# Delaware
# (2000 version)

**prepared for**

**Choices for Delaware:**

**Life and the Economy in 2000 and Beyond**

**A forum sponsored by the**

**Delaware Public Policy Institute**

**by**

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## TABLE OF CONTENTS



## TABLES

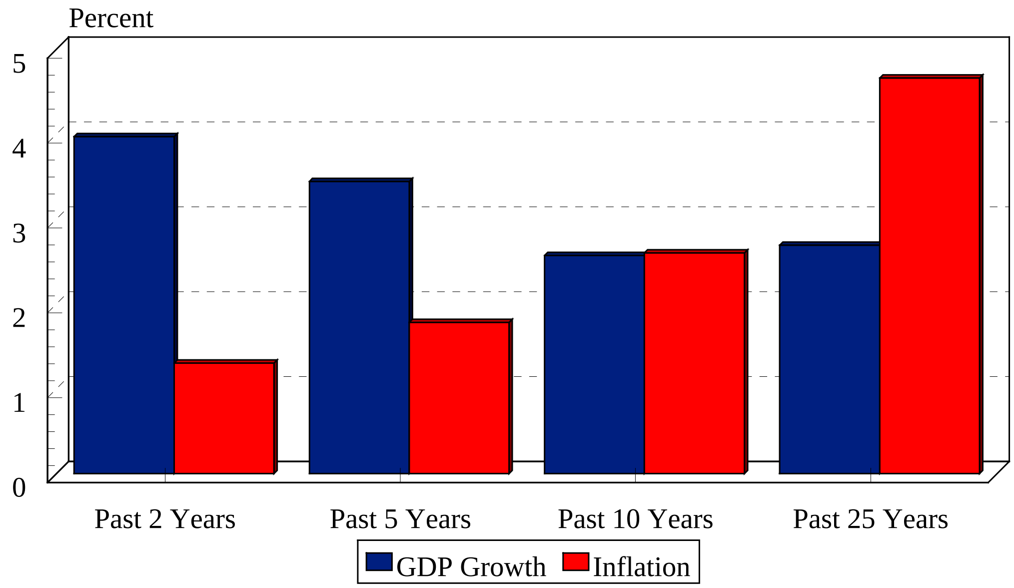
## LIST OF FIGURES

**Figure** **Page**

## The Macroeconomy

The national economy is performing handsomely. The country is in the midst of the longest economic expansion in its history. Unemployment is at a 30-year low, employment growth is strong, consumer confidence high, and income growth robust.

Figure 1.1: Growth Without Inflation




Source: Center for Applied Demography and Survey Research, University of Delaware, BEA

Any top line economic data will attest to the strength of the expansion. Figure 1.1 above compares the growth of the economy and the inflation rate over the past 25 years. What distinguishes the present economic performance from previous expansions is the simultaneity of strong growth and meek inflation. Rising inflation has been the hallmark of prior expansions, leading the Federal Reserve to raise interest rates in order to reign in the economy. This time, however, the economy has been able to grow faster and longer, without sparking rapid inflation.

Forecasters have been predicting a slowing of the economy for several years. And, for several years they have been wrong. The economy has surpassed all expectations.

Analyzing how the economy has been able to turn in such a performance this will provide insight into the why the economy will slow this year.

A multitude of factors have contributed to the expansion; some are the result of careful policy making, others are good fortune. This report will first cover the important policy making decisions that have aid the expansion.

Monetary Policy. Steady-handed Federal policy making has enabled the economy to flourish. After raising interest rates to prohibitive levels in eighties in order to tame double-digit inflation, and then enduring the ensuing recession, the Federal Reserve has been successful in removing inflation expectations from business and household decisions. This era of greater price stability breeds increased economic activity as businesses and households operate with greater certainty of price expectations. The Fed remains hawkish regarding inflation, acting quickly to make preemptive strikes against it. The nineties have reaped what the eighties sowed, and hence the economy has enjoyed ten years of low inflation.

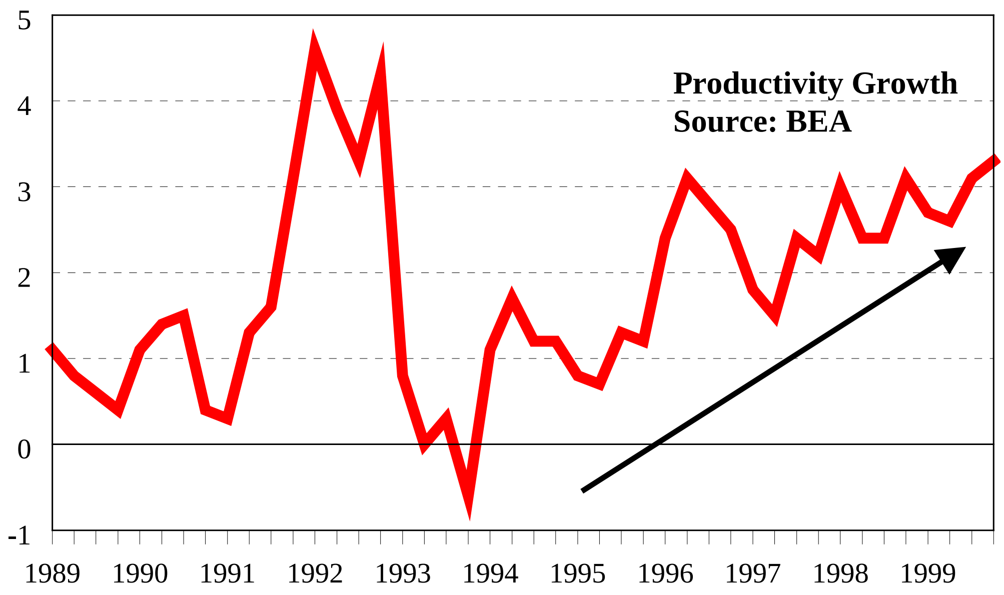
However, the Federal Reserve is not only good for interest rate hikes; it also has been quick to ease when the situation calls for an injection of liquidity. The crash of 1987, the 1990-1991 recession, and more recently the Asian crisis, all demonstrate the Federal Reserve's willingness to ease when needed. The Asian crisis set an interesting precedent, wherein the Fed acted as the lender of last resort during the global economic crisis by aggressively lowering interest rates.

Fiscal Policy. In the space of less than 10 years, the government deficit has moved from a $300 billion deficit to a $100 billion surplus. Some of this is good fortune- a strong economy yields high income tax revenues and low transfer payments, but some is good decision making- the Budget Enforcement Act, and the end of the Cold War that allowed military stocks to be reduced.

The retirement of government debt offers two stimuli for the economy. First, long term interest rates fall. As government debt is retired and less new debt issued, the availability of government debt falls, driving its price upward, and its yield downward. Lower yields translate to lower long term interest rates, and therefore lower borrowing costs for businesses and households. Second, smaller government debt frees capital to fund private investment. This increase in private investment enables new technology to be brought into commercial use, spurring productivity growth.

Increased competition. Government deregulation of industries such as finance, telecommunications, and electricity has encouraged greater competition. In turn, this competition has brought greater efficiency and innovation, whilst lowering or at the very least tempering price growth in these industries.

Figure 1.2: Productivity Growth is Resurgent




Source: Center for Applied Demography and Survey Research, University of Delaware, BEA

Technology. Technology is omnipresent. It has transformed the manner in which people and businesses operate on a daily basis, lowering communication barriers, and creating greater efficiencies with services. Perhaps the most significant impact of technology has been the rise of productivity in the economy. Productivity growth had been languishing around 1% since the mid-seventies, baffling researchers and academics alike. However, a resurgence in productivity occurred in the latter half of the nineties; primarily accredited to technology (see Figure 1.2). Not only has productivity returned to its trend, it has surpassed it.

Why the interest in productivity? The growth rate of labor productivity is the primary determinant of how fast wages can and will grow in the long run. Consider the following simple representation of the relationship between output and compensation on a per hour basis:

| | | |
|---|---|---|
| output per hour | = | compensation per hour + profits per hour |
| ("productivity") | | (the "real wage") |

If wages grow in line with productivity, profit is maintained. If wage growth outpaces productivity, profits are squeezed. And if wage growth trails productivity growth, then profits grow.

The resurgence in productivity translates into greater leeway for wages to grow without profits being affected. Moreover, greater productivity growth provides evidence that wage increases are justified and not inflationary, which mitigates the need for further Federal Reserve interest rate hikes.

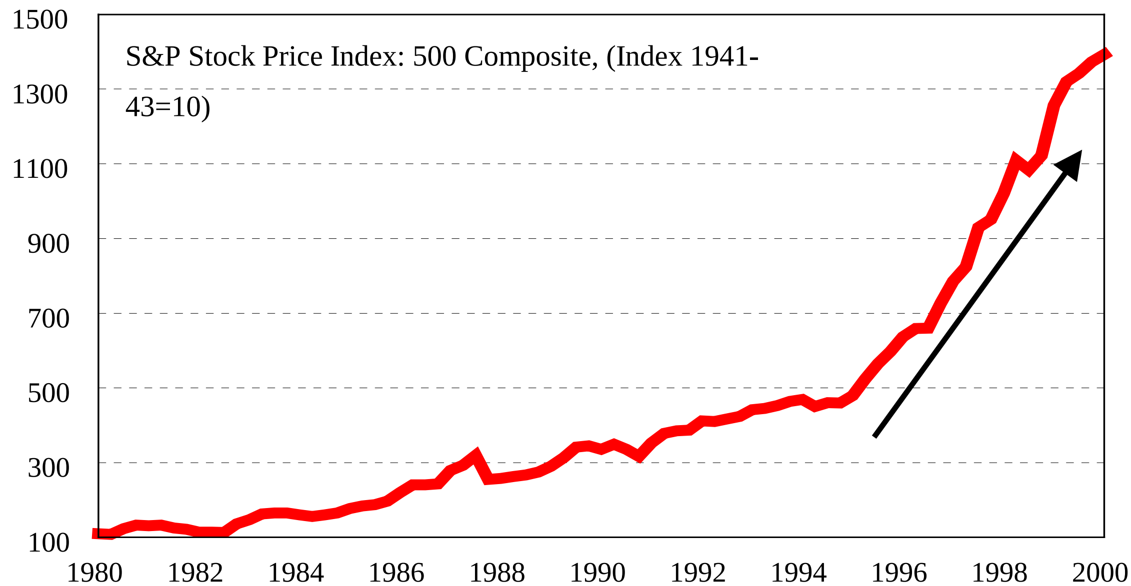
Now let us turn to some of the factors contributing to this expansion and staid level of inflation, which were the results of good fortune.

Low oil prices. The collapse of oil prices has gone largely unaccredited for its role in the expansion. The collapse of the Asian economies that started with Thailand in 1997 and spread to Japan, and later the Russia debt-default, pushed a large portion of the globe in to or near to recession. Demand for oil plummeted, forcing prices down. The U.S., still a large importer of oil despite years of trying wean itself away from oil-dependence, gained handsomely from cheap oil. Lower energy prices probably shaved more than one half-percentage point off the measured inflation rate of 1998 and 1999. This had the effect of tempering the Federal Reserve's interest rate hikes.

Strong dollar, cheap imports. The global economic crisis had further positive consequences for the U.S. economy. As a wave of currency devaluations spread across Asia, the dollar rose to record levels vis-à-vis the Japanese Yen, and other currencies. While this choked off U.S. exports, it was a boon to importers. Indeed, with the economy powering ahead as the U.S. sucked in imports at record rates. The trade deficit swelled to $30 billion.

Strong Stock Market. Undoubtedly, the stock market's bull run has been phenomenal. Since the market crash of 1987, the U.S. stock market has soared to unprecedented levels, culminating in the shattering of the 10,000 barrier in late 1999. Several factors have been at play in the market's stellar performance. First, the fallout from the global economic crisis led investors to withdraw finds from overseas investments and shift their money into the U.S. (often termed 'flight to quality'). While this exacerbated the credit crunch in Asia, it drove the stock market to record heights. Indeed, the value of the stock market capitalization now exceeds GDP (see Figure 1.3).

**Figure 1.3: Stock Market Soars**

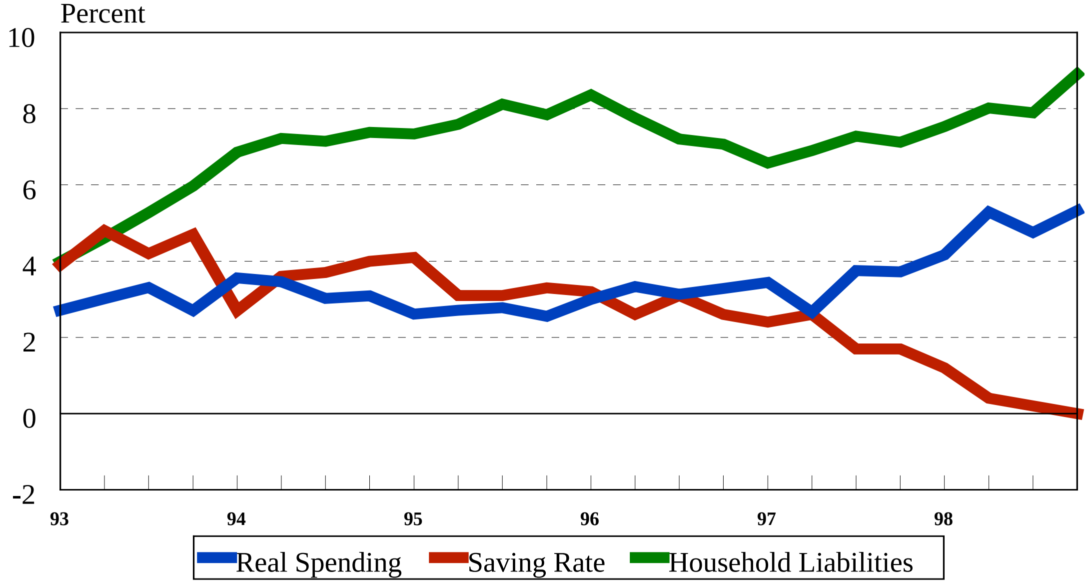



Source: Center for Applied Demography and Survey Research, University of Delaware

Further, the boom in technology that started in 1995, and has continued into 2000, has propelled tech stock prices into the stratosphere. Indicative of this is Yahoo, the popular web search engine, which has seen its stock price move from a nominal dollar level to in excess of 200. While Greenspan cautioned the market with his now infamous "irrational exuberance" comment in his Congressional Testimony, the market rise has continued unabated.

What is the connection between the stock market and the economy? The answer lies within the wealth effect. Almost half of all households hold stocks, and nearly two-thirds own homes; the valuations of each have soared since the mid-nineties. Flush with strong capital gains, consumers have been on a spending spree (see Figure 1.4). Consumer spending has surged to record levels, adding a full percentage point to GDP growth. This newfound wealth of households coupled with plentiful jobs have bred record levels of consumer confidence.

Figure 1.4: Consumer Spending Has Been Rampant

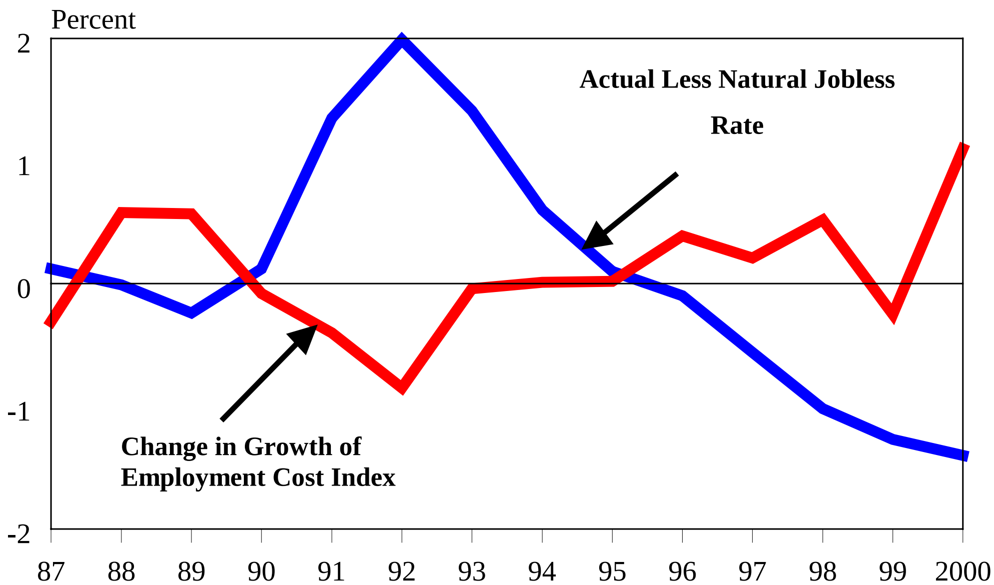



Source: Center for Applied Demography and Survey Research, University of Delaware, BEA

Having discussed the factors that produced the longest expansion in U.S. history, we should now turn to the risks that the economy faces.

Inflation. Labor markets are tight. Across the country, with unemployment at a thirty year low, employers are struggling to fill vacancies. As employers tap into the shrinking labor pool, less qualified people are hired to fill positions. Consequently, workers, who are empowered by the strong labor markets, bargain for greater wages. Both of these factors place upward pressure on wages and salaries, contributing to the inflationary pressure in the economy (see Figure 1.5).

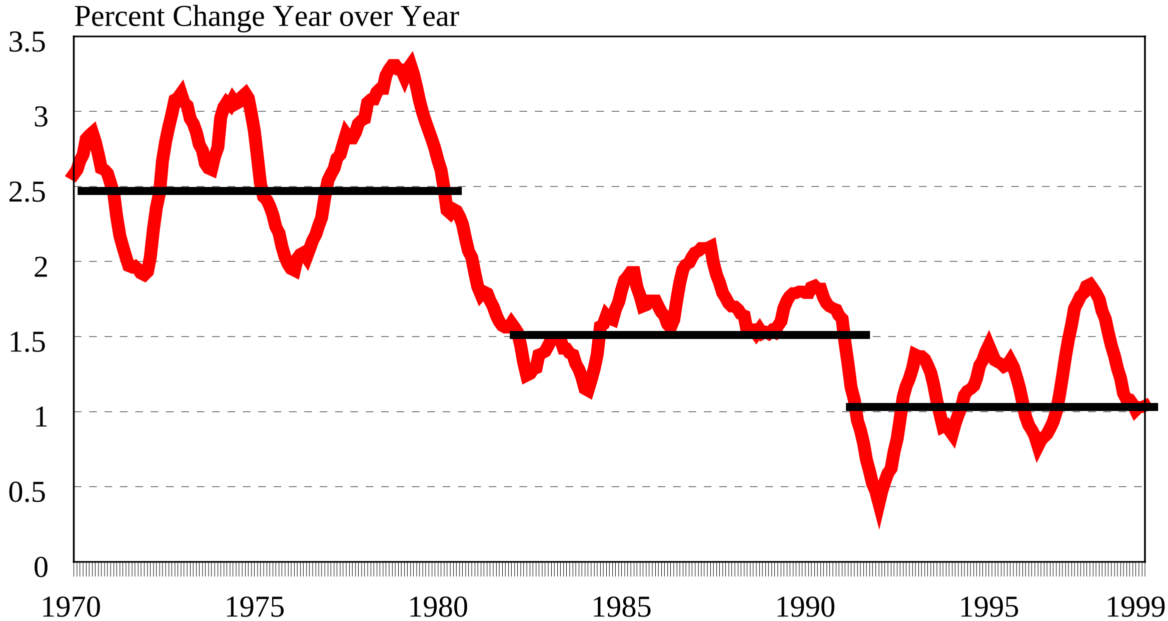
Figure 1.5: Labor Markets are Tight




Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics

Compounding the shortage of labor is a slowdown in the growth of the U.S. labor force (see Figure 1.6). The baby boomers (those born between 1945 and 1965) are fast approaching retirement. Further, the baby bust that followed the boom, extenuates the slowdown in the labor force growth. As the baby boomers move into retirement this decade, the shortage of labor will become more acute. This will apply further wage pressure, raising inflation risks, and prompting greater Fed tightening.

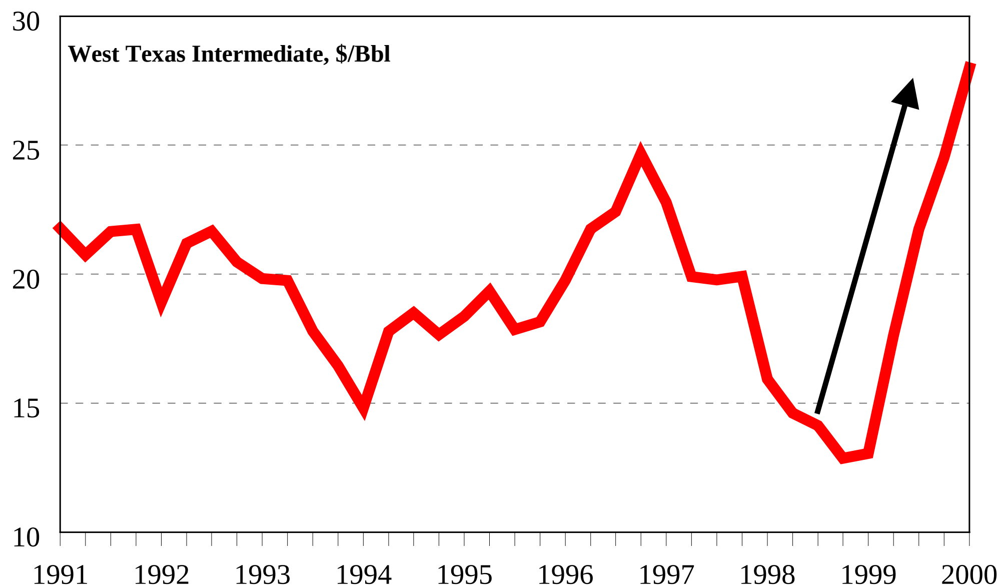
Figure 1.6: Labor force Growth is Slowing




Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics

The Employment Cost Index is beginning to show the strain of the tight labor market. The first quarter figure of 1.4% growth is the strongest in over a decade, see Figure 1.5. The ECI has been slow to reflect the tightness of the labor market (the U.S. unemployment rate has been below its natural rate of 5.5% since 1996). There are some potential explanations for this. First, it is likely that the economic environment of increased competition has constrained wage growth. Second, the measurement of the employment cost index is not without its shortcomings. Other non-wage means of compensation, such as increased benefits and stock options, are not captured in the ECI. Therefore, as the use of such compensation grows, the ECI will trail by greater amounts the true measure of employment cost. The recent rise in the ECI may be the product of the tight labor market effect finally spilling over into wage costs and not non-wage compensation.

Figure 1.7: Oil Prices On The Rise



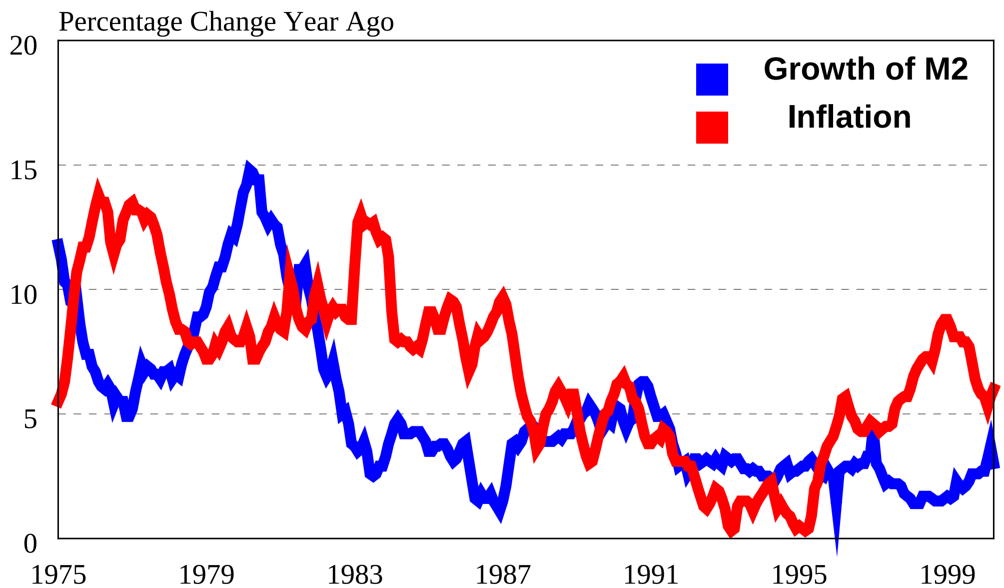

Source: Center for Applied Demography and Survey Research, University of Delaware, Wall Street Journal

Oil prices are rebounding (see Figure 1.7). OPEC slashed production levels driving the price per barrel from its nadir of $10 to $30. Higher energy prices drive production costs upwards, adding price pressure to producers at the input level. Ultimately, this will work its way through to consumer prices, adding evidence to support the Fed's case for further raising rates.

A further indication of the inflationary pressure in the economy is the growth of the money supply. Conventional analysis predicts that any increase in the money supply will lead to a response in output or prices or some combination of the two (assuming the velocity of money is constant). Since the economy is operating beyond what is believed to be its limit, a growing money supply cannot draw equivalent growth in output. This leaves too much money chasing too few goods, with drives prices upward (see Figure 1.8). Since 1995, the money supply has risen sharply with almost no movement in prices.

Given that there is no indication that money supply will slow soon, this is one more contributor to the mounting inflationary pressure in the economy.

Figure 1.8: Growing Money Supply Foreshadows Inflation



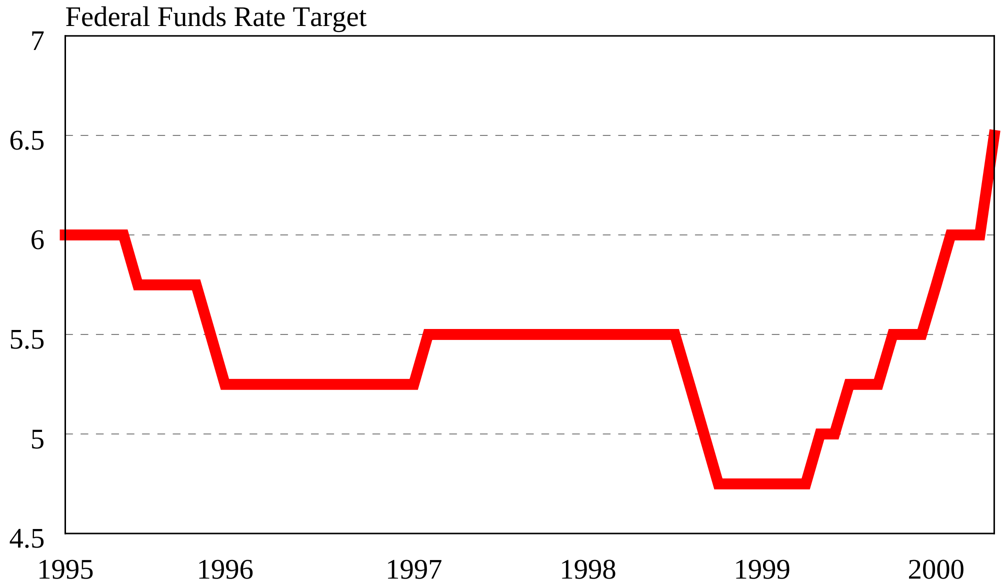

Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics, BEA

The Fed has already made several preemptive strikes against latent inflation. Raising interest rates six times in the past eleven months, the Federal Funds rate is now at its highest point since 1991 (see Figure 1.8). Despite these successive rounds on monetary tightening, the economy's growth has proved to be resilient. Accordingly, the Federal Reserve is becoming aggressive in its interest rate actions, abandoning the quarter-point hikes for a half-point hike in May. One would have to look as far back as 1994 to find an interest rate change of similar magnitude. The latest move brings the sum increase in interest rates to 1.75% since last June. The previous period of tightening occurred in 1994-5 when the Federal Funds rate target was raised 3%.

While this latest move had been widely anticipated, financial markets were rattled by Federal Reserve comments that "the risks are weighted mainly toward conditions that may generate heightened inflation pressures in the foreseeable future." Clearly the

Federal Reserve is remaining hawkish on inflation, and will need concrete evidence that the economy is indeed slowing before there is any respite from rising interest rates.

Figure 1.9: Interest Rates Rise as Fed Applies the Breaks



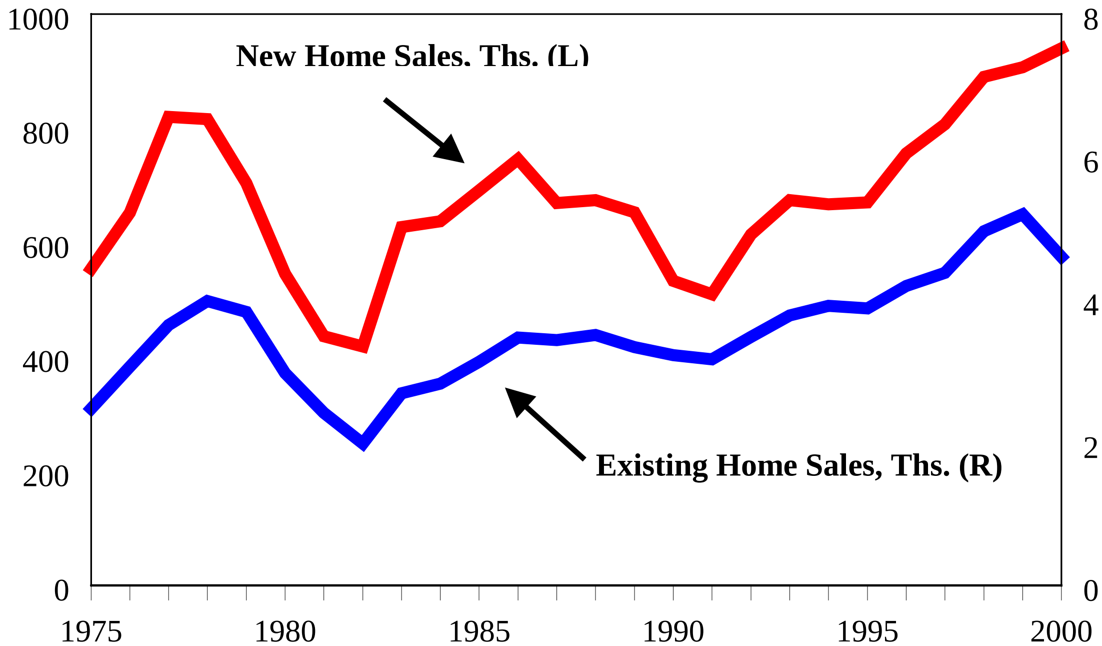

Source: Center for Applied Demography and Survey Research, University of Delaware, Federal Reserve

One such area of hitherto growth is the real estate market. The housing market remains stubbornly strong, despite the Federal Reserve's interest rate hikes. Both new home sales and existing home sales are at cyclical highs. New home sales are close to one million, the highest rate on record, as household's appetite for new homes continues unabated. Existing home sales reached a high watermark in 1999, breaking the 5 million barrier.

The Federal Reserve will be watching the market closely for signs of slowing this year as higher interest rates begin to bite. First quarter existing home sales fell short of the five million mark, however this may be as much a supply constraint as a decline in demand (there simply are not enough homes on the market to satisfy demand). As the year progress, the higher interest rates will begin to work there way into households decisions. Current home sales are still being buoyed by the mortgage originations that locked in rates prior to the Federal Reserves most recent actions.  As the year progresses, higher mortgage rates are expected to slow the market.

Furthermore, as higher rates work their way into adjustable rate mortgages the holders of such loans will begin to see a greater portion of their income going towards servicing their debt, which should curb household spending.

Figure 1.10: Housing Sales Remain Stubbornly Strong

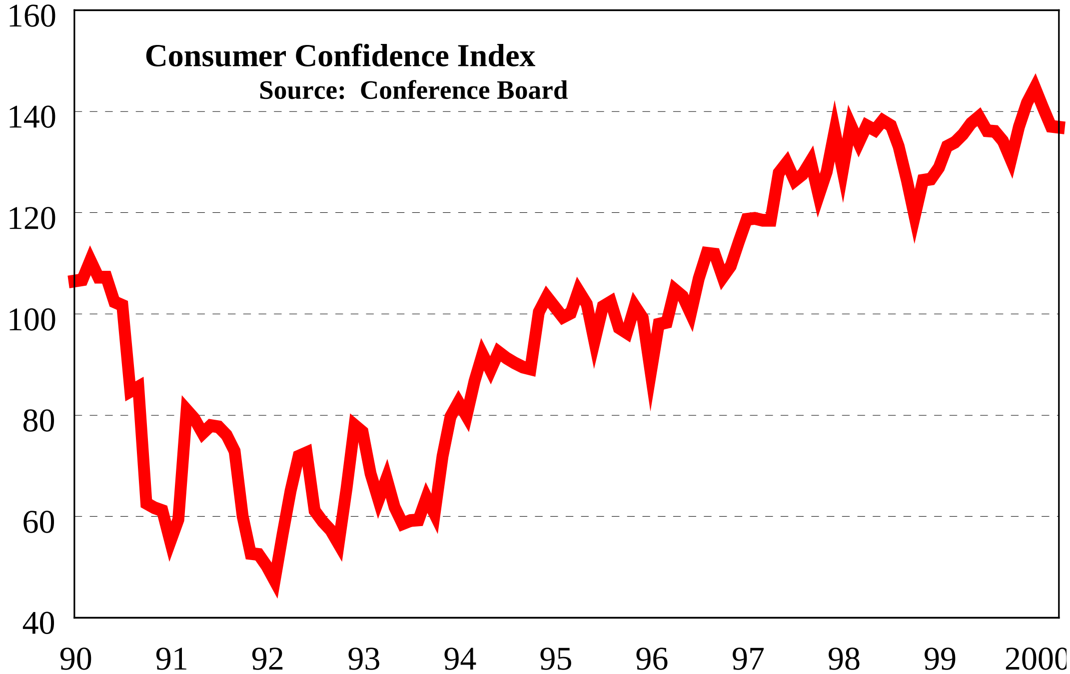



Source: Center for Applied Demography and Survey Research, University of Delaware

Stock market volatility.  Whether the bull market has ended in earnest cannot be determined yet for a couple of months.  Without question stock prices are fluctuating wildly.  The volatility in the market has shattered many investor's expectations that the market has no upper limit and that 20% gains in the Dow Jones Industrial Average per year are the norm.  Without the stellar appreciation of stock prices, households will reign their spending, removing the principle driving force behind the economy's growth in recent quarters.

Consumer confidence is already beginning to wane under the weight of rising interest rates, emerging inflation and stock market volatility. Increasing evidence of inflation and the volatility of the stock market, are beginning to weigh on consumer's minds. Consumer confidence is down from its record highs, and is now at its lowest mark since October (see Figure 1.11).

Figure 1.11: Has Consumer Confidence Peaked?



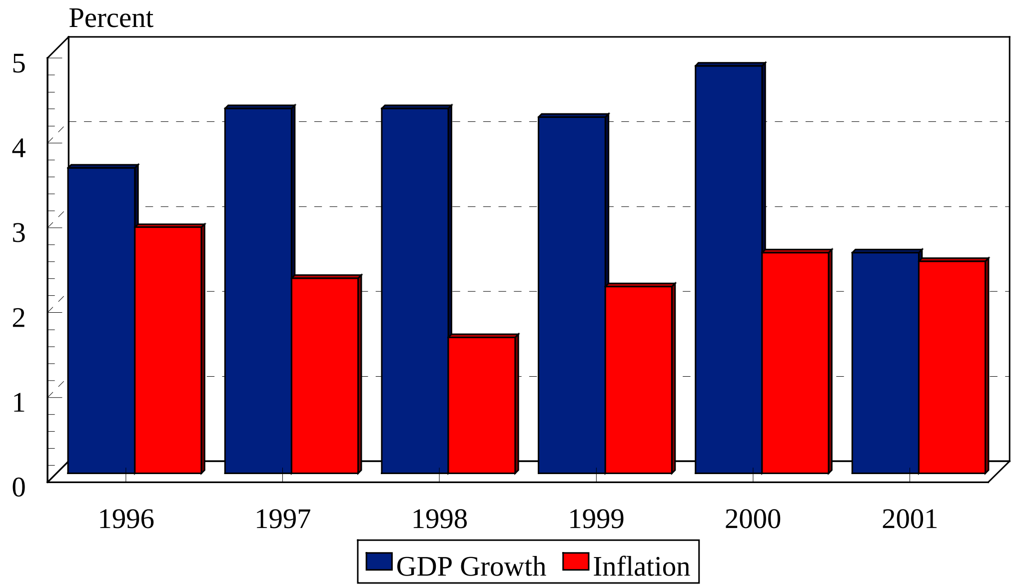

Source: Center for Applied Demography and Survey Research, University of Delaware

The future course of the economy is clouded by concerns over inflation, rising interest rates, the acutely tight labor market, and rising household debt. Interest rates will undoubtedly continue to rise before they can again fall. The question is how far will rates rise before inflation begins to recede once more.

Given that interest rates will rise, the economy will cool eventually. Hiring activity may slow as a consequence of higher borrowing costs for businesses, which may offer some respite for labor markets across the country. The Federal Reserve must perform a balancing act of staving off inflation before it becomes a problem, whilst still nurturing growth in the economy.

Any slowdown in the economy should be considered in the context of the present situation, however. First quarter GDP growth of 5.4% is certainly lower than the torrid 7.3% measured in the preceding quarter, but it is nevertheless a strong showing. The unemployment rate has a long way to rise before it could be considered a problem. Perhaps economic activity has reached its zenith in this expansion, but the country can look forward relatively strong performance in the year to come. As the expansion ages, however, the slower growth will become more prevalent (see Figure 1.12).

Figure 1.12: Economy Will Slow Next Year




Source: Center for Applied Demography and Survey Research, University of Delaware, BEA

## Delaware Economy

Labor force is key in the growth of any economy. It fills jobs, thereby generating products and services, yet also supports local businesses by demanding good and services. Delaware is no exception to this rule. It needs population and labor force growth to sustain its economic expansion. Fortunately, Delaware's population has been growing rapidly via natural growth (births versus deaths), and is buoyed by significant, positive net migration trends.

Delaware is the fastest growing state in the Mid Atlantic Region, a region that stretches from New York to Maryland. Indeed, Delaware's population has easily outstripped its Northeast counterparts over the decade. Maryland is the second fastest growing state in the region, yet still lags Delaware's growth by several basis points. Pennsylvania and New York have had negligible population growth over the decade. New York's population growth is stifled by significant out-migration. This occurs principally for two reasons. First, New York loses through retiree relocation to Florida. Second, many New Yorkers trade up their city properties for larger homes in New Jersey and Connecticut. Pennsylvania, similarly, loses population to Florida due to retiree flows, and is further weakened by lackluster employment growth.

Delaware's annual population growth stands at 1.3% for the year ending in June 1999. Between 1985 and 1995, population growth averaged 1.5% per year. This trend was fueled first by expansion of the chemicals industry in the 1980's, and then by the banking industry in the first half of the 1990's. After a period of flat growth, a resurgent Delaware economy is drawing increased migration. Barring an unforeseen spike in in-migration, Delaware will likely remain fractionally above the U.S. average population growth of approximately 1.0% for the next several years.

The fastest population growth is occurring in Sussex and Kent Counties, see Table 1 below. The primary engine of growth in Sussex County is retiree migration along the Atlantic shore. Kent County, meanwhile, is increasingly attracting small and mid-sized manufacturers.

**Table 1: Population Growth, By County, 1990 to 1999**

| | Population | | Percent |
|---|---|---|---|
| | **1990** | **1999** | **Change** |
| Kent County | 110,993 | 126,048 | 13.6 |
| New Castle County | 441,946 | 487,182 | 10.2 |
| Sussex County | 113,229 | 140,308 | 23.5 |
| State of Delaware | 666,168 | 753,538 | 13.1 |

As data in Table 2 below shows, Delaware attracts migrants from a broad array of Northeastern states besides Pennsylvania. New Jersey, Maryland, and New York supply a significant number of movers. The state suffers a negative migration flow with Florida—due in part to the outflow of retirees as well as normal turnover of Air Force personnel from Dover Air Force Base to Air Force bases in Florida.

**Table 2: Delaware Migration Flows**

| **Into Delaware** | **Number of Migrants** | **Median Income** | | **From Delaware** | **Number of Migrants** | **Median Income** |
|---|---|---|---|---|---|---|
| | | | | | | |
| Pennsylvania | 6,431 | 25,062 | | Pennsylvania | 4,490 | 24,594 |
| Maryland | 4,176 | 20,475 | | Maryland | 3,320 | 19,656 |
| New Jersey | 2,254 | 23,807 | | Florida | 1,682 | 17,725 |
| New York | 1,773 | 24,712 | | New Jersey | 1,287 | 23,022 |
| Virginia | 1,040 | 22,234 | | Virginia | 1,125 | 21,457 |

Source: IRS

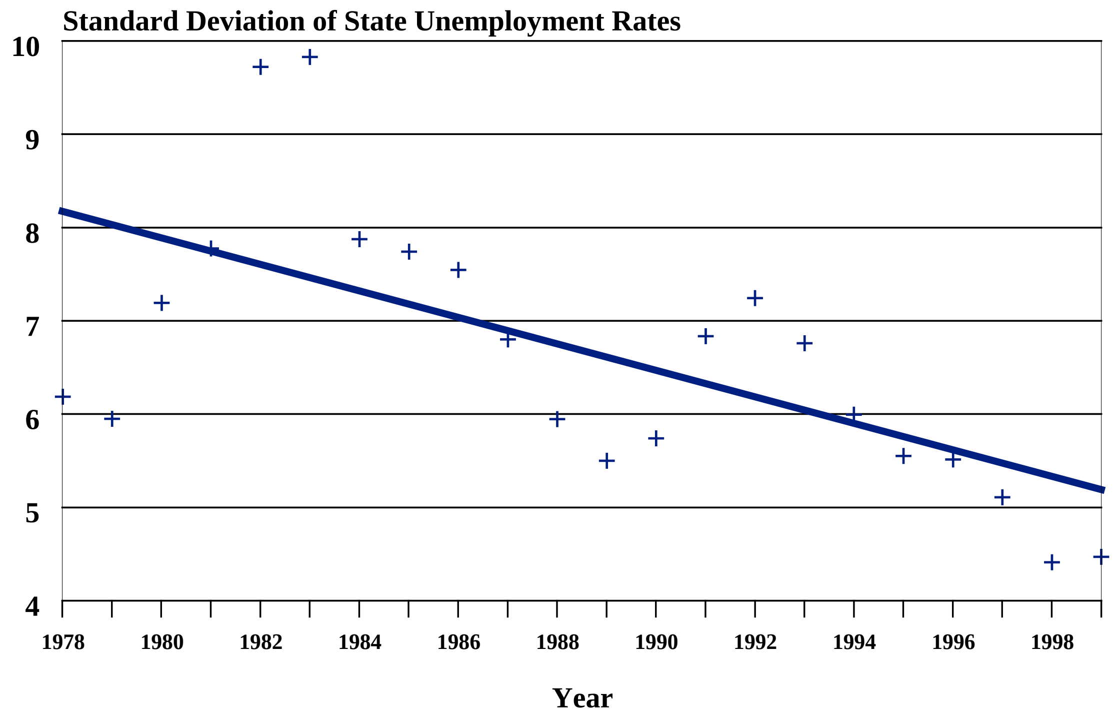
Pennsylvania is Delaware's primary source of migrants. Greater employment opportunities, lower property taxes, and affordable housing combine to draw Pennsylvanians to Delaware. The second largest source of Delaware migrants is Maryland.

The history of in-migration clearly indicates that Delaware has been very successful at attracting people from its larger neighboring states. Delaware adds over two thousand net-residents per year from Pennsylvania- accounting for half of Delaware's total net migration. New Jersey and Maryland add another one thousand net-migrants each. Collectively, these three states drive Delaware's net-migration.

One caveat to migration is that migration patterns are often tied to the relative economic performance of states, and state performances are converging. The standard deviation of state unemployment rates has been falling throughout the nineties, and is currently at a record low (Figure 2.0). As the disparities among unemployment rates falls, the incentive to move from state to state diminishes as work opportunities in one state more closely relate to other states. In the current situation of tight labor markets across the country, competition for workers is intensifying and workers have their choice of states to work in as employment opportunities abound. A low unemployment may now longer be the sole consideration for a worker looking to move to Delaware, other factors such as house prices, schools, the environment may become critical to the migration decision.

**Figure 2.0**

**Regional Variation of Unemployment Rates Is Falling**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

## Employment

Employment is not static; it changes over time. The changes reflect cyclical and structural changes in the economy.

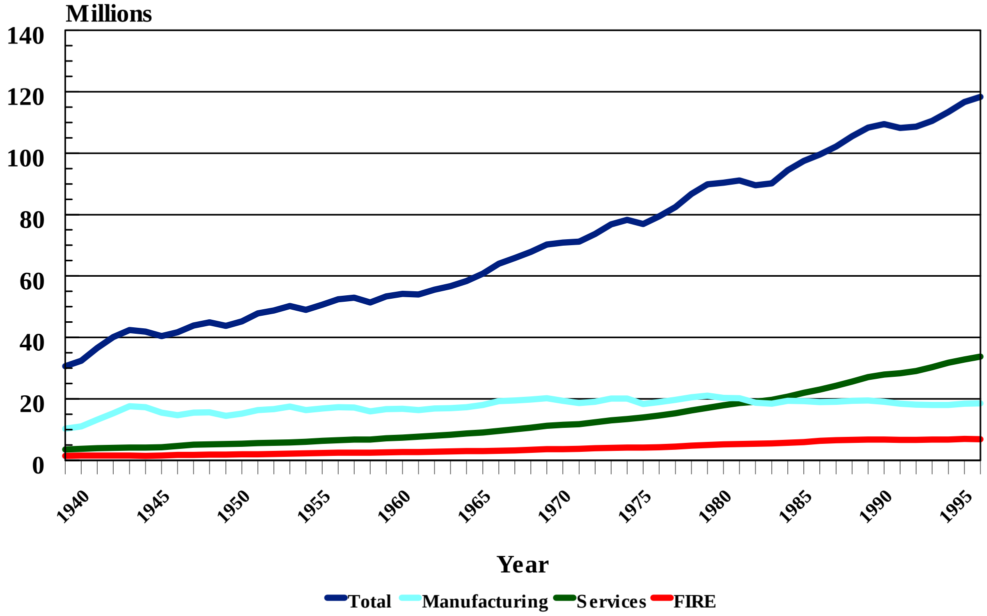
Figure 2.0 below shows the total employment for the United States from 1939 through 1997 along with three of the ten employment sectors: manufacturing, services, and FIRE (finance, insurance, and real estate). The graph illustrates the impact of the business cycle has had on total employment in the mid-1970’s, early 1980’s, and early 1990’s.

Manufacturing employment peaked in the late 1970s and has been in a steady, albeit very shallow, decline since. Service industry employment increased steadily over the entire period and began accelerating its growth when manufacturing employment was at its peak. In 1981, service sector employment surpassed manufacturing employment. Today it accounts for nearly twice as much employment as manufacturing. This trend will probably continue unabated for the foreseeable future.

A similar pattern was evidenced in Delaware (Figure 2.1) although the recession of the mid-1970’s was more severe and the later recessions were perhaps less damaging than they were nationwide. For instance, statewide manufacturing employment peaked during 1989. This marked the end of the expansion of the 1980s. Since then, the number of manufacturing jobs available to Delawareans has dropped significantly and continues to fall even today.

**Figure 2.1**

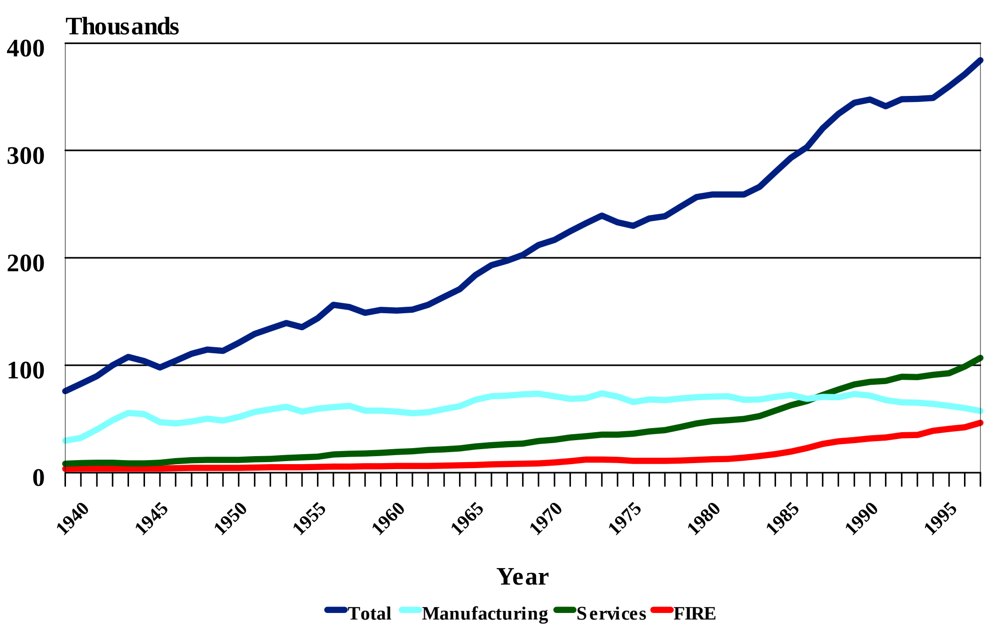
**US Non-Agricultural Employment:  Selected Sectors**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

**Figure 2.2**

**Delaware Non-Agricultural Employment:  Selected Sectors**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

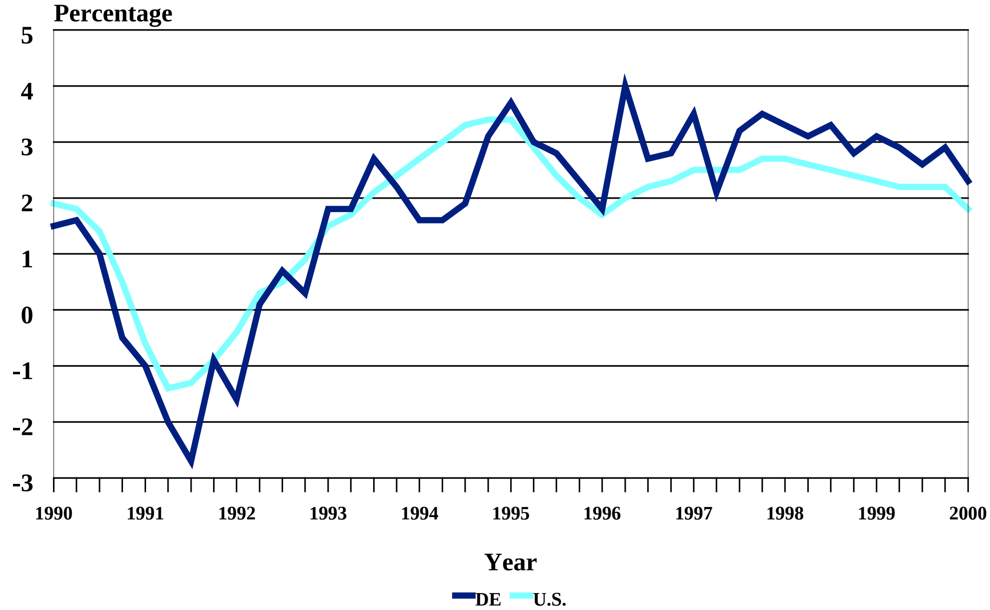
In 1986, four years after it happened nationally, statewide service industry employment surpassed manufacturing employment. In recent years the rate of growth in service sector employment has slowed somewhat compared with the rate for the U.S. However, this slowing has been offset by the incredible growth in the FIRE sector. Employment in the FIRE sector clearly exploded after the Financial Center Development Act came to fruition in the early 1980's. It continued to grow dramatically until the 1990-1991 recession. To most observers' surprise, the growth re-ignited in 1992 and continues today. A comparison of the trends in Figure 2.1 and Figure 2.2 show this to be a Delaware phenomenon.

The decline in manufacturing jobs and the increase in service jobs is to some degree misleading. As manufacturing firms continue to down size, they also tend to out-source many functions that were previously accomplished by their own employees. These functions might include public relations, data processing, et cetera. As a result, these functions may require the same number of workers, but those workers are now classified as part of the service sector rather than part of manufacturing. To the extent that this has occured, there has been a reclassification rather than an outright loss of jobs.

The current U.S. economic performance is nearly flawless. The economy is in the midst of its longest expansion in its history (having recently surpassed the Vietnam-era expansion). Unemployment is at a thirty year low. Inflation is low and the government deficit is falling. The sole blots on the national economy's report card are an over-exuberant stock market and a bloated trade deficit.

Delaware is no laggard in the current national economic boom. The state has matched the national economy for employment growth during the decade and impressively has outpaced the nation in job growth in recent years, see Figure 2.2 below. Concurrently, Delaware's unemployment rate has fallen precipitously over the course of the decade. Currently, the percentage of the state's labor force that is unemployed is sub-three percent. This is the lowest rate of unemployment on record.

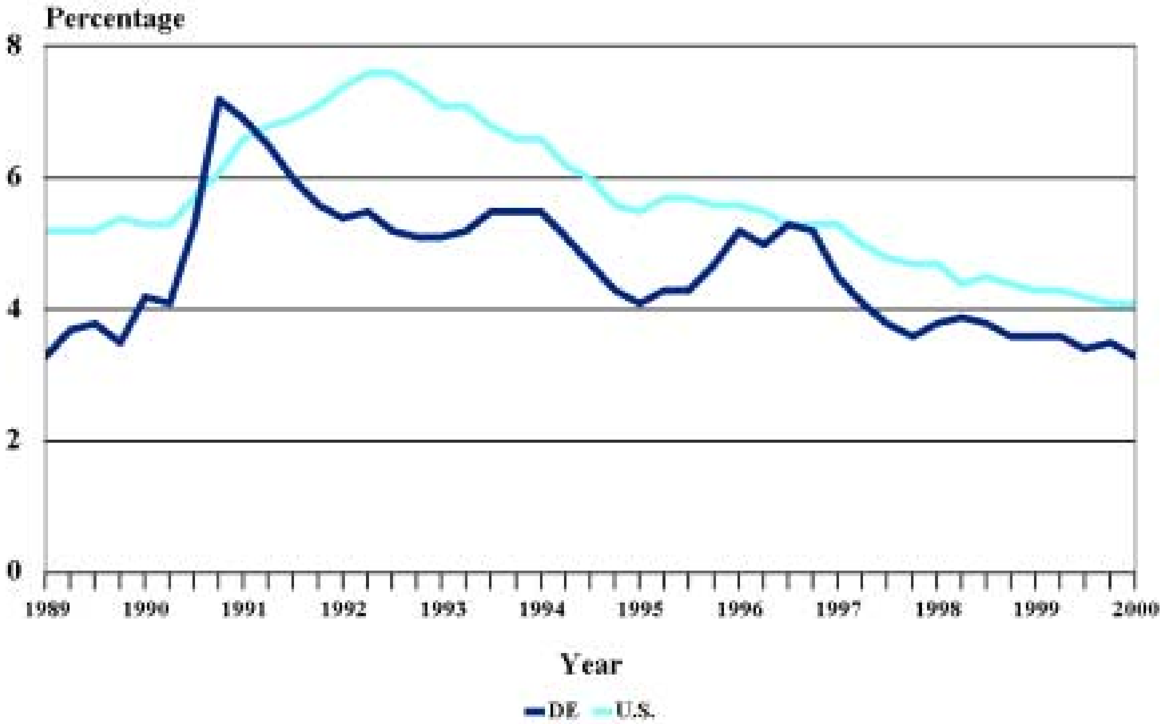
**Figure 2.3  Employment Growth (%)**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

While record low unemployment in Delaware is a testament to the state's economy, it also reflects an acutely tight labor market, see Figure 2.3 below.  Given the pace of expansion currently being enjoyed, it is likely that employers will struggle to fill positions.

**Figure 2.4 Unemployment Rate (%)**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

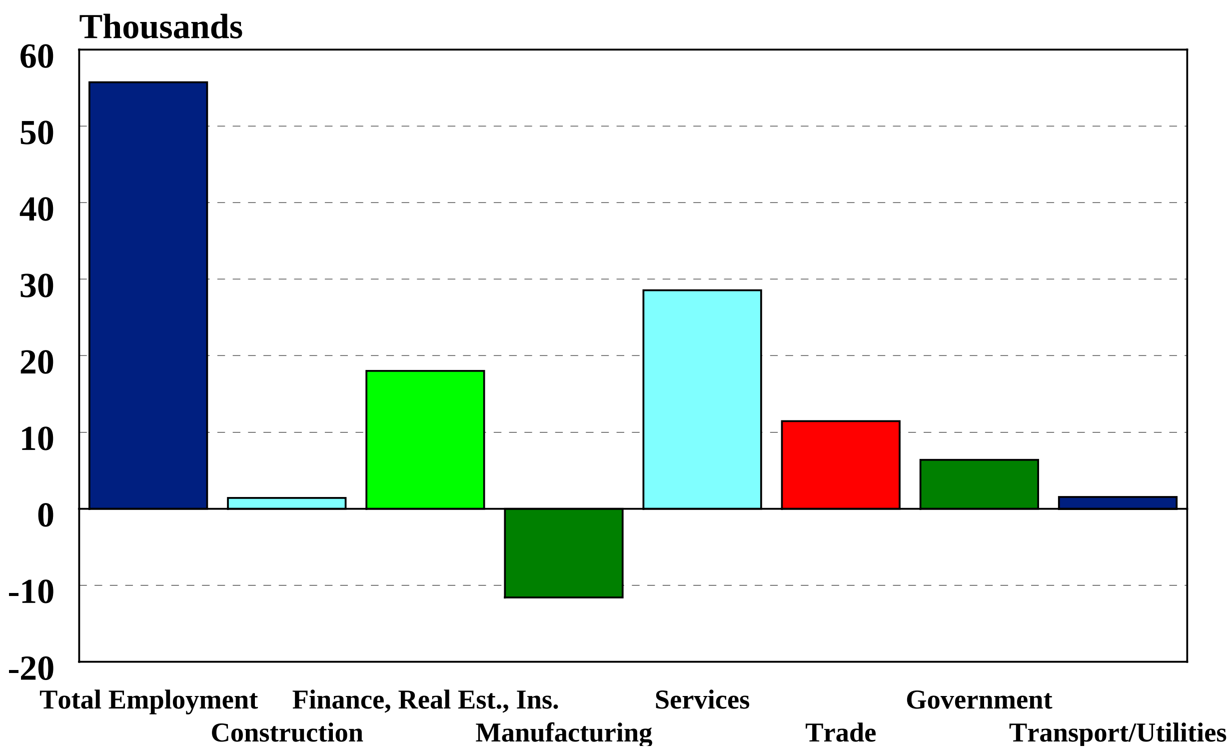
The depth and breadth of the expansion is evident in that unemployment rates are falling across races, sexes, and education levels. While unemployment figures for whites remains the lowest, unemployment among blacks, Hispanics, and women has fallen markedly in the past several years. Unemployment among the college-educated may have fallen below 2% nationally, but high school graduates are also finding work at record rates.

While Delaware has been experiencing stellar growth during the decade, not all industries have been performing equally, see Figure 2.4 below. As the Figure illustrates, the growth rates of Delaware's industries have been disparate. The finance and services industries have flourished, combining to create 46,000 jobs between 1990 and 1999. These industries have become the cornerstone of Delaware's growth during the decade.

**Figure 2.5**

**Delaware Industry Performance**

**Employment Change, 1990 - 1999**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

Conversely, manufacturing has been in decline throughout the decade. DuPont, for example, the state's largest employer, has shed workforce consistently over the past ten years.  Layoffs have also occurred among the state's auto manufacturers, General Motors and Chrysler.

The trade industry, both retail and wholesale, have contributed to the state's expansion.  Persistent job and income growth has kept retail spending brisk, allowing the retail sector employment to grow at a healthy clip.  Wholesale employment has similarly flourished, spurred on by the strong demand for intermediate and final products.

Clearly then the demand for workers varies from industry to industry.  This fact leads to different demands being made of Delaware's labor force by its employers. Manufacturers are drawing from a different part of the labor pool than the finance industry.  Moreover, with the lion's share of employment growth coming from the finance and services industries, the supply of workers skilled in these areas is crucial.

For industries to continue to choose Delaware for their relocation/expansion plans, a skilled labor force must be available and must be competitively priced.

Delaware has a significant advantage in the Northeast by virtue of its low cost status within a high cost area.  This has advantage has been key to attracting firms to the state, as well as encouraging existing firms to expand.

With the torrid rate of technical advances over the past two decades, the physical location of businesses has declined in importance.  Businesses can operate cost effectively from many far-flung locations due to the advent of the Internet, faxes, overnight shipping, etc.  The increasingly competitive business environment, technological changes, and the changing structure of economic activity are enhancing the mobility of capital and its sensitivity to regional cost differentials.  Because of this heightened mobility of capital, regional economies with relatively low business costs will increasingly outperform those with high costs.  In light of these factors, companies have focused their attention on location costs.  These costs can be broken down into the following:  unit labor costs, energy costs, tax burdens, and office space costs.

The primary cost for any business is labor costs. Delaware's labor costs are approximately 12% below the national average. Delaware also boasts low labor costs relative to its northeast counterparts. This is a striking result when framed against the backdrop of the high-cost Northeast region.

Energy costs are of particular importance to manufacturing business location decisions. Delaware boasts lower energy costs than the national average. Deregulation of Delaware's energy industry has fostered greater competition among energy providers, yielding lower costs for users.

The final component of business costs is companies' tax burdens faced by companies. Delaware is afforded a significant stream of revenue from the franchise taxes collected from companies incorporating in Delaware. Approximately 90% of all U.S. companies incorporate in Delaware to take advantage of the state's Chancery court. This income stream is significant for a state the size of Delaware, and fosters a lower tax burden for businesses.

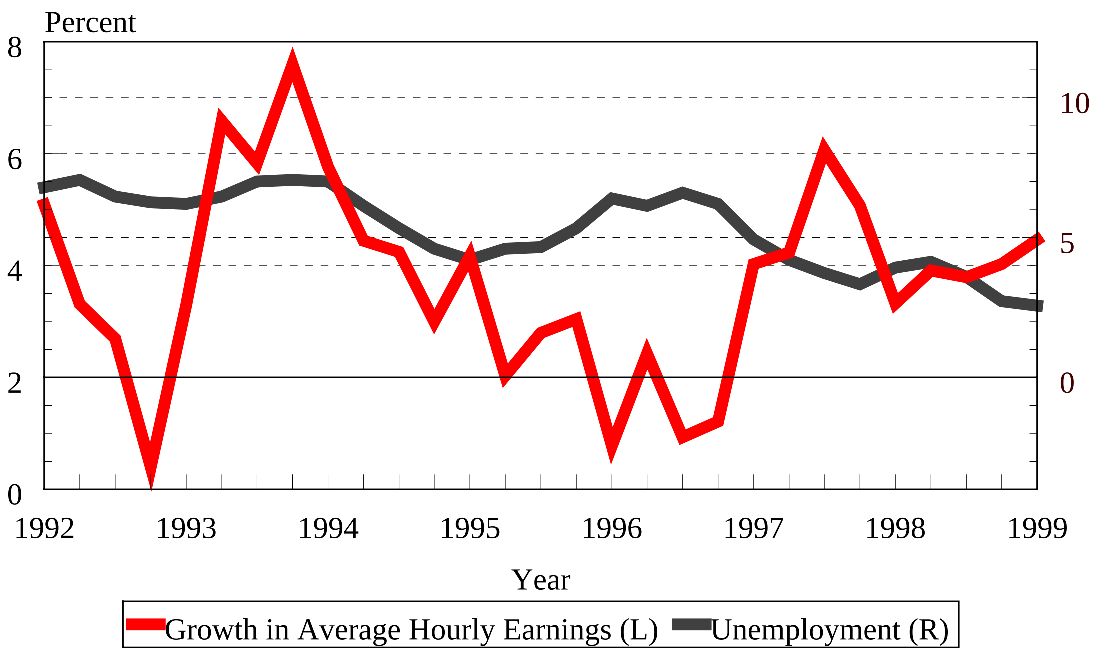
With unemployment well below its natural rate, wage pressure begins to build. There is a potential danger that Delaware's stellar labor market may erode its cost advantage. Figure 2.5 below illustrates the inverse relationship between unemployment rate and growth in average hourly earnings. Unemployment has fallen consistently since 1996- a year when wage growth was largely negligible. Since 1996, the unemployment rate has fallen by 2% points, while growth in average hourly earnings has accelerated steadily, albeit modestly.

Further, employers are finding it increasingly difficult to retain workers, particularly in low paying jobs. With a buoyant job market, workers are reluctant to remain in jobs with which they are dissatisfied: nationally, the quit rate (the number of workers leaving their current job without having a new position arranged) is on the rise. Moreover, workers empowered by the robust job market are placed in strong negotiating positions with potential employers, which can drive compensation higher.  The increased turnover of workers also fuels wage growth as costs inevitably rise with the need to train new workers.

While, Delaware may continue to offer lower wage costs than its neighbors, it may become less competitive vis-à-vis other low cost states outside of the Mid-Atlantic region.  Aggressive wage growth has the potential to restrain Delaware's economic expansion. Indeed with the pace of technological growth removing geographic limitations to business, Delaware is no longer only competing at a regional level, but also nationally and internationally.

**Figure 2.6**

**Delaware's Wage Growth Accelerates Modestly as Unemployment Rate Falls**



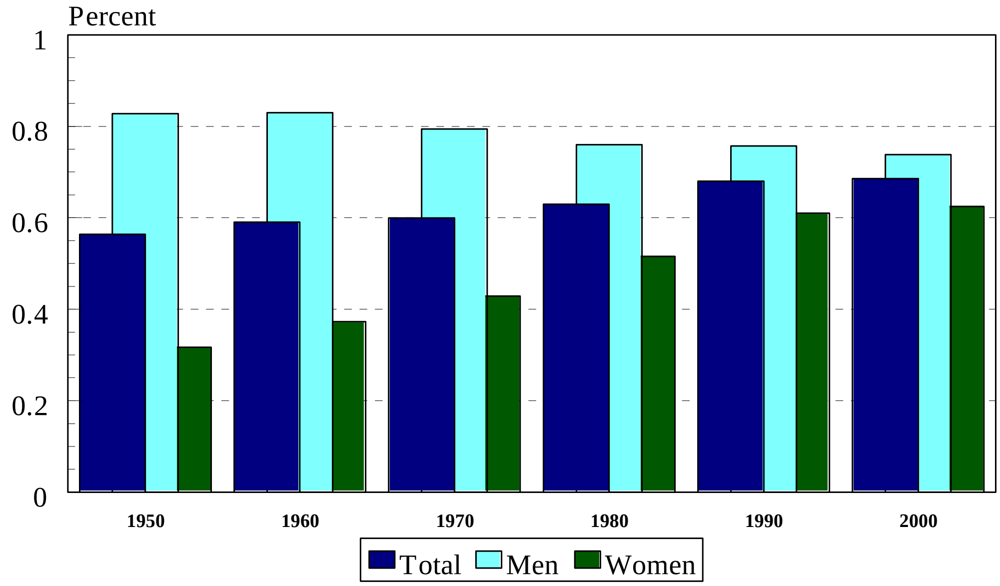

**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

Having examined the pattern of Delaware's employment growth, there follows an examination of how Delaware's appetite for workers is satisfied.

**Figure 2.7**

**Labor force Participation Rates by Gender**

**1950-2000**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

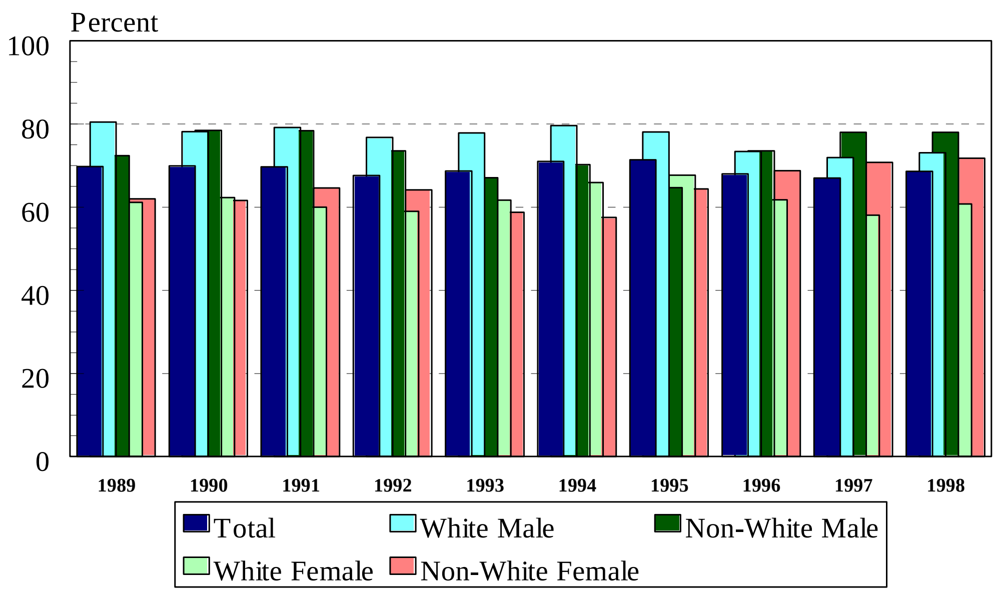
There are four ways that Delaware's job market is filled. First, there are new entrants to the labor market from the existing population who have become of working age. These numbers are dependent on the size of the youngest cohort. Second, there may be new entrants from the older groups who either have never worked before, were previously discouraged, or are now required to seek employment because of economic necessity. Third, there are net in-migrants coming to Delaware to fill jobs that cannot be filled locally. Finally, there are net in-commuters; i.e., people who live in other states but who enter Delaware on a daily basis to work. (Of interest is the net number of commuters since many Delawareans also leave Delaware to work in surrounding states.)

In Figure 2.7 above, the labor force participation rates by gender are shown for the past 40 years. Overall, the proportion of the population that is employed (either part-time or full-time) has been rising. This is due largely to the increase in the labor force participation rate among females. That major source of new labor market entrants is gradually diminishing, at least relative to earlier years. By the year 2000, the total participation rate will increase only marginally, and the rate of increase in the female employment rate will continue to slow. Employment rates for males have remained fairly constant. The increases that occurred between 1990 and 2000 were almost solely due to greater participation by minorities (Figure 2.8).

**Figure 2.8**

**Labor force Participation Rates by Gender and Race**

**1989-1998**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

In the out years, 2000 to 2020, as the baby boomers retire (assuming that they are able to retire), the employment rate will probably fall further. The caveat is that preferences for work may also change with longevity and the boomers may work longer, at least on a part-time basis. This trend places further pressure on firms to attract in-migrants or net in-commuters to fill jobs if they are to continue to expand in Delaware.

**Delaware and the New Economy**[1]

There has been a lot made of the New Economy in the media. The New Economy is offered as explanation of the previously believed to be untenable situation the U.S. presently finds itself in: stellar growth, unemployment well below any estimate of the natural rate, and with negligible inflation. Both economic theory and past experience forecast that inflation should be accelerating; yet consumer price growth is dormant. Such a situation has clouded the economic situation, and made harder the Fed's job of reading the economy.

Detractors of the New Economy theory point to the coexistence of multiple stimulatory factors to account for the current expansion. A strong dollar, cheap commodities, low oil prices, an exuberant Wall Street, weakness overseas, and downward pressure on non-wage labor costs, taken collectively have helped the economy expand faster and longer than traditional views had been thought possible.

Despite the opposing views on the economy, some things are undeniable. First, technology is changing the way in which business is conducted. The rapid advance of the high tech industries, the spread of the Internet, and e-business, have altered the economic landscape permanently.

In keeping with this technology revolution, the demand for skilled labor is shifting. The weakest job gains in the 1990's, particularly during and soon after the last recession, have been for average paying jobs. These include many jobs in the transportation, manufacturing and construction trades.

Bureau of Labor Statistics (BLS) data on job growth based on educational attainment reports that approximately fifty-percent of all jobs created during the expansion have been for people with a bachelor's degree or higher. Not surprisingly, the unemployment rate among college graduates has fallen below 2%. Perhaps in a testimonial to the improving quality of the workforce, however, the number of people in

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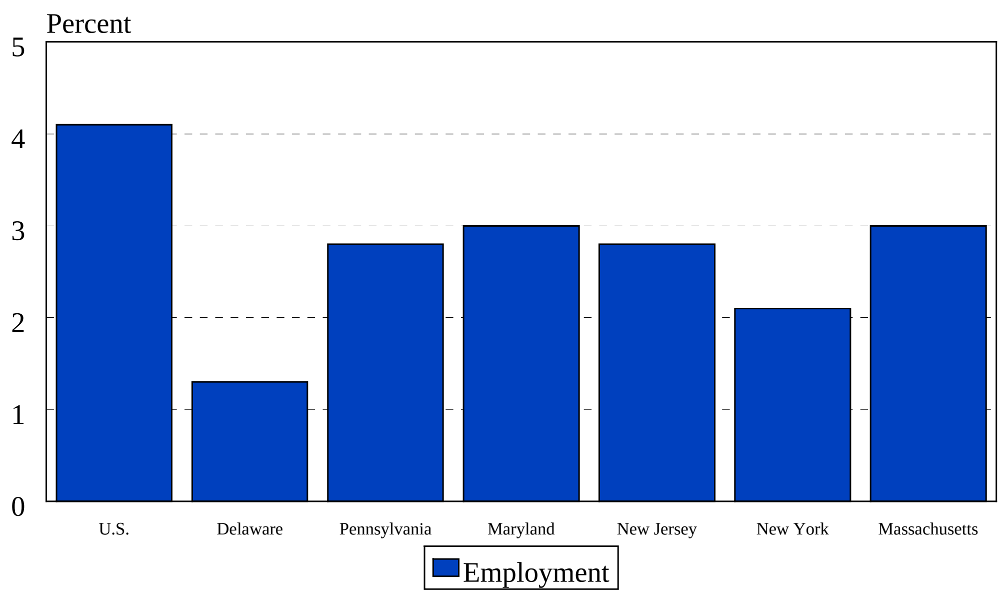
[1] More extensive analysis of Delaware and the New Economy is available at http://www.cadsr.udel.edu/DOWNLOADABLE/DOCUMENTS/hightech.pdf

the workforce without a high school education has also declined. The jobless rate for such workers has thus fallen from nearly 12% at the start of the decade to less than 7% currently.

**Figure 2.9**

**Information Technology**

**Employment Growth, 1995-1998**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of the Labor Statistics**

The U.S. has a comparative advantage in the production of goods and services generated by high tech industries and a highly educated workforce.  Overseas economies are increasingly looking to the U.S. to purchase such products and services, as reflected in international trade's growing share of the nation's output.  Correspondingly, it has been these high tech industries that have been growing most rapidly and have become cornerstone of the present expansion.

The U.S. has a comparative disadvantage in labor-intensive activities that are low skilled.  And it is manufacturers of these goods and services that his been paring payrolls over the decade as overseas competition intensified .

While there is no official definition of high tech or information technology employment, a reasonable measure can be established using three-digit SIC employment data. Figure 2.9 above illustrates the average growth of information technology employment over the past three years.

The U.S. information technology sector has surged ahead in the latter half of the decade. Nationally, one in every five new jobs is in the IT-generating or IT-using industries. In some areas growth has been faster still; in California and Washington, a quarter of new jobs are IT related.

Delaware trails its fellow Mid Atlantic states for IT employment growth. The other states are averaging IT growth of approximately 3% per year, while Delaware's IT growth is half that value.

A breakdown of the IT growth into IT-generating and IT-using industries reveals a palpable difference in the composition Delaware's IT industry, see Figure 2.10 below. Delaware's IT industry is heavily skewed towards IT-using activities (82% of total IT employment) and away from IT-generating activities (18%) relative to other states. In fact, Delaware has the lowest proportion of IT employment dedicated to IT-generating of any state.

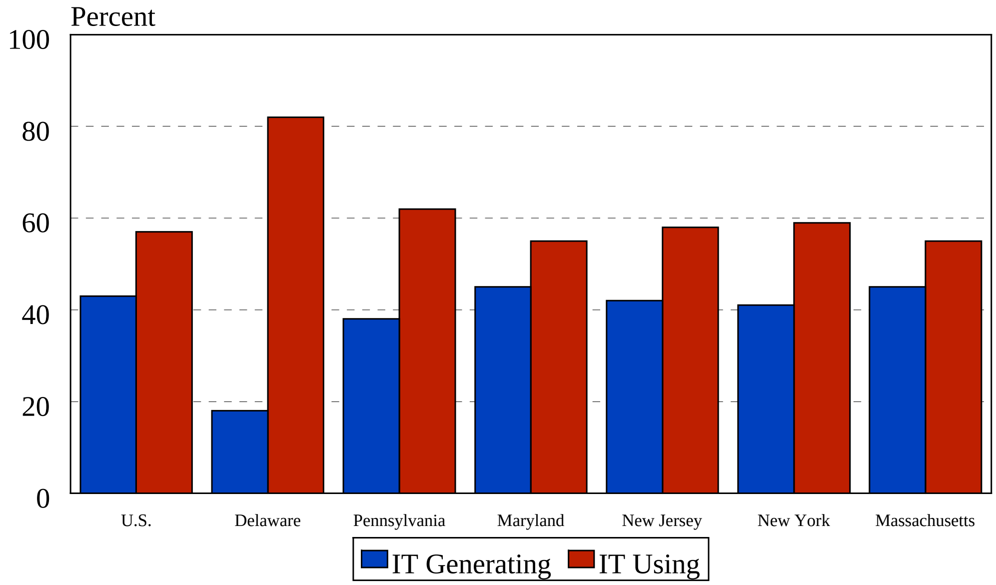
The implication of these data is that Delaware's IT-generating industry is rather underdeveloped. IT-generating industries such as computer manufacturing, communication equipment manufacturing, and computer and data processing services are among the fastest growing sectors of the national economy. While Delaware is not without its IT-generating employment, the sector is small.

Delaware's IT-using industry appears bloated as a result of the minor IT-generating sector. Included in IT-using industries are drug manufacturers, industrial and agricultural chemicals, and research and testing services. Unfortunately, this industry has been stagnant over the past three years- likely to be a result of the restructuring of the area's chemicals industry.

**Figure 2.10**

**Information Technology**

**Employment by Activity as Share of Total IT**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of the Census**

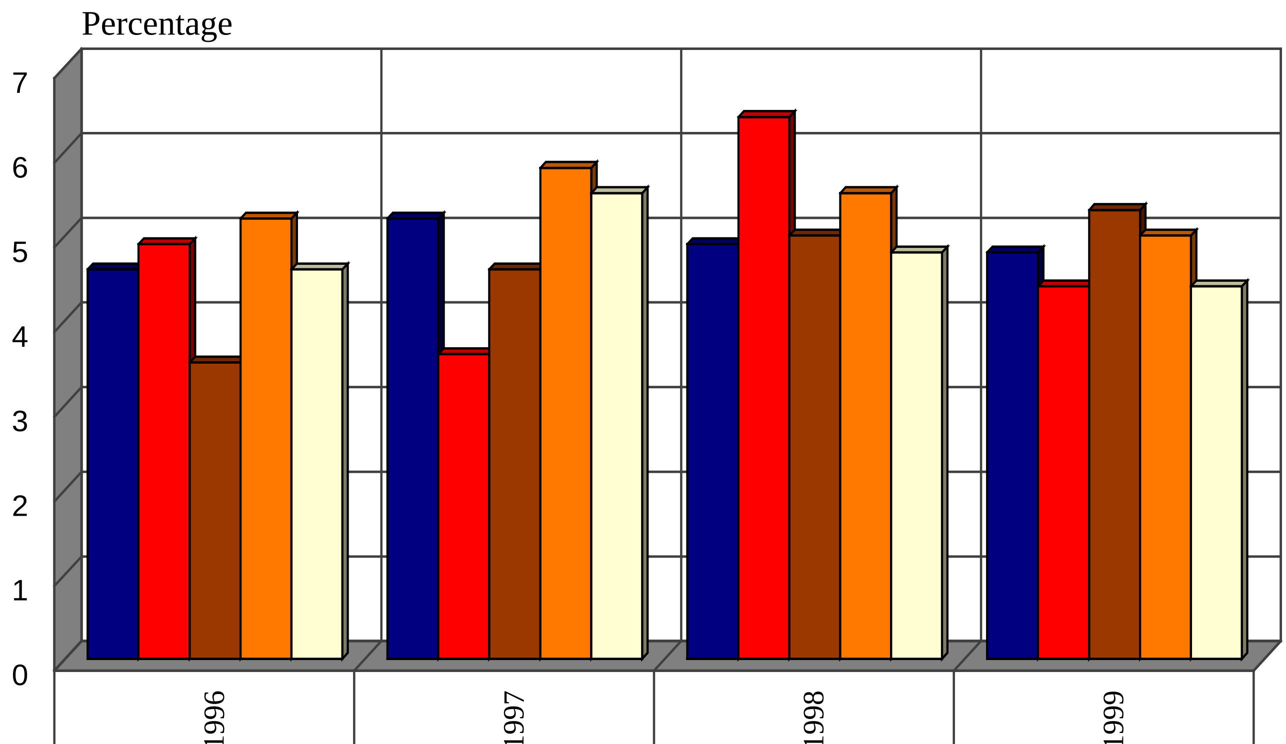
Delaware's fledgling IT-generating industry and stagnant IT-using industry collectively leave the state's high tech employment growth languishing near the bottom of the state rankings.

This is not to say that Delaware is without its growth engines. As discussed earlier, Delaware is the fastest growing state within its region. What should be noted is that the majority of this growth is occurring outside of the high tech sector (to be precise, 95% of the state's employment growth in the past three years occurred outside of the high tech sector). The finance industry is the cornerstone of Delaware's growth at present, and it looks set to continue this role over the near term.

## Income

Delaware ranks among the top ten states in personal income in the country. Personal income grew at 5.2% in 1999, on par with the national rate. In per capita terms, again Delaware ranks in the nation's top ten. Delaware's per capita income grew at 4.4% in 1999, just shy of the 4.8% national rate, and compares favorably with its Mid-Atlantic neighbors (see Figure 2.11 below).

**Figure 2.11: Delaware's Per Capita Income Growth Keeps Pace With Regional/National Rates**




| | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|
| US | 4.6 | 5.2 | 4.9 | 4.8 |
| DE | 4.9 | 3.6 | 6.4 | 4.4 |
| MD | 3.5 | 4.6 | 5 | 5.3 |
| NJ | 5.2 | 5.8 | 5.5 | 5 |
| PA | 4.6 | 5.5 | 4.8 | 4.4 |

US DE MD NJ PA

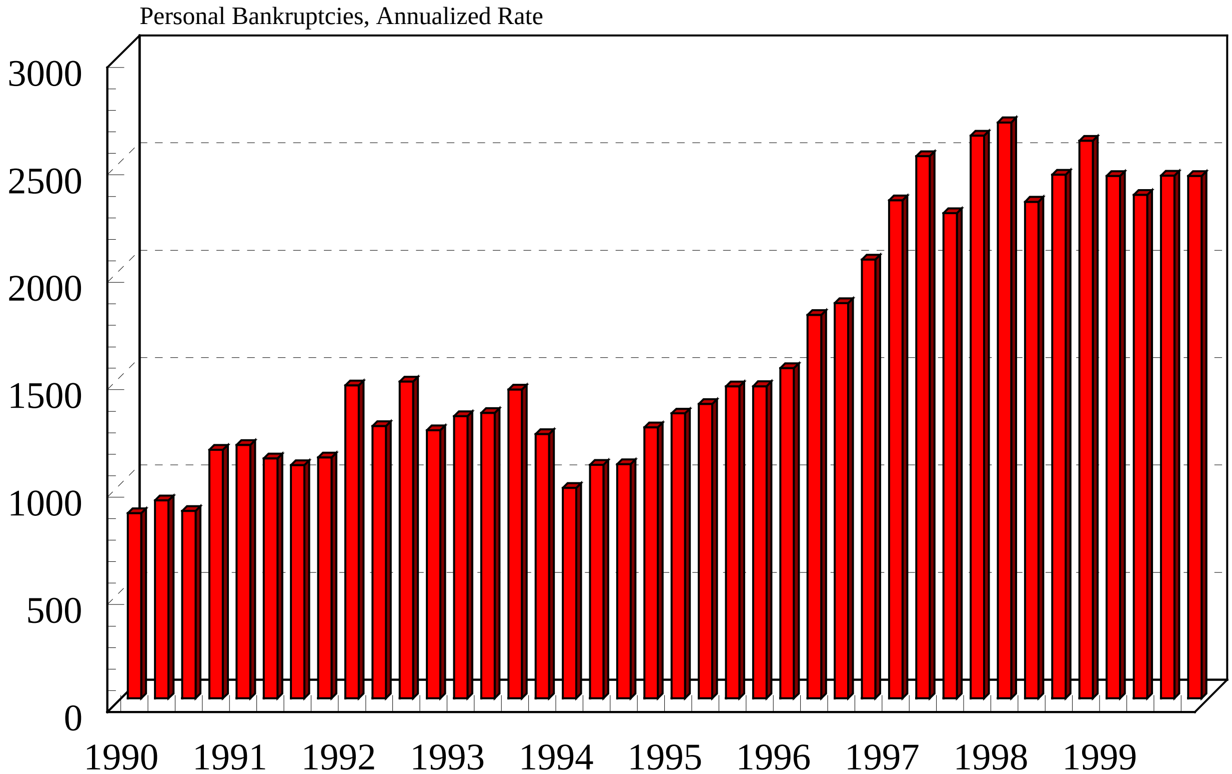
**Source: Center for Applied Demography and Survey Research, University of Delaware, BEA**

The strength and longevity of the state's expansion has enabled individuals to repair their balance sheets. Personal bankruptcy filings have at last stabilized after loose lending practices by credit card lenders lead to a record number of bankruptcies as individuals spent beyond their means. Further, low interest rates have made installment debt easier for households to manage. Plus, the spate of mortgage refinancing will also have contributed as households take cash out in the refinancing, which is often used to pay down other costlier debt.

Nevertheless, close to 2,500 people file for bankruptcy protection each year in Delaware, triple the number in 1990. Any slowdown in the economy may see a resurgence in the state's bankruptcy filings.

The Federal Reserve reports that Senior Loan Officers have tightened their loan standards in response to the deterioration of loan quality that was experienced in the mid- to late nineties. Whether higher lending standards will remain so is debatable. Competition in the credit market is intense, and lenders may again lower credit criteria as they trawl the lower income brackets for business.

**Figure 2.12: Strong Employment and Income Growth Enables Delaware to Slow Growth In Personal Bankruptcies**

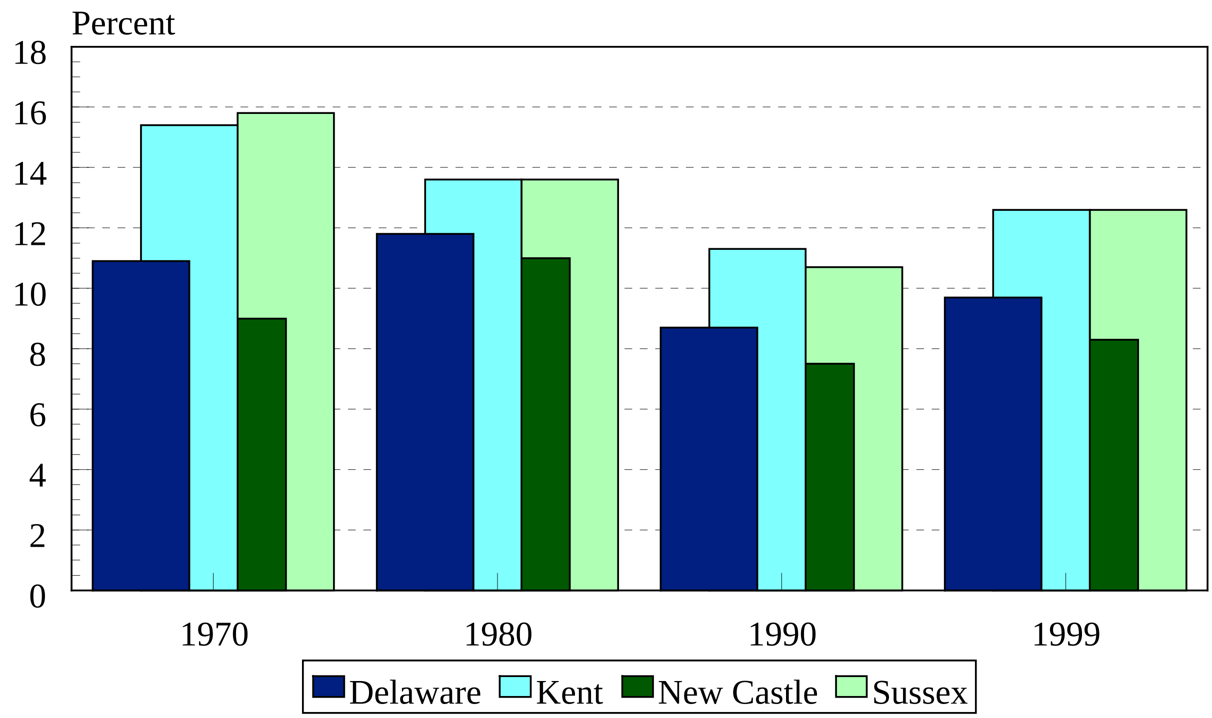



**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. District Courts**

However, the strong income growth for the state masks an alarming trend in income distribution. Households in the upper quintiles of income are accounting for a growing proportion of total. In 1990, Delaware households the top income quintile accounted for 41% of total income. In 1999, this number had risen to 43.5%, adjusting for inflation. Simultaneously, the lowest 60% of households saw their share of total real household income slide from 33.5% to 31.5%. The implication is that wealthy households are growing wealthier still, while poorer households are being left behind as their income is growing more slowly. This phenomenon is present nationally as well as regionally.

Despite a decade of growth, poverty rates (the percentage of the population in poverty) are rising both nationally and in Delaware. CADSR estimates that the current poverty rate in Delaware is approximately 10%, 1% higher than the 1990 figure. The location of Delaware's impoverished has not altered: New Castle County boasts the lowest rate, Kent and Sussex are both estimated to suffer from double-digit poverty rates.

**Figure 2.13: Delaware's Poverty Rates Are Rising Despite A Decade of Growth**



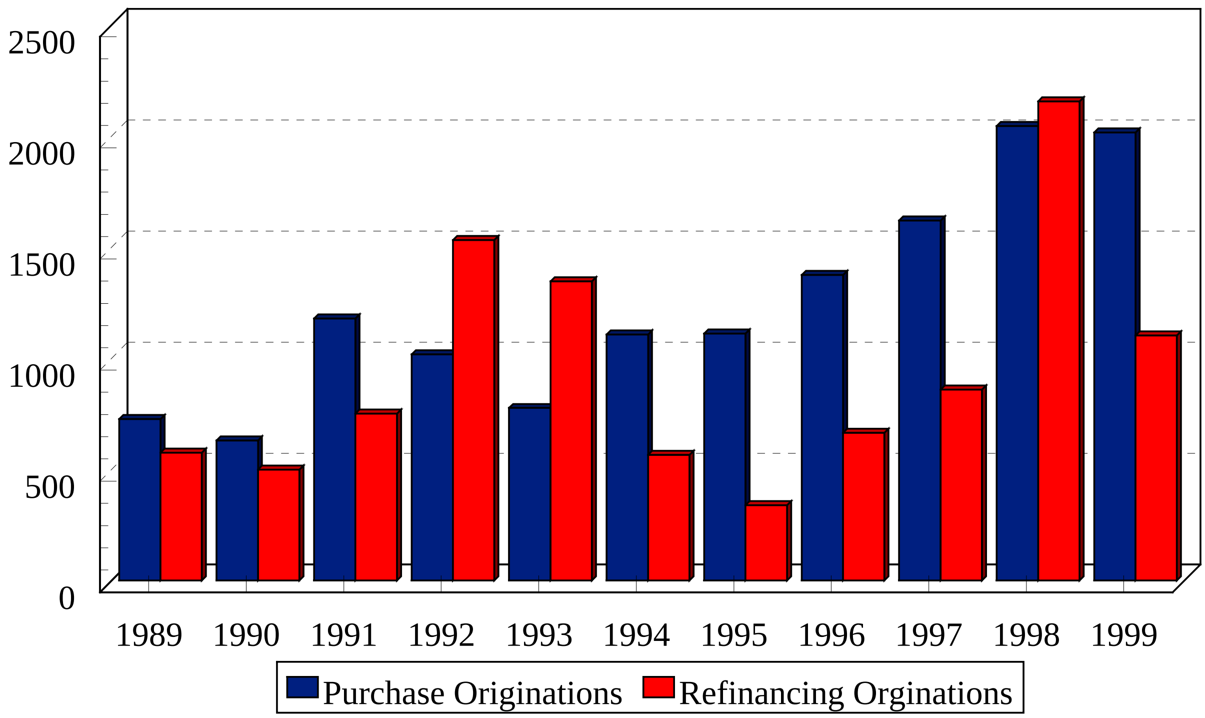

**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Bureau of Labor Statistics**

**1999 Estimates CADSR: Kent and Sussex estimated jointly.**

**Housing Market**

The Delaware housing market is white hot. A strong economy breeds confidence in both consumers and developers. Consumers, flush with capital gains from the stock market and anxious to capitalize on what are historically low interest rates, are rushing to trade up their existing homes for larger properties. Developers are very willing to deliver new housing, leading to a frantic pace of permitting in the state.

**Figure 2.14: Mortgage Originations Have Peaked**



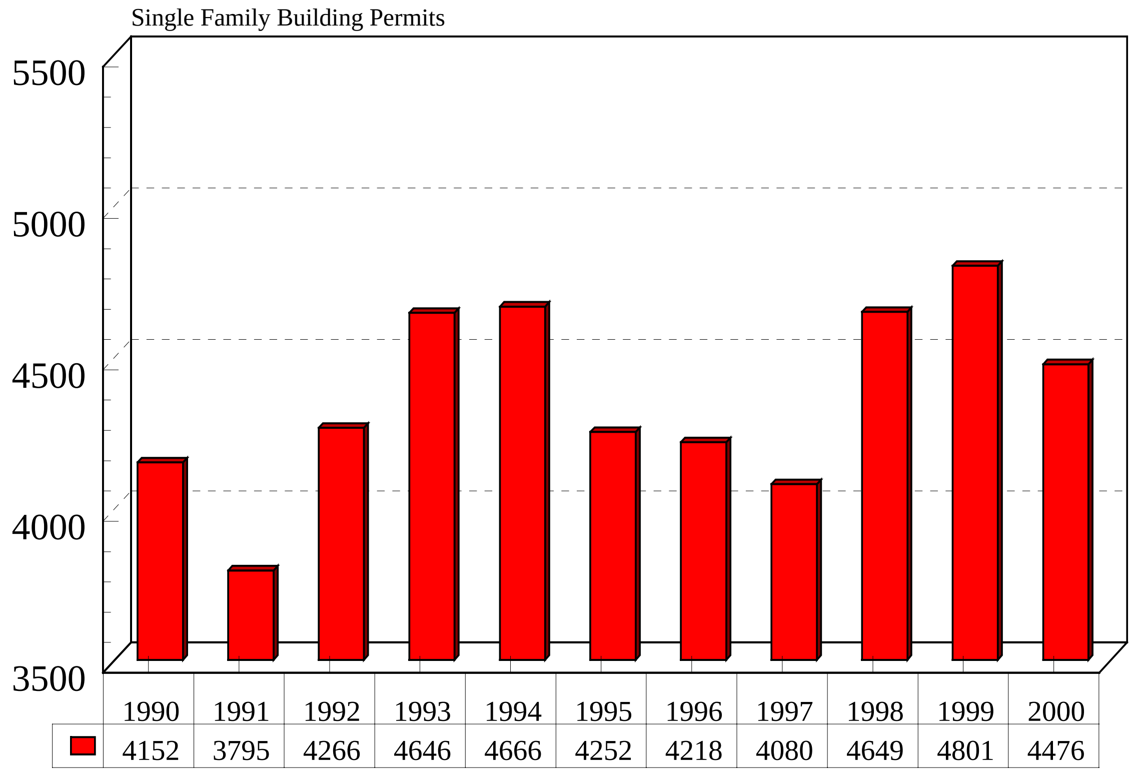

**Source: Center for Applied Demography and Survey Research, University of Delaware**

Purchase mortgage originations in Delaware broke the two million barrier in 1998 as households traded up to larger homes. Moreover, refinancing originations reached a recorded breaking level in 1998 as low interest rates made the mortgage-refinancing decision a 'no-brainer' for many households.

Refinancing activity has since cooled off, as interest rates first steadied, and then increased. Purchase originations have likely peaked above the two million watershed.

Building activity in Delaware is booming. In response to the torrid expansion, permitting activity has reached new highs. Single family permits bettered 4,800 in 1999 as the persistence of the robust expansion translated into strong consumer confidence.

**Figure 2.15: Permitting Activity Has Been Frenzied**




**Source: Center for Applied Demography and Survey Research, University of Delaware, U.S. Census Bureau**

Delaware house prices remain below both the regional and national average. The median existing home price in Delaware is $160,400, compared to $167,700 nationally. Delaware home prices are competitive in comparison to prices in New Jersey, New York, and the neighboring Pennsylvania counties. However, house price growth is accelerating as Delaware continues to attract new workers into the state, fuelling demand for homes.

Existing house prices grew 8.7% in the fourth quarter ahead of all other Mid-Atlantic States (according to the Fannie Mae/Freddie Mac repeat purchase index which tracks individual home prices). Further, much of the new building activity in the single-family market is centered on high end housing of $175,000 and above. If this trend persists, Delaware may experience some erosion in real estate cost advantage. In a worst-case scenario house prices would accelerate sharply lending Delaware to no longer be considered a low cost area. This could weaken migration trends in an already tight labor market.

## OBSERVATIONS

Delaware's economy is performing handsomely.  Job growth in the state is outpacing both the national and regional average.  Correspondingly, unemployment is at a record low.

Easing the strain of an acutely tight labor market is Delaware's positive population growth.  Half of Delaware's population growth is accredited to net in-migration.  Therefore, the state's ability to meet the needs of employers is dependent on attracting workers to the state.

Labor force participation rates have almost reached their zenith.  The entrance of women to the job market, which has been a significant source of bodies to the labor market, is nearly exhausted.  The employment situation has grown sanguine for all ethnic groups, attracting more non-white workers to the job market.  However, this source of workers is almost tapped out as participation rates among non-white workers are already at a record high.

More people than ever are commuting into Delaware for work.  This is a testament to Delaware's strong performance to relative to its immediate neighbors.  Commuters add income tax to the states coffers, without placing demands on the state's resources, such as schooling.  However, a burden is placed on Delaware's road systems.

The state's migration primarily consists of people within the 20-30 age group.  This is consistent with the idea of the young, working age population being most mobile.  The primary destination of migrants is New Castle County (which takes more than half of the state's new residents).  The presence of the University of Delaware, as well as employment opportunities explain the heavy rate of in-migration to this particular county.

In terms of the New Economy, Delaware lags in terms of its high tech industry. In order for the state to jump on the high tech bandwagon, a major employer would need to move into the state. However, high tech employers tend to form agglomerations such as California's Silicon Valley, Boston's Route 128, and North Carolina's Research Triangle. Kick-starting a high tech industry in Delaware will be difficult without the catalyst of a major high tech employer.

A skilled, well-educated labor force is essential for the New Economy. Stanford supplies Silicon Valley's high tech employers, MIT supplies Route 128's, and Duke and UNC supply the Research Triangle's. The presence of prominent research institutions at these locations has fostered an environment of rapid technological advancement. The challenge for Delaware is to supply a skilled, well-educated labor force fit to meet the needs of the high tech industry.

To date, Delaware has reaped the rewards of its Financial Center Development Act. The finance industry has swelled to eclipse the chemicals industry in the state. The employment needs of the industry have been met by in-migration of educated workers from outside the state. The danger Delaware may face would occur should the migration trends wane because the state cannot offer the high paying, high skilled jobs sought by educated workers, then employers may question expansion/relocation decisions in the state.

**Risks**

The dependency of Delaware's growth drivers, the financial and chemicals industries, on the performance of the U.S. economy is an upside risk to the forecast. These industries are reliant on the prosperity of the national economy to sustain them and the national economy is growing at a torrid pace. While a slowdown is predicted, the national economy may surprise on the upside, and consequently Delaware's primary industries would outperform expectations.

Further relocations into Delaware provide another upside risk. The state continues to operate as a low cost area within the high cost Northeast region, and will continue to offer a competitive cost base for businesses.

A downside risk to the state is its undue exposure to economic fluctuations due to the high concentration of employment in the finance, insurance and real estate industries. Employment in the finance, insurance and real estate industries is twice the national average. However, this reliance on the financial sector leaves the state vulnerable to sudden downturns in the financial markets. Should a recession arise, Delaware may see a sharp loss of employment as banks tighten their belts in order to preserve profits.

The dominance of the credit card industry has several associated risks. First is the recent rise in credit card delinquencies nationwide. This rise puts at risk future profitability of the industry. Nationally, the delinquency rate is rising, and personal bankruptcies are only recently falling from historic highs. Since the current expansion is strong and personal income growth is rapid, delinquencies and bankruptcy filings should be lower. With over 12% of Delaware's jobs—double the national average—in the financial industry, the state is particularly vulnerable if national consumer credit should deteriorate. Expansion of the industry has also been threatened over the past several years by the saturation of the market with credit cards.

The threat of a bank merger presents a lingering downside risk to Delaware. Should a merger arise involving one of the state's banks, it would have large implications for FIRE industry workforce.  The FIRE industry now constitutes Delaware's largest employment industry.

A final risk comes from the overall consolidation of the banking industry.  Many credit card issuers are banks in name only and focus solely on credit card products.  These banks can be targeted for acquisition by other banks that are searching for ways to increase consumer-lending portfolios.  A case in point is the recent purchase of First USA, a credit card issuer which employs nearly 1,500 in Wilmington, by Ohio-based BancOne.  No consolidation activity has taken place at First USA, but should the credit card market sour, the Wilmington operation could jeopardized.