Chapter 9
Impact of SME Policies on Innovation Capabilities: The Turkish Case

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ABSTRACT

The purpose of this chapter is to explore the determinants of innovative capabilities in an emerging country context. The authors focus particularly on the impact of recent changes in SME policies in Turkey. Using a unique firm-level survey conducted on 45,000 SMEs, innovative capabilities of firms are assessed at three different levels: their innovation efforts, innovation decision, and innovative intensity. The authors analyze and compare the impact of two different incentive schemes: one a purely financial support, and the second, consultancy and technological assistance coupled with financial facilities. Whereas all firms seem to benefit from financial support, only less innovative firms take full advantage of the advisory services. Overall, the determinants of innovative capabilities depend considerably on the type of firms, suggesting the need for differentiated policy measures.

1. INTRODUCTION

Small and Medium-Sized Enterprises (SMEs) have emerged as important agents of industrial growth since 1980s, even though they account for a small part of overall Research and Development (R&D) investments (Acs & Audretsch, 1990; Cohen & Levin, 1989). It is generally acknowledged that SMEs increase overall efficiency: they are considered to be the key to the development of technology and to the knowledge driven economy, bringing innovation to the market. Micro-enterprises and SMEs are the emerging private sector in most countries, and thus constitute the base for private sector-led growth (Hallberg, 2000)[1]. Furthermore, given that the World Trade Organization (WTO) regulations forbid all industrial support policies with the exception of those for

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the promotion of SMEs, local development and R&D activities, the support for the SME sector is one of the main policy tools available to the developing countries to support its industries (Taymaz, 2001). In this context, accumulation of technological capability is crucial for the ability of small and medium manufacturing enterprises to make a significant contribution to local industrial development (Caniëls & Romijn, 2001).

Technological capability is defined as the knowledge, skills and experience necessary in firms to produce, assimilate, improve, and develop technologies (Lall, 1992). This is not a straightforward process and cannot be promoted simply by investing in and/or buying new technology, but by active technological learning and capacity building. Firms should invest in their own capabilities and develop skills and experiences in order to absorb, adopt, or create new technologies. Capabilities here refer to routines that allow firms to combine efficiently their tangible and intangible assets, and to transform them into a marketing function (Dosi, et al., 2000).

Several taxonomies of technological capabilities have been proposed in the literature (Kim, 1997; Lall, 1992). They can be categorized by their complexity or by their function. According to their complexity, capabilities can be viewed as routine or adaptive, compared to innovative and risky. It is possible to break down the capability notion by its function, into investment, production, linkages, and/or innovation. However, these categorizations are rather indicative and do not aim to show a necessary sequence of learning.

Investment capabilities are the skills to identify needs, prepare and obtain the necessary technology, then design, construct, equip, and staff the facility, before a new facility is commissioned or existing plant is expanded (Salomon, et al., 1994). Production capabilities range from basic skills like operation and maintenance to more advanced ones like adaptation or improvement. Linkage capabilities include establishing links among other enterprises, suppliers, sub-contractors, and services firms, as well as with institutions such as universities, consultants, or development agencies: and therefore foster the diffusion of technology within the firm, and throughout the economy.

In this chapter, we are interested in innovation capabilities of Turkish firms, that is the skills and knowledge required to make independent adaptations and improvements to existing technologies, and ultimately to create entirely new technologies (Romijn & Albaladejo, 2002). It is a difficult task to measure or evaluate adequately the innovation capability. Generally, knowledge creation is reduced to be the outcome of the R&D expenditures and the number of engineers, scientists, or high-skilled human capital. However, firms learn in a variety of ways, thus the innovation capability is composed by a number of sources, both internal and external to the firm. Whilst the internal processes that lead to technological capability building are training, learning by using and learning by searching (Dosi, 1988; Rosenberg, 1982), the external resources correspond to learning by interacting (Lundvall, 1988). Further to these internal and external factors, governments also should be concerned with capability building, especially in newly industrializing countries (Kim & Nelson, 2000). Government policies should stimulate the development of industrial technology capacity by re-enforcing institutional environment, strengthening financial institutions, or reducing the risks and transactions costs (Hallberg, 2000).

Although a policy measure should aim to create an innovative and strong private sector regardless to the firm size, some areas are still very much size-related. One of these areas, and probably the most important one, is the access to external sources of finance. Small firms consistently report higher financing obstacles than medium and large enterprises (Beck, et al., 2006). World Bank reports that the cost of finance is rated as a major growth constraint by over 35% of SMEs, and access to finance, by over 30% (Ayyagari, et al., 2003). The impact of these obstacles is stronger in small firms than in large firms: financing