THE TECHNOLOGY COMMERCIALIZATION TASK FORCE OF THE ECONOMIC DEVELOPMENT COUNCIL
FEDERAL RESERVE BANK OF CHICAGO

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An Assessment of the Promise of Technology Related Growth

It is my pleasure to welcome you to today's forum. This forum series was organized to investigate the role that emerging technologies might play in Chicago and Midwest growth and development. I believe that it is important to have such discussions on an ongoing basis among the community's business, civic, and public policy leaders.

Like many communities and regions, Chicago and the Midwest must continually re-invent themselves if they are to sustain their high standard of living and their size and importance. Though change is inevitable, growth is optional.

Chicago has reinvented itself repeatedly from the time of its inception in the 1830s. The original settlement first proclaimed itself, perhaps prematurely, to be an important port city on the Great Lakes. Then it became an important gateway city to the West, supplying settlers with lumber and farm machinery from the East. With the growth of the railroads, Chicago became a distribution center for Midwest agricultural products going back East. Later, Chicago remade itself once again into a premier manufacturing and financial center.

Today, Chicago continues to refashion itself for the global and information economy. No longer having industrial production as its dominant activity, it is now a learning city, a business meeting center for the nation and the world, a corporate headquarters for the midcontinent, and a business service city that sells to the broader Midwest region, to the nation, and to global markets.

But are these enough to see us through? More to today's point, can a focused attention on emerging technologies and associated new firm creation contribute in a positive way to Chicago's future? And if so, how?

For some cities and regions, such as San Francisco, Seattle, Boston, and Austin, Texas, companies and industry sectors centered on emerging technologies have contributed in a large way to revitalizing the local economy.

As we reviewed at our last meeting on March 22, many recent reports on the Chicago region show it to be an important player in these high tech activities. Yet the size of these sectors here are somewhat small in comparison to Chicago's size as a region. In some instances, especially in biomedical science, Chicago's degree of new firm formation appears undersized compared to the significant research and development dollars flowing to the region's universities, hospitals, and federal laboratories.

If the potential for technology-driven growth here in Chicago is large, or at least plausible, what efforts from the public sector and from the private sector can help bring about its full development?

Evidence shows that technology companies tend to grow and perpetuate in what are called "economic clusters." Clusters are groups of like-minded firms located where existing conditions are conducive to building new firms and regenerating economic activity in a specific industry.

These conditions tend to be strong and mutually reinforcing. Once in place, clusters are often difficult to weaken through neglect and even over-taxation. Rather, they just keep growing. On the other hand, clusters take a long time to develop and are very difficult to put in place in just the right shape and proportion.

What are some of the specific characteristics of successful economic clusters? For one, a hallmark of many technology clusters is an existing density of similar firms and workers with specific skills. Once such a cluster exists, as with our financial risk exchange markets here in Chicago, it is somewhat resistant to competitive entry and even miscues by local companies. This is partly because there is depth in the market for specialized workers in cluster markets. By working in the cluster, the skilled worker gains both job security and the chance for career advancement at a group of firms. Some of these workers even go on to be entrepreneurs themselves.

And from the cluster firm's perspective, the ability to hire skilled workers quickly and at a reasonable cost when a growth opportunity emerges is critical to success.

The presence of key business service activities—especially a venture capital community—are also cited as important. So too is the proximity of other like-minded firms. Potential start-ups must choose to locate in the cluster because it is there that the "ideas are in the air." To be elsewhere might mean missing out on an emerging technology or key industry direction.

In our Midwest Federal Reserve District, the auto industry in the Detroit metropolitan area closely defines such a cluster, especially in automotive design and research. Every major auto producer from throughout the world maintains important design and R&D centers there, even though most foreign auto firms have largely chosen to locate production operations outside of the state of Michigan.

If such conditions do describe a cluster, what public policies or cooperative private sector strategies can bring them about? Clearly, the depth of such investment required to bring about the large scale and deep density of this activity possibly suggests a very large commitment of resources.

And if such large investments are to be made, how can we know if the specific technology direction is a winner or a loser for a metropolitan area? Picking winners and losers has not historically been a direction in which local governments—or any other governments—have been successful.

For this reason, it is important for us today to learn which efforts have succeeded and which have failed, and why. In what ways are these experiences relevant to the Chicago business climate and industry base, and how should they be adapted? Did successful clusters create wholly new industries, or did existing industries benefit from the transfer of technology between participating firms? Perhaps the most promising avenues of technology transfer may be toward existing companies and industry strengths rather than toward the emerging growth engines elsewhere.

To address these many questions, we have gathered experts from several perspectives and backgrounds. First, we will hear from Susan Walcott, from Georgia State University, who has studied the experiences of both successes and failures of biotech-led development in the South, in San Diego, and in nearby Indianapolis. Most recently, she has been learning about industrial park initiatives in China, so she also brings an important global perspective to our forum.

We are also pleased to have Diane Palmintera, a consultant to regions and communities in the areas of technology transfer to companies and in the formation of new firms. Diane is currently working on a report on these subjects for the state of Connecticut.

From the private sector, we are pleased to welcome Dan Broderick, one of the Midwest's own in the biomedical and venture capital communities. Dan will suggest to us how he believes the unique conditions of the Midwest might be successfully gathered and refashioned to compete with technology clusters across the nation and around the world.

And then, finally, it's your turn. Vince White-Petteruti, Executive Director of Economic Development at the Commercial Club of Chicago, will draw on his knowledge of both Chicago and its local economy and serve as Moderator to get the benefit of your thoughts, wisdom, and questions. Our presenters will stay on hand to contribute to the discussion.