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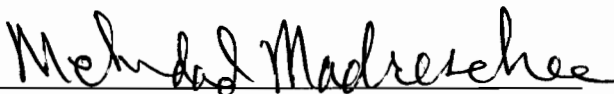
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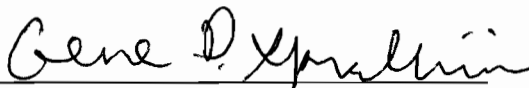
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County Level Data Analysis:
An Economic Study of Bradford,
Lycoming, Sullivan, and Tioga
Counties in Northcentral Pennsylvania


Presented to the faculty of Lycoming College
in partial fulfillment of the requirements
for departmental Honors in Economics

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Spring 2003

Honors Project in Economics
at Lycoming College

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I. Abstract

The Northcentral Pennsylvania region being examined in this study consists of four counties. These counties, Bradford, Lycoming, Sullivan, and Tioga, have collectively experienced economic decline in the past thirty years. The region has been the victim of a falling share of its total earnings in relation to the state, a deteriorating manufacturing sector, falling numbers of workers, high unemployment rates, low per capita incomes, and high poverty rates. When all of these factors are combined, they impact each other in a negative way and worsen the situation. The reasons appear to be lack of population growth combined with an inability to retain the area's educated youth, an over-reliance on the agricultural sector, and the local economy's inability to create good jobs (which is strongly tied to the outflow of youth from the area).

Some possible suggestions for improving economic conditions include the offering of incentives to businesses for relocation into the area, more focused efforts to develop industries that would add value to agricultural products, and increased efforts to keep young people within the region.

II. Background Information and Data Used

This study focuses on a four-county region in Northcentral Pennsylvania consisting of Bradford, Lycoming, Sullivan, and Tioga Counties (referred to as "the Region" from here on). The Region is bordered on the north by New York state, on the west by Potter and Clinton Counties, on the south by Union, Northumberland, Montour,

and Columbia Counties, and on the east by Luzerne, Wyoming, and Susquehanna Counties (See Map 1, Appendix 1). Based on data acquired from various government publications, counties in the Region appear to have substantial economic problems, which will be explored in this paper, along with their causes. The paper also provides potential solutions to improve the economic landscape for the Region in the future.

Data sources were: The U.S. Department of Commerce Bureau of Economic Analysis and its Regional Economic Information System (REIS), an extensive database stretching back to 1969; U.S. Census of Manufactures for 1987, 1992, and 1997; U.S. Census of Agriculture for 1987, 1992, and 1997; U.S. Census of Population for 1980, 1990, and 2000; Pennsylvania Department of Agriculture 2000 Annual Report; the Pennsylvania Department of Labor and Industry's Labor Market Information Database System (PALMIDS); the U.S. Bureau of Labor Statistics; and Penn State's Pennsylvania State Data Center. Most data for the Region is available from 1969 to 2000.

The counties within the Region share several similarities besides geographic proximity. Relative to the state, these counties have historically placed a larger emphasis on natural resource industries. Earnings in sectors such as the farming and forestry industries have consistently been a higher proportion of the Region's total earnings than those of the same sectors at the state level.¹ For the Region, earnings in farming, agricultural services, forestry, and fishing as a proportion of total earnings across all industries are larger than for this same proportion in all of Pennsylvania. Since 1969, the ratio of earnings in these sectors to earnings in all sectors (see Formula 1) has typically been roughly three times higher for the Region than for the state (Table 1, Appendix 2 lists these ratios for the years 1969-1997).

Formula 1: (Total Earnings in Farm Sector + Total Earnings in Agricultural Services, Forestry, Fishing, and Other Sector)/ Total Earnings in all Sectors

The Formula 1 ratio, when evaluated for both the Region and the state, shows the Region's higher economic dependence on the natural resource industries.

Geographically, there are abundant stretches of farmland within the Region, and a high percentage of the land area is covered by forest. Additionally, an overall lack of development has allowed a higher proportion of the Region's land resources to be devoted to farming, forestry, and related industries than other locations that are experiencing overdevelopment and urban sprawl. Because of this, it is natural for the area to support high levels of natural resource industries.

Furthermore, much of the region is quite isolated. The area's often rough topography and poor road systems have prevented much interaction with other commercial markets. For instance, Bradford County contains only approximately five miles of four-lane highway within its boundaries, and Sullivan County has no stretches of such highway at all. Much of the shipping in the Region occurs on narrow and hilly two-lane roadways. The waterways of the Region are too shallow to allow the utilization of waterport facilities for transportation, and the Agnes flood of 1972 has destroyed much of the railroad infrastructure in the area, which has not been rebuilt.

The four counties in the Region share one major population center, Williamsport in Lycoming County. It has a population of over 30,000 (which is more than five times the size of any other community in the Region)² and has substantially better access to

quality roadways than much of the Region. Consequently, it has become a focal point for the surrounding areas.

III. The Problem

The Region at the focus of this study is performing very poorly in relation to a state which itself has been sluggish when compared to the entire nation. The performance of the local economy is not up to par with the rest of Pennsylvania, while the state has struggled itself in recent years to keep up with economic performance in the rest of the United States. Several data trends serve to illustrate the Region's economic struggles.

Using REIS data expressing total earnings across all industries, one can conclude that the Region has experienced a downturn in its total earnings as a share of Pennsylvania's total earnings.³ This drop in importance on the state level suggests that the Region's economy is growing more slowly than that of the state. Especially since about 1988, the Region's share of all of Pennsylvania's earnings has dropped rather precipitously (See Figure 1, Appendix 3).

Adding to the concern in the Region is Pennsylvania's performance in relation to the rest of the United States over the same period. Since 1988, Pennsylvania's share of total U.S. earnings has roughly dropped from 4.6% to 4.1%.⁴ The Region has been victim to a slowing of economic activity compared to the rest of the state and nation in recent years.

To ensure that the measure of total earnings across all industries was not a misleading statistic, several other variables were taken into consideration. Overall employment in the Region as a share of all Pennsylvania employment was explored using REIS figures. This supported the conclusion that, in recent years, the Region's economy has been growing at a slower pace than the state economy. The Region's share of all state employment has dropped lately; until 1995, this share was growing annually, but there has been a sharp decline in the past five years.⁵ It appears that the Region has not been adding new jobs at nearly the same rate as the rest of Pennsylvania. More specifically, it looks as though the four counties in the study were unable to take advantage of the prosperous economic conditions existing from 1995 to 2000.

The 1987, 1992, and 1997 Censuses of Manufactures provide data for the Williamsport Metropolitan Statistical Area (MSA). Because Williamsport is the only major population center and the Williamsport MSA takes in all of Lycoming County as well, this data was used to approximate the manufacturing conditions for the entire Region. Between 1987 and 1997, the value added by manufacturing in the Williamsport MSA has dropped from 2.87% of value added in all fourteen of Pennsylvania's MSA's to 2.36% of statewide value added.

The percent change in value added by the Williamsport MSA from 1987 to 1997 was very low in relation to other areas. In fact, the Williamsport MSA ranked 11th out of 14 MSA's in this category. Williamsport also ranked 11th in the creation of additional production hours for its employees over the same time period. Williamsport had the 10th slowest growth in both the creation of new jobs and the creation of additional payroll. Finally, the Williamsport MSA was ranked 12th of 14 in its percent change in total value

of shipments leaving the MSA. These numbers show that manufacturing in the Region is very weak in comparison with the rest of Pennsylvania.⁶

Unemployment rates are typically higher within the Region than they are at a state level. In 2001, for example, Pennsylvania's unemployment rate for the year was 4.7%. All four counties in the Region checked in with much higher levels of unemployment for 2001. Bradford County's unemployment rate was 5.7%, Lycoming's was 5.8%, Sullivan's was 6.2%, and Tioga's was 6.9%. Looking at previous years gives much the same picture. While there are years when one or more of the counties have had lower unemployment than the state, the overall Region's unemployment rate is higher than Pennsylvania's for nearly every year since 1970.⁷

Even though local unemployment figures are often somewhat unreliable due to small sample sizes and the migration of the jobless to big cities, the difference between local and state unemployment rates is still quite substantial in most years. The high unemployment figures for the Region are perhaps due to residents' strong ties to the area. Even though jobs are hard to find in the Region, residents are loathe to leave because of an enjoyable rural setting and the presence of deep-rooted family ties. Another possible contributor to high unemployment rates is the low level of overall educational attainment of residents in the Region.

Within the region, per capita income is far below the state and national levels. Per capita incomes of residents in the four counties have historically been lower than those of Pennsylvania or the United States. However, in an alarming trend, the disparity between per capita incomes is getting larger. While the state and nation have been experiencing growth in real per capita income during the study, the Region's growth rate

has been close to zero.⁸ This is causing the Region to fall farther behind (See Figure 2, Appendix 4).

Finally, the poverty rate is higher among residents of the four-county area. When measuring poverty, the U.S. Census Bureau determines an income level (known as a threshold) for families with different sizes and compositions. Families below this threshold are considered to be poor, and they are included in poverty measurements. Poverty thresholds are not adjusted geographically. They do change each year, however, due to adjustment for inflation.

In 2000, 11.0% of Pennsylvania's families were considered below the poverty level. In contrast, each county in the Region had a higher poverty rate for its families than this state figure: 14.5% of Sullivan County's families, 13.5% of Tioga County's families, 11.8% of Bradford County's families, and 11.5% of Lycoming County's families were below the poverty threshold.⁹

These statistics make it quite apparent that the Region is suffering from poor economic conditions. In recent years, these four counties have performed at a much lower level than the rest of the state of Pennsylvania, which has often struggled to keep up with the rest of the United States. The remainder of this paper will attempt to pinpoint possible causes of the Region's economic downturn and offer solutions to help remedy the problem.

IV. Causes

When attempting to determine the cause of economic decline within the Region, a logical starting point is labor force. Without a solid labor force, it is impossible to promote economic growth in an area. The work force of an area must be growing at a rate comparable to the rate of economic growth in order for the economic growth to be sustained, unless productivity is significantly improved. When the Region is examined, it can be determined that growth in labor force has not been able to help foster economic growth.

The labor force in the Region was growing steadily up to about 1979, but the growth rate for the local work force was very slow during most of the 1980's. After stronger labor gains from 1987 to 1990, there has been stagnant growth in labor force through the 1990's. However, other regions in the state have undergone labor force growth during the same period. This is evidenced by the falling share of Pennsylvania's total labor force within the Region since the mid-1990's (See Figure 3, Appendix 5). The recent decline in share of total state labor has erased the gains of the late 1980's, and the Region's share of the state labor force was much smaller in 2000 than it was through most of the 1990's. The volatility shown in Figure 3 implies that the Region's labor force has growth spurts at different times than the state's workforce.¹⁰

Not only has the Region's labor force been growing at a rate too slow to support much economic growth, but the general population has also experienced very little growth. Since 1976, the Region's total population has experienced a net change of less than 1,000 people. Not surprisingly, a steadily falling share of Pennsylvania's total

population within the Region has been the result (See Figure 4, Appendix 6).¹¹ The population's age breakdown has also suffered negative changes during the course of the study. An area poised for growth should have large numbers of young, working-age residents and also large numbers of school-aged residents who would represent the future work force. The Region under consideration does not have this type of favorable age breakdown. In fact, the area is regressing in this sense.

The 1980 U.S. Census showed the Region to have 41.4% of its residents under age 25. By 1990, this age category was 35.4% of the Region's population, and by 2000, this age group accounted for only 32.9% of residents in the Region.¹² Young people, who are the future of the Region, are clearly beginning to lack in numbers in comparison to other age categories.

In contrast, the Region's population over age 55 keeps getting larger. In 1980, 22.6% of residents were over 55. The number was 24.8% in 1990, and 26.1% of people in the Region were over 55 by 2000. This is following a more extensive trend of aging population both statewide and nationally, but the Region's aging is more pronounced. While 26.1% of the Region's residents were over age 55 in 2000, the state of Pennsylvania (behind Florida, the state with the second-oldest population in the U.S.) had 24.8% of its residents in this age range.¹³ This transition suggests that the Region must encourage growth in the population by bolstering it with youth before significant economic growth can be experienced.

A less obvious contributor to the economic decline in the Region is an over-reliance on agriculture. Since 1988, when the Region's share of total state earnings began its precipitous decline that has stretched to the present, the area has shown a robust

increase in its number of farm proprietors relative to the rest of Pennsylvania (See Figure 5, Appendix 7).¹⁴ From 1988 to 2000, the Pearson correlation between the Region's share of all farm proprietors in the state and the Region's share of total earnings in the state was -0.835 .¹⁵ This correlation coefficient measures the extent to which variations in the Region's share of farm proprietors mirrored variations in the Region's share of total state earnings. The Pearson correlation was found using time series data with annual measurements for each of the two variables from 1988 to 2000.

In fact, the combination of the Region's declining population share and increasing share of farm proprietors is able to explain over 95% of the variation in the Region's share of total state earnings across all industries. When these two explanatory variables are entered into a multiple regression analysis to predict the Region's share of all earnings, Formula 2 is the result.¹⁶

Formula 2: $\text{Earnshare} = -0.015 - 0.191(\text{Farmshare}) + 2.254(\text{Popshare})$

R Square = 0.953 Significance Level = < 0.001

Earnshare = Region's Share of Total State Earnings Across all Industries

Farmshare = Region's Share of All Farm Proprietors in State

Popshare = Share of Total Population in State

Individually, the Region's share of all farm proprietors in the state accounts for 69.8% of the variation in the Region's share of total state earnings across all industries. Also, when the Region's share of total state population is the only predictor entered into a regression model to predict changes in the Region's share of total state earnings, the

model explains 66.5% of variation. It is when these two independent variables are used in tandem in a multiple regression model that the Region's share of total state earnings is very successfully predicted.

While it is not totally clear that decreasing share of earnings is the effect of rising share of farm proprietors and decreasing share of population and not the cause, this is the most logical scenario. A rising share of farm proprietors would mean a heavier reliance on agriculture than other regions in the state, and if farming were less profitable than other sectors of the economy, the Region's share of total earnings would most likely fall. As for population, if there is a declining share of people in an area to act as both producers and consumers, that area's share of total output (and consequently, total earnings) could be expected to drop.

The next step is determining why the Region's share of earnings would fall when the share of farm proprietors rises. This is due to farms being less productive than other sectors of the economy that might otherwise be utilizing the resources devoted to agriculture. When farms in other areas of the state go out of business, the weakest farms are the first to go. This means that the best farms are left, and the marginal farmland can be used for other sectors that are more productive. This creates an overall improvement in productivity for the area's economy, along with an expected rise in the area's share of total state earnings.

Even though the number of farms within the Region has steadily decreased throughout the years, the Region is losing farms at a slower rate than other locations within the state.¹⁷ This accounts for the Region's increase in its share of all farm proprietors in the state. This also implies that there is a higher quantity of the less

productive farms that have not yet been naturally selected out. Therefore, farmland that might be put to better use in other industries is still being used for agriculture, and the overall earnings for the Region might be expected to drop in relation to the rest of the state.

One way that the less productive farms were thinned out was through the Dairy Termination Program of 1986. In this program, the government recognized the need to buy out excess dairy cows in order to raise and stabilize low milk prices. Participating farmers sent their cows to slaughter and signed a contract that prevented them from reentering the dairy industry for five years. In return, they would receive government payments for not producing milk.¹⁸ Apparently, a very small percentage of farmers in the Region participated in the program, because the total number of farms did not drop much at this time. However, farmers in other areas of the state took advantage of the opportunity to get out of farming.¹⁹ Therefore, many of the less productive farms were retired, and they even received government payments for not producing for the next five years. This was a contributing factor to higher farm earnings in parts of Pennsylvania other than the Region.

Another consideration is that farms within the Region might be producing the wrong agricultural products. Although rational farmers can be expected to raise crops that would maximize their profits, other considerations such as weather, growing seasons, and soil types may limit the options of farmers in the Region when they determine the agricultural products to produce. Farms in the Region are very specialized in dairy products and corn, while other areas of the state produce more of other crops such as wheat and soybeans.²⁰ Also limiting farmers' options could be a lack of investment into

their farms and equipment that could help to raise productivity or allow them to grow more profitable crops.

In 1987, the average farm in the Region produced agricultural products worth a market value of \$69,357 (in real 1997 dollars), which was 82.2% of what the average farm across all of Pennsylvania was selling its products for. This makes it clear that farms in other parts of the state were more profitable in 1987, but the story had gotten much worse by 1997. In that year, the Region's market value of output was \$60,523, and this was only 68.8% of the sales received by the average farm across Pennsylvania.²¹ This is attributable either to much lower market prices for the Region's specialty crops or the previously mentioned effects of having less productive farms still in operation while similar farms in other areas had already been eliminated.

While wheat, soybeans, and other high-volume products from other areas might be more profitable crops on their own, farm income in Pennsylvania has come to be very dependent on government payments. It appears that dairy products and corn are becoming less heavily subsidized by the government than are other crops. The Region received roughly 6.59% of government payments to Pennsylvania farms in 1992, but by 1997, this figure had dropped to 6.42% of total payments.²² If farms are heavily dependent on government aid, the drop in payments might drastically lower a farm's income.

Unfortunately, while it might make the most economic sense for farmers to go out of business, many farmers in the Region really have no choice. They have too much invested in their farms to simply give up, and they possess fewer marketable skills as the

workplace becomes more technological. Many farmers' only option is to continue trying to beat the odds and turn a small profit.

A final major consideration when looking at the Region's lack of economic growth is the jobs available within the Region. If better jobs are available in other parts of the state, it can be expected that earnings in the Region would have a smaller share of total state earnings. Also, the per capita income would be low in the area, and the poverty rate could be expected to be high, as has been observed within the Region.

Table 2 shows the compensation for an average job within the Region, Pennsylvania, and United States in the years 1970, 1980, 1990, and 2000. All values in this table are in 2000 dollars. The average earnings per job in each sector are multiplied by that sector's share of the geographical area's total employment. A simple summation can then be used to obtain a weighted average indicating the average earnings per job in each of the areas considered.²³

| Sector | 2000 | | | | 1990 | | | | | | | |
|------------------------|--------|------------------|--------------|------------------|--------|------------------|--------------|------------------|------|----------|------|----------|
| | USA | | Pennsylvania | | USA | | Pennsylvania | | | | | |
| | Weight | Average Earnings | Weight | Average Earnings | Weight | Average Earnings | Weight | Average Earnings | | | | |
| Farming | 0.02 | \$16,063 | 0.01 | \$12,419 | 0.04 | \$10,465 | 0.02 | \$18,338 | 0.01 | \$14,735 | 0.04 | \$14,532 |
| Ag Serv, Forest, Fish | 0.01 | \$18,815 | 0.01 | \$19,080 | 0.01 | \$19,627 | 0.01 | \$20,106 | 0.01 | \$21,146 | 0.01 | \$23,316 |
| Mining | 0.00 | \$64,853 | 0.00 | \$69,287 | 0.00 | \$30,365 | 0.01 | \$46,009 | 0.01 | \$56,413 | 0.00 | \$44,437 |
| Construction | 0.06 | \$37,846 | 0.05 | \$38,524 | 0.05 | \$25,855 | 0.05 | \$37,560 | 0.05 | \$40,229 | 0.05 | \$30,621 |
| Manufacturing | 0.11 | \$50,161 | 0.14 | \$51,132 | 0.21 | \$34,962 | 0.14 | \$44,510 | 0.17 | \$45,465 | 0.24 | \$34,506 |
| Transportation, PU | 0.05 | \$50,161 | 0.05 | \$48,825 | 0.04 | \$40,900 | 0.05 | \$45,740 | 0.05 | \$46,976 | 0.04 | \$35,181 |
| Wholesale Trade | 0.05 | \$49,721 | 0.04 | \$47,275 | 0.04 | \$33,715 | 0.05 | \$43,406 | 0.05 | \$42,345 | 0.04 | \$28,424 |
| Retail Trade | 0.16 | \$19,357 | 0.17 | \$18,557 | 0.17 | \$15,435 | 0.16 | \$18,482 | 0.17 | \$18,526 | 0.17 | \$19,347 |
| FIRE | 0.08 | \$42,743 | 0.07 | \$40,623 | 0.05 | \$27,807 | 0.08 | \$30,007 | 0.07 | \$28,457 | 0.05 | \$19,940 |
| Services | 0.32 | \$33,327 | 0.34 | \$32,422 | 0.27 | \$24,644 | 0.28 | \$30,253 | 0.30 | \$30,270 | 0.24 | \$23,906 |
| Government | 0.14 | \$41,557 | 0.11 | \$43,043 | 0.11 | \$37,953 | 0.15 | \$39,154 | 0.12 | \$40,358 | 0.12 | \$34,481 |
| Total = Σ (x*y) | 1.00 | \$36,316 | 1.00 | \$36,006 | 1.00 | \$27,369 | 1.00 | \$33,153 | 1.00 | \$33,662 | 1.00 | \$27,368 |

Note: All Values in
2000 Real Dollars

Table 2

Table 2

| Sector | 1980 | | | | 1970 | | | | | | | |
|------------------------|--------|------------------|--------------|------------------|--------|------------------|--------------|------------------|------|----------|------|----------|
| | USA | | Pennsylvania | | USA | | Pennsylvania | | | | | |
| | Weight | Average Earnings | Weight | Average Earnings | Weight | Average Earnings | Weight | Average Earnings | | | | |
| Farming | 0.03 | \$11,722 | 0.02 | \$9,937 | 0.06 | \$13,066 | 0.04 | \$20,869 | 0.02 | \$20,099 | 0.07 | \$14,692 |
| Ag Serv, Forest, Fish | 0.01 | \$17,613 | 0.00 | \$18,443 | 0.01 | \$13,294 | 0.01 | \$25,042 | 0.00 | \$26,005 | 0.01 | \$30,231 |
| Mining | 0.01 | \$59,544 | 0.01 | \$75,114 | 0.00 | \$87,420 | 0.01 | \$41,738 | 0.01 | \$49,087 | 0.00 | \$50,489 |
| Construction | 0.05 | \$39,490 | 0.04 | \$39,956 | 0.04 | \$31,886 | 0.05 | \$43,067 | 0.05 | \$45,302 | 0.04 | \$37,736 |
| Manufacturing | 0.18 | \$42,118 | 0.24 | \$43,590 | 0.27 | \$37,985 | 0.22 | \$39,463 | 0.30 | \$38,438 | 0.32 | \$33,640 |
| Transportation, PU | 0.05 | \$47,346 | 0.05 | \$47,995 | 0.05 | \$38,752 | 0.05 | \$43,403 | 0.06 | \$43,358 | 0.05 | \$39,964 |
| Wholesale Trade | 0.05 | \$41,388 | 0.05 | \$40,885 | 0.04 | \$29,649 | 0.05 | \$42,023 | 0.04 | \$40,677 | 0.04 | \$30,647 |
| Retail Trade | 0.16 | \$19,771 | 0.16 | \$18,991 | 0.15 | \$18,679 | 0.15 | \$23,335 | 0.15 | \$22,591 | 0.14 | \$22,125 |
| FIRE | 0.08 | \$24,089 | 0.07 | \$23,889 | 0.05 | \$17,305 | 0.07 | \$25,245 | 0.06 | \$25,465 | 0.05 | \$18,467 |
| Services | 0.22 | \$26,480 | 0.23 | \$26,257 | 0.20 | \$22,336 | 0.19 | \$27,209 | 0.19 | \$27,115 | 0.15 | \$22,061 |
| Government | 0.16 | \$34,509 | 0.13 | \$34,817 | 0.13 | \$29,183 | 0.18 | \$33,628 | 0.13 | \$33,103 | 0.13 | \$25,916 |
| Total = $\Sigma (x*y)$ | 1.00 | \$31,648 | 1.00 | \$32,802 | 1.00 | \$27,782 | 1.00 | \$32,404 | 1.00 | \$32,895 | 1.00 | \$27,705 |

Note: All Values in
2000 Real Dollars

Table 1 shows that the typical job within the Region has had consistently lower earnings than those of the state and nation. Coupled with that is the fact that the average earnings per job in Pennsylvania and the United States have experienced some growth throughout the years, while the Region's earnings per job have been very flat over the same time period. In fact, from 1990 to 2000, the average compensation per job within the Region grew by only a single dollar.

There has been a transition from manufacturing to service jobs within the Region. Since 1991, the service sector has employed more people in the Region than has manufacturing.²⁴ This is significant because service jobs pay much lower salaries than manufacturing jobs. This can be illustrated by the fact that, although services employed over 7,000 more workers than the manufacturing sector in 2000, the total earnings by manufacturing workers was still greater than the total earnings by workers in services.²⁵

These facts indicate that there is a shortage of well-paying jobs in the Region. The lack of good jobs contributes to the stagnant population growth in the area. The area is unable to retain its young people after they leave for college. Seeing that there are no good jobs for them within the Region, they head for greener pastures elsewhere. They must choose between a career elsewhere that will compensate them in line with their education or a career in the Region where they grew up that will pay them substantially less.

The 2000 Census reported that only 14.8% of residents of the Region age 25 and over held a Bachelor's degree or above. This is in comparison to 22.4% for Pennsylvania and 24.4% for the United States.²⁶ In Pennsylvania, the percentage of residents with a Bachelor's degree has grown 2.5% annually since 1980, while the Region's percentage

has only increased by 2.1% each year. This appears to be another example of how the Region is falling farther behind the state. The result of the emigration from the area of educated young people (what is commonly referred to as “Brain Drain”) is an under-educated population within the Region, which does not look appealing to prospective businesses thinking about becoming located within the Region.

Hence, the lack of good jobs not only has such effects as lowering per capita income and raising poverty rates, but it also contributes to the unfavorable demographic patterns that are found in the Region. Poor jobs have been a contributing factor to the economic decline of the Region during the last thirty years.

It is important to note that it is difficult to trace the Region’s economic problems to a specific cause, and in many cases, unhealthy trends may actually combine to make the situation worse.

V. Possible Solutions

The best way to improve the Region’s economic condition is to create better, higher-paying jobs. Economic development entities in the area need to be more successful in retaining existing businesses in the Region and developing the local industrial base. The Region’s pleasant atmosphere and underutilized labor force (high unemployment rates are evidence of slack in the work force) can be used as attractive qualities of the Region in attempts to draw more jobs to the area. Additionally, residents of the area should be better trained for jobs that exist in the Region. This could take place through more interaction between industry and educational systems. Since this will

help the residents of the four counties monetarily as well as helping to bring youth back to the area, this is an important goal. The state and local governments need to make the Region more attractive for businesses, perhaps copying the strategies of other areas that have offered such benefits as tax abatements to incoming businesses. Short term tax losses to governments would be offset by higher future incomes for the residents of the Region. These higher-paying jobs would also help to keep educated young people in the area.

Since the Region has become relatively specialized in agriculture and forestry, it would also be beneficial to take full advantage of this specialization. Industries focusing on adding value to agricultural and forest products would allow these products to leave the Region with a higher market value. These industries would contribute to the goal of job creation, and they would help to stimulate the manufacturing sector in the Region. For example, processing plants for dairy products would increase the value of dairy shipments leaving the Region. The Region could support enterprises such as furniture manufacturers that rely on high volumes of hardwood lumber. Also, programs aimed at helping to modernize obsolete, low-income farms could be a way to improve the agricultural productivity in the Region.

The manufacturing sector is one that should be targeted when attempting to attract new business to the area because of the high wages associated with this sector. The retail sector should be avoided when possible because of its low earnings per job and the fact that very little of the revenue from retail sales stays in the local area, with much of its income going elsewhere to the headquarters of large retail chains.

Increased promotion of tourism is also a way to take advantage of the land resources of the area. Undeveloped land within the Region can be used to attract tourists and their money, especially with such naturally beautiful locations as the Pennsylvania Grand Canyon and Ricketts Glen within the Region. Bike and hiking trails such as the "Rails to Trails" initiative (which makes use of abandoned railroad grades) should continue to be developed. The Region's scenic beauty is a resource that needs to be utilized to improve its future economic prospects.

Finally, more substantial efforts need to be made to retain youth in the Region. While job creation will ultimately be a huge factor in drawing educated young people back to the area, they should also be educated about the benefits of living in the Region and be made aware of the many positives, such as a relaxed, rural setting, that might not be experienced in other locations. This may be done through youth leadership or related programs in the educational system. Providing internships for local college students and low interest loans for recent college graduates are other ways to encourage educated young people to stay in or return to Northcentral Pennsylvania.

Definite efforts need to be made to improve the local economy of the region containing Bradford, Lycoming, Sullivan, and Tioga Counties. This area has been in economic decline throughout most of the past thirty years. Economic growth needs to be stimulated in order to improve the standard of living of residents of these counties. Hopefully, the economic future of this region will be more favorable than in the past.

Endnotes

1. Earnings data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
2. Population data extracted from U.S. Census of Population area profiles for Bradford County, Lycoming County, Sullivan County, Tioga County, and their municipalities, 2000.
3. Earnings data by industry extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
4. Earnings data by industry extracted from REIS data for Pennsylvania and United States, 1969-2000.
5. Employment data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
6. Manufacturing data extracted from Pennsylvania Census of Manufactures MSA profiles, 1987; 1992; 1999.
7. Unemployment data extracted from PALMIDS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1970-2000.
8. Income data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, Pennsylvania, and United States, 1969-2000.
9. Poverty data extracted from U.S. Census area profiles for Bradford County, Lycoming County, Sullivan County, and Tioga County, 2000.

Endnotes

10. Labor force data extracted using REIS employment data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000, and PALMIDS unemployment rate data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1970-2000.
11. Population data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
12. Demographic data extracted from U.S. Census of Population data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1980; 1990; 2000.
13. Demographic data extracted from U.S. Census of Population data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1980; 1990; 2000. (Acquired from Penn State's Pennsylvania State Data Center)
14. Farm proprietor data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
15. Correlation determined using SPSS computer program.
16. Multiple regression determined using SPSS computer program.
17. Farm proprietor data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
18. U.S. House of Representatives Committee on Agriculture Glossary
19. Farm proprietor data extracted from REIS data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.

Endnotes

20. Crop data extracted from Pennsylvania Department of Agriculture Annual Report profiles for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 2000.
21. Farm income data extracted from Pennsylvania Census of Agriculture profiles for Bradford County, Lycoming County, Sullivan County, and Tioga County, 1987; 1992; 1999.
22. Farm income data extracted from Pennsylvania Census of Agriculture profiles for Bradford County, Lycoming County, Sullivan County, and Tioga County, 1987; 1992; 1999.
23. Earnings data extracted using REIS employment by industry and earnings by industry data for Bradford County, Lycoming County, Sullivan County, Tioga County, Pennsylvania, and United States, 1969-2000, and BLS Consumer Price Index data for all urban consumers, 1969-2000.
24. Employment data extracted from REIS employment by industry data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
25. Earnings data extracted from REIS earnings by industry data for Bradford County, Lycoming County, Sullivan County, Tioga County, and Pennsylvania, 1969-2000.
26. Education data extracted from U.S. Census of Population area profiles for Bradford County, Lycoming County, Sullivan County, Tioga County, Pennsylvania, and the United States, 1980; 1990; 2000.

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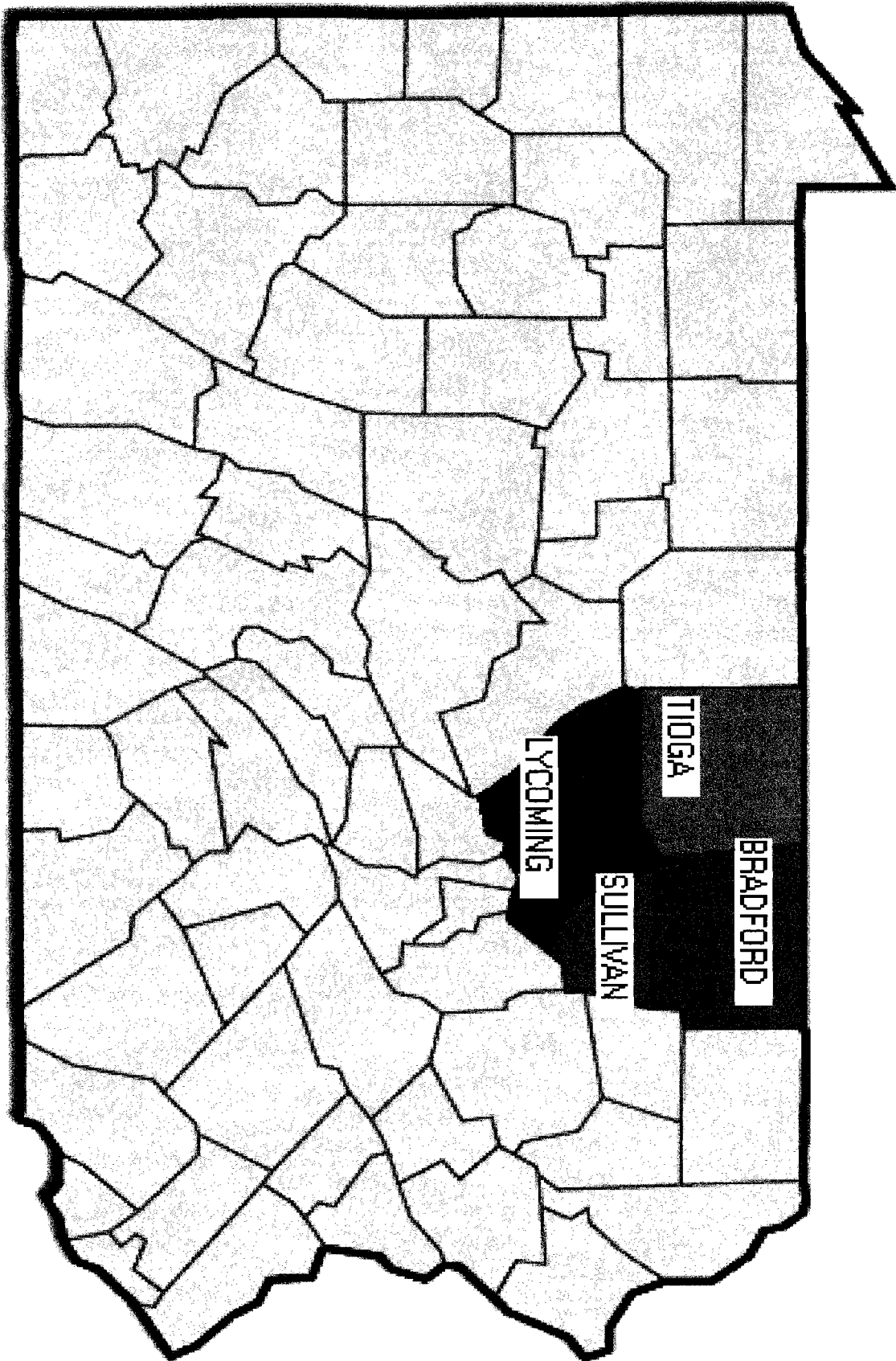
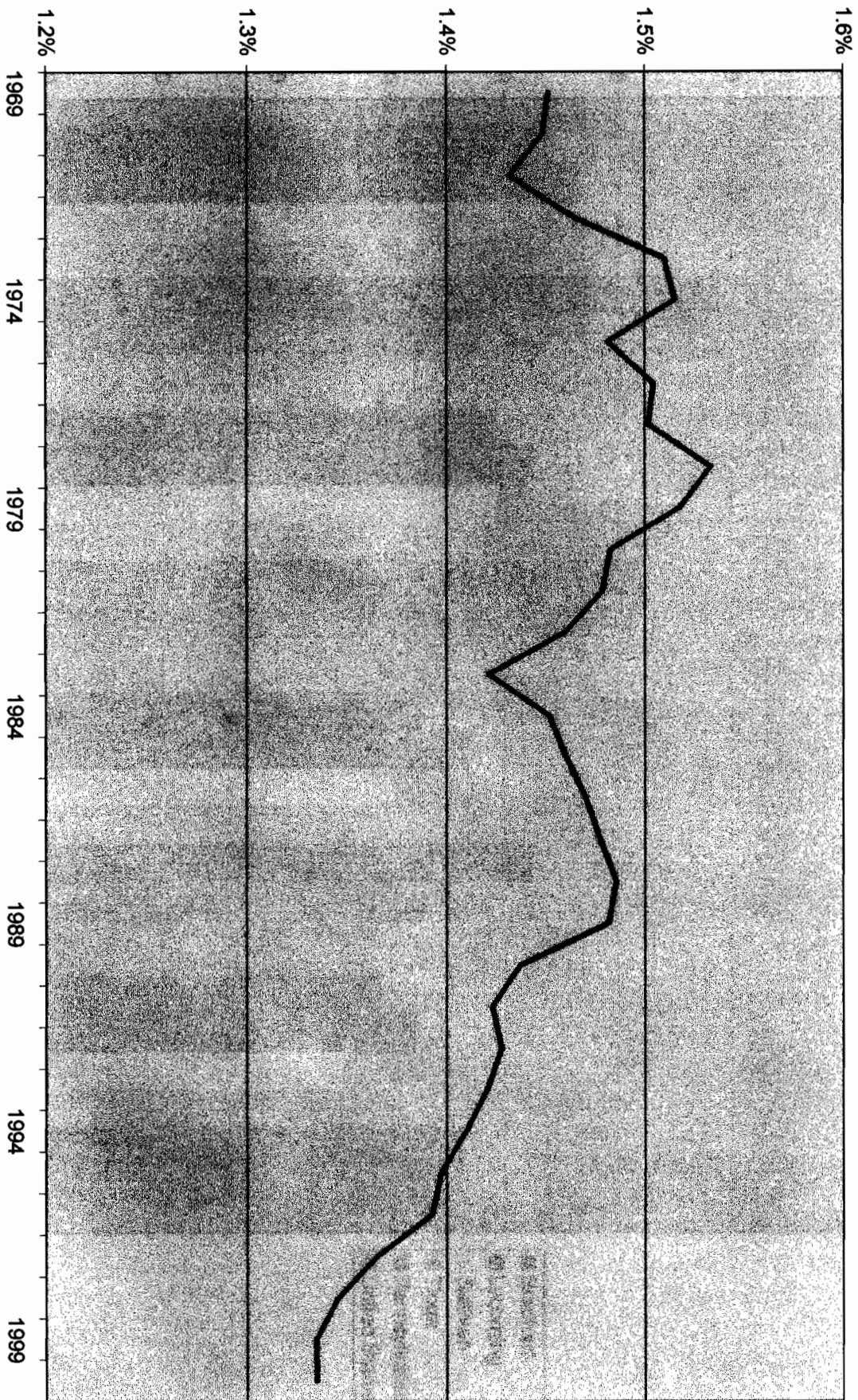


Table 1

| Year | Farm/Fishing Earnings as a Share of Total Earnings in Region | Farm/Fishing Earnings as a Share of Total Earnings in State | Ratio of Region's Share to State's Share |
|-------------|---|--|---|
| 1969 | 0.0470 | 0.0136 | 3.45 |
| 1970 | 0.0429 | 0.0136 | 3.16 |
| 1971 | 0.0388 | 0.0122 | 3.19 |
| 1972 | 0.0349 | 0.0119 | 2.94 |
| 1973 | 0.0410 | 0.0137 | 2.98 |
| 1974 | 0.0429 | 0.0125 | 3.42 |
| 1975 | 0.0341 | 0.0112 | 3.04 |
| 1976 | 0.0345 | 0.0120 | 2.88 |
| 1977 | 0.0270 | 0.0100 | 2.71 |
| 1978 | 0.0301 | 0.0099 | 3.04 |
| 1979 | 0.0396 | 0.0111 | 3.57 |
| 1980 | 0.0314 | 0.0078 | 4.02 |
| 1981 | 0.0398 | 0.0096 | 4.14 |
| 1982 | 0.0325 | 0.0086 | 3.77 |
| 1983 | 0.0191 | 0.0067 | 2.85 |
| 1984 | 0.0328 | 0.0108 | 3.04 |
| 1985 | 0.0370 | 0.0105 | 3.53 |
| 1986 | 0.0352 | 0.0106 | 3.31 |
| 1987 | 0.0368 | 0.0107 | 3.44 |
| 1988 | 0.0334 | 0.0091 | 3.68 |
| 1989 | 0.0373 | 0.0103 | 3.62 |
| 1990 | 0.0298 | 0.0101 | 2.96 |
| 1991 | 0.0216 | 0.0084 | 2.57 |
| 1992 | 0.0375 | 0.0106 | 3.53 |
| 1993 | 0.0356 | 0.0104 | 3.42 |
| 1994 | 0.0256 | 0.0089 | 2.89 |
| 1995 | 0.0193 | 0.0075 | 2.56 |
| 1996 | 0.0277 | 0.0093 | 2.96 |
| 1997 | 0.0154 | 0.0076 | 2.04 |

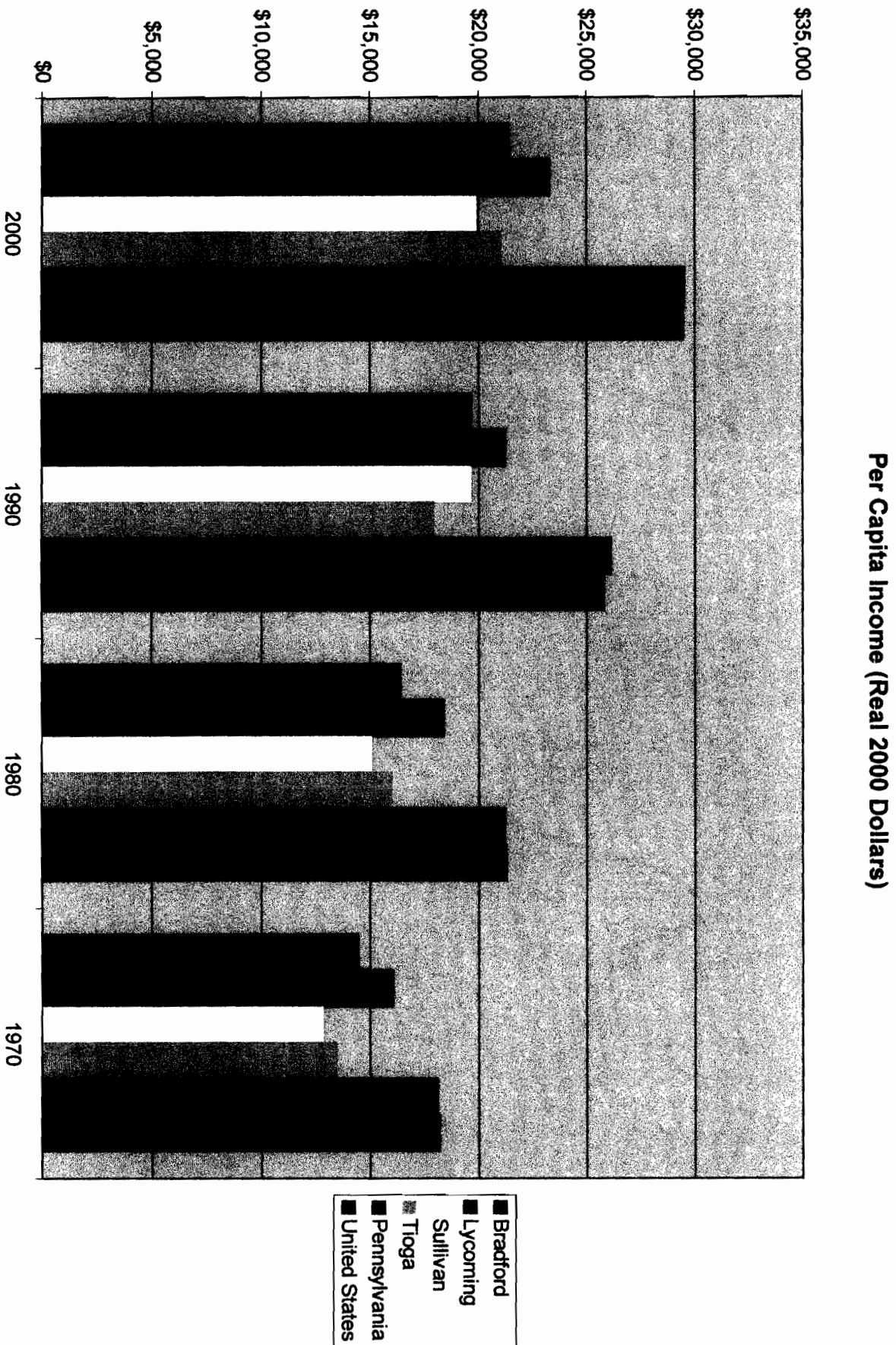
* Note: Full data was not available for years 1998-2000.

Figure 1



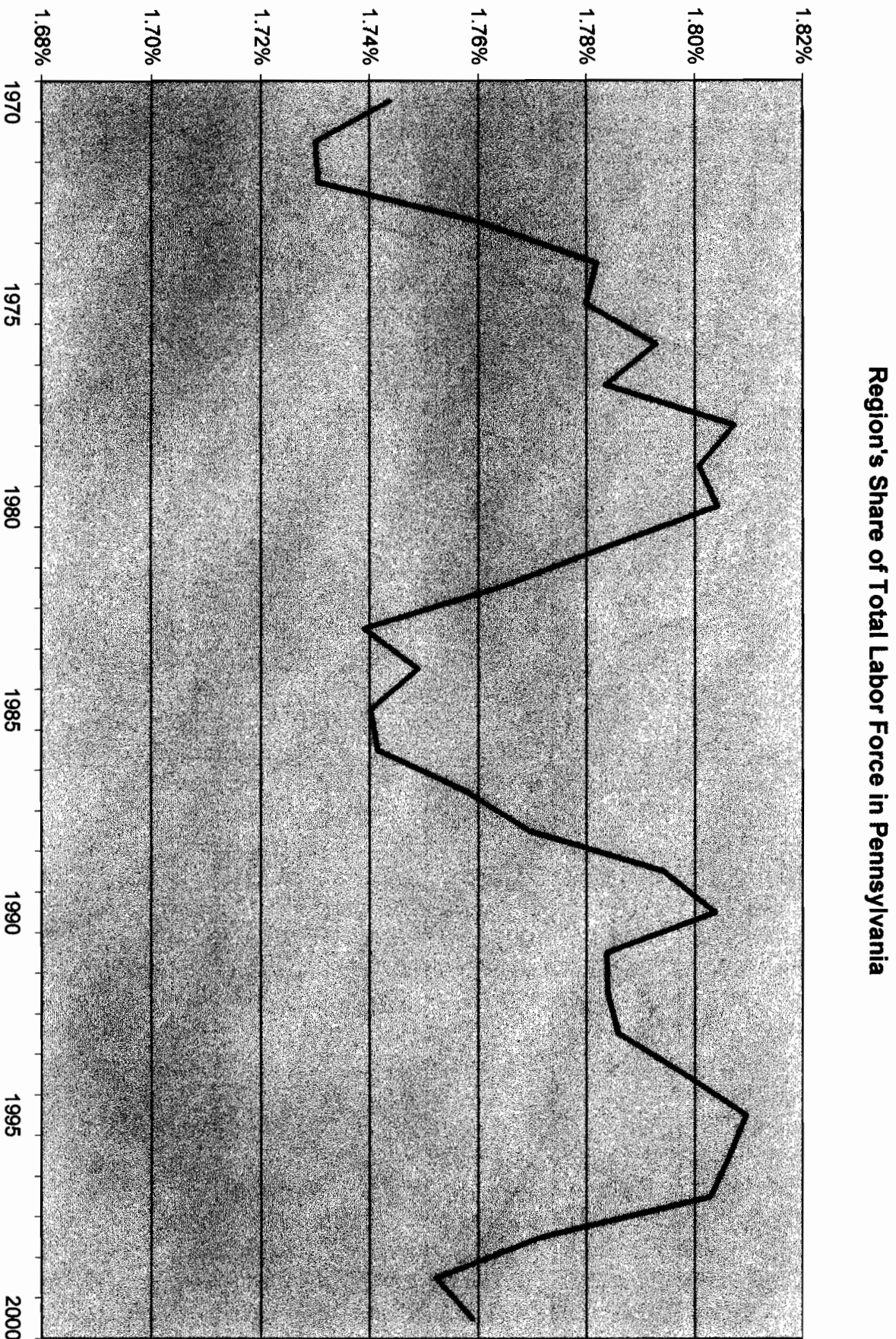
Region's Share of Total Earnings Across all Industries for Pennsylvania

Figure 2



Source: REIS data, 1970-2000
 Consumer Price Index from U.S. Bureau of Labor Statistics

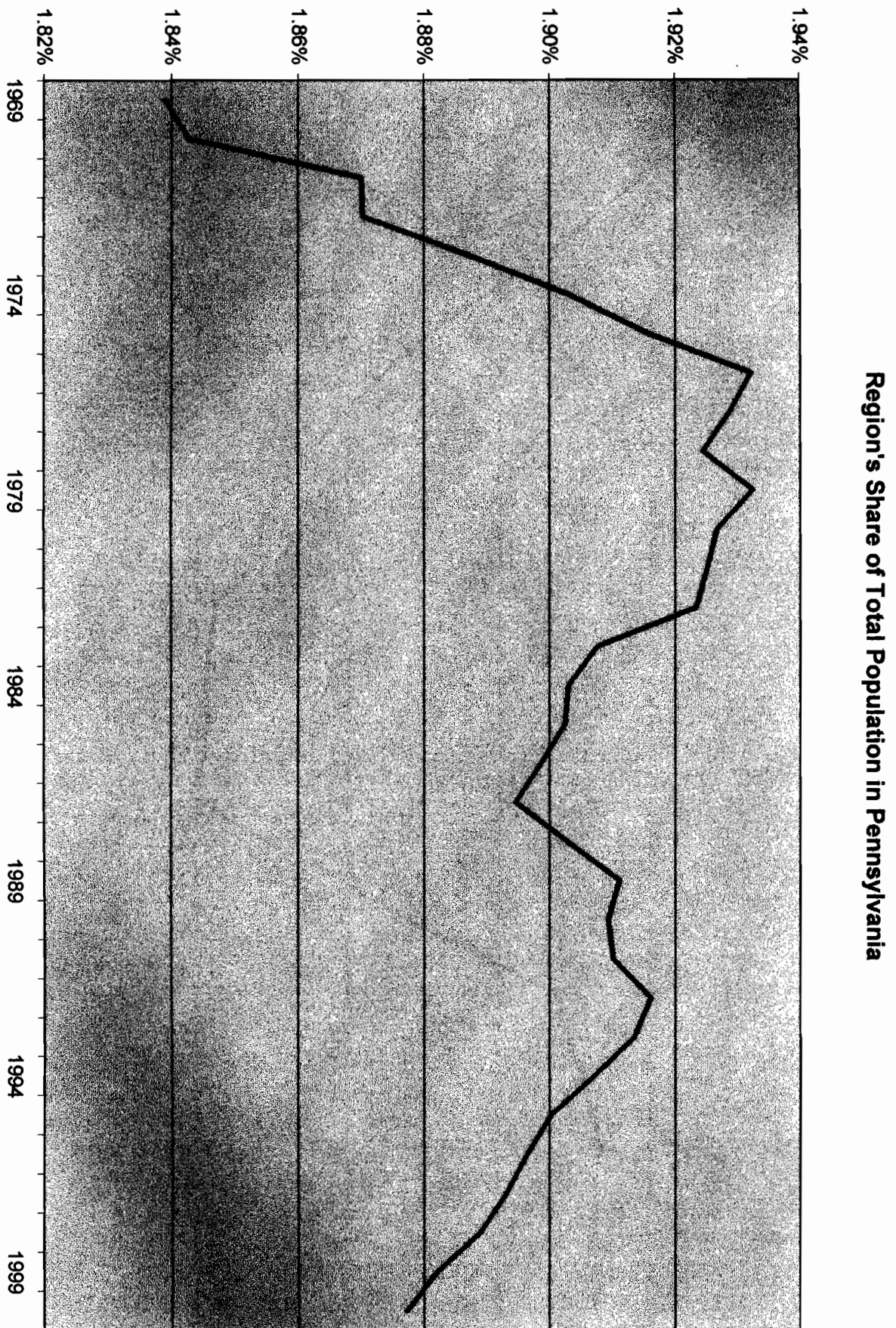
Figure 3



Source: REIS data, 1970-2000

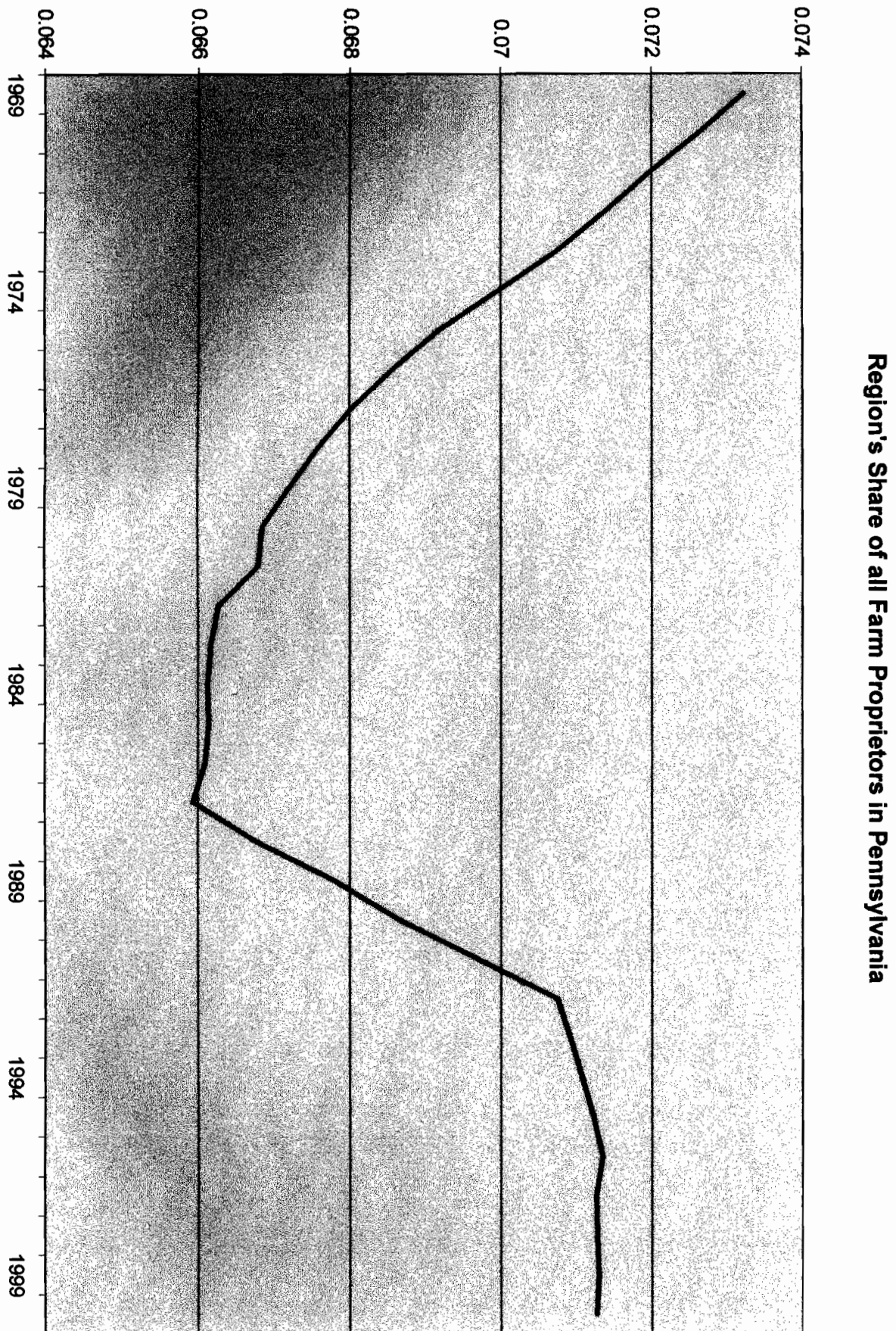
Unemployment rates from PALMIDS data, 1970-2000

Figure 4



Source: REIS data, 1969-2000

Figure 5



Source: REIS data, 1969-2000

Appendix 7