

## **NETWORK CLUSTER STRATEGY**

While the PRC faces challenges brought on by globalization, some potential opportunities, when appropriately leveraged, can be used to offset disadvantages. In particular, a business environment could be created to support the globalized fast follower innovation mode as an important means of facilitating the evolution of existing SMEs in the PRC, which have hitherto been mainly small firms focused on low-skill, final-goods assembly for the domestic market.

Pursuing such a strategy would be most complementary to the PRC's position as a late-industrializing economy that has high rates of technology transfer and is seeking to exit the applications specialist mode by developing indigenous innovative capability.

Entering the globalized fast follower mode requires an upgrade of both size and technology in order to facilitate development and enhance the productivity of industries in global markets. More specifically, our analytical model suggests that a network cluster strategy, pursued alongside an international outlook, is the best approach for reaching this mode. The successful pursuit of such a strategy enables firms to increase in size, adopt technology that adds more value, and serve global markets.

Increasingly, empirical evidence suggests that the key constraint on firm growth stems not so much from size, but from the fact that small firms face limited resources, and when operating independently, cannot access the resources available to larger firms. The economies of scale that exist in a cluster allow firms to access resources that are typically beyond the reach of a small firm. These include the purchase of inputs such as raw materials and technology; the creation of a common pool of skilled workers; the shared use of common capital (such as production machinery); and the pooling of production capacity in order to fill large orders from international buyers.

Moreover, economies of scope can be achieved in a cluster if firms employ common marketing and distribution channels, and learn from each other about areas such as common markets and improvements to products and processes.

Alternatively, such economies could also be attained by collaboration through producer associations that help open access to international markets, and that increase small firms' access to government support services.

Working within a cluster may also give rise to greater specialization. Firms can concentrate on their core businesses and develop a division of labor among themselves, thereby achieving greater efficiency in production.

Weighed against these benefits are, of course, costs. These include the costs of ensuring coordination within a cluster (transactions costs), post-purchase distribution costs, the cost of scheduling conflicts when using common capital, and the cost of fulfilling the infrastructure and monitoring requirements needed to ensure compliance with a common system of operating standards. There may also be losses of human capital investments due to worker departures to other firms within the cluster, as well as costs required for adaptation and learning. However, given the large external economies commonly associated with knowledge products, the benefits from operating in a cluster are likely to outweigh the costs in the case of technological issues. In order to reap the full benefits of economies from clustering, economic development in the PRC needs to involve collaboration between the government, private firms, and research and educational institutions. Cooperation among SMEs that share business interests such as markets, products, and infrastructure needs is best achieved when these clusters operate as a network within the framework of the broader NIS.