

**THE CHANGING U.S. ECONOMY:
WHAT DOES IT MEAN FOR OKLAHOMA?**

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Oklahoma Economic Forums
September 2005**

This evening I am going to be discussing changes in the U.S. labor market and the problems they pose for states like Oklahoma. As I was thinking about these problems, it became clear that creative solutions would be required. And that reminded me of a story I heard some years ago about a creative solution to a different labor market problem. For the bankers in the group, I might point out that this story came from Robert Clarke, who was Comptroller of the Currency back in the 1980s. One summer when he was in college, Clarke took a construction job. On his first day, the foreman called the entire crew over, all of whom were new like Clarke. The foreman wanted to show how tough he was, so he lined everybody up and told them, “The first thing I want you to know is that I can lick any man in my gang.” A big burly man who was about a hundred pounds heavier and a head taller than the foreman stepped forward and said, “You can’t lick me!” The foreman looked him over carefully, nodded agreement, and said, “You’re right. You’re fired!”

Tonight I want to focus on two changes that are expected to occur in U.S. labor markets in the years ahead. The first of these changes will be a sharp slowdown in the growth of the U.S. labor force—a slowdown due partly to the aging of the baby boomers and partly to a leveling off in labor force participation. I will argue that the states in the best position to deal with the coming worker shortage will be the ones that can either attract people from other states or draw more of their existing residents into the labor force. The second key change I will discuss

tonight is the growing demand for high skilled workers due to the spread of computers and information technology. This change has been going on for some time, but new approaches are now required due to the increased supply of highly skilled workers abroad. States such as Oklahoma will still need to upgrade their educational systems to meet the growing demand for highly skilled workers. But in the new global economy, it will be increasingly important to give workers the kinds of problem-solving and communication skills that will set them apart from lower-paid workers overseas.

Recent performance of the Oklahoma economy

Many of you will be mainly interested in the implications of these changes for Oklahoma. Keeping that in mind, I want to take a minute to talk about where the Oklahoma economy stands right now (Chart 1). As this chart shows, jobs have grown solidly in Oklahoma over the last year, just matching job growth in the nation as a whole. Oklahoma has also benefited from two developments that should boost job growth still further in the next year or two. The first of these developments is a sharp rise in oil and gas prices, which is stimulating energy activity in the state. The second development is the recently announced realignment of military bases, which will not only increase the number of military personnel in the state but also generate a substantial number of civilian jobs. It is important to note, however, that Oklahoma still has some ground to make up from the last recession. Because job growth was negative for so long, employment in the state is still down almost 1 percent from March 2001, the official beginning of the recession. In contrast, employment in the U.S. as a whole had returned to pre-recession levels by the beginning of the year.

While job growth is a key measure of a state's economic performance, growth in incomes is also important (Chart 2). This chart shows that median household income has been edging up in the state, even after adjusting for inflation. This performance compares favorably to the nation, where real median income has fallen since the beginning of the recession. Here again, though, the news is not all good, because median household incomes remain substantially lower in Oklahoma than in the U.S. The data in the chart are adjusted for inflation using the national consumer price index and thus do not take into account the lower cost of living in Oklahoma. However, the gap in household income between Oklahoma and the U.S. is too large to be explained entirely by this factor.

Will the U.S. and Oklahoma have enough workers?

Let me turn now to the two key questions I want to address tonight. First, will the U.S. and Oklahoma have enough workers? And second, will the U.S. and Oklahoma have the right *kinds* of workers

One reason economists have begun to worry whether there will be enough workers in the U.S. is that growth of the working-age population is projected to slow sharply (Chart 3). Two factors will contribute to this slowing. First is the aging of the baby boomers, who will be starting to retire in about five years. The second factor is the decline in fertility—the average number of children borne by each woman. To be sure, immigration will work in the opposite direction, boosting growth in the working age population. According to most projections, however, immigration will not be nearly big enough to prevent growth in the working-age population from slowing.

Another reason for worrying that there will be enough workers in the U.S. is that the percent of the working age population willing to work is expected to level off (Chart 4). The rate of participation in the labor force rose sharply from 1970 to 2000, due mainly to the entry of large numbers of women into the labor force. That process appears to have come to an end, however, suggesting the labor force participation rate will not rise any further.

Let me turn now to the situation facing Oklahoma. As the growth of the U.S. labor force slows, states with an ample supply of workers will clearly be at an advantage. Oklahoma could achieve such a position in one of two ways—its working age population could grow faster than in the nation, or its rate of labor force participation could rise more than in the nation.

Except during the energy boom of the 1970s, Oklahoma's working age population has actually grown slower than in the nation—quite a bit slower during the 1980s, and moderately slower during the 1990s (Chart 5). The Census Bureau recently projected that this gap in population growth would widen during the current decade. Specifically, Census predicted that the working age population would grow 12 percent in the U.S. during the current decade, but only 5 percent in Oklahoma.

The main reason the working age population has grown more slowly in Oklahoma than the nation is that the state has not had much success either attracting workers from other states or keeping its own workers at home (Chart 6). The two bars on the far left of the chart show that Oklahoma did receive a modest net inflow of people from other states during the second half of the 1990s—a period of strong economic growth. However, during the subsequent economic downturn, these inflows were reversed and Oklahoma lost workers to other states. From the chart, you can also see that the biggest reversal in migration was in Tulsa, where net inflows

were strongly positive in the late 1990s but significantly negative in the first four years of the current decade. In Oklahoma City, by contrast, net inflows remained moderately positive during both periods.

One factor that has helped make up for the lack of domestic in-migration has been an increase in immigration from abroad (Chart 7). These inflows increased sharply in Oklahoma during the 1990s, contributing more than twice as much to population growth during that decade as in the 1980s. However, immigration is still a less important source of population growth than in the nation as a whole. In the 1990s, for example, inflows of new immigrants boosted U.S. population growth by 5 percent but Oklahoma population growth by only 2 percent. Within the state, immigrants had the biggest impact in Oklahoma City, where they added about 3 ½ percentage points to population growth.

As we saw earlier, the Census Bureau predicts that the working age population will grow considerably slower in Oklahoma than the nation during the current decade, implying that net outflows of native workers will far outweigh inflows of immigrant workers. Does Oklahoma have any hope of defying this pessimistic prediction? In trying to attract workers, Oklahoma is obviously at a disadvantage compared to states such as Colorado or Arizona that have many natural amenities or a very favorable climate. However, the data suggest that domestic migrants do not just respond to amenities—they are also sensitive to job opportunities (Chart 8). For the period 1995-2000, this chart compares domestic migration in four different groups of metro areas. On the far left are metro areas that could have been expected to experience low job growth based on their industrial structure in 1995. On the far right are the metro areas that could have been expected to experience high job growth. As you can see, in-migration was

considerably higher in metro areas with high expected job growth than in areas with low expected job growth. Thus, if job creation in Oklahoma is strong, net inflows of workers will likely increase.

Besides attracting more people to the state, the other way Oklahoma could capitalize on the coming shortage of workers is by drawing a higher percentage of its working age population into labor force (Chart 9). This chart shows that labor force participation is about the same in Tulsa and Oklahoma City as in the nation. In these areas, therefore, there is probably not much potential to draw more people into the labor force. However, towns and rural areas in Oklahoma have labor force participation rates well below the national average for such areas. Thus, these areas have a pool of potential workers that could help them considerably in attracting outside firms that are having difficulty filling positions. The key challenge for Oklahoma's towns and rural areas will be to make sure that workers in these areas have the skills that potential employers need. That leads me to the second key question of my talk.

Will the U.S. and Oklahoma have the right kinds of workers?

Over the last 30 years, computers and information technology have changed the nature of work in the United States. In particular, the new technology has resulted in a "hollowing out" of the distribution of jobs across occupations (Chart 10). This chart groups occupations into seven broad categories, arranged from left to right in order of increasing pay. From 1969 to 1999, there was a marked decrease in the importance of middle-level blue-collar and clerical jobs. Some of these jobs were assembly line jobs that could be automated. Others were clerical jobs that could be reduced to a set of rules and programmed on the computer. At the same time that the middle-level jobs declined, jobs at the upper end of the pay scale increased. Some of these

jobs require high skill or education in order to work with computers. Others cannot be performed by computers because they involve face-to-face contact with customers or independent thinking.

Finally, despite the new technology, service jobs at the very bottom of the pay scale have also increased over the last 30 years. These are jobs that do not require much skill but must still be performed by humans because they cannot be easily automated—for example, janitorial and restaurant jobs.

We can also see the effect of computers and IT in the widening gap in wages between highly educated and poorly educated workers (Chart 11). Due to greater college and university enrollment, the supply of highly educated workers increased rapidly in the United States over the period shown in this chart. However, computers and IT increased the demand for such workers by an even greater amount. As a result, their real wages rose--both absolutely and relative to those of poorly educated workers.

We have seen that jobs requiring high levels of education have increased the most over the last 30 years. We have also seen that relative wages for highly educated workers have grown steadily over this period. Most experts predict that in the years ahead, information technology will not only improve but will be used more extensively by businesses. These facts would seem to suggest that the economy will prosper only if the supply of workers with college degrees and advanced degrees continues to grow.

However, one of the points I want to make this evening is that the country's educational needs are no longer so simple, due to fundamental changes in the global economy. We are seeing big increases in the supply of workers with college degrees or advanced degrees in the rest of world (Chart 12). In 2001, for example, the U.S. accounted for 14 percent of world

college enrollment, less than half its share of enrollment in 1970. Furthermore, many of these new workers are in countries such as China and India that have just recently entered the worldwide market. As a result, having a college degree in the U.S. or even an advanced degree is less of a guarantee of high-wage employment than it used to be.

What we need to do going forward is make sure that workers at *all* levels have the kinds of skills that allow them to do their jobs better than lower-paid workers overseas. In particular, we need to put more emphasis on problem-solving skills and communication skills—not just in our colleges and universities, but in our high schools and community colleges.

To give an example, a U.S. computer sciences graduate may not have any advantage over an Indian graduate in writing routine computer code. If properly trained, however, the U.S. worker could have a significant advantage over his Indian counterpart in designing new software or tailoring computer systems to the specific needs of business customers. Similarly, a blue-collar factor worker in the U.S. may have no advantage over a Chinese factory worker in producing standardized products on an assembly line. But if given the right skills by his local community college, that U.S. worker could have a big advantage over his Chinese counterpart in operating more sophisticated equipment—for example, a machine whose settings must be continually adjusted according to the needs of the customer.

What about Oklahoma—does it have the right kinds of workers going forward? One potential problem for the state is that it is lacking in highly educated workers—those with a college or advanced degree (Chart 13). At the time of the last Census, 22 percent of Oklahoma residents over age 25 had a college or advanced degree. That figure was a big improvement from 30 years ago, when only 10 percent of Oklahoma residents over age 25 had a college or

advanced degree. As of 2000, however, the share of people with a college or advanced degree was still several percentage points lower in Oklahoma than in the U.S. Looking at different areas within Oklahoma, you can see the state's non-metro areas have far fewer college graduates than the state's metro areas (Chart 14). However, you can also see that Oklahoma's non-metro areas have about the same share of college graduates as similar-size areas in the U.S., while Tulsa and Oklahoma City have a *lower* share of college graduates than similar-size areas in the U.S.

The low percentage of people in Oklahoma with at least a college degree is due partly to the “brain drain”—a problem faced by many states in the Great Plains (Chart 15). During the second half of the 1990s—the most recent period for which we have data—Oklahoma experienced a net *inflow* of people with less than a college degree. During the same period, however, the state experienced net *outflow* of people with a college or advanced degree.

In contrast to native workers moving to Oklahoma, new immigrants moving to the state have been concentrated at *both* ends of the educational spectrum—they have tended to be people with no high school degree or people with a college degree or more (Chart 16). Thus, immigration has had both a positive and negative effect on the educational composition of the Oklahoma workforce. On the positive side, immigration has partly offset the brain drain—the loss of highly educated native workers to other states. But on the negative side, immigration has reinforced the inflow of poorly educated native workers from other states, keeping the share of high school dropouts from falling as much as it otherwise would.

The below-average share of highly educated workers might seem to put Oklahoma at a disadvantage in competing for jobs. But as I suggested earlier, today's college graduates are less

assured of a high-paying job than they used to be because of the increase in highly educated workers in other countries. In this situation, a good strategy for a state like Oklahoma is to improve all levels of education, including its high schools and community colleges as well as its universities. If Oklahoma's blue collar and clerical workers are viewed as highly productive by firms outside the state, more firms will locate here. And if more firms locate in the state, more high-level jobs will be created for graduates of the state's colleges and professional schools. As that happens, the brain drain will slow and the share of people with college or advanced degrees will go up.

One way of appreciating the challenge faced by Oklahoma is to look at how wages and output per worker compare to the rest of the nation (Chart 17). The bars on the left of the chart show that average wages are considerably lower in Oklahoma than the U.S. A small part of this difference is due to the fact that Oklahoma has more workers in low-paying occupations—mainly in rural areas. Most of the difference, though, is due to workers in Oklahoma earning less than the workers in the same occupations nationwide. The low wages of Oklahoma workers should be a powerful incentive for firms to locate in the state. However, the bars on the right show that output per worker is also considerably lower in Oklahoma. Once again, some of this difference in output per worker is due to differences in industrial composition, but most is due to differences in output per worker in each industry.

Increasing output per worker is not an easy task. One factor that holds down productivity in states like Oklahoma is low population density and lack of very large cities. Research has shown that productivity tends to be higher in big cities than small cities. One possible reason is because it is easier for workers to find the jobs to which they are best suited in big cities.

Another possible reason is because it is easier for workers and firms to exchange information in big cities. There is not much a state can do to about a productivity gap due to population density, other than encouraging more in-migration. As I have suggested, however, a state like Oklahoma *can* increase the productivity of its workers in another important way—by upgrading the educational system. In that case, Oklahoma’s low wages would undoubtedly become much more of an attraction to prospective employers from outside the state.

Summary

Let me conclude by briefly summarizing my main points this evening. The Oklahoma economy has performed well during the last year, enjoying solid job growth and modest increases in household incomes. In the years ahead, Oklahoma will face two major challenges—ensuring that it has enough workers, and ensuring that it has the right kind of workers. Fortunately, Oklahoma has ways of meeting these challenges. The state can take advantage of the untapped pool of workers in its towns and rural areas. And the state can do a better job of educating its labor force, giving workers at all levels the kinds of skills that will make Oklahoma an attractive place for firms to do business.