

Exogenous Shock and Collective Efficiency in a SME Cluster: Case of Mashiko Ceramic Cluster in Japan

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The industrial cluster approach is proven to be an effective instrument of achieving competitive advantage because it enables firms to achieve the “economies of scale” around cooperation, advocacy, and innovation that are needed to successfully compete in global markets. The industrial cluster system provides the necessary support for firms to recover from external shocks. Schmitz’s study of Brazilian clusters showed that external economies are important to growth but responding to opportunities and crisis requires greater joint action among cluster firms i. e. it requires ‘shifting gear’ from passive to active collective efficiency (Schmitz 1995b).

Exogenous external shocks like liberalization, quality and environmental standards pressure and macroeconomic turmoil have produced contrasting effects on clusters of firms in developing and developed countries including an increase in co-operative behavior (Rabellotti, 1999; Nadvi, 1999), or even a disarticulation of networks, along with reduced local capabilities and increased modernization (Cimoli, 2000; Cassiolato, Lastres, 2000). There are also cases in which results are mixed: some firms isolate, some others join together to overcome threat (e.g. Sinos Valley; Schmitz, 1999; Vargas, Alievi, 2000).

A natural disaster is typically considered to be an unpredictable large shock to the economy and therefore, it creates a local economic crisis (Rasmussen 2004). Such shocks affect firm’s performance through reduced domestic demand for their products and major disruptions in the banking sector, affecting the cost and availability of credit to these enterprises, increasing the cost of inputs and raising labor costs (Thee, 2000).

Even within an industrial district, SMEs are more resilient to such crisis than large firms due to less reliance on formal markets and formal credit. They are able to respond more quickly and flexibly to sudden shocks as was shown by a study of SMEs in Bantul district after the Indonesian earthquake in 2006. (Sugiyanto, Resosudarmo, 2008).

This paper is an attempt to study the impact of an exogenous shock on the collective efficiency based on the study of a Japanese artisan SME cluster.

Mashiko is a small town in Japan well-known for the art of making fine ceramic pottery. It is situated in Tochigi prefecture, one of the areas significantly affected by the Great East Japan Earthquake of March 2011. There are around 400 pottery units in Mashiko from

large factory kilns to small family-run potters, with the latter being in a majority. The total number of kilns in Mashiko is approximately 450 with family based pottery shops sharing kilns. The cluster has a culturally homogenous population with strong ethnic and kinship ties. The process of collective learning and circulation of know-how among firms enhances local innovation capability.

The study shows that prior to the earthquake, Mashiko was characterised by close co-operation among small and large firms in the cluster as regards the sale and marketing of their ceramics, directly or over the internet. Though cluster-wide horizontal co-operation was not profound, yet cluster actors including the local and regional government, local business association have played an important role in protecting the interests of firms and promotion of the cluster.

Since the last few years, Mashiko has been struggling in the wake of decreasing popularity and falling demand for its ceramics. Yet, the town has responded to changing consumer needs in ceramics, also attempting other innovative commercial activities like short pottery classes to lure tourists. These efforts towards overcoming the crisis of falling demand were possible due to the joint action between cluster actors.

The earthquake dealt a major shock to an already stressed cluster by destroying not only the products but almost 90% of all kilns. However, the biggest impact of the earthquake has been a drastic fall in the number of visitors/tourists who are their main customers; as less as 1/10th of those before the quake.

This paper is based on the hypothesis that an external shock like this one further enhances the joint action among cluster firms and actors.

The strong relationships and values instilled in firms due to their operation in the cluster form the basis of co-ordinated and flexible response to crises. Toyota's strong trust based relations with its clustered firm networks saved it from a devastating crisis due to a fire at one of its suppliers in 1997 that threatened to halt operations for weeks (Nishiguchi, Beaudet, 1998).

This paper aims to highlight whether the pattern of joint action in an artisan SME cluster changes after an external shock and precisely what are the changes.

The study focuses on micro level analysis and primary data collected from pottery units in Mashiko from the period of 3 months to 6 months after the quake constitutes the main data set. The methodology includes a qualitative study based on informal interviews with the firms. The explanatory questions focus on the forms of joint action and co-operation among cluster actors before the shock, collective response by the firms and mechanisms of co-operation after the shock and firms' efforts towards capability building.

The study found that an immediate response symbolizing joint action included an initiative by only 2-3 local firms to set up a Reconstruction Support centre to assist the small units in clearing the damage and rebuilding the kilns. Gradually membership increased to more than

35 volunteers who were successful in pooling resources to repair all damaged kilns within a month. This was done to enable all firms to participate in the biannual ceramic pottery fair held in the town within two months of the quake. Though the fair's duration was reduced this year due to a shortage of ceramics, yet with sufficient support from the local government and business association, it succeeded in attracting 80% of visitors as every past year.