



## Our Future in Manufacturing

I am delighted to help CAMP celebrate 20 years of excellence in promoting entrepreneurship, innovation and manufacturing solutions in our region. CAMP understands our region's history, and CAMP is working hard to help move us toward a future of new vitality and development.

A terrific example of that future focus can be found in CAMP's entrepreneurial assistance program, which is known as BUILD. As you may know, this acronym stands for Building Business through Innovation, Learning and Doing. It's a simple but very ingenious and practical idea - starting with innovation and then putting it to work for our benefit.

At the Federal Reserve Bank of Cleveland, our economic research staff and I spend a lot of time thinking about what factors drive economic growth and prosperity. This afternoon, I would like to share my thoughts on the importance of innovation in our changing world economy. First, I will discuss how innovation drives economic growth. Next, I will briefly discuss how innovation has been playing out in the manufacturing sector of our region. Finally, I will focus on how we might want to proceed to foster a growing regional economy.

### I. Innovation and Economic Growth

So let's begin with the role of innovation in driving economic growth. Sometimes it seems that the mantra for the so-called "new economy" is innovation. But doesn't this seem a bit redundant? After all, by definition, innovation means a "new thing." It goes without saying that the future health of our economy rests on our ability to innovate. But this need to innovate is not because we are living in a "new economy" today.

As long as commerce has existed, there has been innovation - there has been churning from the old to the new. You may have heard that process described as "creative destruction." This phrase was developed in the early part of the last century by a Harvard economist named Joseph Schumpeter. He argued that the ebb and flow of economic activity and employment are an integral - and indeed, necessary - part of growth. Productive resources are channeled into providing new goods and services that have higher value than the old.

Schumpeter defined a number of innovations that drive growth. They include the introduction of new products, new methods of production, and new trade relationships. He also cited the discovery of raw materials and the reorganization of business and economy

#### Additional Information

**Sandra Pianalto**

*President and CEO,  
Federal Reserve Bank of Cleveland*

**CAMP 20th Anniversary Open House**  
Cleveland, OH

*June 16, 2005*

activity. Through creative destruction, each innovation would be accompanied by temporary periods of job loss and business stress as the economic system was reconstructed to become more efficient. This idea of creative destruction spawned a whole line of study in economics known as "growth theory."

Growth theory made another great leap forward in the 1950s with the work of economist Robert Solow, who would go on to win a Nobel Prize. In one of his important studies, Solow concluded that nearly 90 percent of the rise in U.S. prosperity during the first half of the twentieth century came from technological growth, and not, as most economists had assumed, from the mere accumulation of machinery.

So the evolution we are seeing today is nothing new. We see old plants closing and new plants opening at the same time, in periods of both expansion and recession. We see old occupations dying out and new occupations born to take their place. The new jobs come from innovation. But we will experience growing pains as many jobs, and even firms, become obsolete.

While innovation leads to higher growth, higher growth will lead to more innovation, and so on. The forces that drive innovation are not necessarily random events. They are driven by the need to be competitive. That is true today, just as it was fifty, a hundred, or a thousand years ago.

## II. Manufacturing and the Regional Economy

Today, both the national and the regional economy are trying to remain competitive in the face of rapid technological changes and globalization. So how is Ohio faring compared with the nation?

On a national basis, we know that our economy has been expanding for the past 3-1/2 years. We still see a few unusual trends in this expansion: namely, weak employment growth, strong productivity growth, and higher energy prices. But the underlying fundamentals are strong nationwide - low interest rates, low inflation, robust productivity growth, and strong business balance sheets. Good news?

You bet, and I expect the national economy to continue to grow through the remainder of this year and beyond.

Unfortunately, though, Ohio's economy has been lagging somewhat behind the national economy. For example, since the spring of 2001, Ohio has had one of the weakest employment performances of the 50 states. We have lost roughly 3 percent of our workforce. Our unemployment rate remains stuck at around 6 percent, even though the national rate has fallen to just over 5 percent.

Some people might link this performance to the manufacturing sector. After all, manufacturing employment has been hit hard across the nation, and 15 percent of Ohio's workforce is engaged in manufacturing compared with only 11 percent for the nation as a whole. However, research shows that the job losses in Ohio have been broad-based. They have affected manufacturers and non-manufacturers alike. This finding runs counter to the conventional wisdom, which points to manufacturing's decline as the root of the problem.

So what exactly does account for these broad-based job losses? Although Ohio's economy has its good points - for example, strong productivity growth and a large number of firms and skilled workers - our state also has some shortcomings. Most notably, we have a very low rate of business startups and an erosion in the number of patents being granted here.

There are some surprises, too. There is a popular perception that Ohio has had a larger-than-normal share of plant closings, but preliminary research at the Federal Reserve Bank of Cleveland shows that the proportion of Ohio plants that close each year is actually 25 percent lower than the national average. Unfortunately, though, our rate of plant openings is also well below the national average - about 20 percent below. The story is similar from the employment perspective. We are losing jobs from manufacturing plants at a slower pace than the nation, but we are also gaining new jobs from manufacturing plants at a slower pace.

The big picture here seems to be that Ohio's economy is less dynamic -- that is, it shows less creative destruction -- than other states. This by itself would not be a problem, except for one important detail: States with the healthiest economies are more dynamic. Fast-growing states not only have a relatively high rate of plant openings, but they also have a relatively high rate of plant closings. Why is this important?

Well, since the days of the Industrial Revolution, businesses and workers have been affected by the opening of new markets, new products, organizational developments, and new manufacturing techniques. Again, through creative destruction, new economic relationships are forged from existing ones. This process is not necessarily smooth or painless. Productive resources in the form of labor, capital, and entrepreneurial talent have to move from declining industries to expanding ones.

History shows that ignoring the tides of change can have painful consequences. Consider the example of the steam locomotive industry. Diesel-electric locomotives are more powerful, fuel efficient, and cheaper to operate and maintain. None of these advantages was crystal clear in the 1920s when diesel-electric locomotives first made their appearance, so the dominant makers of steam locomotives felt secure in ignoring the innovation. As a result, none of them ultimately survived the transition to the new technology.

How many outdated technologies are we holding onto for a little too long today? What examples will my successors be using as they talk about the tides of change that occurred in the early 21st century?

It's important to note that even though individual firms lose out, and whole occupations and industries can disappear, the end result is often beneficial. Think about refrigeration. For years, Sandusky, Ohio, was the center of a thriving ice industry, but electricity and reliable, inexpensive compressors put an end to the jobs for ice harvesters, warehousemen, and your friendly neighborhood iceman. In their place, jobs were created for factory workers, retailers, and refrigerator repairmen. More important, consumers gained a new era of convenience. They were able to enjoy a much greater variety of foods year-round and suffered from many fewer cases of illness from food going bad.

### **III. Steps We Can Take to Foster a Growing Regional Economy**

So where does this discussion bring us in terms of practical steps we can take now to foster a growing regional economy for the future? In considering the health of Ohio's manufacturing sector, I think it is time to stop focusing on short-run job losses, as difficult as they are. We must start focusing more on the long-run adaptability of our businesses and our capacity to grow new ones. The jobs will follow.

To remain competitive, manufacturers must not only pursue cost-cutting methods, but also add technology and innovations to their products that add value for their customers. Sometimes these innovations can be very sophisticated - for example, a computer chip manufacturer that designs and produces customized chips, or an equipment manufacturer that provides online training on how to use its products - but sometimes they are as simple as packaging your product in a more consumer-friendly way.

To invigorate new business start-ups and expansions in our region, we need to engage many different groups in the process - government, business experts, educators, and investors. Just last week, I met with several "angel investors" in the Northeast Ohio area who have set their sights on growing new businesses. The Federal Reserve Bank of Cleveland organized a partnership with a few other Reserve Banks to hold focus groups with angel investors in different parts of the country to learn more about where angels invest and why. We hope to learn some things that will help us put more creativity in the creative destruction process.

As part of its "Manufacturing Roadmap" project, CAMP looked for relatively successful firms in Northeast Ohio within some of the hard-hit manufacturing industries. I hope to learn from the Roadmap project what these firms have done over the past five years to outperform others when times were tough in their respective industries. We need to shift the focus from preserving the past to creating the future. The best defense really is a good offense, not just more defense.

On a broader level, we would also like to know what our public policymakers can do to help our region become more competitive and more innovative. One of the largest contributing factors to becoming more innovative and adaptable is improving the level of educational attainment among our citizens. Business leaders and educators should join forces to better understand the role of education in providing the raw material for future innovation. We must also remain open to new ideas that support business formation and expansion.

## Conclusion

For our region to compete in today's global economy, I think that we must shift economic development thinking to focus on innovations, especially within our manufacturing community. I am happy to be here at CAMP's anniversary celebration, because CAMP has focused for the past 20 years on helping manufacturers innovate. Everyone gains from efforts like these.