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Divide for Long-Term Economic Growth -- 4. Technology Sophistication, Productivity, and Employment -- Introduction -- Technology and Firm-Level Productivity -- Technology Adoption and Employment -- Summing Up -- Notes -- References -- 5. Digital Technologies and Resilience to Shocks -- Introduction -- Digital Technologies -- Technology and Resilience -- Summing Up -- Notes -- References -- Part 3 What Countries Can Do to Bridge the Technological Divide -- 6. What Constrains Firms from Adopting Better Technologies? -- Introduction -- Firm-Level Determinants of Adoption. Perceived Drivers of and Obstacles to Technology Adoption -- Factual Evidence on Drivers of and Obstacles to Technology Adoption -- Summing Up -- Notes -- References -- Chapter 7. Policies and Instruments to Accelerate Technology Adoption -- Introduction -- A Checklist to Design Technology Upgrading Programs -- Using the FAT Survey to Inform the Design and Implementation of Policies Supporting Technology Upgrading -- Instruments to Support Technology Upgrading at the Firm Level -- Summing Up -- Notes -- References -- Appendix A. The Firm-level Adoption of Technology (FAT) Survey, Implementation, and Data Set -- Boxes -- Box 1.1 Defining Technology and Business Functions -- Box 1.1 The Technology Index at the Firm Level: An Example from the Food-Processing Sector in Senegal -- Box 2.1 The Large Gap in Technology Sophistication between Formal and Informal Firms -- Box 3.1 The Strong Sector Composition of the Use of Industry 4.0 Technologies -- Box 3.2 The Closeness of Pharmaceutical Firms to the Technology Frontier -- Box 6.1 Specific Barriers to the Use of Digital Platforms -- Box 7.1 Digital Platforms Are Prone to Market Concentration and Dominance -- Box 7.2 The Firm-Level Technology Diagnostic Tool -- Box 7.3 Agriculture Extension: The Case of Embrapa -- Box 7.4 Credit Guarantees for Technology through the Korea Technology Finance Corporation (KOTEC) -- Box 7.5 The Difference between Vouchers and Grants -- Box 7.6 Fraunhofer Institutes -- Figures -- Figure 1.1 While Countries Are Converging in Their Adoption of Technology, They Are Diverging in the Intensity of Use -- Figure 1.2 Conceptual Framework for the Firm-level Adoption of Technology (FAT) Survey -- Figure 1.3 General Business Functions and Their Associated Technologies -- Figure 1.4 Share of Firms Using Technologies Applied to Various General Business Functions, All Countries. Figure 1.5 Sector-Specific Business Functions and Technologies -- Figure 1.6 An Example of the Technology Index -- Figure B1.1.1 Comparing Technology Sophistication of a Large and a Small Firm in the Food-Processing Sector -- Figure 1.7 Firms Vary Widely in the Status of Their Adoption of General-Purpose Technologies -- Figure 1.8 Among Firms with Access to Computers and the Internet, a Large Share Relies Mostly on Less Sophisticated Methods to Conduct Business Functions -- Figure 2.1 Estimated Technology Sophistication, by Country: Manufacturing -- Figure 2.2 Estimated Technology Sophistication, by Country: Agriculture and Services -- Figure 2.3 There Is a Strong Correlation between the Technology Sophistication of a Region and Regional Productivity -- Figure 2.4 Cross-Country Differences in Technology Are Also Explained by the Number of Firms Using Sophisticated Technology -- Figure B2.1.1 Technology Sophistication Is Significantly Greater among Formal Firms in Senegal -- Figure 2.5 The Level of Technology Sophistication for General Business Functions Varies Greatly -- Figure 2.6 Technology Sophistication Varies across Firm Size -- Figure 2.7 The Likelihood of Adopting Frontier Technologies for General Business Functions Varies across Firm Size -- Figure 2.8 The Likelihood of Adopting Frontier

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Sommario/riassunto

Many of the main problems facing developing countries today and tomorrow-- growth, poverty reduction, inequality, food insecurity, job creation, recovery from the COVID-19 pandemic, and adjustment to climate change-- hinge on adopting better technology, a key driver of economic development. Access to technology is not enough: firms have to adopt it. Yet it is precisely the uptake of technology that is lagging in many firms in developing countries. Bridging the Technological Divide: Technology Adoption by Firms in Developing Countries helps open the "black box" of technology adoption by firms. The seventh volume in the World Bank Productivity Project series, it will further both research and policy that can be used to support technology adoption by firms in developing countries.
