Foreword

In the last decade, Latin American countries have recognized the significance of Science, Technology, and Innovation (STI) in increasing productivity and achieving sustainable growth (Padilla-Pérez & Gaudin, 2013). As a demonstration of commitment to balancing international trade and dynamic and sustainable economic growth, most countries in the region have adopted policies of investing in STI and Research and Development (R&D) and protecting intellectual property rights. Managing innovation requires skills, knowledge, and capabilities for integrating organizational, market, and technological change (Tidd & Bessant, 2009).

Economic growth, productivity, competitiveness, innovation, environmental protection, and development have been associated with technological change. Increasingly, international market competition demands shorter product life cycles in order to succeed (and in many cases to survive). This is why at the core of successful strategies for industrial leadership is managing technological change (Pack & Westphan, 1986). Technological change is not confined to the manufacturing industries, and it is especially relevant in the service sector. In some industries, such as agriculture, technological change plays a special crucial role to meet future demands (Dietrich, et al., 2014).

Technological change implies that investment decisions that influence the innovation environment affect industrial development and economic growth at both the firm and national levels. Technological changes contribute to development only if there is in place the absorption capacity in endogenous players for technological spillover of advance multinational companies (either domestic or foreign) operating in their jurisdiction. The impact of the different forms of horizontal and vertical Foreign Direct Investment (FDI) (Greenfield, mergers, acquisitions, and joint ventures) on different modes of technological change and long-run economic development vary depending of domestic capacity to take advantage of international knowledge and technological diffusion (Hoffman, 2013). At the company level, the promotion of technological change could be influenced with effectiveness, cost reduction, obtaining tax reduction, and with incentives for environmental sustainability (Jave, Newll, & Stavins, 2002; Milliman & Prince, 1989).

Countries and regions differ in relation to technological capacities and production systems. In the case of Latin America, during the 1990s due the market deregulation, import substitution and opening to foreign competition, structural reforms influencing technological change and behavior occurred (Castells & Laserna, 1989; Katz, 2001). These changes affected (and are still challenging) different large local business conglomerates, subsidiaries of foreign multinationals operating in the region, family-owned enterprises, and individuals.

The effects of technological changes go beyond production systems. There is evidence that technological change contributes to facilitating existing employment to increase its productivity levels, and thereby achieve wage efficiency (Antonelli & Quatraro, 2013). Nonetheless, there has also been resistance to
adopting technological changes, since the adoption of technology could in some cases replace human
resources via adopting reengineering production processes. Some authors have associated technological
changes with unemployment (Fadinger & Mayr, 2014), job polarization (Adermon, 2014), rising wage
inequality, and innovation disparities, amongst others. However, there is also evidence that technologi-
cal change increases gender equity, specifically measured by the increased participation of women on
information and communication technologies occupations (Jacobsen, 2011). We hope this volume will
contribute to academic discussions, business practices, and policymaking scenarios on technological
change in Latin America.

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