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THE FUTURE OF JOBS IN AMERICA

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SUMMARY

The future of American jobs is not in manufacturing it is in innovation. This is obvious from looking at where job creation is concentrated today. U.S. counties that have been doing well over the past two decades have two things in common: a highly educated labor force and innovative employers. Counties with many highly educated workers and innovative employers create more jobs for less educated workers. Today, the best way for a county to generate jobs for its less educated residents is to attract innovative companies – such as technology firms – that employ the highly educated.

The U.S. labor market is finally emerging from a long and painful period of high unemployment and negative job growth. But the recovery is geographically uneven. While some parts of the country are booming, others – and among them, many parts of rural America – are still characterized by weak or declining labor markets.

There is a lot of discussion about the future of American workers and what to do to stimulate job creation in depressed areas of the country. Many pundits are predicting that the resurgence of the industrial sector will restore blue collar America to its past glories. The media are full of front page stories about American companies bringing factories back to the U.S. from countries like Mexico or China. Unfortunately, the data tell us a different story. The reality is that while manufacturing employment increased modestly over the last two years, it was only after thirty years of steep and consistent declines. American factories lost on average 370,000 blue collar positions per year since 1980. This decline – driven by globalization and automation – is likely to continue in the foreseeable future. And even when manufacturing employment is not shrinking, the types of jobs created are less and less in production, and more and more jobs that require master degree in engineering or other forms of specialized education.

The future of American jobs is not in manufacturing it is in innovation. This is obvious from looking at where job creation is concentrated today. The economic map of America does not show just one country. It shows three increasingly different countries. At one extreme are America's brain hubs – cities like Seattle, Raleigh-Durham, Austin, Boston, New York, and Washington DC – with a thriving innovation-driven economy and a

labor force among the most creative and best paid on the planet. The most striking example is San Francisco, where the labor market for tech workers is the strongest it has been in a decade. At the other extreme are cities once dominated by traditional manufacturing – Detroit, Flint, Cleveland – with shrinking labor force and salaries. In the middle there is the rest of America, including much of rural America, apparently undecided on which direction to take.

Historically, there have always been prosperous communities and struggling communities. But the difference was small until the 1980s, and has been growing dramatically since then. In 1980, the salary of a college educated worker in Austin was lower than in Flint. Today it is 45 percent higher in Austin, and the gap keeps expanding with every passing year. The gap for workers with a high school degree is a staggering 70 percent. It is not that workers in Austin have higher IQs than those in Flint, or work harder. The ecosystem that surrounds them is different.

The growing economic divide between American communities – arguably one of the most important developments in the history of the United States of the past half a century – is not an accident, but it reflects a structural change in the American economy. It has its origins in the 1980s, when American cities started to be increasingly defined by their residents' levels of education. Counties with many college-educated workers and innovative employers started attracting even more, and counties with a less educated workforce and less innovative employers started losing ground. It is a tipping-point dynamic: once a county attracts some innovative workers and companies, its economy changes in ways that make it even more attractive to other innovative workers and companies.

Forty years ago, the best predictor of a community's economic success was physical capital (e.g.: factories) and physical infrastructure (e.g.: roads and railways). Workers in Flint and Detroit were among the most

productive – and best paid – in the country because they had access to the most advanced machines. With the shift from a labor force centered on the production of manufacturing goods to a labor force centered on the production of innovation and knowledge, this has changed. Today, the best predictor of a community's economic success is human capital, and in particular the share of local workers with a college degree in the community.

Unfortunately, these trends pose a major challenge for economic development of rural communities. On average, workers in rural counties have significantly lower levels of educatio n than workers in urban counties. Moreover, the urban-rural gap in education is not narrowing, because average schooling has been growing at a faster pace in urban counties. Education and skills in rural communities are lagging both because of supply factors and demand factors. On the supply side, rural counties have fewer institutions of higher education – colleges and community colleges – per capita than urban counties. On the demand side, salaries for college graduates tend to be lower in rural communities, further lowering the attractiveness to college graduates of rural counties.

Given this picture, it is clear that it would be in the interest of counties and states to increase investment in education of their workforce. Currently, states spend 80 billion dollars annually for regional economic development of distressed areas. Much of the money is spent trying to attract outside investment – mostly manufacturing establishments – to distressed areas. Virtually every time a company announces plans for a large production facility somewhere in the United States, the bidding begins. States compete aggressively by offering larger and larger enticements in the form of tax breaks, subsidized loans, local infrastructure, export assistance and financing, workforce training, and area marketing. Relative to current policies, investing in the education of residents is likely to have a higher rate of economic return and to be a more effective use of taxpayer money.

It is important to realize that a well-educated labor force in a community is important not only because workers with high levels of schooling tend to do better in the labor market. It is also important because less educated workers in communities with high levels of education tend to have better jobs and higher wages than less educated workers in communities with low levels of education.

My research shows that attracting highly educated residents to a community triggers a multiplier effect, increasing employment and salaries for those who provide local services (Moretti, 2012). Using data on 9 million workers, I find that for each new college level job in the innovation sector in a county, five additional jobs are ultimately created outside of the innovation sector in that county, both in occupations that require a college education (lawyers, teachers, nurses) and in those that don't (waiters, hairdressers, plumbers, carpenters). Remarkably, the most important effect of high tech companies on the local economy is outside high tech. Apple employs 13,000 workers in Cupertino. Through the multiplier effect, however, the company generates more than 65,000 additional service jobs in the region, of which 26,000 are for workers with a college degree, and 39,000 are for less educated workers. Most sectors of our economy have a multiplier effect, but the innovation sector has the largest multiplier of all.

Manufacturing also has a multiplier effect, but it is much smaller. My analysis indicates that attracting one job in traditional manufacturing generates 1.6 additional local service jobs – less than a third of the corresponding figure for high tech. Ron Bloom, President Obama's former manufacturing czar, liked to say, "If you get an auto assembly plant, Walmart follows; if you get a Walmart, an auto assembly plant does not follow." He is correct: the manufacturing sector does generate local service jobs too, and this is a major benefit for communities. But he misses the fact that if a community were to attract a high tech company of similar size, the effect on job creation in the service sector would be even larger. Not only would it create three times as many jobs, but those would be better paying than Walmart jobs.

In my research, I also found that there is a strong relationship between productivity and salaries of high school graduates in each county and the fraction of workers with a college education in that county (Moretti, 2004). The economic effect is quite large. The earnings of a worker with a high school education rise by about seven percent as the share of college graduates in his county increases by 10 percent. For example, the average salary of a worker with a high school education in Raleigh, Seattle, or Minneapolis, where 40-43 percent of residents are college graduates, tends to be seven to eight percent higher than in Miami, Santa Barbara, or Salt Lake City, where only 30 percent of residents are college graduates. Thus, a worker's education has an effect not just on her own salary but also on the entire community around her.

Overall, the regions of America that have been doing well over the past decade have two things in common: a highly educated labor force and innovative employers. Counties with many highly educated workers and innovative employers support more jobs for less educated workers, and less educated workers in those counties tend to be more productive and therefore better paid. Today, the best way for a county to generate jobs for its less educated residents is to attract innovative companies – such as technology firms – that employ the highly educated. The average American worker will never be employed by Apple or Google. But our jobs increasingly depend on education and innovation.

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