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Jeffrey M. Lacker
President
Federal Reserve Bank of Richmond

Manufacturing in the New Southern Economy
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Thank you for inviting me to speak with you today. The focus of this gathering ─ manufacturing in the economies of the American South ─ is a timely one, and well-deserves the attention of senior policy makers. Manufacturing has been one of the few bright spots in an otherwise lackluster economic recovery, and understanding what has driven that performance can suggest promising directions in public policy. Beyond purely cyclical considerations, however, the longer-term evolution of manufacturing industries has played ─ and is likely to continue to play ─ a vital role in the growth of living standards over time. I therefore commend Governors Barbour, Haslam, McDonnell and Perdue for their attention to this important subject.

In my remarks this morning, I want to provide you with an overview of the evolution of manufacturing in the South. My theme will be the role of comparative advantage. Indeed, it would be hard to make progress thinking about the geographic distribution of manufacturing, or any other economic activity for that matter, without it. Viewed through the lens of comparative advantage, the story of manufacturing in the South has two central threads ─ the migration of low-skilled jobs overseas and the growing need for higher-skilled workers. The main message for policymakers is to think very carefully about the sources of comparative advantage and how they change over time. In particular, if the comparative advantage of Southern and U.S. manufacturing in the global marketplace rests increasingly on technical expertise and skills, then a first-order policy issue for the future is how to facilitate people's investments in human capital. This has implications for, among other things, the full spectrum of educational policies, from early childhood through secondary education to vocational and higher education.

A Bright Spot in the Economy

To set the stage for my overview, I want to briefly review current economic conditions. I would like to emphasize that these remarks are my own and the views expressed are not necessarily shared by my colleagues in the Federal Reserve System.[1] The U.S. economy is now about two years into its recovery from the Great Recession of 2008-2009. The popular narrative is that the recession was caused by the abrupt reversal of the boom in home prices and home construction that had consumed much of the previous decade. While the decline in residential construction and related sectors was pronounced, the economic downturn did not become widespread and severe until late in 2008, when financial turmoil and policy responses dramatically heightened uncertainty and brought discretionary spending by businesses and consumers to a screeching

halt. A notable feature of the worsening of the recession in late 2008 was the sharp collapse of worldwide trade in manufactured goods.

The recovery that began in the second half of 2009 has been patchy and has yet to produce a sustained period of above-trend growth. While 2010 ended with renewed strength in household spending, that strength abated early this year. Although the factors affecting the first quarter slowdown ─ including high energy prices, bad weather and natural disasters around the globe ─ may prove temporary, the inability so far of the expansion to gain more traction has been frustrating.

One bright spot since the end of the recession, perhaps surprisingly, has been manufacturing. I say surprisingly because manufacturing was not a particular source of strength in the preceding expansion. The average growth rate of industrial production in the manufacturing sector in this recovery has been over 6 percent per year, compared to less than 3 percent from 2002 through 2007. Employment tends to grow much more slowly than output in manufacturing, reflecting the ongoing gains in worker productivity that result from new capital equipment and improved production processes. Thus manufacturing employment has grown at a 1-½ percent annual rate in this recovery, but actually declined at a 2 percent annual rate from 2002 through 2007.

A common theme in manufacturing over the last decade ─ both in the South and in the U.S.─ has been the movement of lower-skill production operations overseas to countries with lower real labor costs. This transition has had a particularly strong effect in some of the industries that were traditionally prominent on the landscape of southern manufacturing, such as furniture, apparel and textiles.

The beneficiaries of that movement were countries such as China and India, which were transitioning from rural economies to more modern, industrial ones. Their comparative advantage rests on the large workforces that have yet to benefit from the application of modern capital goods. The fact that the relevant alternative use of those workers is in relatively low-productivity agricultural activities pins down their real wage at fairly low rates. As these economies move people from agricultural to manufacturing sectors, their demand for more sophisticated manufactured capital equipment rises. Some developed economies, most notably Germany's, have long specialized in the export of such technology and other skill-intensive goods. A portion of the rebound in U.S. manufacturing since the recession appears to be concentrated in the capital goods segment of the industry as well. Domestic U.S. demand for capital equipment also has been robust, driven by firms finding ways to streamline business processes and reduce costs through productivity-enhancing investments.

Employment and output trends in U.S. manufacturing over the last decade are consistent with an economy that is increasingly becoming a supplier of higher cost, high-tech goods. Ten years of declining manufacturing employment, as output continued to rise, suggest a transition to less labor-intensive production. This relatively greater use of capital and technology in production also shows through to the relative demand for different skill sets in the labor force. The widening of the wage inequality gap in the U.S. over the last thirty years has been linked in part by many observers to the adoption of technology that favors higher-skilled workers.[2] While the adjustments brought about by these trends have been difficult for many firms, workers and

communities, the transition of U.S. manufacturing ultimately places it in a better position for the years ahead.

The Evolution of Manufacturing in the South

The last 50 years has seen a widely documented shift of population to the South.[3] As a region, Southern population has more than doubled, and its growth rate on average has been about 30 percent faster than the nation as a whole. Not surprisingly, total employment in the region has closely followed suit, also more than doubling and averaging about 35 percent faster growth than the nation over the same period. Clearly, people have been drawn to the region for a variety of reasons, including retirement (thanks to the spread of air conditioning) and job opportunities. The in-migration of jobs has in part reflected the South's historic comparative advantage in low-cost labor, relative to manufacturing regions in the Northeast and Midwest. This advantage resulted in part from the South's later transition from an agrarian to a more industrial economy and in part from the smaller role of organized labor in Southern factories. The South's gains in manufacturing jobs over this period thus mirrored the more recent loss of jobs to overseas manufacturers, as illustrated strikingly by the life cycle of the textile industry, which was lured from New England, which had previously lured it from the United Kingdom.

Many of the waves of new jobs coming to the South have tended to require more skill and have tended to pay commensurately higher wage rates. For example, in the last few decades several auto assembly plants have been built in the South, giving rise to a network of supply firms located in close proximity. Many foreign-based auto manufacturers have built plants in the U.S. because the costs associated with importing cars made abroad often outweigh the advantages of lower-cost foreign labor. The South has been able to compete successfully against other regions within the U.S. for auto assembly plants. Even though these plants pay well below the national average for the industry, they still pay well above the average wage of the "old" manufacturing jobs that remain in the region and are helping to narrow the gap in per capita income that continues to persist in the region relative to the national average.

The story is similar for other new manufacturing industries, such as aerospace and pharmaceuticals. In many cases, it appears as if the attractiveness of locating manufacturing facilities within the U.S. is less about shipping costs and more about the advantages of geographic proximity to the scientific and engineering expertise that is essential to managing and advancing innovative production processes. The common feature, however, is that employers at these new manufacturing operations are looking for skills that are a step above those of the typical textile or furniture worker.

Eventually, these new jobs may leave too, as wages rise in the South, production processes become more standardized, and manufacturers find less expensive locations for their plants abroad (much like that of the textile and apparel industries). But we should view this as a continuous process of simultaneous gains and losses, with opportunities opening up requiring higher skills as low-skill jobs are lost. Over time, the average skill of the workforce rises, and incomes increase commensurately. Two key necessities for continuing this process are the application of more physical capital, including equipment and software, and improvements in human capital ─ the knowledge, aptitude and skills of workers.

Manufacturing: Its Influence on Future Economic Policy

As I mentioned earlier, this last recession was severe across industries and regions, and the recovery to date has been tepid at best. The South has been no exception. Indeed, during the contraction in employment from the end of 2007 through early 2010, total nonfarm employment in the South declined by 7 percent. In manufacturing, which is notoriously more cyclical than most other industries, employment fell 16-½ percent over the same period. Moreover, the region's employment declines were actually worse than the nation's as a whole: Total U.S. employment declined 5-¾ percent and manufacturing employment declined 15-½ percent. In fact, there is a tendency for states with the highest concentration of manufacturing to also have experienced the deepest declines in total employment during the recession.

As is often the case, however, the deeper the decline, the stronger the recovery, and that has been true for virtually every state in the South over this business cycle. Most Southern states have been adding jobs more rapidly than the rest of the country, both in manufacturing and overall. The recovery is still relatively young and the story is not over yet, but the data thus far suggest that the secular shift in manufacturing activity to the South continues.

Differences across states in the severity of the recession also have meant differences in the severity of the fiscal strains that state and local governments have experienced. From this point of view, manufacturing might appear to be a double-edged sword ─ it may mean good jobs, but also more volatile employment and income. The fact that manufacturing has declined over time, both as a share of employment and as a share of gross state product, has meant that its contribution to changes over the cycle has diminished over time. On the other hand, the composition of manufacturing in the South has shifted toward more cyclical sensitivity. A broad fact is that consumption expenditures tend to be significantly more stable than investment expenditures, including spending on durable consumer goods such as automobiles. Indeed, virtually all of the states in the South that are associated with the expansion of the region's automotive industry (Alabama, North Carolina, Tennessee and Kentucky) experienced significantly more severe declines in both total and manufacturing employment than the nation as a whole. Thus the shift toward production of autos and capital goods is going to increase the cyclical sensitivity of state and local finances.

As always, one should be alert to the possibility that this recovery may turn out to be qualitatively different from other recoveries. One striking observation that may be relevant to the possibility that growth underperforms for a sustained period is the apparent reluctance of many employers to add workers in the face of rising demand. As we talk with manufacturers across the Richmond Fed's District, we are hearing again and again that manufacturers are determined to keep their head count down as much as possible, whether through increasing productivity or extending hours or just working harder. Even where manufacturers are seeing increasing orders, their uncertainty about the strength and sustainability of this recovery as well as the future regulatory and tax environment appears to be holding them back from hiring.

As an aside, I should take a minute to talk about the effect of global trade on the South. In my view, the South is a major beneficiary of globalization. Economists are always touting the advantages of free trade ─ and admittedly there will be winners and losers in the process. When Southern manufacturers were concentrated in low-skill industries like textiles and apparel, their

support for free trade was limited by the perception that import competition would erode their comparative advantage. But the new industries of the South, like autos, aerospace and pharmaceuticals, are exporting around the world. The South is also a heavy exporter of basic commodities, such as coal and agricultural products, and our ports are now jammed with these goods headed to all parts of the world. Demand for these products has benefitted from the rapid growth in emerging markets that I discussed earlier. Certainly global competition has eaten into demand for low-skill manufactured goods like textiles and furniture, but the benefits of open global trade for higher-skill, higher-wage industries remain quite positive for the South.

Looking past this recovery, prospects for manufacturing in the South look promising. The transition to modern industrial growth in emerging markets is far from complete, so the demand for our more advanced manufactured goods is likely to continue for some time. Opportunities should continue to emerge to reduce costs and improve business processes through new capital outlays. Growth is likely in industries where the value of proximity to U.S. markets outweighs any wage cost disadvantage, such as the auto and auto supply sector. In addition, it makes sense to look for growth in areas where proximity to a critical mass of scientific and engineering know-how is important. Manufacturing growth is likely to be relatively capital-intensive and require workers with different skills than those displaced by the movement of low-skill jobs overseas.

Economic Vitality Depends on Skilled Workers

What can policymakers take away from these perspectives on manufacturing in the South? The paramount importance of human capital is a commonplace formula, but one worth repeating nonetheless. Over time, our ability to sustain a comparative advantage in relatively more skill-intensive manufacturing will depend critically on our ability to create and learn new skills. But the wide variety of skills that people bring to bear on production and investment processes suggests that policymakers pay close attention to the precise type of human capital investments that will add the most value. The advanced research conducted in universities and other research organizations plays an essential role in the process of developing new technologies and applying them. But often, substantial further work is required to translate the pure science generated in such settings into usable industrial applications. Moreover, innovative manufacturing processes often require new skills in the workers responsible for operating those processes.

The presumption often is that greater investment in formal education, higher education in particular, is the best way for people to enhance human capital. This is certainly true up to a point; higher education provides the opportunity to build the general skills of judgment that are applicable in a wide range of job settings. But it is also the case that more specialized, vocational training can build skills that are valuable in modern manufacturing. The broad emphasis on formal higher education thus can obscure recognition of the value of more targeted approaches to human capital.

I'd like to note one further observation. In planning public sector investments in human capital, policymakers should strive for balance across investments that pay off in the short run and those benefits that accrue over the longer term. For example, investment in early childhood education is an area where research suggests substantial social returns over several decades.

The final thought I will leave you with is that, while the South is a place, its future lies in its people. The ability to sustain a vibrant manufacturing sector and reap the benefits it provides for a thriving economy depends on the investments we can foster in the people of the South.

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[1] I am grateful to John Weinberg for assistance in preparing this speech.
[2] See, for instance, Hornstein, Krusell and Violante, "The Effects of Technical Change on Labor Market Inequalities," Federal Reserve Bank of Richmond Working Paper No. 04-8, December 2004.
[3] For all of these statistics, "the South" consists of Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North and South Carolina, Tennessee, Virginia and West Virginia.