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DEBrief

Innovation and Firm Performance in the Caribbean

- Innovation is key to economic growth. However, the Caribbean lags behind other regions of the world in terms of innovation.
- Based on an analysis of survey data from over 1,000 firms across 7 Caribbean countries, innovation at the firm level is linked to higher productivity, wages, and sales.
- Companies that introduced innovations in their methods of production or distribution saw the largest productivity gains, consistent with the need to overcome logistics disruptions brought by the pandemic.
- During shocks, firms that are most able to introduce changes to adapt to disruptions will not only survive but thrive.
- The main barriers to innovation reported by firms pre- and post-pandemic are the lack of qualified workers needed to implement innovations, small market size, and limited access to financing.
- Multilateral development banks, development finance institutions, and governments play a critical role in addressing the barriers to innovation in the Caribbean.

SUSTAINABLE DEVELOPMENT GOALS

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

INNOVATION IN THE CARIBBEAN

There is ample evidence suggesting that innovation is at the core of economic growth. Innovation contributes to overall productivity growth, which drives higher incomes in the long-term.[1] At the firm level, innovation boosts productivity, allowing companies to earn higher revenues, pay higher wages, and export more than less innovative firms.[2] Innovation can also help companies be more resilient in the face of external shocks such as the global pandemic.

Despite the benefits of innovation, the Caribbean lags behind other regions of the world in terms of innovation, such as investment in research and development (R&D) and use of digital technologies. According to the Global Innovation Index, Caribbean countries continue to underperform when compared to their similarly sized counterparts.[3]

Promoting a more innovative private sector in the Caribbean requires a better understanding of what drives firms to innovate and what holds them back from doing so. To this end, this study by IDB Invest and FinDev Canada analyzes data from over 1,000 firms across 7 Caribbean countries collected through Compete Caribbean's Innovation, Firm Performance, and Gender survey in 2020.[4] It also explores the link between innovation and firm performance and how innovation shaped firm responses to the disruptions brought by the pandemic.

MAIN RESULTS

Firm Characteristics

Only 20% of firms in the sample innovated by introducing a new or significantly improved product, process, organizational method, marketing method or distribution channel. The most common way for firms to innovate was by introducing new goods (16%), followed by new production or distribution methods (15%).

In approximately half of these cases, companies developed their own innovations, while about one-third adopted market-ready innovations. Businesses led by women were just as likely to innovate as their male-led counterparts.

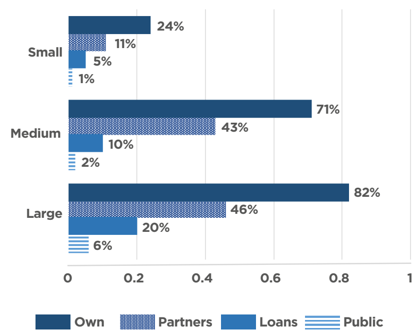
In terms of key inputs for innovation, only about 5% of firms have dedicated R&D teams and less than half of firms' workers are considered skilled. These are both critical elements for successfully deploying business innovations.

Similarly, large and medium-sized firms are more likely to innovate relative to small firms5 potentially due to greater access to inputs such as skilled human capital and financing.

Financing Innovation

Most firms finance investments in innovation using their own resources. This is not surprising, as firms' retained earnings tend to be the main source of investment financing worldwide. As far as differences by firm size, only 24% of small firms report self-funding innovation compared to 71% and 82% of medium and large firms, respectively (Figure 1). Overall, few firms take out loans specifically to fund innovation (8.5%), and those that do, tend to be larger. This finding reflects the relevance of attracting private investment and leveraging partnerships to promote firm innovation. Finally, less than 10% of firms report accessing public funds to finance innovation.

Figure 1. Share of Firms Financing Innovation by Source and Size



Note: Averages using sample weights.

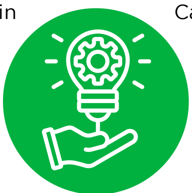
1. Solow, 1956; Duarte & Restuccia, 2006.
2. Schumpeter, 1927; Grazzi et al., 2016.
3. World Intellectual Property Organization (2021). Global Innovation Index 2021.
4. Compete Caribbean (2020). Innovation, Firm Performance, and Gender Survey. Countries include Barbados, The Bahamas, Belize, Guyana, Jamaica, Suriname, and Trinidad & Tobago.
5. Firm size definitions: large =100+ employees; medium = 20-99 employees; small = 1-19 employees.

How Innovation Affects Firm Performance

The findings suggest that higher levels of innovation at the firm level are associated with higher productivity, wages, and sales. Moreover, the evidence shows that innovation helped firms be more resilient amid the COVID-19 pandemic, which hit the Caribbean region particularly hard.[6] (e.g., to overcome supply chain disruptions) improved productivity interms of sales per worker by 74% and 49%, respectively. These results are economically and statistically significant, and suggest that during shocks, firms that are most able to introduce changes to adapt to disruptions could not only survive but thrive.

Figure 2. How Innovation Affects Firm Productivity

For instance, as shown in Figure 2, companies that focused on introducing innovations in their methods of production or distribution saw the largest gains in Total Factor Productivity (13%), followed by innovations in accounting practices (12%) and human resources (11%). Similarly, firms that invested in innovations related to distribution/ logistics or production methods



Barriers to Innovation

Despite the potential productivity gains and other benefits of innovation, many Caribbean companies still feel that innovation is an uphill battle. To better understand why, we dug into the main barriers to innovation among Caribbean firms, comparing responses collected before (2019) and during the pandemic.

Prior to the pandemic, the top three barriers to innovation reported by firms were: quality of employees (80%), market size (69%), and the lack of skills required to implement innovations (63%). Post-pandemic, an even larger share of firms considered these to be the top barriers (88%, 87%, and 83%, respectively). Limited access to financing for innovation is also a big challenge, cited by 80% of firms in 2020, up from 60% in 2019.

Overall, as might be expected given the timing of the survey during the pandemic, firms had more negative perceptions of nearly all obstacles to innovation. The largest shift was regarding the cost of innovation, which went from 26% of firms citing this as a major constraint in 2019 to 78% in 2020. In general, in 2020, firms felt more confident about their internal strengths than about market conditions, as reflected in the significant decline of management culture, self-confidence, and time to market as major or severe obstacles to innovation.

CONCLUSION

As our results suggest, innovation drives productivity and can be a decisive factor in firm survival during a crisis such as the COVID-19 pandemic. The pandemic caused major disruptions in global value chains and underscored the need for new business models, which aligns with our findings that investing in innovations related to distribution and logistics potentially provided the greatest return on investment during that period.

However, the share of firms introducing any type of innovation in the region is still relatively low. Increasing innovation through targeted support for expanding access to financing, worker upskilling, and technology adoption is crucial, especially among smaller firms. By working to break down these barriers, multilateral development banks, development finance institutions, and governments can help more companies pivot towards being more productive, have better profits, offer higher wages, and be more resilient in the face of crises. ■

Additional Information

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This brief summarizes the findings of the study by Acevedo et al., (2023), Innovation and Firm Performance in the Caribbean, which is part of IDB Invest's Development through the Private Sector Series.

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6. IDB Invest (2021). The Impacts of the COVID-19 Pandemic on Firms in the Caribbean.