9 percent from their anticipated 1995 level.

These expectations are driven largely by current movements in the U.S. Congress to shift more responsibilities to the states. While aggregate government purchases will decline
as a share of GDP, the typical state and, perhaps, local government unit will find its purchases relative to federal purchases playing a larger role than previously. At the federal level, the burden of these reductions is expected to fall primarily on national defense. Expenditures on national defense are projected to finish 1995 down 5.2 percent and 1996 down 3.4 percent. These projections must, of course, be tempered somewhat by the uncertainty involved in the currently developing peace-keeping mission in Bosnia.

It is expected that the present and future time path of the federal budget deficit will have a direct causal effect on the Federal Reserve's actions regarding interest rates. Depending on the resolution of the current budget debate between the Clinton Administration
the U.S. Congress, the Federal Reserve could move to cut interest rates in 1996 by one to two percentage points, provided inflation remains under control.³

An unresolved issue which promises to remain in the spotlight during 1996 involves the financing of medical care. The budget reconciliation act in the U.S. Congress proposes to largely eliminate open-ended entitlements wherein the federal government picks up about half of the Medicaid tab. Instead, the states would receive predetermined block-grants earmarked for the funding of medical care. The advantage to this policy change is that states would have considerably more freedom in designing and implementing their respective health care programs. The disadvantage is that the amount of money each state would receive through its block-grant would be less than it currently gets under the entitlement plan. Moreover, concerns have been raised that the block grant scheme would shift risks to the states, since the block grants would remain the same regardless of economic conditions, while the number of Medicaid recipients would rise during periods of economic downturn.

³Even as this report was being written, the Federal Reserve moved on December 19, 1995, to cut the Federal Funds rate one-quarter point to 5.5 percent. Despite this cut, the real interest rate—i.e., the nominal interest rate minus the inflation rate— is still relatively high.
The proposed block-grant system could well result in efficiency gains through innovative managed care programs, but in many states it would be difficult for such cost reductions to make up all the difference in monies between the current entitlement system and the proposed block-grant scheme. In the absence of strong economic growth, covering Medicaid bills under the proposed block-grant scheme in the short-term would require states to either designate a larger proportion of their respective budgets to Medicaid or limit the medical care services covered. Either of these scenarios is likely to encounter political difficulties.

A third option involves increasing the supply of health care. While this option would require an implementation lag, it may be the only viable long-term solution to rising health care costs. Due to the relatively inelastic nature of the demand for health care, a given percentage decrease in the price of health care will result in a smaller percentage increase in the quantity of health care demanded. This means that a policy which reduces the per-unit cost of health care will likewise reduce total expenditures on health care, even though more health care would be provided to the general population.

The trick, of course, is implementing a policy that reduces the per-unit cost of health care. Perhaps the most obvious candidates are increasing medical school admissions by admitting more students to existing medical schools, opening new medical schools, or a combination of both. In addition to helping alleviate the current widespread shortage of medical doctors, increasing the rate of growth of medical doctors could slow the rate of growth of per-unit health care costs. Due to the inelastic nature of medical care demand, this could reduce the rate of growth of medical care costs in aggregate. Given the currently high
standards for medical school admission and the vast pool of highly qualified candidates, this policy could be carried out with little or no loss in the quality of medical care provided.

**Exports and Imports of Goods and Services**

The international sector includes exports of U.S. goods and services and imports of foreign goods and services. A rise in exports of U.S. goods and services increases U.S. GDP, while a rise in imports of foreign goods and services decreases U.S. GDP. Due to trade liberalization efforts and reductions in transactions costs of international trade, net exports (i.e., exports of U.S. goods and services minus imports of foreign goods and services) are becoming increasingly sensitive to international income differentials and relative prices. See Figure 1.5.

For example, when foreign countries are experiencing rapid growth, their demand for goods and services also grows rapidly. Presumably, some of this foreign demand involves a demand for U.S. goods and services. Thus, a rise in rest-of-world income growth relative to U.S. income growth tends to increase net exports by decreasing U.S. imports of foreign goods and services relative to U.S. exports of goods and services. Similarly, when the U.S. dollar is weak (i.e., cheap in terms of the currencies of foreign nations), U.S. goods and services appear relatively cheap to foreigners, thereby increasing the demand for U.S. goods and services abroad.

The U.S. dollar is currently weak relative to the currencies of three of our key trade partners--Japan, Germany, and France--making U.S. goods and services more attractive in those countries. While inflation-adjusted growth in U.S. GDP is expected to outperform the
rest-of-world GDP index for 1995, this differential is expected to dissipate in 1996. By the end of 1995, inflation-adjusted net exports should decline 12.5 percent from their 1994 level, due primarily to more rapid growth in inflation-adjusted U.S. GDP relative to the rest-of-world during 1995. As this income differential dissipates in 1996, the relatively weak dollar should precipitate a 6.3 percent rise in inflation-adjusted net exports relative to their anticipated 1995 level.

At a more disaggregated level, U.S. exports have been growing at a rapid pace during 1995. In particular, computer equipment has displayed strong sales abroad. Inflation-adjusted exports of computer equipment are expected to finish 1995 at 38.0 percent higher than in 1994, and to grow 24.3 percent during 1996 from their anticipated 1995 level.
Due primarily to efficiency gains resulting from international competition, the U.S. has averaged unit labor cost increases of a mere 1.1 percent over the past five years. This is the smallest increase in unit labor costs of all the G-7 countries, although Canada, France, and Japan have also had relatively small increases averaging about 1.5 percent. Over the past year, the Labor Department's report on employment costs indicated a mere 0.6 percent increase in wages and benefits for the U.S. civilian work force. Further, U.S. wages and benefits are up only 2.7 percent from their year-ago level, the smallest increase since the data recording began in 1982. The increase in U.S. competitiveness is expected to result in strong growth in U.S. exports through the end of the decade.

Inflation-adjusted U.S. imports, particularly imports of capital goods, have likewise been growing rapidly during 1995. The rapid growth in capital goods imports is primarily due to the strong growth in gross private domestic investment, and inflation-adjusted capital goods imports are expected to decelerate in 1996 along with gross private domestic investment.

An interesting development in recent years has been the U.S.-China trade relationship. In 1990, the value of Chinese goods and services accounted for less than 3 percent of U.S. imports, while the value of U.S. goods and services accounted for almost 10 percent of Chinese imports. As of 1994, however, the value of Chinese goods and services accounted for almost 6 percent of U.S. imports, while the value of U.S. goods and services accounted for less than 9 percent of Chinese imports. The result has been a widening inflation-adjusted U.S. trade deficit with China. The rising trade deficit with China may lead
to some tension during the next round of the General Agreement on Tariffs and Trade meetings as China becomes a more and more central trading partner in the coming years.

The abrupt decline of the Mexican economy in 1995 has virtually dashed any near-term hopes of trade with Mexico providing a boost to demand for U.S. products and has raised questions regarding the North American Free Trade Agreement (NAFTA) itself. Due to factors unrelated to the passage of NAFTA, Mexico's GDP growth plunged in 1995 to just under negative 5 percent, and the Mexican unemployment rate soared from under 4 percent to about 7 percent. Further, due in part to the collapse of the peso on October 26th, the peso is exceedingly cheap relative to the dollar. The Mexican economy appears to have bottomed out, but its road to recovery will be slow and painful. In the long-term, Mexico, with its vast pool of cheap labor, still has the potential to become a First World economy. In the near term, however, expect to see slack Mexican demand for U.S. products.

**Forecast Summary and Conclusion**

The general picture for 1996 is one with continued spending increases by consumers, businesses, and governments, albeit at a slower pace than in 1995. As a result, growth will decelerate, but there is little to indicate a recession during 1996. Additionally, rising inflation during 1996 is not expected. The soothing scenario of economic growth without inflation is made possible by the recent rising trend in U.S. productivity, keeping per-unit labor cost low relative to output per hour worked. Long-run economic growth depends critically on productivity growth. Barring the cyclical movements inherent in all free market economies,
continuation of the current trend in U.S. productivity is the key to a rising standard of living for all Americans in the years to come.

Based on currently available information, expect the 1996 U.S. economy to be characterized by the following: (1) Inflation-adjusted GDP will grow at a modest 2.5 percent annual rate; (2) The unemployment rate will be at a relatively low level of 5.8 percent; (3) Inflation, based on the consumer price index, will equal 2.5 percent; (4) The Federal Funds rate will equal 4.9 percent, the Bank Prime lending rate will equal 7.9 percent, and the Effective Mortgage Rate will equal 7.6 percent; and, (5) In nominal terms (i.e., without inflation adjustment), the federal budget deficit will be in the neighborhood of $141 billion.
For well over four years, the Tennessee economy has enjoyed strong, uninterrupted growth. Notable gains have been recorded for employment and personal income, and the state's unemployment rate fell to an unprecedented low seasonally adjusted annual rate (SAAR) of 4.0 percent in the first quarter of 1995. By most measures, Tennessee has outperformed the national economy in recent years. (For a longer-term perspective on state and national growth, see Chapter 3.) For example, in 1994 the state's unemployment rate averaged 4.8 percent and nonagricultural jobs were up at a vigorous 4.0 percent pace. In the same year, the unemployment rate stood at 6.1 percent for the national economy, and nonagricultural jobs grew at the slower, but healthy, rate of 3.0 percent.

As anticipated in last year's Economic Report to the Governor, economic growth has moderated for both the national and state economies. Job creation in Tennessee slowed to 2.6 percent and 2.3 percent (SAARs) rates in the first and second quarters of 1995, respectively; job creation for the national economy fell to 2.6 percent and 1.0 percent (SAARs) during the same periods. The Tennessee unemployment rate, which had dipped to 4.0 percent (SAAR) in the first quarter of 1995, climbed to 4.7 percent (SAAR) in the second quarter, and the state's manufacturing sector experienced its first quarterly employment loss since the second quarter of 1991. Although growth rebounded in the third quarter, the economy’s performance remained subdued relative to 1994.
Anxiety over the future direction of the economy appears to be mounting. At the national level (see Chapter 1), weak growth in inflation-adjusted income, increasing debt burdens and concerns over job security will restrain the critical consumer, who accounts for almost two-thirds of overall spending in the economy. Investment has slowed, and weakness in the economies of many of our international trading partners (from Mexico to Japan to Western Europe) may limit export growth. And the Federal government's difficulties in bringing the federal budget into balance has created uncertainty in global financial markets and sustained relatively high interest rates. Tennessee has its growing pains as well. Many regions of the state, especially Middle Tennessee, are experiencing labor shortages that will constrain future growth, while certain other regions of the state have at the same time endured very high levels of unemployment. The inventory accumulation of manufactured products taking place nationally, weaknesses in automobile sales and continued erosion of the textile and apparel sectors all have negative implications for the state's pivotal manufacturing sector.

Despite the slowdown in economic activity--and despite some noteworthy trouble spots--both the national and state economies remain on a firm footing and appear poised to enjoy sustained growth throughout the short-term forecast horizon. On the brighter side, consumer optimism remains relatively high, interest rates are expected to fall throughout the winter and into the spring, inflation remains in check, productivity is showing strong gains, and growth has a chance of being restored for a number of our more important international trading partners. Barring some unforeseen shock, all indications point to a period of moderate, stable growth through the next two years.
The remainder of this chapter explores short-term economic prospects for Tennessee, extending through 1997. The discussion begins with a brief review of recent economic trends before turning to the short-term forecast itself. The last section of the chapter examines the economic outlook for Tennessee's agricultural sector.

**Recent Economic Trends**

The Tennessee economy closed out the fourth quarter of 1994 on a high note, recording an exceptionally strong increase in inflation-adjusted personal income--more than three percentage points ahead of the healthy pace set by the national economy. The state and national economies showed some signs of faltering in the first and second quarters of 1995. The Tennessee unemployment rate began to rise, and personal income growth crawled forward at a snail's pace for both the state and the nation. Fortunately, the state and national economies enjoyed a modest rebound in the third and fourth quarters of the year.

**Employment**

Nonagricultural job growth has been exceptionally strong in Tennessee, up 4.1 percent between 1993:3 and 1994:3, as shown in Figure 2.1, for a net gain of 95,500 jobs. Job growth was up at the slower rate of 2.4 percent between 1994:3 and 1995:3 (the last quarter for which historical data are available), reflecting net job creation of 57,800.

Growth in nonagricultural jobs shows considerable variation across sectors of the economy as well as across time. For example, between 1993:3 and 1994:3, employment in the state's manufacturing sector enjoyed 1.9 percent growth, as the durable goods component
FIGURE 2.1  
Tennessee Nonagricultural Job Growth, by Sector  
1993.3-1994.3 and 1994.3-1995.3


advance of 4.3 percent more than outstripped a 0.7 percent contraction in the nondurable goods sector. Between 1994:3 and 1995:3, manufacturing employment dipped 1.8 percent as both durable and nondurable goods sectors contracted.

The construction sector has experienced job gains in excess of 6 percent during both of the periods shown in Figure 2.1, with vigorous growth due to the population and investment boom taking place in Tennessee. The trade and services sectors, which together accounted for nearly 50 percent of all nonagricultural jobs in 1995, have had growth far in excess of the state average. Finance, insurance and real estate (FIRE) and transportation,
communication and public utilities (TCPU) have witnessed sharp reductions in the rate of employment growth in the more recent period shown.

One of the bright spots in the Tennessee economy has been the rapid development of the transportation equipment component of durable goods manufacturing. The most visible aspect of this sector is automobile assembly. (The transportation equipment sector also contributes in other important ways, including the manufacture of automobile parts, aerospace products, bicycles, aircraft and aircraft parts, railroad cars and ships.) Tennessee is home to two automobile assembly facilities (Nissan and Saturn) and is at the heart of the newly evolving "automobile alley," extending from Alabama (the site of the new Mercedes Benz sports utility assembly plant) to the upper Midwest. Unlike many of the industries that have historically taken root in Tennessee, the transportation equipment sector tends to be highly capital intensive and pays wages in excess of the state average. Moreover, the output of this sector competes heads up with similar products produced around the globe. The creation of jobs in sectors such as this are the key to continued income growth in Tennessee relative to the nation.

Figure 2.2 illustrates growth in the overall transportation equipment sector for Tennessee and the southeastern states in terms of its increased share of total manufacturing employment. In 1980, Tennessee ranked sixth from the top, with only 4.6 percent of all manufacturing jobs in transportation equipment. By 1994 Tennessee had sharply increased its concentration in transportation equipment to 9.5 percent, due to the near explosion of automobile assembly and parts manufacture. Eight other states increased their concentration of employment in transportation equipment over the period shown, in turn
allowing Tennessee to rise to only fifth place among the southeastern states. Reasons for this sharp growth in the southeastern states include the generally favorable business climate, low union influence and the close proximity to final consumer markets.

The influence of the transportation equipment sector spans the state but is concentrated in certain areas, especially Middle Tennessee. Figure 2.3 focuses on a subset of the transportation equipment sector, illustrating the number of automobile supplier facilities, by county, for 1994, drawn from a database developed by the Center for Business and Economic Research as part of its ongoing analysis of the region's automobile
FIGURE 2.3
Automobile Supplier Plants in Tennessee

sector. The figure shows a high concentration in and around Davidson County, at the critical junction of interstates 40 and 65. With few new assembly facilities being considered for development, growth in the number of automobile suppliers is expected to slow in the years to come. Some additional growth may be realized in response to the recent sitings of Mercedes Benz and BMW; but little growth is expected in response to the development of the new Toyota full-size truck facility to be sited in Indiana, as Toyota will rely largely on its existing supplier network.
Unemployment

As noted above, the state's unemployment rate has been on a slow ascent since bottoming out at 4.0 percent (SAAR) in the first quarter of 1995. The unemployment rate for all of 1995 is expected to be 4.8 percent. While unemployment rates remain low in most counties of Tennessee, there are some pockets of the state characterized by very high rates of unemployment. Figure 2.4 illustrates the prevailing (non-seasonally adjusted) unemployment rate for October, 1995, by Tennessee county. Nine counties had unemployment rates in excess of 10 percent in October, with the highest rate--20.7 percent--recorded in Johnson County. At the same time, the core counties of all the state's metropolitan statistical areas (or MSAs) enjoyed unemployment rates of 5 percent or less.

Unemployment rates, as with other measures of economic performance, tend to be highly correlated with levels of educational attainment. Consider first the case for individuals. In 1990 an adult Tennessean with a high school degree earned a $5,096 premium above the annual earnings of one without a high school degree; a bachelor’s degree yielded a premium of $11,971 above a high school degree. In the same year, those without a high school degree experienced unemployment rates that averaged 8.5 percent, much higher than the 4.9 percent rate for those whose highest level of educational attainment was a high school diploma. (For an illustration of these data, see Figure 4.5.) Educational attainment also has a strong bearing on regional economic performance. A well educated workforce can foster its own grassroots growth and can help retain and attract quality employers. Better educated workers also have a better chance of adapting to changing economic circumstances arising from structural change in the economy.

The unemployment-education link at the regional level is shown in Table 2.1, where three ranges for county unemployment rates are aligned with two alternative measures of

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<th>TABLE 2.1</th>
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<td>Educational Attainment</td>
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<tr>
<td></td>
<td>Percent Adult Population Less than 9th Grade</td>
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<tr>
<td></td>
<td>Percent Adult Population with at Least High School Degree</td>
</tr>
<tr>
<td>State Average or Less (Less than or equal to 5%)</td>
<td>12.80</td>
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<tr>
<td>Above State Average but Less Than 10% (Less than 10%) (Between 5% and 10%)</td>
<td>22.49</td>
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<tr>
<td>Equal to or Greater than 10%</td>
<td>25.37</td>
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educational attainment, percent of the adult population with less than a ninth grade education and percent of the adult population who possess a high school diploma. There is a strong correlation between county unemployment rates and the level of a community's educational attainment. Those Tennessee counties that have an unemployment rate at or below the state average have a much smaller share of the adult population with less than a ninth grade education and much larger share of the adult population with a high school degree. Those communities with unemployment rates above 10 percent have a disturbingly large share of the population with inadequate levels of educational attainment. To place the figures for the high unemployment communities in perspective, on average, 45 out of 100 adults have not completed high school.

**Population**

Tennessee's population expanded 6.2 percent during the decade of the 1980s, versus 9.8 percent for the U.S. Yet between 1990 and 1994, the state had already experienced 6.1 percent population growth, creating serious growing pains in some communities. People are drawn to Tennessee for a host of reasons, from its natural environment to expanding job opportunities. Population growth rates, by grand division and by individual county, are illustrated in Figure 2.5 for 1990-1994. Note that the population in the middle portion of the state has jumped 8.6 percent, versus 5.5 percent for East Tennessee and 3.8 percent for West Tennessee. In Middle Tennessee, Maury, Montgomery, Rutherford and Williamson Counties have experienced population growth in excess of 15 percent. Of the four most populous counties in the state, Knox County had the highest growth of 6.5 percent, followed by Shelby
FIGURE 2.5
Tennessee Population Growth, by County and Grand Division, 1990-1994

Source: U.S. Bureau of Census.

(3.8 percent), Davidson (3.2 percent) and Hamilton (2.5) Counties. Only four Tennessee counties--Clay, Haywood, Jackson and Pickett--have witnessed contraction in their population, although the total loss in population was only 369.

Income and Earnings

Total inflation-adjusted personal income was up only 1.2 percent in 1995:1, on the heels of a 10.0 percent (SAAR) gain in 1994:4. This is one of the few quarters in recent history during which the national economy outstripped the state, as U.S. personal income was up 5.1 percent (SAAR). The second quarter saw little improvement, with Tennessee inflation-adjusted personal income up only 1.5 percent (SAAR). Nonetheless, Tennessee's
meager rate of growth was more than twice that recorded by U.S. For the year as a whole, Tennessee personal income was estimated to rise 3.6 percent versus 3.8 percent for the U.S. Tennessee per capita personal income actually slipped 0.1 percent (SAAR) in 1995:1, rebounding with positive but weak growth of 0.3 percent (SAAR) in 1995:2. Growth of 2.3 percent was anticipated for 1995.

Per capita personal income is unevenly distributed across regions of the state, as shown in Figure 2.6. (Note that 1993 is the most recent year for which historical county level per capita personal income data are available.) The 1993 average in Tennessee was $18,455, or 88.7 percent of the national average. Only nine counties had per capita personal income in excess of the state average, and only four counties (Davidson, Hamilton, Shelby and...
Williamson) had per capita personal income in excess of the national average. The lowest levels of per capita personal income were in Hancock ($10,369), Johnson ($10,440) and Van Buren ($10,718) counties. Raising per capita personal income hinges on sound investments in human capital, private capital and public infrastructure, and the creation of jobs for the future that are better than the jobs of today.

Aggregate inflation-adjusted wage and salary personal income, which accounts for about 60 percent of total personal income, expanded by 11.5 percent (SAAR) in 1994:4, then slipped 2.7 percent (SAAR) in 1995:1 before rebounding with a 0.3 percent (SAAR) gain in 1995:2. Growth for 1992 should register 2.6 percent. The inflation-adjusted annual wage per worker declined slightly in 1993 and was up 1.3 percent in 1994. The first quarter of 1995 saw the average annual wage per worker slip 5.1 percent (SAAR), with a further decline of 2.0 percent (SAAR) recorded in 1995:2. A reduction of nearly 0.2 percent was expected for the annual inflation-adjusted wage for 1995. The rather lethargic growth in Tennessee inflation-adjusted annual earnings per worker parallels the situation for the national economy.

Figure 2.7 illustrates the Tennessee average annual wage by sector for 1995:2, the most recent period of historical data. The average annual wage was $24,853, which may strike many readers as rather high. The reason is that this is a Bureau of Economic Analysis personal income-based definition of earnings which is gross of social security payments and includes, in addition to regular wage payments, commissions, tips, bonuses, in-kind compensation and voluntary deferred compensation. The highest annual earnings accrue to those in the FIRE and TCPU sectors, with annual wages of $32,540 and $32,106,
respectively. The services sector, which includes a wide array of both high- and low-paying jobs (see Table 3.3), comes in near the overall average of $23,985.

Other labor income, which includes employer-provided fringe benefits and workers’ compensation payments, has shown fairly strong growth over the longer term, advancing at a 5.8 percent inflation-adjusted compound growth rate between 1985 and 1994. Growth in 1995:1 and 1995:2 slowed to 1.6 percent (SAAR) and 1.9 percent (SAAR), with 1995 expected to show 3.9 percent growth. Proprietor's income was up 7.9 percent in 1994, then
slowed to 1.4 percent in 1995:1 and contracted 1.3 percent in 1995:2 (SAARs). Projected growth for the third and fourth quarters should push proprietors’ income up 2.9 percent for the year. Rent, interest and dividend income rebounded with 4.3 percent growth in 1994 after falling in 1992 and 1993. The first and second quarters of 1995 saw rent, interest and dividend income climb 8.3 percent (SAAR) and 5.6 percent (SAAR), respectively. The growth in transfer payments has slowed since the trough of the recession in 1991, although a sharp jump of 8.6 percent (SAAR) was realized in 1995:1, cooling off to 3.7 percent (SAAR) growth in 1995:2. For calendar year 1995, transfer payments are expected to grow 4.0 percent.

**Taxable Sales**

Consumer and business expenditures on sales taxable items in Tennessee grew more rapidly than personal income in both 1993 and 1994. This pattern continued in 1995:1, as taxable sales advanced 8.5 percent, while personal income was up 3.3 percent (SAARs); sales grew 5.9 percent and personal income grew 4.0 percent (SAARs) in 1995:2. Purchases from manufacturers, durable good sales and "other" retail sales were some of the larger sectors showing strong gains in 1995:1. Automobile, "other" retail, and miscellaneous nondurable goods were bright spots in 1995:2. An anticipated increase of 8.2 percent should accrue to nominal taxable sales in 1995.

Taxable sales in Tennessee are heavily concentrated in the state's more populous metropolitan counties. This concentration of sales and trade employment is a boon for some areas and a bane for others. As an illustration, Figure 2.8 shows taxable sales per capita for selected Tennessee counties in fiscal year 1994-95. The state’s urban counties, which have
Sevier County, which benefits from strong tourism trade. The low level of sales in many Tennessee counties reflects the lack of a critical mass of local consumer and business purchasing power and the leakage of sales to the state's larger metropolitan areas. The lack of retail sales in turn compromises the ability of many local governments to adequately fund public services through their local sales tax. For many communities, the problem of financing local activities has much more to do with the ability to raise revenues than with the effort expended to generate tax revenues.
The Short-Term Outlook for Tennessee

While the waters have been muddied in recent months by weakening conditions for the national economy and slower growth in Tennessee, there are no incipient signs of recession at this point. Instead, slow, steady growth is projected over the short-term forecast horizon for both the U.S. and Tennessee. The expectation of lower interest rates, coupled with modest growth in investment, domestic consumption and exports, should keep the national and state economies on course in the near term.

The Tennessee Leading Economic Index

The Tennessee leading economic index, prepared monthly, is a general measure designed to reveal future up or down movements in the state economy. If the index shows sustained growth on a month-to-month basis, economic growth can be expected to expand six to nine months in the future. Sustained contraction in the index is a harbinger of economic contraction. Note that longer-term trends in the leading index are far more important than up or down movements for single months.

Figure 2.9 illustrates a three-month moving average for the Tennessee leading economic index, overlaid with the leading index for the national economy. Both indices have shown fluctuation, with a pronounced dip downward towards the end of 1994. The indices have flattened out since the middle of 1995, presaging slower economic growth in the near term.

The leading indices are particularly useful as a timely measure of future prospects for the economy. However, the indices say little about the specific nature of economic
expansion or contraction. Specific insights require use of a more detailed forecasting tool, the Quarterly Tennessee Econometric Model.

**The Quarterly Tennessee Econometric Model**

Selected aspects of the short-term forecast extending through 1997 are presented in Table 2.2 for the state and national economies. Tennessee was expected to close out 1995 with annual growth in inflation-adjusted personal income of 3.6 percent, versus a slightly
TABLE 2.2
Selected U.S. and Tennessee Indicators
stronger rate of 3.8 percent for the national economy. This situation will reverse itself over the forecast period, as discussed below. Employment growth for the national economy was expected to trail Tennessee in 1995, a trend that will be sustained in the next two years. Inflation is expected to remain in check, with the implicit deflator for gross domestic product rising only 2.0 percent and 2.2 percent in 1996 and 1997, respectively. The prime interest rate is expected to fall to 7.9 percent in 1996 and dip to 7.7 percent in 1997.

**Tennessee Labor Markets**

Figure 2.10 presents projected growth rates in Tennessee employment, by sector, for the years 1996 and 1997. The annual rates of growth in nonagricultural jobs of 2.2 percent in 1996 and 2.4 percent in 1997 compare favorably with projected rates of growth of 1.5 percent and 1.4 percent for the national economy (see Table 2.2). Tennessee's manufacturing sector is projected to contract in 1996, although the loss--800 jobs--is quite modest. Employment in nondurable goods manufacturing (not shown) is expected to fall by nearly 1.5 percent, while the durable goods sector will expand by 1.1 percent. The state's manufacturing sector will enjoy growth of 0.4 percent in 1997, with 1.2 percent growth in durable goods employment more than offsetting a 0.5 percent decline in nondurable goods employment. Nonelectrical machinery, fabricated metals, transportation equipment and rubber and plastics will experience strong growth, while lumber and wood, textiles and apparel will experience serious contraction. Note that in contrast to the situation for Tennessee manufacturing sector employment for the national economy is expected to fall in both 1996 and 1997.
The trade and services sectors will witness strong growth in 1996 and 1997, with trade jobs growing by nearly 3 percent per year and services jobs increasing by over 5 percent per year. These two sectors alone are expected to create 104,300 jobs by the end of 1997. Job growth in the construction sector is expected to slow, but not contract, in 1996 and 1997. Projections for the construction sector reflect several factors, including slower rates of job creation and investment, and the difficulty of engineering strong annual growth rates when the level of economic activity is so high. Government employment in Tennessee is projected to wane in both 1996 and 1997, driven by contraction in federal government employment.
The state unemployment rate, which was expected to average 4.8 percent in 1995, will inch forward in 1996 to 5.3 percent and increase to 5.4 percent in 1997. The increase in unemployment rates over the forecast horizon is not symptomatic of an impending economic downturn. The Tennessee unemployment rate will stay below the projected unemployment rates of 5.8 percent and 6.0 percent for the national economy in 1996 and 1997.

**Income and Earnings**

Tennessee inflation-adjusted personal income is projected to climb 3.4 percent in 1996 and 3.3 percent in 1997, well ahead of the 2.1 percent growth rates forecast for the U.S. Nominal personal income in Tennessee will be up 5.8 percent and 6.0 percent, respectively, in 1996 and 1997. Inflation-adjusted per capita personal income, a better measure of individual income gains, will enjoy healthy growth rates of 2.1 percent and 2.0 percent in the next two years, again surpassing growth projected for the national economy.

Total inflation-adjusted wage and salary income will be up 2.6 percent and 2.8 percent, while growth in other labor income slows to 2.9 percent and 2.0 percent, in 1996 and 1997. The inflation-adjusted average annual wage *per worker* in Tennessee, which was expected to fall 0.2 percent in 1995, will experience modest growth of 0.4 percent in 1996 and 1997. Proprietors’ income and rent, interest and dividend income will enjoy robust growth over the forecast period.
Taxable Sales

Tennessee nominal taxable sales were expected to jump 8.2 percent in 1995, well ahead of the 5.9 percent anticipated increase in nominal personal income. In other words, sales growth was expected to exceed income growth by nearly 39 percent in 1995. One explanation for the sharp increase in sales is that many business purchases--ranging from construction materials to office furniture and supplies--are included in aggregate sales; these same purchases are less directly related to state-level personal income growth. Consistent with longer-term historical trends, however, sales growth is expected to more closely mirror income growth in 1996 and 1997.

Projected taxable sales growth for 1996 and 1997 is illustrated in Figure 2.11, in total and by broad category. Total taxable sales are projected to rise 6.0 percent in 1996 (versus nominal income growth of 5.8 percent), and to grow 6.2 percent in 1997 (versus nominal personal income growth of 6.0 percent). Automobile sales, which accounted for 11.6 percent of 1995 taxable sales, are projected to be strong, but growth will be lower in 1996 and 1997 than the 10.3 percent gain registered in 1995. Liquor, hotel/motel and food sales will see some of the lowest rates of growth. "Other" retail and service sales, which represented 28.0 percent of 1995 sales, will enjoy growth in the 6 percent range in 1996 and 1997.
Outlook For Tennessee Agriculture:
Living With A New Farm Bill

Last year’s outlook for Tennessee agriculture was one of uncertainty in the face of potentially sweeping changes in federal agriculture policy because of the 1995 farm bill process. Although dramatic changes in commodity programs are indeed still in the offing, an uncertain environment continues to hover over the national and state agricultural sectors.

This uncertainty stems from one of the most contentious and as-yet unresolved farm bill and federal budget processes in recent memory. By December 1995, the farm bill had
become inextricably linked within a larger struggle between the legislative and executive branches over the federal budget process. A House-Senate farm bill was approved out of conference committee in late November 1995 as part of the omnibus budget reconciliation package; however, a presidential veto was almost certainly assured. The subsequent fate of this conference bill is unknown at the time of this writing.

Because the farm bill is the overriding issue of importance in 1995, this outlook examines its potential impacts for Tennessee. Three scenarios are examined:

- An increase in normal flex acreage (the portion of base acreage for which farmers receive no payments but which may be planted with other crops) from 15 percent to 30 percent. This scenario was proposed by the Clinton administration during the summer of 1995, and is referred to subsequently as the 30 Percent Flex scenario.

- The farm bill passed by the Senate in October (subsequently referred to as Senate Bill) increases normal flex acreage to 30 percent, eliminates Acreage Reduction Programs (ARPs), caps the per-bushel deficiency payment rate, and reduces export program funding. This export program downsizing, however, is not modeled because it was unclear how the reduction would be implemented.

- The Freedom to Farm Act (FFA) which the House Agriculture Committee failed to pass but which its chairman forwarded to the House Budget Committee to be considered in conference. The FFA replaces crop-specific bases and deficiency payments with seven-year contracts which would pay farmers a percentage of their historical deficiency payment. All short-term, land-retirement programs also are eliminated in the FFA.

The FFA is very similar in its components to the bill passed out of conference, but again, it is uncertain whether the conference bill ultimately will form agricultural policy through 2002. Thus, the Senate Bill and increased flexibility options are analyzed because
they are alternatives which ultimately may be revisited by Congress before a final bill is approved.

Analytical Issues

Impacts on Tennessee Agriculture

The impacts on the state economy are examined in two related stages. First, a simulation analysis of the three farm bills is considered, focusing on potential impacts for harvested acreage, average crop prices, deficiency payments and net returns for major crops. The second step traces out the impacts on state employment and income.

This analysis of the three competing scenarios is tied to a baseline, or expected future situation, for agriculture. Anchoring the computer simulation of the scenarios to a baseline allows the separation of impacts of changes in farm programs from other influences—such as interest rates, population or income. These extraneous factors are held at their baseline levels. Thus, the results presented here should be thought of as changes away from this baseline.

The baseline used in this analysis, provided by the Congressional Budget Office (CBO), assumes a continuation of current federal policy during 1996-2002. This baseline, originally developed in February 1995, has been the starting point for Congressional discussions of the different approaches to federal programs which arose in 1995.

The analytical system used for this outlook is POLYSYS, which combines an econometric model of U.S. agricultural demand and a linear programming model of regional supply. Thus, the state-level results presented here are the result of interactions between the
national- and regional-level model components. For example, the demand component feeds expected national prices and, hence, expected crop returns at the Agricultural Statistic District (ASD) level to the supply model. Information from the supply and demand modules are combined to estimate market prices, production costs, government payments, exports, and net returns to the seven major crops.

The second stage of this analysis examines the potential impacts of the three farm bills on income and employment for the entire Tennessee economy. Changes in agricultural acreage and net farm income affect the state’s economy in two manners. As acreage planted to crops rises and falls, the demand for agricultural production inputs and services (dubbed the “production effect”) also changes. These changes in turn affect the purchases of the input and service suppliers.

As prices and government payments change, so do net returns to farmers and, ultimately, the household incomes of farmers will rise or fall. As a result, farm households’ consumption of economic goods and services also will change. This portion of the analysis attempts to capture both of these impacts using the Impact Analysis for Planning (IMPLAN) model developed by the U.S. Forest Service to estimate interindustry economic changes.

IMPLAN captures not only the direct impacts of changing policies but also these indirect and induced (ripple) economic effects. For this outlook, an input-output model of Tennessee was developed using IMPLAN’s 1990 data set. Impacts on net return as a result of acreage changes are estimated for POLYSYS’s feed grain, food grain, cotton, and soybean production sectors. In addition, POLYSYS provides information on the impacts that price changes have on net returns. Analysis using IMPLAN was conducted on each scenario for
the years 1996, 1999, and 2002. All results are compared to a 1990 baseline, and the reported dollar values are in 1990 dollars.

**The 1995 Farm Bill’s Impacts on Tennessee Agriculture**

*Harvested acreage.* As would be expected, harvested acreage for the seven major crops (corn, wheat, soybeans, cotton, grain sorghum, oats, and barley) changes slightly under the 30 Percent Flex schemes but rises significantly under the other scenarios (particularly the FFA), which eliminate ARPs and other land-retirement programs. Acreage under 30 Percent Flex scenario actually declines slightly from the baseline, with corn and wheat acreage, respectively, averaging 3,200 acres and 1,500 acres below baseline levels. Acreage for these crops either shifts to other crops—such as soybeans, cotton or nonprogram crops—or out of production. Figure 2.12 shows indexed acreage trends (using the baseline value as 100) for corn, wheat, soybeans, and cotton.

Acreage for the seven major crops averages 61,100 acres (2.0 percent) above baseline annually under the Senate Bill, which eliminates ARPs. Soybeans and cotton make respective gains of 3.0 percent and 2.5 percent, and corn acreage also makes slight gains; wheat acreage is unchanged from baseline.

Under the FFA, acreage for the major crops averages 138,300 acres (4.6 percent) above baseline during 1996-2002. Soybeans and corn make significant gains, while wheat acreage averages 2.5 percent below baseline levels. This state-level wheat shift does not occur at the national level, where wheat acreage trends above baseline.
**FIGURE 2.12**
Indexed Harvested Acreage Under Various Farm Bill Scenarios
(Baseline Value = 100)

*FFA soybean acreage averages 107,900 acres (8.9 percent) above baseline, while corn averages 31,600 acres (5.7 percent) above baseline. Nearly three-fourths of these aggregate acreage gains occur in Tennessee’s two westernmost Agricultural Statistic Districts (ASD).*

*Season-average crop prices.* Generally, prices are determined nationally for the major crops grown in Tennessee, although there are some variations. For example, corn prices may trend higher than national prices because Tennessee is a corn-deficit state.
Wheat prices illustrate how state-level acreage changes may not affect prices; Tennessee wheat acreage drops substantially under FFA, but its average price drops in line with the national acreage trend noted earlier (see Figure 2.13). 

FFA wheat prices in Tennessee average $2.81 cents per bushel over 1996-2002–56 cents below baseline. Wheat prices are somewhat higher than baseline under 30 Percent Flex and the Senate Bill.

Soybean prices, too, are most affected under FFA (Figure 2.14). Under 30 Percent Flex, soybean prices average 12 cents per bushel below baseline, while in the Senate Bill scenario, they average 53 cents per bushel below baseline. Under FFA, soybeans average $5.20 per bushel, or 78 cents below baseline.
Corn prices trend above the baseline in all but the *FFA* scenario, where prices dip slightly below baseline during 1999-2000 before shifting back above baseline. Corn prices average the highest (11 cents per bushel above baseline) under the *Senate Bill*, while *30 Percent Flex* corn prices average 6 cents per bushel above baseline.

On the whole, cotton prices are little affected across scenarios. However, *Senate Bill* prices average nearly 5 cents per pound below baseline in the final three years of the simulation.
**Deficiency payments.** Because deficiency payments to farmers are the primary source of federal agricultural outlays targeted for reductions by Congress, payments fall significantly in all of the scenarios (Figure 2.15).

![FIGURE 2.15](image)

Although the 30 Percent Flex and Senate Bill scenarios appear similar, they have quite different impacts on Tennessee deficiency payments. Payments under 30 Percent Flex average $25.1 million (33.9 percent) below baseline; over 1996-2002, these losses in deficiency payments accumulate to $175.4 million below baseline. However, Senate Bill payments average $5.7 million (7.7 percent) below baseline; accumulated over the simulation period, payments total $39.8 million below baseline.
The different impacts of the 30 Percent Flex and Senate Bill scenarios are due to differences in the respective policy strategies. Under the Senate Bill, farmers may plant other crops to their wheat and feed grains base without a loss in base acreage; thus, for much of crop agriculture, the definition of normal flex has changed. This new meaning for flexibility is behind the increase in soybeans and cotton acreage under this scenario.

The 30 Percent Flex scenario retains the current definition of normal flex and sparks a significant decline in program participation due to declines in program returns. Also, the Senate Bill eliminates ARPs, while the 30 Percent Flex scenario retains baseline ARPs.

The FFA’s market-transition payment structure results in average payments to farmers of $8.7 million (11.8 percent) below baseline—a total accumulated loss from baseline payments of $61.2 million over 1996-2002. As occurs at the national level, payments drop substantially in the final years of the simulation.

The geographic distribution of these losses in payments by Agricultural Statistic District (ASD)—accumulated over 1996-2002—shows that relative FFA payment losses are evenly distributed across ASDs, while under the Senate Bill, one district actually suffers no losses (Figure 2.16).

Net returns to the seven major crops. Because FFA payments are completely “decoupled” and Senate Bill payments are nearly decoupled from production decisions, a crop-by-crop dissection of payments is meaningless. For the seven major crops, the losses in deficiency payments translate into lower net returns under all scenarios (Figure 2.17).

Net returns are lowest under the FFA, where they average $47.1 million (22.8 percent) below baseline. Over 1996-2002, net returns total $329.9 million below baseline
FIGURE 2.16
Accumulated 1996-2002 Total Deficiency Payments by ASD
(Millions of dollars)

Notes: The bars represent deficiency payments to farmers accumulated over 1996-2002; for the FFA, contract payments to farmers are represented. The top value on the upper left portion of each bar graph represents the baseline value in millions of dollars.

levels. In 2002, the final year of the simulation, FFA returns are $129.4 million, $67.6 million (34.3 percent) below baseline returns in 2002 of $197 million.

Despite the differential impacts on payments for the 30 Percent Flex and Senate Bill, the scenarios ring in with similar net returns as farmers leave commodity programs under 30 Percent Flex for production mixes with higher returns. Senate Bill net returns to the seven major crops average $27.4 million (13.2 percent) below baseline and total $191.8 million
below baseline over 1996-2002. Meanwhile, 30 Percent Flex returns average $6 million less than Senate Bill returns.

The geographic distribution of these losses in net returns to the seven major crops by ASD is shown in Figure 2.18. Taken with the impacts on payments shown in Figure 2.16, the impact of prices on returns can be seen.
The 1995 Farm Bill’s Impacts on the Tennessee Economy

Each of the farm bill alternatives results in slight but net negative impacts on the overall Tennessee economy. The increases in acreage for the major crops results in gains in demand for production inputs and services (the “production effect”). These gains, however, are more than offset by large declines in farm household consumption as a result of declining net returns to the major crops, as noted previously.

Production Effect Impacts

As has been mentioned, the FFA results in increased soybean acreage, which in turn translates into gains for the Tennessee economy. Employee compensation under the bill rises
$13 million, and income to property holders rises $12 million. The total value industry output also increases, reaching $96 million by 2002. The 30 Percent Flex alternative has negligible production effect impacts, ranging from a $900,000 decline in 1996 to a $2.7 million gain during 2002. The Senate Bill shows gains which grow larger toward the end of the bill’s tenure, reaching $29 million by 2002.

Employment rises as a result of the changes in acres planted and harvested increases in both the FFA and Senate Bill. Again, the FFA increases in employment are the greatest, with more than 1,000 additional jobs created in 2002. The 30 Percent Flex scheme produces a slight increase in jobs by 2002, while the Senate Bill creates 407 jobs above the baseline in 2002.

**Household Consumption Impacts**

As is suggested in the agricultural analysis, farm household consumption falls under each 1995 farm bill scenario because net returns decline from baseline levels in all cases. Total income and jobs decline in all cases from the levels reflected in the 1990 IMPLAN baseline. The FFA poses the largest decrease in Tennessee jobs in 1999 and 2002. This corresponds to a large decrease in the value of all Tennessee industrial output ($302 million).

**Net Economic Impacts**

Employment impacts of changes in the production effect and household consumption, as well as the net effect, are shown in Figure 2.19. It should be noted that the greatest net
impact, which occurs under the FFA, represents only a 0.2 percent decline in total employment under the IMPLAN baseline for Tennessee.

If we sum the income and employment impacts from changes in production and changes in household income, the overall Tennessee economy suffers slight losses under all scenarios (Figure 2.20). The greatest loss in total value of industrial output occurs under the FFA policy regime, as $224.9 million is lost in 2002 to the Tennessee economy. The 30 Percent Flex scenario results in the second-greatest overall loss, $134.9 million, to the economy, and the state’s economy loses $83.0 million in 2002. In 1996 and 1999, losses are not as high in any of the scenarios as those reflected in 2002.
FIGURE 2.20
Total Impact of Farm Bill Scenarios on the Tennessee Economy in 2002

While these losses may have serious consequences for specific individuals, businesses and communities, in the aggregate they are modest when compared against the state’s total value of industry output. The $224.9 net loss in total value of industry output under the FFA in 2002 is only 0.1 percent of the total value of Tennessee industry output for that year. The largest impacts occur in other industries and services, rather than those sectors considered to be strictly agricultural.
Over the past thirty years, growth in the Tennessee economy has appreciably increased economic well-being for the state’s residents. This positive thirty-year history, resulting from more rapid growth for the state economy than for the nation, has been instrumental in raising the average standard of living for Tennesseans to a level closer to the entire Southeast and the nation as a whole. But despite these important strides forward, Tennessee per capita personal income--one measure of economic well-being--stood at only 89 percent of the national average in 1994. In the years to come, Tennessee must sustain its relatively stronger growth path in order to catch up with or surpass the national economy.

While previous chapters have emphasized the short-term performance of the national and state economies, this chapter takes a long-term view on historical and future perspectives of Tennessee economic growth. The ensuing discussion begins with a brief historical sketch of the Tennessee economy, with special emphasis on changes in the structure of output and employment in the Tennessee economy over the past 30 years and the factors that are instrumental to economic restructuring. With this historical perspective as a backdrop, the focus then turns to the long-term trend projection of Tennessee economic performance through 2004.
A Historical View of the Tennessee Economy

A general indicator of a healthy economy is growth in the production of goods and services. At the national level, the broadest measure of output is gross domestic product (GDP); at the state level, the counterpart measure is gross state product (GSP). Table 3.1 summarizes historical growth in inflation-adjusted output for Tennessee and the United States for four periods that cover the past 30 years. During all four periods shown, Tennessee inflation-adjusted GSP has exhibited growth rates that equal or exceed the growth of output in goods and services for the national economy. During the decade of the seventies, Tennessee GSP expanded at a compound annual growth rate (CAGR) of 4.2 percent, compared to a 2.7 percent growth rate for the United States as a whole. During the 1980s growth rates diminished, slowing to 3.1 percent and 2.6 percent for Tennessee and the U.S., respectively. The decade of the 1990s has seen a resurgence of growth in the Tennessee economy comparable to the experience of the 1970s. Since 1990, as the economy rebounded from recession, Tennessee has enjoyed 4.8 percent growth in the output of goods and services. U.S. output growth has continued to trail growth in state output, as reflected in slower U.S. GDP growth of 2.2 percent.

<table>
<thead>
<tr>
<th>Year</th>
<th>TN</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965-70</td>
<td>3.1</td>
<td>3.1</td>
</tr>
<tr>
<td>1970-80</td>
<td>4.2</td>
<td>2.7</td>
</tr>
<tr>
<td>1980-90</td>
<td>3.1</td>
<td>2.6</td>
</tr>
<tr>
<td>1990-94</td>
<td>4.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>
Another important gauge of economic vitality is growth in nonagricultural employment. Figure 3.1 provides a comparison of compound annual employment growth rates for the U.S. and Tennessee from 1965 to 1994, the same four time periods shown in Table 3.1. Although the Tennessee economy has recently supported slightly higher rates of job creation than its national counterpart, the 1990s have shown especially vigorous employment growth in Tennessee relative to the U.S. The state’s employment grew at a rate of 3.5 percent between 1965 and 1970, while U.S. employment expanded at 3.1 percent over the same period. During the 1970s and 1980s the rate of job growth diminished in both state and national economies. One cause was shifting demographics, including slower growth in female labor force participation and the end of the baby boom era, which led to a slowing of new entrants to the labor market. The 1970s saw growth rates for employment of 2.9 and 2.5 for Tennessee and the U.S., respectively; and the 1980s, plagued by recession at both ends of the decade, saw these growth rates decline further, to 2.3 and 1.9 percent. However, since the most recent recession at the beginning of the 1990s, the downward trend has been reversed—at least for Tennessee—with employment expanding at a 2.5 percent rate from 1990 to 1994. During this period, over 227,000 jobs have been created in Tennessee and the state’s population has seen strong growth, while the U.S. job scene has managed only 1.0 percent growth. The situation for the U.S. reflects uneven growth across regions of the country. Although many states have experienced stagnant growth, some—such as Georgia, Alabama, and other southeastern states—have seen healthier expansion.

An alternative perspective on relative performance of the national and state economies is offered by an examination of unemployment rates, as shown in Figure 3.2 for
the period 1970 to 1994. The figure illustrates two important points. First, unemployment rates in Tennessee tend to follow the same cyclical up-and-down pattern as the national economy. This means that Tennessee’s economic destiny is tied closely to national economic performance. A second point is that peaks and troughs often are somewhat more exaggerated for Tennessee, reflecting the state’s relatively higher concentration of manufacturing employment than in the U.S. economy. In the midst of recession, Tennessee’s unemployment rate in 1982 was 11.8 percent, whereas only 9.7 percent of U.S. workers were unemployed. During the recent economic expansion, Tennessee’s unemployment rate was 4.8 percent, lower than the 6.0 percent recorded by the U.S. in 1994.
Per capita personal income provides a final measure of economic well-being. The level of inflation-adjusted per capita income in Tennessee in 1965 ($6,972) was only 73 percent of U.S. per capita personal income ($9,556). Table 3.2 shows that Tennessee per capita income has begun to converge to the levels of other southeastern states and the nation as a whole. By 1994, Tennessee per capita income more than doubled its 1965 level, registering $19,482 per Tennessean, and had moved to 89 percent of the national level of $21,899. Moreover, Tennessee per capita personal income levels are now 99 percent of the southeastern states’ average of $19,649.
### TABLE 3.2
Per Capita Personal Income, Southeastern States, 1994

<table>
<thead>
<tr>
<th>State</th>
<th>Dollars</th>
<th>Percent of National Average</th>
<th>Percent of Southeastern Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast</td>
<td>19,649</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Virginia</td>
<td>22,594</td>
<td>104</td>
<td>115</td>
</tr>
<tr>
<td>Florida</td>
<td>21,677</td>
<td>99</td>
<td>110</td>
</tr>
<tr>
<td>Georgia</td>
<td>20,251</td>
<td>93</td>
<td>103</td>
</tr>
<tr>
<td>North Carolina</td>
<td>19,669</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Tennessee</td>
<td>19,482</td>
<td>89</td>
<td>99</td>
</tr>
<tr>
<td>Alabama</td>
<td>18,010</td>
<td>83</td>
<td>92</td>
</tr>
<tr>
<td>Kentucky</td>
<td>17,807</td>
<td>82</td>
<td>91</td>
</tr>
<tr>
<td>South Carolina</td>
<td>17,695</td>
<td>81</td>
<td>90</td>
</tr>
<tr>
<td>Louisiana</td>
<td>17,651</td>
<td>81</td>
<td>90</td>
</tr>
<tr>
<td>West Virginia</td>
<td>17,208</td>
<td>79</td>
<td>88</td>
</tr>
<tr>
<td>Arkansas</td>
<td>16,898</td>
<td>77</td>
<td>86</td>
</tr>
<tr>
<td>Mississippi</td>
<td>15,838</td>
<td>73</td>
<td>81</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

### Structural Change in the Tennessee Economy

A dynamic, growing economy is subject to continual change and transformation that can impart both positive and negative impacts. On one hand, as certain industries and occupations decline in importance, specific communities and individuals must endure hardship. On the other hand, the growth of other sectors and occupations gives rise to new opportunities and new sources of growth. Tennessee’s economic convergence with the United States and the Southeast is a reflection of these dynamics. For example, notable declines have been experienced in sectors such as textiles and apparel that have been traditionally important components of the state economy. Other sectors, including transportation equipment, have shown sharp gains.
Output Growth

One of the most visible trends in Tennessee is the rise of the service sector as a major provider of employment, and to a lesser extent, output. Coincident with the service sector’s expansion is the diminished role played by the manufacturing sector in employing Tennesseans. The origins of these changes lie in productivity growth, automation, national and international competition, and changes in consumer tastes for various products.

Traditionally, the manufacturing sector has accounted for the largest share of output and employment in the Tennessee and the national economies. In 1965, the manufacturing sector produced 21.7 percent of total GSP, and in 1994, 24.8 percent. Figure 3.3 shows that the relative shares of the major categories of manufacturing--durable and nondurable goods manufacturing--have also changed over time. For example, in 1965, nondurable goods manufacturing contributed 12.2 percent of GSP, while durable goods manufacturing accounted for 9.5 percent. By 1994, durable goods manufacturing’s share of output had surpassed nondurable goods, providing 13.4 percent of GSP compared to nondurable manufacturing’s 11.4 percent share. In the national economy, the manufacturing sector’s share of inflation-adjusted output has been slowly diminishing over time: the manufacturing sector provided 19.2 percent of GDP in 1980, while its share diminished to 18.6 percent in 1993. Tennessee’s output has become somewhat more concentrated in manufacturing, while the U.S. economy has seen a smaller share of output come from manufacturing firms.

Figure 3.3 also shows that the service sector has steadily increased its contribution to state output. In 1965, 13.3 percent of Tennessee’s gross output was produced by the service sector, climbing to 16.5 percent by 1994. The share of GSP commanded by the
The service sector in Tennessee is modest relative to its national counterpart. The U.S. service sector provided 36.8 percent of inflation-adjusted GDP in 1993.

The trade sector--inclusive of both wholesale and retail activity--has historically comprised a significant share of Tennessee’s output. Figure 3.3 shows that over the span of 1965 to 1994, the trade sector increased its share of GSP from 15.7 percent to 19.3 percent. In the U.S. economy, the wholesale and retail trade sector also has supplied an increasing percentage of GDP, growing to 16.9 percent of inflation-adjusted GDP in 1993.

**Employment Growth**

One of the most important trends in the Tennessee economy has been the ability of the manufacturing sector to expand its share of GSP while decreasing its share of
employment. Figure 3.4 details the sectoral distribution of Tennessee nonagricultural employment. In 1965, nondurable goods manufacturing production alone accounted for 21.5 percent of the state’s employment. Together with the durable goods manufacturing employment share, which was 13.4 percent in 1965, manufacturing accounted for 34.9 percent of the state’s nonagricultural employment. By 1994, the structure of the Tennessee economy had changed such that the manufacturing sector employed only 22.2 percent of Tennesseans. As discussed below, increased output share—coupled with declining employment shares—is a sign of increased productivity and an increasingly competitive state manufacturing sector.

The concentration of employment in Tennessee’s wholesale and retail trade sector has gradually increased over time, as illustrated by Figure 3.4. For the retail sector, much of the growth is due to rapid income growth and increased purchasing power of the state’s consumers. Wholesale trade has benefited from Tennessee’s emergence as a major distribution center for finished products, including those from the state’s manufacturing sector. The trade sector employed 19.7 percent of Tennesseans in 1965, increasing to 21.7 percent by 1980. After creating 137,500 jobs in the 1980s, wholesale and retail trade expanded to provide 23.6 percent of Tennessee nonagricultural employment by 1990. The percentage of Tennesseans employed in trade has been somewhat stable since then; nonetheless, wholesale and retail trade has created 46,700 jobs since 1990, employing 23.3 percent of Tennessee workers in 1994.

While the manufacturing sector has produced relatively more output with a smaller percentage of Tennessee’s workers, the service sector has had more modest output gains
relative to its striking increase in employment share. As indicated by Figure 3.4, service sector firms employed only 13.3 percent of Tennessee’s nonagricultural workers in 1965, and the percentage of employment in services grew only modestly throughout the 1970s. However, employment growth in services accelerated in the eighties. By 1994 the service sector was Tennessee’s largest sectoral employer, utilizing over 601,000 workers, or 24.8 percent of total nonagricultural employment (versus 32.1 percent for the U.S.).
Earnings in the Service Sector

The service sector is frequently characterized as providing low-wage, menial employment, with few opportunities for employee advancement. While this may be the case for some occupations, there are extensive exceptions. As an illustration, Table 3.3 contains average annual wages for broad components of the service sector, drawn from 1993 Tennessee Covered Employment and Wages. The average for the service sector--which masks substantial variation across occupations--is an annual wage of $22,065, 94 percent of the state average. The data reveal that many of the jobs in the service sector--for example, health and legal services--pay annual wages substantially above the state average of $23,368. Educational and repair services pay wages near the state average, with annual earnings of $23,317 and $21,435, respectively. Paying below the average are business and personal services, which pay $15,521 and $14,039 dollars per year.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Average Annual Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Services</td>
<td>30,767</td>
</tr>
<tr>
<td>Health Services</td>
<td>27,816</td>
</tr>
<tr>
<td>All Industries</td>
<td>23,368</td>
</tr>
<tr>
<td>Educational Services</td>
<td>23,317</td>
</tr>
<tr>
<td>Services</td>
<td>22,065</td>
</tr>
<tr>
<td>Miscellaneous Repair Services</td>
<td>21,435</td>
</tr>
<tr>
<td>Amusement and Recreation</td>
<td>18,403</td>
</tr>
<tr>
<td>Business Services</td>
<td>15,521</td>
</tr>
<tr>
<td>Personal Services</td>
<td>14,039</td>
</tr>
<tr>
<td>Social Services</td>
<td>12,112</td>
</tr>
</tbody>
</table>
Productivity

One of the primary forces behind Tennessee’s economic restructuring is the growth in worker productivity, measured here as inflation-adjusted output per worker. As can be seen from Figure 3.5, productivity is sensitive to up-and-down cyclical movements in the economy. This is especially apparent in the recession year of 1980 when productivity was negative and in 1990, where productivity growth was flat. With few exceptions, Figure 3.5 shows that productivity generally has been growing over time in the U.S. and Tennessee. Nonetheless, the growth shown in Figure 3.5 is more subdued than the experience of the 1960s. In 1970, each manufacturing worker in Tennessee was responsible for creating $21,300 of output. By 1994, output per worker had more than doubled, with each worker producing an average $47,100 of output. The 1990s have engendered a near productivity revolution in Tennessee, with optimists hoping for a return to the golden days of the sixties. Others have noted that movement to a chain-weighted measure of output (see Chapter 1) may suggest more modest productivity growth. Nonetheless, by any measure, the state has enjoyed strong productivity growth, and such gains will heighten the state’s ability to compete on both domestic and global markets in the years to come.

Tennessee is poised to reap the benefits of a successful economic past. However, to ensure that the future will see similar growth, Tennessee must continue to do the things that have led to growth in the past. That is, future prosperity rests on continued gains in worker productivity and the ability to attract new, capital-intensive firms to Tennessee. This can be accomplished in part by continuing to invest in human capital through education and maintaining the state’s infrastructure. Educational spending can be thought of as investing
in capital--but in this instance, human capital--since education endows people with skills enabling them to be productive workers in the near and long term. A state whose workers possess high levels of human capital is more likely to attract new, high-quality firms. Infrastructure is used by firms as an input into the production process, and states that lack adequate infrastructure will miss out on economic growth, because they will be unable to attract or retain economic activity. Finally, Tennessee must continue to attract private-sector firms and their capital investment to ensure quality job opportunities for its residents. New investments offer the promise of remaining on the cutting edge of economic development.
Tennessee’s Long-Run Outlook

The long-run forecast emphasizes long-term trends in the Tennessee economy. It is recognized that unforeseeable short-term events, such as an energy shock or unexpected changes in fiscal policy, can affect the up-and-down performance of the economy. As such events are often inherently unpredictable, no effort is made to incorporate them into the long-run forecast. In both the short and long term, the health of the Tennessee economy is intrinsically linked to the vitality of the national economy. Hence, any discussion of future growth—as with the previous discussion of history—must be placed in the context of trends expected for the national economy.

Sectoral Output Outlook

The high rate of output growth that characterized the 1990s will carry over into the next century as Tennessee’s inflation-adjusted GSP grows at 3.5 percent compound annual rate between 1995 and 2004. Tennessee’s superior performance vis á vis the national economy will continue, as U.S. inflation-adjusted gross domestic product growth will be 2.4 percent over the same period.

Beneath the surface of the state’s economy-wide growth are variations in the performance of specific sectors. Figure 3.6 illustrates the percentage of GSP produced by various sectors of the state economy in 1995 and 2004. Manufacturing will continue to be Tennessee’s primary contributor to GSP, with the level of output growing at 3.3 percent (CAGR). However, manufacturing’s share of inflation-adjusted output will decline slightly, accounting for 24.4 percent of output in 1995, falling to 23.9 percent in 2004. The service
sector is expected to continue its expansion, showing vigorous compound annual growth of 4.9 percent. By 2004, services will account for 18.6 percent of GSP. Finance, insurance, and real estate (FIRE) will see its share of output diminish slightly, providing 12.6 percent of GSP in 2004. The other large contributor to output—wholesale and retail trade—will see its share of output increase slightly, comprising 20.3 percent of GSP in 2004 versus 19.6 percent in 1995.

All broad component groups of durable goods manufacturing are projected to enjoy strong compound annual growth in output. Leading the way will be instruments and nonelectrical machinery, growing at annual rates of 5.6 percent and 5.4 percent, respectively. The transportation equipment sector is expected to grow at a healthy 4.9 percent pace until
2004. However, this rate is lower than the impressive compound annual growth of 15.2 percent that occurred between 1990 and 1994.

Some component groups of nondurable goods manufacturing show indications of weakness, while others exhibit very promising growth potential. For example, Tennessee’s paper industry will grow at a healthy 3.4 percent rate. Also showing strong growth are printing and publishing, and the rubber and plastics sector, which will realize output growth rates of 3.2 and 2.3 percent, respectively. Unfortunately, not all sectors will enjoy such growth. The tobacco industry, facing an uncertain regulatory future, expects growth of only 0.9 percent. Unexpected restrictions on domestic consumption or exports of tobacco would further dampen this sector’s growth. Textiles manufacturing will experience negative growth, producing $73.4 million less output in 2004 than in 1995.

Tennessee productivity growth, measured by inflation-adjusted output per worker, will show continued growth over the forecast period. After compound annual growth of 2.5 percent, each Tennessee manufacturing employee will produce $65,000 of output in 2004. The sustained improvement in productivity in Tennessee will help the state compete in both the domestic and international economies.

**Sectoral Employment Outlook**

Nonagricultural employment will see strong growth in Tennessee over the forecast horizon, adding 652,000 more jobs—or an average of 72,400 jobs per year—from 1995 to 2004. The large level of job creation translates into a compound growth rate of 2.6 percent.
Tennessee will continue to have higher rates of employment growth than the U.S., with the latter growing at a 1.5 percent rate.

Figure 3.7 presents the distribution of Tennessee’s nonagricultural employment in 1995 and 2004. Manufacturing sector employment will grow 0.8 percent annually (versus -0.4 percent for the U.S.), and will comprise 18.3 percent of Tennessee’s employment by the year 2004. Manufacturing’s diminished share of employment coincides with the service sector’s robust 4.9 percent annual employment growth over the forecast horizon. Service’s share of employment will increase from 25.3 percent in 1995 to 30.8 percent in 2004. Transportation, communications and public utilities (TCPU) will experience 2.9 percent growth, creating 40,200 jobs by 2004 (or 4,500 jobs a year). Wholesale and retail trade will grow at an annual rate of 2.6 percent and will account for 23.6 percent of employment in 2004.

Employment in Tennessee’s durable goods sector is expected to grow at an annual rate of 1.5 percent, netting 39,900 more jobs than in 1995, while jobs in the nation’s durable goods sector will contract at a 0.6 percent pace. Tennessee’s transportation equipment sector will see strong employment growth, expanding at a 2.2 percent rate, lower than the 6.7 percent rate from 1990 to 1994. Comparative growth will be found in electrical and nonelectrical machinery employment, showing growth of 2.1 and 2.0 percent, respectively. Instruments will expand at 2.4 percent, netting 2,400 more jobs in 2004 than 1995. However, not all sectors will show such favorable growth, as exemplified by the lumber and wood industry, which is expected to lose 700 jobs by 2004. The primary metals and furniture and
fixture sectors will experience modest growth, with net gains of only 500 jobs for primary metals and 100 jobs for furniture and fixtures.

Nondurable goods manufacturing employment in Tennessee will experience meager 0.1 percent growth while the national economy experiences a 0.3 percent loss in nondurable manufacturing jobs. Noticeable employment losses are expected in the textile and chemical sectors, shedding 3,900 and 1,800 jobs, respectively, from 1995 to 2004. Apparel sector employment will contract at 0.5 percent annually, for a loss of 2,300 jobs by 2004. Printing and publishing will experience 1.8 percent growth, for a gain of 5,100 jobs. Appreciable
employment gains are expected in the rubber and plastics sector, with job growth of 1,500 projected by 2004.

After operating at or near full employment for the past few years, unemployment rates in Tennessee are expected to increase slightly in the near term before leveling off in 1998. Tennessee unemployment rates will remain half a percentage point below the U.S. level for most of the forecast. The U.S. unemployment rate will peak at 6.1 percent in 1998, while the Tennessee rate will peak in 1997, at 5.4 percent.

**Inflation and Interest Rates**

Inflation is in check and is expected to remain in check over the long-term forecast horizon. Measured by the implicit GDP deflator, inflation is expected to be low and stable, rising above 3 percent in only one year of the forecast. The implicit deflator for Tennessee GSP will be only slightly higher than the U.S. level, peaking at 3.2 percent in 2001. Moderating inflation should help calm the jitters in national and international financial markets and support lower long-term interest rates. Passage of a federal balanced budget accord also offers the promise of lower interest rates in the years to come. The bank prime lending rate is expected to decrease to 8.0 percent in 1995 and to 6.7 percent in 2004. Falling interest rates will be an important impetus to economic expansion, especially in interest-sensitive sectors such as residential housing and automobiles.
Income and Wages

Tennessee and the U.S. are expected to attain high levels of aggregate personal income growth, reflecting growth in both employment and the components of income. Total inflation-adjusted personal income will expand at a compound annual rate of 3.5 percent in Tennessee, while personal income in the United States will increase at a slower 2.3 percent rate through 2004. The primary component of total personal income, aggregate wage and salary income, will grow at 3.0 percent (CAGR). However, nonagricultural average annual wages per worker will increase only slightly. After compensating for inflation, average annual wages per Tennessee worker will expand to $19,629 in 2004, a modest $687 improvement over 1995. After realizing gains in other sources of income (including rents, interest, dividend and proprietor’s income), Tennessee inflation-adjusted per capita personal income will increase to $18,957 in 2004, a gain of $3,566 dollars over 1995, and reach 96 percent of U.S. per capita personal income ($19,680) by 2004.
Public assistance as we know it today first came into existence under the Social Security Act of 1935. In subsequent years the system has undergone continuous reform, but costs of maintaining government assistance programs have escalated dramatically. While earlier movements such as Johnson's “war on poverty” focused on improving the standard of living for welfare recipients, more recent reform measures have been responses to the burdens of increased caseloads and expenditures as well as tight government budgets. Although spending on welfare programs such as Aid to Families with Dependent Children (AFDC) and food stamps pales in comparison to the cost of Medicare and Social Security, AFDC spending is politically contentious. Now, faced with a burdensome federal debt and large federal deficits, the federal government and the State of Tennessee have decided that this is the time to gain control of welfare spending.

The primary goals of recent welfare reform are threefold: to reduce the size of the federal government by transferring more power to the states, to help balance the budget by reducing federal spending on welfare programs, and to reduce welfare dependency. The hope is that these goals can be achieved by consolidating welfare programs into block grants, putting a cap on spending and limiting the time that welfare recipients can receive public assistance. Many welfare recipients will also be required to work in order to continue receiving assistance.
This chapter documents the likely impacts of national welfare reform on the states, with particular emphasis on Tennessee. The main tenets of proposed reforms are the consolidation of welfare programs into capped block grants and the introduction of time limits and work requirements.

The first section discusses the likely impacts of block grants and probable state responses to the new funding structure. After determining Tennessee’s expected share of block grant funds and estimating the out-of-pocket expenses necessary for the state to finance its welfare program under the new system, we will discuss possible sources for cost savings. Potential budgeting problems associated with business cycles and demographic changes will also be addressed.

The second section of the paper discusses the disincentives for work inherent in the current system. In addition, we analyze other reasons for unemployment among welfare recipients wanting to work in an effort to ascertain the constraints facing welfare recipients entering the work force. This leads to an analysis of the economy's capacity to absorb new workers and an evaluation of their education and skills. Finally, we examine job prospects for Tennessee welfare recipients and estimate the time necessary for the state economy to absorb welfare recipients into the work force.

The final section discusses minor and miscellaneous aspects of welfare reform not considered in the previous two sections.
Welfare Block Grants: Impacts and Probable State Responses

Should current reform legislation be passed, much of the federal spending on welfare programs will be capped and sent to the states in the form of block grants. The welfare consolidation would include AFDC and its associated programs: Job Opportunities and Basic Skills (JOBS), Emergency Assistance (EA), and quality control programs (AFDC-QC). Federal funding for child care would be combined into a separate block grant. In addition, under block grant funding, states would be given the option of administering their own food stamp programs. Other proposed block grants less likely to come to fruition include child welfare programs such as foster care, adoption assistance, and programs funded under the Child Abuse Prevention and Treatment Act (CAPTA) as well as nutritional assistance programs. While all of these proposed block grants will have significant impacts on state budgets and policy, the emphasis here will be on the AFDC program.

The AFDC Block Grant and Federal Dollars for Tennessee

The “Temporary Assistance” block grant, which includes AFDC and related programs like JOBS and EA, will almost certainly be capped at or near the combined fiscal year 1994 level in the final version of welfare legislation. The House version of the bill does cap the block grant at the fiscal year 1994 level of approximately $15.4 billion, while the Senate version of the bill provides somewhat more funding -- $16.8 billion. The cap remains through fiscal year 2000, although, as discussed in a later section, there are provisions for

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1 Tennessee currently does not operate an EA program, but 40 states and the District of Columbia do.
population growth that will most likely amount to $100 million annually for the nation from 1997-2000. States will be allocated a fixed amount of the total grant, but are estimated to lose $11.4 billion over five years ($77 million to Tennessee) if the block grant is fixed at the FY1994 level. If the final amount of the grant is closer to the Senate version of the bill, most states will still face a significant cut in federal funds over the five-year period.

Assuming that federal funding is fixed at the FY 1994 level, Tennessee will receive an estimated $182 million annually over the period 1996 - 2000 to fund AFDC, its related programs, and administrative costs. It is difficult to determine how much Tennessee will need to contribute from its own revenues in order to finance its welfare system, given the increased flexibility of the block grant, a multitude of financial incentives and penalties, and uncertain future levels of welfare caseloads. However, some idea of necessary state out-of-pocket costs can be made with currently available data. With this information, we then have a solid foundation on which to evaluate the potential responses of Tennessee and other states to proposed block grant funding.

Table 4.1 includes the trend in Tennessee AFDC payments since the beginning of the decade and estimates of caseloads and total expenditures for fiscal years 1996 and 1997. Both caseloads and expenditures for the combined basic and AFDC-UP programs fell off considerably in FY 1995 after rising steadily from FY 1990 to FY 1994. The fall-off is expected to continue in FY 1996, but by FY 1997, Tennessee is projected to experience an

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3 HHS, 1995. This number assumes that allocations are based on the greater of federal obligations to the states for AFDC and EA benefits, JOBS, and AFDC administration in FY 1994 or the average over FY 1992 - FY 1994. If, instead, actual expenditures are used rather than federal obligations, Tennessee’s share of the total grant will fall to $170 million.
These estimates assume administrative costs of $37.4 million and JOBS spending of $5.65 million. Numbers represent the latest available data (1993 and 1992, respectively) on spending for these programs in Tennessee. Source: Committee on Ways and Means, U.S. House of Representatives, 103rd Congress, Overview of Entitlement Programs (The Green Book), 1994.

Tennessee is required to pay 33.48 percent of benefits, 50 percent of administrative costs, and 10 percent of JOBS costs as required under the current system.

Increase in total AFDC caseloads and expenditures. If Tennessee is allotted $182 million of the AFDC block grant and there are no significant changes in spending for administrative costs and the JOBS program, the state's expected expenditures from its own sources should be $58.4 million in FY 1996 and $72.6 million in FY 1997 to finance projected AFDC and related expenses. Under the current system, Tennessee would have required $85.3 million in FY 1996 and $90.1 million in FY 1997. Thus, at least initially, the State of Tennessee appears poised to benefit from the consolidation of welfare programs into a block grant.

Using the base year of 1994 for block grant funding, we find that Tennessee would benefit

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4 These estimates assume administrative costs of $37.4 million and JOBS spending of $5.65 million. Numbers represent the latest available data (1993 and 1992, respectively) on spending for these programs in Tennessee. Source: Committee on Ways and Means, U.S. House of Representatives, 103rd Congress, Overview of Entitlement Programs (The Green Book), 1994.

5 Tennessee is required to pay 33.48 percent of benefits, 50 percent of administrative costs, and 10 percent of JOBS costs as required under the current system.
relative to many other states, because AFDC spending was unusually high in Tennessee in FY 1993 and FY 1994 relative to other years. While total AFDC spending (basic and AFDC-UP) is expected to add up to approximately $202.2 million in FY 1995, FY 1994 spending was approximately $216.3 million.

State Behavioral Responses to Block Grants: The Quest for Cost Savings

A block grant generally consolidates various categorical grants. Categorical grants are targeted toward specific programs, usually have stringent requirements, and are heavily controlled at the central government level. Block grants allow state governments the increased flexibility to design and implement their own policies, so that states can spend federal money in the manner which best benefits the state. While states are likely to benefit from the increased flexibility associated with block grants, these benefits must be weighed against the losses states will face in the form of reduced federal funds.

There are many ways in which states can ease the burden of cuts in federal funds for welfare programs. First, they may reduce welfare benefits or restrict eligibility for welfare programs. These actions would not only cut costs directly, but if welfare recipients are mobile, the process would also impart additional savings to states whose benefit levels fall below those of neighboring states. States are also likely to realize savings by administering welfare programs more efficiently than the federal government or by utilizing the increased flexibility of block grants to devise their own reform initiatives. Finally, states with spending priorities that differ from those of the national government may see gains by shifting funds according to the demands of their citizens.
Reduced benefits and restricted eligibility. One way states may respond to diminished federal funds for AFDC is to reduce welfare benefits and restrict eligibility. Under block grants, states will lose the incentives to increase welfare spending that exist under the current AFDC funding formula, but they will likely retain disincentives to increase AFDC spending associated with the food stamp program. Thus, with the new structure of AFDC funding, the cost savings for states associated with reduced benefits and restricted eligibility will be much more substantial.

Under the current AFDC system, the federal government provides a matching grant to the states. That is, the amount of federal funds a state receives is tied to the amount of money that the state itself chooses to contribute. If a state faces a 1:1 matching rate, for example, it pays only $0.50 for every dollar it chooses to spend on AFDC. The matching rate varies across states, depending on the state’s personal income level. In 1995 the federal share of AFDC benefits ranged from 50 percent in several states to 78.58 percent in Mississippi (66.52 percent in Tennessee), and the federal government pays 50 percent of the administrative costs of AFDC in all states. With a matching grant, states have incentives to raise benefit levels and expand eligibility for AFDC. Given a maximum 50 percent state contribution, a state bears only $0.50 of the cost of each dollar increase in benefits. In the same vein, states realize only 50 percent of the savings associated with reducing benefits and restricting eligibility. Under new welfare reform proposals, states will pay 100 percent of these added costs and get 100 percent of any savings. However, states would be expected to decrease spending with the new legislation, because the cost of marginal increases in welfare spending will rise dramatically. If faced with maintenance-of-effort requirements --
a requirement that forces states either to spend the same amount on welfare programs as before block granting or to maintain benefit levels -- cuts in benefit levels or eligibility restrictions will cease to be options. In the extreme, the block grant can essentially become a categorical grant with a different name. The various versions of welfare reform legislation as they currently stand, however, either require no maintenance of effort or else carry temporary maintenance-of-effort requirements low enough to be very unlikely binding constraints.

Continued interaction among AFDC and food stamps will provide further disincentives for states to increase spending on welfare benefits. States receive a $0.30 reduction in food stamps for every additional dollar they spend on AFDC. Thus, states must increase their AFDC benefits by $1.43 in order for a recipient to realize a $1.00 increase in combined AFDC and food stamp benefits.\(^6\) Under the current system, the State of Tennessee must pay approximately $0.48 (33.48% X $1.43) for this $1.43 increase in welfare spending; but under the new law, Tennessee would be required to pay the full amount. The interaction among food stamps and AFDC will likely continue under the new welfare system unless a state chooses to receive its federal food stamps monies as a capped block grant. Under current proposals, states are given such an option, but with a reduction in funding that varies between 0 and 20 percent. New legislation may also require an electronic distribution of food stamps in order for a state to qualify for a block grant. The continued interaction of AFDC and food stamps should further encourage benefit reductions and eligibility

\(^6\) A $1.43 increase in AFDC benefits implies a $1.43 X 30% = $0.43 reduction in food stamps; thus, the recipient realizes only $1.00 of combined AFDC and food stamp benefits.
restrictions expected to come about as a response to the consolidation of public assistance programs into block grants with little or no maintenance-of-effort requirements.

**Competition among states.** Reducing benefits and restricting eligibility for welfare programs has a possible and perhaps unintended by-product that could result in significant savings to low-benefit states. It is a concept that has received considerable attention during recent welfare reform debates -- competition among states. The philosophy behind the competition is that by reducing benefits and making it harder to get on the welfare rolls, a state makes itself less attractive to current and would-be welfare recipients.\(^7\) Table 4.2 shows the disparity in maximum benefits available to single-parent welfare families of three across states under the AFDC and food stamp programs in January, 1994. As can be seen in the table, the benefits of receiving public assistance vary widely from state to state. In Hawaii, for example, combined benefits amount to $1,134, which meets the standard of need in that state and provides 103 percent of the poverty threshold. In stark contrast, the combined benefits in Mississippi are $415, which provides only 43 percent of the poverty threshold. Although Mississippi’s combined benefits surpass its standard of need, the standard of need set by the state is approximately 38 percent of the poverty threshold, versus 103.5 percent for Hawaii. Tennessee’s combined benefits of $480 in January 1994 met 50 percent of the poverty threshold.

Although welfare recipients in Mississippi are unlikely to move 6,000 miles away to take advantage of higher welfare benefits, many states within the Southeast grant significantly different levels of combined benefits. Georgia, for example, provides combined benefits of $575, approximately 39 percent higher than combined benefits in Mississippi.

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<table>
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<th>State</th>
<th>Need Standard</th>
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<th>Food Stamp Benefit</th>
<th>Combined Benefits</th>
<th>Combined Benefits as a % of 1993 Poverty Threshold</th>
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Furthermore, there is evidence that families dependent on public assistance move at least as frequently as the general population. In the 1968 case Shapiro v. Thompson (394 US 618), the Supreme Court ruled that waiting periods for new residents desiring public assistance violated the right of interstate movement in the Constitution, which means that states cannot ward off potential welfare migration with burdensome residency requirements. Therefore, the potential exists for increased geographic movement of welfare recipients once states are given more leeway in setting standards of need, benefit levels, and eligibility requirements under the new welfare system. As mentioned above, states will have a greater incentive to reduce benefits under block grant funding. If some states reduce benefits significantly while others maintain benefit levels, the discrepancy in welfare benefits across states should increase. These migration effects are not likely to be very substantial, but they deserve mention, as the low-income population in high-benefit states grew relatively more rapidly than in low-benefit states over the post-decision 1971-1985 period.

**Reduced administrative costs.** Another way states can cut costs under the new system is to administer welfare programs more efficiently than the federal government does. Many state governors who favor federal block grants have insisted that welfare programs can be administered more efficiently (i.e., at less cost) by the states. Substantial savings can accrue to states from the reduction of the stringent controls and less complicated reporting requirements of federally administered welfare programs. In the past, block grant programs have yielded such savings. For example, after the 1981 Reagan block grants were initiated, the U.S. General Accounting Office related that two-thirds of states reported spending less

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8 Paul E. Peterson, 1995.
time and effort preparing program applications, while three-fourths spent less time and effort reporting to the federal government. These savings were considered small relative to the reduction in spending associated with the block grants, however.

**Expanded flexibility.** Perhaps the greatest potential for states to cut costs under the new state-administered welfare system comes from the much expanded flexibility that allows them to design and implement their own programs. As the welfare system currently stands, states must apply for exemption from federal regulations if they wish to design and implement their own experimental welfare programs. This waiver process is long, arduous, and very expensive. States must undergo a costly evaluation process and then endure extensive monitoring once their program is implemented. Costs associated with the federal waiver process are so substantial that many states have designed programs specifically to be accepted under federal review rather than designing programs to best serve their needs. If programs are focused on the federal review process, they are unlikely to extract all of the savings they would gain in the absence of federal controls. With block grants, states are given substantial leeway in the design of their programs. Past experience has shown that states can indeed enjoy considerable savings when given such latitude. A case in point is the State of Wisconsin. With a set of waivers from the federal government and an ambitious reform package, Wisconsin was able to reduce its AFDC caseload by 22.5 percent between 1986 and 1994. This decline can be attributed mostly to restrictions in eligibility, benefit

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reductions, and a vigorous welfare-to-work program. Over the same period, the state also benefited from a healthy economy. Although the Wisconsin experience cannot be expected to be repeated in every state, the experience shows the degree to which a state can cut expenses when given sufficient control over their programs.

**Changes in priorities.** In addition to cost savings, block grants may benefit states by allowing them to assert their own program priorities, providing a more appropriate distribution of funds among consolidated programs. With categorical grants, the federal government normally sets uniform priorities across states, but the consolidation of the categorical grants into block grants allows states to shift funds from programs they regard as low priority to programs they view as having relatively higher priorities.

Block grants proposed recently in the debate over welfare reform are much more sweeping than past block grants and thus will occupy a much larger portion of state budgets; therefore, a great potential exists for states to administer federal funds more efficiently by shifting funds to the program areas with the greatest demand and potential benefits. A potential gain in efficiency arises if the federal government has goals that differ from those of state governments or if goals vary across states.

Previous experience with block grants lends support to the idea that state and federal priorities often differ or that priorities vary from state to state. When the small-cities portion of the Community Development Block Grant (CDBG) (1981) shifted control from the federal government to the states, states spent considerably more on economic development and infrastructure projects and relatively much less on housing rehabilitation.

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than the federal government had spent. Also falling under the CDBG was the Lead-Based Paint Program, whose funding was significantly reduced after control was shifted to the states.

Previous experience also shows different priorities across states. For example, under the Preventive Health and Human Services block grant (1981), Florida augmented the Rodent Control Program while funding for that program declined in all other states that were able to assert their own priorities, priorities that differed from those of Florida and the federal government.

**Problems for States Under Block Grant Funding**

Although states will have the flexibility to cut costs significantly under current welfare reform proposals, some problems may arise that can potentially aggravate the burden of reduced federal funds. A potentially severe problem that states may be forced to confront under a public assistance block grant system is maintaining benefits in the face of a recession or demographically driven growth in welfare caseloads. Under the current welfare system, the amount of federal monies received for AFDC is tied to the amount spent by the states. If a state is forced to increase its spending due to a recession or a demographically driven increase in AFDC expenditures, then it automatically receives more federal funding, based on its matching rate. Under a block grant, states would receive no additional funding.

**Recession-induced budget problems.** As unemployment rises during economic downturns, there is consequently a greater demand for public assistance. Although

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12 Demographically driven growth arises from growth in the population or changes in the composition of the population.
unemployment insurance programs bear the brunt of these increased demands, demands for AFDC assistance rise as well. Not surprisingly, the AFDC-UP program is much more sensitive to economic cycles than the basic AFDC program; however, AFDC-UP cases make up a small portion of the total AFDC caseload, approximately 6-8 percent. Together, the rise in basic AFDC and AFDC-UP caseloads can have a significant impact on government budgets. Estimates suggest that a one percent increase in the employment gap (the percent by which employment is below full employment) raises basic AFDC caseloads by 60,000 nationally and AFDC-UP caseloads by 19,000. These estimates imply that increases in unemployment were responsible for a rise in AFDC caseloads of 395,000 (10.5 percent of 1989 cases) over the most recent recession period, 1989-1992. Based on FY 1995 levels, a 10.5 percent increase in Tennessee caseloads over three years would amount to a rise of 3,440 in the average monthly caseload, implying increased benefit expenditures of approximately $715,000 per month during a recession period. In total, national AFDC caseloads increased 27 percent during the 1989-1993 recession. The severe recession of 1970-1972 saw an even greater increase in AFDC caseloads -- 53 percent. Further evidence of a cyclical component to AFDC can be seen in national expenditures on AFDC benefits in recession years versus non-recession years, as shown in Table 4.3.

Although the table suggests that AFDC expenditures have become less sensitive to economic cycles in recent years, it should be noted that there has been very little change in

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This decline in the percentage of state expenditures going to AFDC is attributable more to increased outlays in other areas such as Medicaid than to changes in AFDC expenditures. See Sarah Ritchie, "Welfare Spending in State Budgets," Albany, NY: Center for the Study of the States, The Nelson A. Rockefeller Institute of Government, State University of New York, (1995).

Table 4.3

<table>
<thead>
<tr>
<th>Recession Years</th>
<th>AFDC-Basic (%)</th>
<th>AFDC-Up (%)</th>
<th>Non-recession Years</th>
<th>AFDC-Basic (%)</th>
<th>AFDC-Up (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1972</td>
<td>22.5</td>
<td>41.5</td>
<td>1972-1974</td>
<td>7.5</td>
<td>-15.0</td>
</tr>
<tr>
<td>1974-1976</td>
<td>14.0</td>
<td>31.0</td>
<td>1976-1980</td>
<td>5.8</td>
<td>8.0</td>
</tr>
<tr>
<td>1980-1983</td>
<td>4.0</td>
<td>37.3</td>
<td>1983-1989</td>
<td>5.0</td>
<td>-1.4</td>
</tr>
<tr>
<td>1989-1992</td>
<td>8.9</td>
<td>19.0</td>
<td>1992-1993</td>
<td>-0.7</td>
<td>8.5</td>
</tr>
</tbody>
</table>


real welfare expenditures since the early 1970s, and welfare expenditures as a percentage of state budgets have fallen considerably -- from 10.1 percent in 1970 to 5.2 percent in 1991.  

While AFDC caseloads and expenditures rise during economic downturns, government revenues fall because of declining tax bases. That is, welfare costs most when budgets are tightest. Tennessee, for example, experienced very tight revenues in 1990, 1991, and 1992, the most recent recession period years. The federal government can finance increased welfare demands with deficits, but state governments are bound by balanced budgets. With block grants and the impossibility of running deficits, states must either reduce benefits, restrict eligibility, or finance the increased welfare demands with state funds diverted from other programs. Given the smaller pot of total state funds and the political repercussions of tax increases, states are most likely to reduce benefits or restrict eligibility during economic downturns.

In both the House and Senate versions of the welfare reform bill, there are provisions for a national "rainy day" fund to supplement state budgets during times of fiscal stress such
as recessions. The rainy day fund is a federal pool from which states can borrow and pay back the loan over a period of three years at the interest rate on federal debt with similar maturity. The amount of the national rainy day fund is likely to be between one billion and three billion dollars, an amount analysts say barely approaches that which would be necessary in the event of a major economic downturn. Given the recession-induced increases in welfare spending and welfare cases discussed above, the national rainy day fund could at best protect states during only one year of recession.

There is also a provision that allows creation of state-level rainy day funds. States may reserve unspent amounts of block grant funds for the purpose of providing assistance in emergency situations. This possibility of reserving funds gives states an additional incentive to cut welfare spending in expansions to smooth out the fiscal stress caused by the AFDC program during economic downturns.

**Demographic changes and welfare expenditures.** Demographic changes also can drive up welfare caseloads and expenditures. Demographic changes are the single most important factor for explaining the growth in welfare spending. The most critical factors include changes in population and the number of families headed by single women, especially the number of families headed by never-married women. Although there are provisions in proposed welfare legislation for changes in population, no such provisions exist for changes in the percentage of families headed by single women.

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15 Both the House and Senate bills tie eligibility for these loans to state unemployment rates. To qualify for a loan from the fund, the state must experience a three-month average unemployment rate that exceeds 6.5 percent and is at least 10 percent higher than in either of the two previous years. Each state is allowed a maximum loan of the lesser of $100 million or half of its annual allotment, a constraint that will obviously be much more binding for large welfare states such as California, New York, and Michigan.
Population growth. Current welfare reform proposals provide a provision for population growth to enhance a state’s block grant during fiscal years 1997-2000; however, only a modest amount of federal funds is reserved for allocation among states that experience population growth. Under the House version of the bill, for example, states that experience population growth would receive a share of $100 million, but if states are to be adequately compensated for population growth, reform provisions would need to include a much higher amount. Figure 4.1 shows the growth in population since the beginning of the decade and projected growth through the year 2000 for both Tennessee and the United States.

As the figure indicates, population in the United States is expected to grow at an annual rate of 1 percent through the year 2000, while Tennessee annual population growth is projected to be approximately 1.2 percent. If AFDC and related programs grow merely at the same rate as the population and the federal government is to provide adequate compensation for this growth, the nation as a whole would require average additional funding of $154 million per year. Tennessee would require approximately $2.2 million per year in additional to federal funds.

Growth in the number of single mothers. Perhaps the most important factor affecting increased welfare expenditures and caseloads is the percentage of families in the population headed by single mothers, especially mothers who have never married. Such families are much more likely to require public assistance than are two-parent families, and
the number of families headed by single mothers has increased significantly over the last three decades. The continuation of this trend would likely result in increased welfare expenditures, expenditures for which Tennessee and other states will receive no compensation.
In Tennessee, approximately 83.5 percent of AFDC caretakers are currently unmarried or separated and 46.0 percent have never married. Families headed by a single women live disproportionately below the poverty line. In fact, nationally in 1990, 37.2 percent of families with a female householder and no spouse present lived below the poverty line. While this number is down from 48.9 percent in 1960, the percentage of poor families headed by single women has increased substantially since then, from 18.2 percent in 1960 to 37.5 percent in 1990. Although divorce rates are much higher now than in 1960, undoubtedly there has also been an increase in the number of children born out of wedlock. Figure 4.2 below shows birth rates among single women from 1980 to 1992.

As the figure shows, the birth rates among nonmarried women since 1980 have shown a steady and considerable rise, while over the same period, overall birth rates and married birth rates have been declining. Given the high probability of a single mother finding herself and her family below the poverty line, states can expect to see an increase in AFDC caseloads due to non-population-driven demographic factors if this trend in nonmarried birthrates continues. Another caveat is that 75 percent of women who apply to AFDC do so either because they get divorced or separated or they are single and have a child (and were formerly childless). As mentioned above, states will not be compensated for this growth in welfare reform legislation and thus must find some way to adjust.

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18 1994 Green Book.
Although states will not receive compensation from the federal government for increased welfare system utilization brought about by growth in the number of single mothers, there are ways in which states can reduce the impact of this growth on their budgets, including enforcing payment of child support and actively promoting a reduction in teenage pregnancy.

Enforcing child support will of course require establishment of paternity, and the new welfare system will in all likelihood require states to withhold benefits from recipients who
fail to establish paternity. Currently, paternity is established in fewer than one-third of births to mothers receiving AFDC, and only one out of six mothers in the AFDC program receive child support.19 Under current law, women who receive AFDC must assign to the states their rights to collect child support. The women receive the first $50 of collected child support every month, and the balance is used to offset the cost of providing AFDC assistance to the family. If states are able to collect even a portion of child support owed to welfare mothers, they have the opportunity to significantly reduce AFDC expenditures.

Tennessee’s Families First welfare reform proposal includes many initiatives designed to enhance the collection of child support. Parents who do not pay child support are likely to have their drivers’ licenses and professional licenses revoked by the state. Furthermore, Tennessee proposes to turn over delinquent accounts to private collection agencies, require employers to report new hires, and automate its child support services.

Another way states can reduce some of the burden of these demographically driven increases in welfare expenditures is by making an effort to reduce the number of children born to teenagers. While teen mothers comprise only about 6.5 percent of Tennessee AFDC recipients, approximately 69 percent of recipients were under the age of 20 when their first child was born.20 Contrary to popular opinion, however, the incidence of teenage pregnancy is lower than it was 25 years ago. In 1970, there were 68.3 births per 1000 women under 20.

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20 CBER, 1995. Tennessee’s welfare reform plan proposes to reduce the probability of teen mothers receiving public assistance by requiring teen welfare mothers to live at home and stay in school.
and in 1987, only 50.6. However, birth rates among teenagers have risen somewhat since 1987, reaching 60.7 by 1992.  

The block grant system will offer states the potential for restructuring programs and saving money, but states that fail to adjust will experience budget pressures because of growth in traditional AFDC demand factors. In the near term, Tennessee may be insulated from budget pressures because the allotment of federal funds may be greater than the expected federal share under the current system. However, Tennessee is likely to feel the impact of a fixed pool of federal funds if growth continues. Cost cutting will be necessary to prevent rapid increases in Tennessee expenditures.

**From Welfare to the Workplace: Time Limits and Work Requirements**

Getting welfare recipients into the workplace is a high priority goal in current national welfare reform proposals. In both federal and Tennessee proposals for welfare reform, welfare recipients will be limited to five cumulative years of assistance. Furthermore, over the next several years, increasing numbers of people who remain on the rolls will be required to work in order to continue receiving assistance. In Tennessee’s *Families First* plan, welfare recipients are given between 1 and 18 months to begin working, depending on their education and work experience. Although time limits and work requirements are part of a multifaceted welfare system overhaul and will not be an isolated aspect of Tennessee’s overall welfare reform plan, the work incentive aspect of new welfare legislation begs a thorough and separate analysis.

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The key question to be answered in an analysis of time limits and work requirements is this: Will welfare recipients be able to find jobs in Tennessee within the time frame allowed by reform proposals? In order to answer that question, we must first discuss the reasons why welfare recipients are unemployed, including disincentives for work inherent in the welfare system and additional obstacles outside the system, such as chronic health problems or disabilities and the lack of affordable child care. Once these issues are addressed, we will discuss the capacity of the economy to absorb a large influx of new workers and the education and skills that welfare recipients will be able to offer potential employers. Finally, we will complete the analysis by examining job opportunities that will be available to Tennessee welfare recipients and the time likely to be required for the state economy to absorb them.

**Disincentives for Work in the Welfare System**

The current welfare system creates a series of unintentional disincentives to work. The most salient disincentive is the reduction in AFDC benefits that goes along with finding a job. The benefit reduction rate gives the amount that welfare benefits are reduced for every dollar of earned income. For example, at a benefit reduction rate of 50 percent, welfare recipients lose $0.50 in benefits for every dollar earned working. In essence, the dichotomy of the current welfare system is that it simultaneously imposes a tax rate (through the benefit reduction rate, social security tax, and federal income tax) on earned income, but guarantees income for staying at home. The effect is to ensure a reduction in labor force participation with increases in the benefit reduction rate. Recognizing this flaw, the federal government in the late 1960s began requiring that states provide financial incentives for welfare
recipients to work, a policy that resulted in declining AFDC benefit reduction rates through the 1970s. Since 1982, however, the federal government has mandated a 100 percent benefit reduction rate for earnings beyond $90 per month (net of day care costs). Other than the stigma associated with being on the public dole, which is negligible, AFDC recipients have zero incentive to work at incomes above $90 and below their benefits. The problem for policy makers is that reducing the benefit reduction rate raises the incentives for work, but increases government costs of AFDC, since working recipients retain more AFDC aid, and more households become eligible for AFDC.

*Past efforts to reduce disincentives for work.* Prior to the 1980s, most “welfare reform” was focused on increasing the standard of living of welfare recipients by increasing benefits or providing additional services. Most reforms proposed in the last several years have focused on moving welfare recipients into the labor market. Since 1990, at least fourteen states have received federal waivers to experiment with lowering their benefit reduction rates in an effort to expand the incentives to work. Another program that has been expanded in recent years is the federal Earned Income Tax Credit (EITC), which provides a substantial income tax refund for low-income workers. In 1992, for example, because of the EITC, a family of four did not pay federal income taxes until its income passed 129 percent of the poverty line. Research has shown the EITC to be an effective incentive for welfare recipients to work, and it reduces some of the disincentives arising from high benefit reduction rates.22 The EITC currently is provided to workers after they file their income tax

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returns. However, Tennessee proposes to assist welfare recipients in getting part of the federal EITC advanced to them in each paycheck.

**Other Reasons for Unemployment Among Welfare Recipients**

Aside from the disincentives inherent in the welfare system, there are other reasons outside the welfare system that constrain welfare recipients' wanting to work. The Tennessee Case Characteristic Study indicated that 80.0 percent of the AFDC recipients who responded were unemployed, and 43.4 percent of respondents had not been employed at any time in the previous twelve months. When asked why they were not working, 55.2 percent responded with seemingly valid reasons, such as health problems, disabilities, age, or problems related to child care (see Figure 4.3). However, no effort was made to determine the validity of the excuses. Under proposed legislation, the percentage of welfare caseloads allowed to be exempt from time limits ranges from 10 percent in the House bill to 20 percent in the Senate bill. States will have to find a way to select among this large group of welfare recipients in providing these exemptions.

**Chronic health problems and disabilities.** Approximately 26.8 percent of the respondents claimed that health problems, disability, or age prevented them from getting a job. Those who are classified as disabled or chronically ill will most likely either be exempt from work requirements and time-limited welfare or else will be eligible for other public assistance, probably the federal Supplemental Security Income program (SSI) or Social Security Disability Insurance (SSDI). ²³ Recent Michigan experience suggests that when

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²³ In Tennessee's *Families First* bill, parents who claim temporary or permanent disabilities or who must care for a disabled person are exempted from work requirements if there is no possibility of employment.
FIGURE 4.3
Reasons Given for Not Working
(1995 Case Characteristic Study)

![Pie chart showing reasons for not working](chart)


public assistance programs end, some recipients “transfer” to other assistance programs. In October 1991, Michigan terminated its General Assistance program, a state-funded program that provided aid for non-elderly impoverished adults without dependent children. By June 1993, the proportion of the General Assistance population receiving benefits from either the
state disability assistance program or SSI had increased from 2 percent to 15 percent.\textsuperscript{24} The large transfer from Michigan's General Assistance rolls to SSI can be explained in part by the ease with which those who claim health or disability conditions can get SSI. The Social Security Administration reports that one out of two people who applies to SSI for health reasons eventually becomes eligible. State policy makers should anticipate increased participation in programs designed to assist the disabled and chronically ill as welfare reform is enacted.

\textbf{Lack of affordable child care.} Approximately 22 percent of respondents to the Tennessee Case Characteristics Study claimed that they could not get a job because their children were too young (10.8 percent), no child care was available (5.0 percent), or child care was too expensive (6.2 percent). Welfare reform proposals may allow limited time with a new child before work is expected. For example, under the Senate bill, states have the option of making exceptions for parents of young children. Families with children under five would not be required to work more than 20 hours per week and those with children under one year would be exempt.\textsuperscript{25} In contrast, the Parental Leave Act allows employed new parents only twelve weeks to care for a new child before the parent's employer is legally allowed to replace her/him. Of course, in today's economy, many families, not only AFDC recipients, must balance child care with work.

Obtaining and paying for child care are related problems. Most of the jobs that will be available to welfare recipients are low-paying jobs (see below), and those with low-paying


\textsuperscript{25} In Tennessee's \textit{Families First} proposal, pregnant women and new mothers are exempt from work requirements for a period corresponding to the Tennessee Maternity Leave Act (four months after birth).
jobs generally cannot adequately cover child care expenses. Low-income working families with children spend an average of 33 percent of their household budget on child care, versus 6 percent for families with annual incomes over $25,000. For the general population of working parents, child care is the single largest expense after housing, food, and taxes. Child care expenses provide a major disincentive to work for parents currently on AFDC.

Several federal and state programs are designed to overcome this burden by subsidizing child care for parents who have difficulty paying for it. However, funding is insufficient to assist all of those who qualify. The four major federal programs that currently pay direct assistance for child care (AFDC Child Care, Transitional Child Care, At-Risk Child Care, and the Child Care and Development Block Grant) are certain to be lumped together into one block grant to the states. Funding likely will be capped near the fiscal year 1994 funding level. The current tight funding will be exacerbated for states seeking to maintain these child care programs. The House welfare reform bill, for example, caps spending at $2.093 billion, approximately $150 million over the fiscal year 1994 level, resulting in an estimated five-year loss of $51 million to the State of Tennessee.26 Despite the reduced funding, Tennessee may find it financially beneficial to maintain or supplement federal funding for child care, especially for those who are eligible for public assistance, as research has shown a significant increase in labor force participation for low-income parents who find that their child care expenses are reduced. The United States General Accounting

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Office found that providing a full child-care subsidy to poor mothers would increase their labor force participation rates from 29 percent to 44 percent.\textsuperscript{27}

**The Capacity of the Economy to Absorb New Workers**

The ability of welfare recipients to find jobs will depend in large part on the capacity of the economy to produce new jobs over the next few years. Historically, the United States economy has been characterized by a long-term trend of strong employment growth, while the State of Tennessee has exhibited even more remarkable growth (see Chapter 3). Employment has grown faster than population in every decade following the Second World War. More cogent is the fact that in the past, the U.S. economy has shown the capacity to absorb large influxes of new workers. Two examples are the entry of "baby boom" workers and women into the labor force. Baby boomers, who came of age in large numbers during the 1960s and 1970s, have been able to find jobs, as have women, who have left home for the workplace in increasing numbers since World War II.

The capacity of both the national and state economies to accept new workers will remain strong in future years. One reason is expected strong employment growth. During the next ten years, U.S. nonagricultural employment is forecast to grow at a compound annual growth rate (CAGR) of 1.5 percent, while Tennessee nonagricultural employment is expected to grow 2.6 percent (CAGR), creating 652,000 net new jobs in the state over the ten-year period. The Tennessee civilian labor force, which is the pool from which workers are hired, is expected to see an annual increase of only 1.2 percent (CAGR), which is a significant constraint on this projected potential employment growth. A second reason is

\textsuperscript{27} United States General Accounting Office (1994). "Child Care Subsidies Increase Likelihood that Low-Income Mothers Will Work."
that Tennessee labor markets are already tight, and new workers are needed. Thus, more Tennesseans will have to enter the labor force for the state to maximize its potential employment growth. On the surface, it seems, the Tennessee economy is poised to accept a large influx of workers of the magnitude of those coming off the AFDC rolls. The problem is that many of the jobs of the future will require more education and training than many welfare recipients currently have. Furthermore, the absorption of large numbers of new workers has occurred over decades in the past, while today the economy is being asked to absorb large influxes of new workers in a matter of a few years.

The Employability of Welfare Recipients: Literacy, Education, and Work

A potentially severe problem facing welfare recipients entering the work force is a serious lack of basic skills, formal education, and training. As a result, welfare workers are less likely to be hired, and if they are hired, they will generally be paid less than better educated people with more skills and training.

The 1992 National Adults Literacy Survey evaluated the literacy of welfare recipients and the general population and scored individuals on a scale from 1 (least literate) to 5 (most literate). The survey revealed that three out of four welfare recipients (AFDC and food stamps) cannot consistently perform tasks at level 3 literacy, which includes such elementary tasks as entering information into an automobile maintenance form or calculating miles per gallon using information given on a mileage record chart. About one-half of the

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The general population cohort scored below level 3. Adults in the total population who performed at level 1 were disproportionately more likely to report receiving public assistance, while those performing at levels 4 and 5 were disproportionately likely to report not having received such support.

The Literacy Survey also showed a strong connection between the level of literacy and the degree of success in the job market. The survey showed that adults with higher levels of literacy worked more weeks during the year before the survey and earned more for their work. In the welfare population, people scoring a 1 on the literacy survey worked an average of 11 weeks during the year before the survey, while those scoring a 4 worked an average of 24 weeks. Moreover, those in the welfare population who scored a 4 on the literacy evaluation averaged $223 per week in wages, versus $165 for those scoring a 1.

Some of the relative illiteracy among welfare recipients can be attributed to a general lack of formal education. Not surprisingly, for both those receiving federal subsistence income and for the general population, literacy rates were much higher on average for those with higher levels of formal education. Furthermore, most employers require a minimum level of formal education regardless of applicants' literacy levels.

The Tennessee 1995 Case Characteristics Study reflected a large discrepancy between the educational attainment of Tennessee AFDC recipients and the general population in Tennessee (see Figure 4.4). Approximately 90.6 percent of AFDC recipients have attained only a high school education or less, compared with 63.0 percent of the general population in Tennessee; and 54.6 percent of AFDC recipients have attained even less than a high

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29 The general population cohort in this survey included a much larger percentage of welfare recipients (40 percent) than occurs in the actual population, leading to underestimated literacy levels for the total population.
Figure 4.4

Highest Level of Education
(AFDC vs. Total Population)


School education, as compared with 33.0 percent of the general population. Unfortunately, only 13.4 percent of those responding to the AFDC survey were making an effort to educate themselves further or to participate in a training program. Of these 13.4 percent, 43.6 percent were enrolled in basic education, such as high school, GED preparation, or adult basic education. Of the remainder, 45.7 percent were enrolled in technical/trade school or college, and 10.7 percent were involved in some other education or training program.
Undereducated Tennesseans generally find much less prosperity in the labor market than do their more educated counterparts in terms of both unemployment and annual earnings (see Figure 4.5). Unemployment rates decrease with more education. In 1990, Tennessee workers who were not high school graduates suffered a much higher unemployment rate (8.5 percent) than those who had high school diplomas (4.9 percent).
The unemployment rate for those with college degrees in Tennessee was 2.3 percent in 1990. Even more disparity is evident in the annual earnings of workers with differing levels of education, as earnings rise with education. Tennessee workers without a high school diploma earned an average of $14,304 in 1990, while those who were educated through high school earned an average of $19,400. The disparity is amplified with further education, as a Bachelor's degree earned its recipient an average of $31,371 in Tennessee in 1990.

Lack of experience also presents a problem to welfare recipients in trying to secure a job. As revealed in the Tennessee AFDC survey, 36.1 percent of unemployed AFDC caretakers had not been employed in the prior two years, and 12.1 percent had never been employed. Nationally (in 1995), 38.7 percent of AFDC recipients had no work experience in the year prior to initial receipt of AFDC. Job opportunities for people leaving the welfare rolls will be limited because of this general lack of education, training, and experience.

Under Tennessee’s *Families First* proposal, each welfare recipient is to undergo a skills assessment. The results are to be used in developing individual work plans, which are likely to include education, training, and job search assistance. The hope is that these work plans will help to alleviate some of the obstacles welfare recipients face when seeking employment.


One way to anticipate what kinds of jobs former AFDC recipients can occupy is to examine the types of jobs AFDC recipients have held in the past. The Tennessee Case Characteristics Study asked respondents to list the types of jobs they had held most often (see Table 4.4).
The greatest percentage of AFDC workers were employed as food services or factory/production workers. Many of the occupations with the most annual job openings (new jobs plus replacement) in Tennessee are in the food service industry, including fast food cooks, food preparation workers, and waiters and waitresses. According to the Tennessee Department of Employment Security,\textsuperscript{30} employment in the food services industry is projected to grow at a compound annual growth rate (CAGR) of 2.1 percent over the next decade, adding 45,020 jobs by 2005. Jobs in the manufacturing sector are not expected to be as readily available as they may have been in the past because the manufacturing sector will continue to become more efficient, and therefore will see its share of state nonagricultural employment decline over the next decade. Furthermore, unskilled workers are likely to find

\begin{table}[h]
\centering
\begin{tabular}{|l|c|}
\hline
Occupation & Percent \\
\hline
Factory/production & 27.9 \\
Food Services & 27.7 \\
Other & 9.6 \\
Office Work & 9.5 \\
Custodial Services & 7.0 \\
Medical Services & 5.8 \\
Retail Sales & 5.5 \\
Domestic (Private Home) & 3.3 \\
Construction & 1.1 \\
Farm Work & 1.0 \\
Licensed Professional & 0.9 \\
Transportation & 0.8 \\
\hline
\end{tabular}
\caption{Jobs Held Most Often By AFDC Recipients}
\end{table}

procuring a production job more difficult as firms acquire new, more sophisticated technology and use more complex production processes.

Other industries that have commonly employed AFDC workers in the past are health services, retail sales, custodial services, and business services. In terms of expected new jobs, Health Services, as Tennessee's fastest growing industry, is anticipated to create 113,750 new jobs in the state by 2005. Many of these health services jobs require little education or formal training beyond high school. Home health aides, Tennessee's fastest growing occupation in terms of growth rates, is expected to increase by 7.8 percent per year, while nursing aides and orderlies are projected to increase their numbers by 4.2 percent annually. Employment in the retail industry is expected to be 1.7 percent annually, and the occupation of retail salespersons is expected to have the most annual openings in Tennessee. Custodial services and home domestic work should experience fairly strong growth, as will most other service professions. Business services, which includes office workers, is projected to be Tennessee's fourth fastest growing industry in terms of employment, adding 41,280 new jobs by 2005.

Since a large majority of welfare recipients have a high school education or less and are relatively unskilled, an analysis of job prospects must concentrate on those jobs that do not require more than a high school education or specialized skills. According to the Tennessee Case Characteristics Study, virtually all of the jobs welfare recipients have held in the past are such jobs. Of the eight major occupational groups defined by the Tennessee Department of Employment Security, most jobs that welfare recipients are likely to qualify for will fall into one of four groups: sales and marketing; clerical and administrative support;
service occupations; and operators, fabricators, and laborers. Given that current welfare recipients are likely to be faced with a five-year time limit, Table 4.5 shows the projected employment growth in each of these broad occupational groups over the period 1996-2000.\textsuperscript{31}

<table>
<thead>
<tr>
<th>Occupation Group</th>
<th>Number Of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing And Sales</td>
<td>38839</td>
</tr>
<tr>
<td>Administrative Support/clerical</td>
<td>40048</td>
</tr>
<tr>
<td>Service Occupations</td>
<td>70531</td>
</tr>
<tr>
<td>Operators/fabricators/laborers</td>
<td>28613</td>
</tr>
<tr>
<td>Total</td>
<td>178031</td>
</tr>
</tbody>
</table>

Of course, only a portion of these jobs will be available to those coming off public assistance programs, as the “non-welfare” labor force will also continue to expand over the same period. Although former welfare recipients who find employment will exert a positive impact on the economy through their increased spending, this impact is not likely to be significant, given that welfare recipients comprise less than two percent of the state’s population and that they are in a sense substituting earned income for transferred income.

The number of welfare recipients seeking jobs because of work requirements and time limits will be a function of how long recipients have received welfare. Recipients can be categorized according to persistence of welfare receipt (see Table 4.6). Using responses from the Tennessee Case Characteristics Study and the actual number of current AFDC cases, estimates were made of the cumulative and continuous number of months AFDC recipients have been on public assistance rolls.

\textsuperscript{31} Estimated by applying CBER employment growth rates to occupational growth rates projected by the Tennessee Department of Employment Security.
Time limits are defined in terms of cumulative months on AFDC, not continuous months. The Senate bill allows a 20 percent exemption.

TABLE 4.6
Estimated Number of AFDC Recipients by Persistence of Receipt

<table>
<thead>
<tr>
<th>Number Of Months</th>
<th>Cumulative</th>
<th>Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-11</td>
<td>16,572</td>
<td>32,058</td>
</tr>
<tr>
<td>12-23</td>
<td>12,950</td>
<td>15,757</td>
</tr>
<tr>
<td>24-35</td>
<td>12,860</td>
<td>12,044</td>
</tr>
<tr>
<td>36-47</td>
<td>10,414</td>
<td>8,332</td>
</tr>
<tr>
<td>48-59</td>
<td>6,974</td>
<td>5,705</td>
</tr>
<tr>
<td>60+</td>
<td>30,790</td>
<td>16,664</td>
</tr>
</tbody>
</table>


The differences in cumulative and continuous results indicate a large number of recipients with a short duration of public assistance. If the number of caseloads and the trend in duration remains approximately at these levels, then 28,000 AFDC recipients will be affected initially by time limits, given a minimum 10 percent caseload exemption. In ensuing years, a much smaller number of recipients will be affected by the time limits because the initial number includes many people who have received AFDC for much longer than five years. An analogous situation would be trying to wipe out the federal debt. Initially $5 trillion would have to be paid off, but in the following years only the deficit would have to be retired, perhaps $200 billion. Work requirements will affect an increasing percentage of the AFDC caseload as they are gradually phased in, reaching a pinnacle of 50 percent of the caseload by the year 2000 or 2003, depending on which version of the bill is eventually passed.

With estimates of the number of AFDC recipients affected by time limits and projected job growth in occupations that require limited education and training, an estimate

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32 Time limits are defined in terms of cumulative months on AFDC, not continuous months. The Senate bill allows a 20 percent exemption.
can be made as to the time required for the economy to entirely absorb those coming off AFDC. Table 4.7 shows the number of years required, given job growth and tenure estimates, for the economy to absorb welfare recipients affected by time limits and work requirements. Approximately 28,000 are expected to be affected by the 5-year time limit initially (year 2000), while approximately 32,000 of those remaining on welfare will be expected to be working by the year 2000.

<table>
<thead>
<tr>
<th>PCT Jobs to AFDC</th>
<th>Time Limit Only (28,000)</th>
<th>Time Limit/Work REQ (60,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>8 YEARS</td>
<td>10+ YEARS</td>
</tr>
<tr>
<td>0.15</td>
<td>6 YEARS</td>
<td>10+ YEARS</td>
</tr>
<tr>
<td>0.25</td>
<td>4 YEARS</td>
<td>7 YEARS</td>
</tr>
<tr>
<td>0.35</td>
<td>3 YEARS</td>
<td>5 YEARS</td>
</tr>
<tr>
<td>0.5</td>
<td>2 YEAR</td>
<td>4 YEARS</td>
</tr>
</tbody>
</table>

As Table 4.7 indicates, if 25 percent or more of new jobs that require limited education and training accrue to former welfare recipients, then most of those affected by time limits will have job opportunities available to them. The key question is whether or not 25 percent of the new jobs will be available to former welfare recipients. Moreover, although the state as a whole might be able to absorb new workers from the public assistance rolls, certain local areas may not. For example, approximately half of all AFDC recipients reside in rural areas where fewer jobs are generally available.
A Brief Note on Other Aspects of Welfare Reform

Block grants and work incentives make up the bulk of proposed welfare reform in terms of significant changes from the current system, and various versions of reform legislation are markedly similar on those issues; however, other welfare and welfare-related programs will also undergo changes, some of which have been mentioned and elaborated on in previous sections. The most salient changes in other programs are restrictions on assistance to immigrants, eligibility restrictions and funding changes in SSI, and changes in the administration and funding of nutrition programs such as WIC and school-based lunch programs. Once the final form of the new welfare system is agreed upon, states will have to make adjustments in their programs to accommodate the changes.

Conclusion

A new welfare system entails profound changes for Tennessee. Initially the state will profit from the choice of a base year for the AFDC block grant marked by considerable welfare expenditures. Tennessee will eventually feel its budget tightening, however, unless it aggressively finds ways to cut costs. A host of incentives in the new system will allow Tennessee to realize more of the savings associated with reducing welfare benefits or restricting eligibility for welfare. Moreover, the state may further cut costs by administering the program more efficiently and by designing and implementing its own reforms. With enhanced flexibility, the state can make bolder changes in its welfare system than is possible under the current system, and can do so without costly federal requirements and monitoring. Since decisions will be made at the state level, program consolidation provides Tennessee
the opportunity to be more responsive to its citizens by shifting priorities according to their needs.

Although Tennessee has the potential to realize significant savings under the new welfare system, it also faces possibly severe pressures on its budget if the economy lapses or if demographic changes such as growth in population or the number of single mothers increases the demand for welfare benefits. States will receive partial compensation for population growth, but there are no provisions in new legislation for other demographic changes. Furthermore, the limited loan funds available to offset recession-induced increases in welfare expenditures are insufficient to compensate states for more than a cursory downturn in the economy.

Time limits and work requirements will also provide rigorous challenges for Tennessee welfare administrators, but are likely to reduce the burden of diminished federal funds as recipients move from public assistance to the work place. Although the Tennessee economy is expected to see solid growth over the next several years and has absorbed large influxes of new workers in the past, there are thousands of welfare recipients to place in only a few years, most of whom are untrained and undereducated. Fortunately, many of the new jobs to be created over the next few years require little formal education and training, and if 25 percent or more of these projected new jobs are captured by welfare recipients, the Tennessee economy should be able to absorb them within the time frame allowed by the legislation.

Tennessee is poised to profit from proposed changes to the welfare system because of a generous initial allotment of funds, more opportunities to cut costs, and stringent work
incentives, but administrators must aggressively seek out ways to improve the system and cut costs in order for these savings to be realized.