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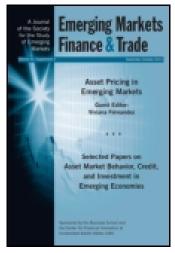
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## Innovation in the Services Sector

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To cite this article: Diego Aboal, Claudio Bravo-Ortega & Gustavo Crespi (2015) Innovation in the Services Sector, Emerging Markets Finance and Trade, 51:3, 537-539, DOI: 10.1080/1540496X.2015.1040280

To link to this article: http://dx.doi.org/10.1080/1540496X.2015.1040280

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DOI: 10.1080/1540496X.2015.1040280



# **GUEST EDITORS' INTRODUCTION**

### **Innovation in the Services Sector**

Diego Aboal<sup>1,2,3</sup>, Claudio Bravo-Ortega<sup>4</sup>, and Gustavo Crespi<sup>5</sup>

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The service sector is increasingly important not only in developed economies, but also in developing ones. On average, in Latin America, the value added of the service sector accounts for more than 60 percent of gross domestic product (GDP) and employment (World Bank 2011). While the role of the service sector has been increasing, its productivity growth has been systematically lower both with respect to manufacturing and, in particular, in comparison with natural-resource-intensive sectors. The service sector has main responsibility for the poor productivity performance exhibited in Latin America and the Caribbean (LAC) economies (Pagés 2010). Thus, boosting innovation in services can be central to improving the performance of this sector and the economy as a whole. Concomitantly, it is important to acknowledge that the introduction of innovations could have important effects on employment that are necessary to assess.

The service sector can affect the whole economy through its effects on the efficiency with which goods-producing sectors operate as well as in the ability of certain services to generate new knowledge that could spread through the productive structure. Traditional services, such as transport and communications, are the links between the different production blocks of the economy; hence, an increase in the productivity of these sectors will improve the productivity in the production of final goods as well. Knowledge-intensive business services (KIBS) can build and strengthen the innovative capacity of the economy, improving a country's long-run growth potential. In this respect, services are fundamental inputs and outputs of innovation processes in the other sectors of the economy.

The articles in this symposium show that the traditional view that considers the service sector as "innovative averse" and "uninteresting" for innovation policies (and policy makers) (Pavitt 1984) is not supported with the data. The articles presented in this issue and recent work for Organisation for Economic Co-operation and Development (OECD) countries (e.g., Organisation for Economic Cooperation and Development 2009) confirm, however, that services are more innovative than previously thought; indeed, in some subsectors (e.g., KIBS), they could be even more innovative than the average manufacturing industry.

However, how innovation occurs in the service sector and its effects on productivity and employment are still not well understood, especially in developing countries. Results emerging from the research begin to show a picture that suggests that the determinants of productivity growth and employment and innovation in services are not identical to those in manufacturing and that "one fits all" theories on innovation in services are misleading to the extent that services are a diverse group of sectors with regard to both production and innovation. In addition, and of fundamental importance for the region, although evidence seems to suggest that large firms are more innovative than small firms, the correlation between size and innovation (the size premium) is weaker in services than in manufacturing.

Compared to manufacturing, innovations in services appear to be more nontechnical and result from small, incremental changes in processes and procedures that do not require much formal research and development. Therefore, innovation seems to have an ad hoc nature and to be a continuous process, complicating the identification of innovations as single events. In terms of innovation inputs, it seems that information and communications technology (ICT) capital, software, training, marketing investments, and knowledge acquisitions are more important for innovation in services than in manufacturing.

Despite there being an increasing interest in understanding innovation in the service sector in developed countries, there is far less research and there are no systematic studies of how to promote innovation and productivity growth or the effect of innovation on employment in services for developing countries. Developing policies and programs to support service-sector innovation requires a better understanding of these processes. In this special issue, we provide a series of contributions that help to reduce the existing knowledge gap in the scarce literature focused on developing countries and services.

In what follows in this symposium, Rubalcaba discusses the rationale for a service innovation policy based on market and systemic failures and provides an initial policy framework as well as a policy menu based on the specific characteristics of service innovation.

Aboal, Garda, Lanzilotta, and Perera, using Uruguayan firm data, show that the effect of innovation on employment in services depends on whether we are investigating process or product innovation. Indeed, process innovation appears not to have an effect on employment whereas product innovation has a positive effect. The authors show some differential effects across skilled and unskilled labor.

De Fuentes, Dutrenit, Santiago, and Gras show evidence about the determinants of innovation and the effect of innovation on productivity using Mexican firm data. The article shows that different structural, performance, and behavioral factors affect a firm's investment in innovation, and that there are some differences between service and manufacturing firms. They also show that investment in innovation leads to more innovation and that innovation has a positive effect on labor productivity in both manufacturing and services.

Álvarez, Bravo-Ortega, and Zahler complement the evidence of the previous article regarding the determinants of innovation in services and the effect of innovation on a firm's performance, this time using firm data from Chile. The authors find similar determinants of innovation and performance across services and manufacturing; however, the quantitative effect of the different variables differs across sectors. They find a positive effect of technological and nontechnological innovation in labor productivity in both manufacturing and services.

Gallego, Gutiérrez, and Taborda, using firm data from Colombia, analyze the innovation determinants and the effects of innovation on productivity. They find that the probability of innovation increases with investments in research and development (R&D) labs and firm size. In addition, they show that labor productivity is enhanced after the introduction of innovations.

López and Ramos, in the only case study of the special issue that looks at the innovation process (nature, determinants, success factors, obstacles, linkages, effects) in the rural tourism sector of Argentina and its effects, show that the discovery of a differentiated attribute is key to capturing the attention of prospective clients. This often involves a collective action, which can be facilitated by public policies that take into account the specificities of the innovation process and the weak infrastructure of the sector.

Several crosscutting issues and regularities emerge from this selected set of articles. In particular, innovation is important for service productivity, but the innovation process, and how innovation is achieved, in services is different from manufacturing. Although market failures and innovation obstacles affect firms' decisions to invest in innovation similarly between services and manufacturing, they affect the innovation process through different inputs. Thus, in order to design effective

innovation policies, these differences in the innovation process between manufacturing and services should be included in future innovation policy designs in the region.

### **Acknowledgments**

This special issue is part of a broader research effort supported by the Inter-American Development Bank (IDB), the International Development Research Centre (IDRC), and CINVE that is also reflected in a forthcoming book edited by D. Aboal, G. Crespi, and L. Rubalcaba (Aboal et al. forthcoming).

### **Funding**

The authors greatly appreciate the funding of the International Development Research Centre (IDRC), Canada, which made possible the publication of this special issue.

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