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A Targeted Industry Approach for Raising Quality Private-Sector Employment in Saudi Arabia
Preface

The Kingdom of Saudi Arabia is striving to develop its private sector and generate quality employment for Saudi citizens. Quality employment means more than just a private-sector job; it includes a decent salary and benefits, training opportunities, and opportunities to advance in a career. Many of Saudi Arabia’s efforts to develop its private sector, before and after the issuance of Vision 2030 in 2016, have focused on upgrading the skills and education of Saudis and on legal reforms to improve the business environment. This report takes a third approach, focusing on the development of a specific industry: food manufacturing. In September 2018, researchers from the Decision Support Center of the Royal Court and from the RAND Corporation set out to explore how Saudi Arabia has developed industries successfully in the past and how it could develop a target industry that can provide quality private-sector employment. Ideally, the findings based on researching a specific industry can be applied to other industries, especially those highlighted in Vision 2030, and the economy as a whole.

This study was undertaken by RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking. This study was sponsored by the Decision Support Center of the Royal Court, Kingdom of Saudi Arabia, which seeks to support decisionmaking in the Kingdom of Saudi Arabia and enhance its efficiency by implementing research and studies based on extensive data and by monitoring and analyzing current or future topics and events that may influence the
country. The primary audience for this report is policymakers in Saudi Arabia who are working to reform and advance Saudi Arabia’s economy. This report will also be of interest to all Saudi citizens; researchers, analysts, and policymakers in the Middle East, given the importance of Saudi Arabia to the region; and anyone interested in economic reform and private-sector development.

More information about RAND can be found at www.rand.org. Questions about this report should be directed to Howard J. Shatz at howard_shatz@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.
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Oil production and exports have dominated the economy of the Kingdom of Saudi Arabia for decades, with oil revenues constituting a large share of government revenues, leading to labor market challenges. Most employment is directly or indirectly generated by government expenditures, and the government relies on oil revenues to maintain employment. Saudi private-sector firms have long relied on lower-cost expatriate labor and have adopted technology that complements that labor. In addition, expatriate labor may tolerate working conditions that many potential Saudi employees would not. In turn, given some private-sector working conditions and traditional access to public jobs, most Saudis have chosen not to work in the private sector. A growing Saudi population and the potential secular decline in the worldwide use of oil and gas make this system of employment untenable in the long run, a challenge made all the more urgent by high youth unemployment.

In contrast to government-supported employment funded by oil revenues, private-sector job creation has the potential to be sustainable in the long run socially and economically. Accordingly, Saudi Arabia is working to create conditions that will help young Saudis find quality jobs in the private sector—those that provide a decent salary and good working conditions, as well as opportunities for training and career advancement. Creating conditions in which Saudi firms demand Saudi labor and in which Saudis develop the skills and desire to take private-sector jobs is central to the Saudi economic challenge.

Saudi Arabia has taken several steps to increase Saudization (the share of jobs filled by Saudis rather than expatriates), including upgrad-
ing the skills and education of Saudis and implementing legal reforms to improve the business environment. The research conducted for this report builds on one of the ideas of Saudi Arabia’s landmark development document, *Vision 2030*, by focusing on industry development as a means of increasing the demand for Saudi labor.

In September 2018, researchers from the Decision Support Center (DSC) of the Royal Court and from the RAND Corporation set out to explore how Saudi Arabia could develop a candidate industry—food manufacturing—that has the potential to provide quality private-sector employment. The food manufacturing industry was selected based on a combination of (1) quantitative criteria related to industry size and growth and Saudi employment and compensation and (2) qualitative factors, including fit with *Vision 2030*, ability to provide jobs for Saudis with a wide range of skills, and ability to serve as a test case for other industries.

To devise potential policies, we studied two comparison industries that Saudi Arabia has successfully developed previously: the telecommunications industry and the banking industry. We also studied the current situation of the food manufacturing industry in Saudi Arabia, and how the food manufacturing industry had developed successfully in a case-study country. An important goal in selecting the case-study country was that the country be more developed than Saudi Arabia and have a strong food manufacturing industry, so that the case-study country can serve as an example for Saudi Arabia to follow on its path toward becoming a global model of excellence, as stated in *Vision 2030*. To meet this goal, the DSC and RAND selected Switzerland as the case-study country based on a set of quantitative criteria on country-level characteristics (gross domestic product [GDP], per capita GDP, and international migrant stock) and food manufacturing industry characteristics (such as value added, wages, and exports).

To conduct these analyses, we drew on existing administrative and survey data, as well as focus groups and interviews with human resources managers and other senior executives in the food manufacturing, telecommunications, and banking industries. In addition, the DSC conducted surveys of employees and employers in the three industries, as well as of recent graduates from universities. For the case
study, we used existing data on Swiss food manufacturing firms and investments in startups, and we consulted relevant literature about the industry’s development. We built on these analyses to identify potential policies that Saudi Arabia could consider to encourage the growth of its food manufacturing industry. Findings from the food manufacturing industry could be extended, particularly to other manufacturing industries that share many of the same characteristics.

In this collaboration, the DSC provided overall guidance and institutional context for the study; made the final decisions regarding industry and case-study country selection; arranged and jointly conducted interviews, focus groups, meetings, and two workshops of policy experts; provided and helped interpret data; and created and fielded three surveys—of employers, employees, and recent graduates entering the labor force.

Findings

Findings from Comparison Industries
The banking and telecommunications industries both have unique characteristics—including profitability and prestige—that contributed to the success of Saudization in these industries, which may not be possible to replicate elsewhere. However, there are several commonalities across these two industries that may be relevant to other industries. In both industries, Saudization was driven in large part by a strong industry regulator, which created more compliance among the regulated firms. Another critical factor in compliance with Saudization was early buy-in from firm leadership. Both industries benefited from being perceived by young Saudis as desirable—banking because of its prestige, and telecommunications for its dynamism and entrepreneurship. In addition, public and private education and training pipelines provided young Saudis with the skills required by these industries, and large firms in both industries developed clear career pathways for many of their employees. Importantly, there are still jobs that have not yet been Saudized in banking and telecommunications: technical jobs—especially those that rely on years of experience, rather
than formal education—and jobs with low wages or poor working conditions.

**Findings from Food Manufacturing Industry in Saudi Arabia**

Food manufacturing does not have the same advantages of high profitability and prestige as banking and telecommunications. However, although university students generally had less positive perceptions of the food manufacturing industry than of other industries, young employees in food manufacturing were as satisfied with various job attributes as those in banking and telecommunications. The industry also has a larger share of small firms that cannot afford to provide various benefits that might make employment with them more inviting. However, the food manufacturing industry does have one important industry characteristic that can foster Saudization: several anchor institutions, in the form of large, well-established Saudi and international firms.

Many administrative jobs in food manufacturing have already been Saudized; those that have not should be relatively easy to fill. In contrast, jobs such as product sales and delivery and long-haul driving are likely to be very difficult to Saudize. However, several managers in the food manufacturing industry indicated that Saudis would take production jobs under the right conditions. Filling highly technical jobs, such as maintenance and repair of complex machinery, with Saudis will likely require concerted efforts to provide industry-specific technical training.

**Findings from the Swiss Food Manufacturing Case Study**

High-quality vocational education and training has been a critical element in the Swiss success story. The co-development of anchor firms, educational institutions, supply chains, startups, and supporting industry associations was also an important feature that benefited firms and promoted innovation. In addition, the industry’s growth in Switzerland was fueled by an early focus on the global export market, and Switzerland’s current trade policies are designed to facilitate the export of high value-added products. Finally, growth and innovation have been fostered by a well-developed financial sector that provides angel,
seed, and developmental investments in food manufacturing startups, and by employee mobility, which is an important feature of successful labor markets.

**Policies for Creating Quality Jobs in the Food Manufacturing Industry**

Drawing on the findings, we identified several policies that can encourage the food manufacturing industry in Saudi Arabia to increase the number of quality jobs that it creates, encourage Saudis to improve their qualifications for those jobs and to seek them out, and foster overall industry growth. One other factor is beyond the scope of this report, but will be important to address: Many Saudis still prefer government employment. Limiting the perceived benefits of government jobs will make private-sector employment more attractive and help to develop the private sector.

**Buy-In from Industry Leadership**

One idea that became clear in all of our company interviews was that firm leadership has to be committed to Saudization. Government policies can encourage such buy-in through a variety of measures, including mandates, education, exhortation, and recognition of successful firms. Encouraging collaboration through an industry association could also be beneficial in creating buy-in, providing programs to support small firms in their Saudization efforts, and performing functions that help the industry as a whole, such as collaboration on export promotion or supporting ancillary suppliers that would not succeed if they served only a few companies.

**Bringing Capital into the Equation**

Equipment and machinery can often be used to replace low-skill jobs, and such equipment and machinery often require higher-skilled workers to provide maintenance and monitoring. Although large food manufacturing firms have already invested heavily in upgrading their production lines, many firms currently have little incentive to upgrade
capital, because expatriate labor is relatively inexpensive. Many smaller firms could benefit from upgrading but might not have the finances or the knowledge to do so. Policymakers may want to ensure that existing programs aimed at industry offer capital upgrading assistance for the purpose of Saudization.

### Changing Jobs into Careers

For many students and firm managers, quality employment includes some type of a career path: that is, the opportunity for advancement, based on job performance and training, rather than the guarantee of advancement. The largest firms offer career paths and training, which smaller firms struggle to provide. Executive education and technical assistance can help human resource and upper-level managers develop career paths for their employees. However, even if small firms can provide training to help employees upgrade their skills, there may be a limited number of advancement options available at small firms. Policymakers may wish to encourage industry alliances to develop career pathways for the industry, which would demonstrate to workers entering a small firm what their feasible advancement options could be, even beyond their initial employer.

### Moving Saudis into Food Manufacturing Industry Jobs

Many Saudis—especially people from rural areas or with less-than-university education—may be willing to consider production jobs. Several policies can be enacted to encourage them to do so, including familiarizing them with such jobs through summer programs or on-the-job training, and highlighting production workers’ contributions to their families and to Saudi Arabia. The government may need to subsidize companies to offer these programs, but it will be important to include requirements that companies keep some percentage of the workers after the subsidies have ended. Encouraging the hiring of overlooked workers, including women who do not have high levels of education and disabled workers, could also be fruitful. Regardless of which policies are put into place, it will be critical to minimize frequent changes and uncertainty about future policy direction, and to coordi-
nate across government agencies, to avoid disrupting firms’ staffing plans.

Training for Quality Employment
If companies are to provide better pay and working conditions, while remaining profitable, then it will be necessary for them to operate more productively. One way to increase a firm’s productivity is to upgrade the skills of its employees. For technical jobs, which were frequently cited by employers as hard to fill with Saudis, there are generally three sources of training: machinery and equipment vendors, domestic technical schools, and foreign technical schools. Saudi policymakers, working with industry alliances, could consider taking advantage of all three options. Policymakers could also incentivize firms to take on Saudi graduates with arts and humanities backgrounds and train them for business roles.

Enhancing the Use of Information
Developing and disseminating regular industry reports with anonymized data on job openings, wages, and benefits may be useful for companies as they seek to tailor their job offers, and to educational institutions as they update their courses. Importantly, this information could also demonstrate to students that some jobs in the food manufacturing industry match their skills and interests, and come with decent wages and working conditions.

Moving Beyond the Saudi Market and Exploring New Frontiers in Saudi Arabia
Greater efforts at export promotion, conducted in partnership with an industry association, could enhance Saudi companies’ opportunities to access a broader market and to further develop Saudi Arabia’s reputation for high-quality Halal products beyond its borders. Saudi policymakers should consider fostering innovation within the domestic food manufacturing industry by ensuring that their labor, competition, tax, and immigration laws encourage a risk capital industry, job mobility, and entrepreneurship.
Moving Forward on Policy Implementation

The potential policies we have presented can be divided broadly into several categories:

- policies that support the labor demand side of private-sector development, meaning the firms that will hire workers, especially regarding helping substitute Saudis for expatriates
- policies that support the labor supply side of private-sector development, meaning the employees
- policies that support the collection of data and information to help firms, employees, and policymakers
- measures to spur growth and innovation in the food manufacturing industry, largely aimed at creating new quality jobs in which Saudis will want to work.

We provide a comprehensive list, as well as our estimates of priority, in Table S.1.

Of the 22 proposed policies, we suggest that seven have higher priority, nine have medium priority, and six have lower priority. A unifying theme of the higher-priority policies is that they relate to capital upgrading, the creation of skills and demand for more skilled employees, or the creation of more employment opportunities generally. The medium-priority policies tend to be more focused on active employment or labor market policies or aim at creating more-innovative firms. The lower-priority policies tend to be enablers to expanding industry employment or improving the way that potential Saudi employees—and their families—view the private sector and the variety of jobs it offers.

There is no one policy that will address Saudi Arabia’s need to create quality jobs for its young population. And refining the proposed policies to fully fit the current Saudi context will need careful review by policymakers, industry representatives, and other institutions (such as educational institutions), with sequencing to be determined and ease of implementation to be accounted for. However, even with refinement, the directions are clear. A combination of steps to encourage firms to upgrade job quality, while simultaneously encouraging Saudis to
### Table 5.1
**Policies to Encourage the Development of the Food Manufacturing Industry**

<table>
<thead>
<tr>
<th>Policy Proposal</th>
<th>Priority</th>
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<tbody>
<tr>
<td><strong>Improving the Demand Side of Industry Development: Support for Firms</strong></td>
<td></td>
</tr>
<tr>
<td>Support industry-wide association or alliance that can collaborate on employee training, executive education, and international marketing</td>
<td>Higher</td>
</tr>
<tr>
<td>Support the lease or purchase of capital equipment to replace lower-skill expatriate labor and support more-challenging jobs for Saudis</td>
<td>Higher</td>
</tr>
<tr>
<td>Condition participation in Tamheer or other employment programs with employee retention after the program subsidy ends</td>
<td>Higher</td>
</tr>
<tr>
<td>Encourage entry of women, individuals with disabilities, and other overlooked groups into production jobs, perhaps with subsidy programs</td>
<td>Higher</td>
</tr>
<tr>
<td>Enable executive education and technical assistance to help firms develop training and career paths for employees, ideally through industry partnerships</td>
<td>Medium</td>
</tr>
<tr>
<td>Allow expatriate employees to move more freely between employers</td>
<td>Medium</td>
</tr>
<tr>
<td>Create greater certainty, consistency, and coordination regarding individual programs and sets of programs</td>
<td>Medium</td>
</tr>
<tr>
<td>Highlight small and medium-sized firms that have Saudized and provided quality employment</td>
<td>Lower</td>
</tr>
<tr>
<td><strong>Improving the Supply Side of Industry Development: Support for the Industry Workforce</strong></td>
<td></td>
</tr>
<tr>
<td>Expand technical training opportunities at Saudi institutions in coordination with industry alliances</td>
<td>Higher</td>
</tr>
<tr>
<td>Fund technical training abroad</td>
<td>Higher</td>
</tr>
<tr>
<td>Develop programs to ease liberal arts and humanities graduates into business and technical fields</td>
<td>Medium</td>
</tr>
<tr>
<td>Ensure that summer work experiences in the private sector for high schoolers are widely available</td>
<td>Lower</td>
</tr>
<tr>
<td>Highlight successful Saudi production workers</td>
<td>Lower</td>
</tr>
<tr>
<td>Ease visa requirements for trainers and specialists from machinery and equipment operators selling and leasing to Saudi companies</td>
<td>Lower</td>
</tr>
<tr>
<td><strong>Providing Useful Information About the Industry</strong></td>
<td></td>
</tr>
<tr>
<td>Increase availability and timeliness of industry-level labor market data and produce regular industry reports</td>
<td>Lower</td>
</tr>
<tr>
<td><strong>Further Measures Improving the Demand Side of Industry Development: Helping Firms in the Industry Grow</strong></td>
<td></td>
</tr>
<tr>
<td>Engage in more intensive export promotion in association with industry alliance</td>
<td>Higher</td>
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upgrade their human capital, and encouraging overall industry growth and innovation, can foster an environment in which young Saudis can find a diverse array of fulfilling opportunities for quality employment in the private sector.

Table S.1—continued

<table>
<thead>
<tr>
<th>Policy Proposal</th>
<th>Priority</th>
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<tr>
<td>Expand Saudi Arabia’s network of trade agreements</td>
<td>Medium</td>
</tr>
<tr>
<td>Increase flexibility to use expatriates for venture capital industry and to start new companies</td>
<td>Medium</td>
</tr>
<tr>
<td>Encourage company-sponsored seed or innovation funds</td>
<td>Medium</td>
</tr>
<tr>
<td>Review tax, competition, and other laws to allow industry collaboration in funding innovative products and startups</td>
<td>Medium</td>
</tr>
<tr>
<td>Consider industry-funded or government-funded incubators</td>
<td>Medium</td>
</tr>
<tr>
<td>Review labor and competition laws to ensure greater technical exchange and ease of starting new companies</td>
<td>Lower</td>
</tr>
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Acknowledgments

The RAND research team thanks the Decision Support Center management, researchers, and staff who have guided and contributed to this project. We are grateful to the policymakers and experts who participated in two workshops hosted by the Decision Support Center; their valuable suggestions have guided our recommendations. We also thank colleagues at RAND for helping craft the project concept and making sure it stayed on track. Peter Glick, Krishna Kumar, and Fatih Unlu provided reviews that greatly strengthened the report, Aaron Strong contributed to our understanding of the input-output accounts, and Michelle Bongard assisted with graphics. Our RAND Europe colleague Malik Dahlan helped us understand reforms in the Kingdom of Saudi Arabia. In addition, we thank the many business people, educators, employees, and students who met with us to help us understand the labor market and business conditions in Saudi Arabia. We also thank Monette Velasco, who guided publication as the production editor; James Torr, who edited the manuscript; Sandy Petitjean, who edited the figures; and Rick Penn-Kraus, who, together with the Decision Support Center’s communications team, developed the report cover. Together, they strengthened the manuscript. All errors of fact and interpretation are those of the authors.
## Abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>3LMS</td>
<td>World Bank labor market survey of Saudi nationals, Saudi firms, and expatriates in Saudi Arabia</td>
</tr>
<tr>
<td>CHF</td>
<td>Confoederatio Helvetica Franc (Swiss franc)</td>
</tr>
<tr>
<td>CITC</td>
<td>Communications and Information Technology Commission</td>
</tr>
<tr>
<td>CMA</td>
<td>Capital Market Authority</td>
</tr>
<tr>
<td>DSC</td>
<td>Decision Support Center</td>
</tr>
<tr>
<td>EEA</td>
<td>European Economic Area</td>
</tr>
<tr>
<td>EFTA</td>
<td>European Free Trade Association</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FIAL</td>
<td>Fédération des Industries Alimentaires Suisses</td>
</tr>
<tr>
<td>FTA</td>
<td>free trade agreement</td>
</tr>
<tr>
<td>GAStat</td>
<td>General Authority for Statistics</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>GOSI</td>
<td>General Organization for Social Insurance</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>ISCO</td>
<td>International Standard Classification of Occupations</td>
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</table>
ISIC  International Standard Industrial Classification
IT   information technology
LFPR labor force participation rate
MENA Middle East and North Africa
MOLSD Ministry of Labor and Social Development
NEET not in employment, education, or training
OECD Organisation for Economic Co-operation and Development
R&D  research and development
SAGIA Saudi Arabian General Investment Authority
SAMA Saudi Arabian Monetary Authority, now the Saudi Central Bank
SCCA Saudi Center for Commercial Arbitration
SEES Saudi Establishments Economic Survey
SFDA Saudi Food and Drug Authority
SLFS Saudi Labor Force Survey
SME small or medium-sized enterprise
SMEA Small and Medium Enterprises Authority
TVTC Technical and Vocational Training Corporation
VAT  value-added tax
WTO World Trade Organization
CHAPTER ONE
The Challenge of Creating Quality Private-Sector Employment Opportunities

Oil production and exports have dominated the Kingdom of Saudi Arabia’s economy for decades. This creates several risks. Oil revenues belong to the state, and oil prices are notoriously volatile, so export revenues and therefore government budget revenues are also volatile, leading to potential difficulties in maintaining consistency of programs and policies. Over the long term, the global economy may be shifting away from oil and other hydrocarbons, leading to a future threat to Saudi Arabia’s economy.

This dependence on oil has led to labor market challenges. From an employment perspective, although the value of oil produced net of its production costs amounts to more than 20 percent of Saudi gross domestic product (GDP), employment in the industry amounts to less than 4 percent of employment in all Saudi establishments.¹ Most employment is directly or indirectly generated by government expenditures, and the government relies on oil revenues to maintain employment. The price volatility and the potential secular decline in the use of oil and gas makes this system of employment untenable in the long

¹ The value of oil produced is from World Bank, World Development Indicators, online database, accessed April 9, 2020c; the variable is “Oil rents (% GDP)” (NY.GDP.PETR. RT.ZS). This figure was 23 percent in 2017 and 29 percent in 2018. Oil industry employment is from Kingdom of Saudi Arabia, General Authority for Statistics (GAStat), Establishments Economic Survey, 2017, and is employment in industry 6, “extraction of crude petroleum and natural gas,” and industry 19, “manufacture of coke and refined petroleum products.”
run. This is made all the more urgent by a youth unemployment rate of 28.6 percent in 2019.²

In contrast to government-supported employment funded by oil revenues, private-sector job creation for Saudis has the potential to be sustainable in the long run socially and economically. Globally, private-sector-generated activity usually results in higher productivity and growth than public-sector-generated activity.³ Accordingly, high levels of public-sector employment are not only unsustainable, but the emphasis on public-sector employment is reducing Saudi Arabia’s ability to generate sustained productivity and economic growth.

To meet this challenge, the Kingdom’s leaders have aimed at developing the private sector and generating greater employment opportunities for the population. In part, this includes Saudization: increasing the share of job filled by Saudis rather than expatriates. It also involves generating new jobs that can be filled by Saudis entering the labor market or Saudis currently in the labor market but looking for something better. This involves a major shift in employment patterns in Saudi Arabia. Saudi firms have long relied on lower-cost expatriate labor, and they have adopted technology and working conditions that complement that labor. In turn, many Saudis have preferred not to work for private employers or obtain the skills needed for the private sector, given some private-sector working conditions and traditional access to public sector jobs. Changing this to a situation in which Saudi firms demand Saudi labor and Saudis develop the skills and desire to take private-sector jobs is central to the Saudi economic challenge.

Often, attempts to develop the private sector focus on the supply side of the economy: the education and skills of labor market entrants.

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² Youth are defined as people age 15 to 24. The rate for males was 20.2 percent, and the rate for females was 60.0 percent (World Bank, 2020c; variables are “Unemployment, youth total (% of total labor force ages 15–24) (modeled ILO estimate)” [SL.UEM.1524.ZS], “Unemployment, youth male (% of male labor force ages 15–24) (modeled ILO estimate)” [SL.UEM.1524.MA.ZS], and “Unemployment, youth female (% of female labor force ages 15–24) (modeled ILO estimate)” [SL.UEM.1524.FE.ZS]).

There have been such efforts in Saudi Arabia, including improving the education level, technical skills, and practical job skills of the population and making matches between potential workers and potential employers more targeted and efficient.4

However, even the most highly skilled population may have trouble finding work if few jobs are on offer. Therefore, a necessary complement is to develop the demand side of the economy: the variety and depth of private-sector employers, and their demand for Saudi employees. Demand-side efforts can involve improving the general environment for business formation and operations, as exemplified by the World Bank’s Doing Business series of reports, or designing policies to encourage firms to hire Saudis rather than expatriate workers (expats).5 They can also encourage the development of specific industries that might prove particularly promising for increasing Saudi private-sector employment.6

This report presents the results of a study on such an industry approach. In September 2018, researchers from the Decision Support Center (DSC) of the Royal Court and from the RAND Corporation set out to explore how Saudi Arabia could develop a target industry that can provide quality private-sector employment. Ideally, the findings based on focusing on a specific industry could also be applied to other industries and economy-wide.

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By *quality employment*, we mean more than just a private-sector job, although the creation of private-sector jobs is important. *Quality* applies to both tangible and intangible factors. The tangible factors include rewarding salary and benefits, training opportunities, and opportunities to advance in a career, rather than just hold a job. The intangible factors are just as important, and include cultural acceptance of working in the industry and pride in holding a private-sector job that will contribute to the economic development of Saudi Arabia. These tangible and intangible elements can help attract Saudi citizens to the target industry, and potentially to other industries as well.

Although the focus of this approach is on labor demand, successful Saudization of an industry will also require attention to labor supply. Saudi human capital is increasing as overall educational attainment grows. Nonetheless, ensuring that a sufficient number of Saudi workers have the skills needed by the target industry—or the foundational education necessary to help them gain those skills—will require attention to the education and training pipeline.

Increasing quality employment for Saudis, especially if it involves replacing or otherwise removing productive expatriate employment, carries risks. Since Saudi wages are, on average, higher than expatriate wages, Saudization of an industry will lead to higher costs for employers. These higher costs can be at least partially offset if productivity is also increased—for example through increased investment in physical capital or employees’ human capital. Nonetheless, particularly in the short run, it will be important for Saudi policymakers to consider who bears the cost of Saudization policies. It is likely that some costs can be borne by the government, while others will need to be borne by the private sector. In considering the costs that the private sector can bear, it will be critical to ensure the employers remain competitive—particularly in the case of an industry that produces tradeable goods and must compete in global markets. Such industries are likely to have less cost flexibility and thus require more government assistance than industries that have some type of barrier to entry or less competition from other causes.

Policies aimed at Saudization also pose potential risks to GDP growth. Raising the cost of expatriate labor without increasing employ-
The challenge of creating quality private-sector employment opportunities is a significant concern. The influx of Saudi labor is likely to lower the growth rate of GDP, because of lower consumption and private investment. In addition, real wages of all workers could decline. Reducing the number of expatriate workers could also lead to lower growth in GDP. However, bringing more Saudis into the labor market, such as through higher female labor force participation and replacing expatriate workers with Saudi citizens if the Saudis are higher-productivity, could result in higher consumption, investment, and growth. Accordingly, careful monitoring of outcomes as policies are implemented can help Saudi Arabia increase the benefits while adjusting to lower the risks.

In this research collaboration, the DSC provided overall guidance and institutional context for the study; made the final decisions regarding industry and case-study country selection; arranged and jointly conducted interviews, focus groups, meetings, and two workshops of policy experts; provided and helped interpret data; and created and fielded three surveys: of employers, employees, and recent graduates entering the labor force.

Taking an Industry Approach

Saudi Arabia’s landmark development document, *Vision 2030*, seeks to address both the supply and the demand sides of the labor market. On the supply side, *Vision 2030* lays out the need to better align education with job market needs, to ensure that Saudis are “equipped for the jobs of the future” (p. 36), and to broaden the talent pool by providing more opportunities for Saudi women and Saudis with disabilities. Demand-side proposals include diversifying the economy in a variety of ways including lowering barriers to the entry and growth of small or medium-sized enterprises (SMEs), deepening capital markets.

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to improve investment opportunities outside the petroleum industry, and enhancing conditions for doing business.

In addition to encouraging diversification and growth generally, *Vision 2030* takes a targeted industry approach to the transformation of the Kingdom. Specifically, in the chapter on “A Thriving Economy,” *Vision 2030* calls for the support of promising industries to become pillars of the economy. Identified industries include renewable energy, industrial equipment, tourism and leisure, the digital economy, and mining, among others.10 Saudi Arabia built on *Vision 2030* with additional documents and plans that contained specific indicators and targets.11

Importantly, *Vision 2030* does not simply seek to increase the number of Saudis working in the private sector, but to improve the number of high-quality jobs with working conditions that are attractive to Saudis. The *National Transformation Program* defines Strategic Objective 8 for the Ministry of Labor and Social Development (MOLSD; now known as the Ministry of Human Resources and Social Development) as the creation of “suitable job opportunities available to Saudis” in the private sector.12 To achieve this objective, the program places a strong emphasis on providing the training that young Saudis will need to qualify for high-skilled job opportunities. In addition, in its Strategic Objective 9 for MOLSD, the program recognizes that improving overall working conditions, such as compliance with wage laws and occupational health and safety, for both Saudis and non-Saudis is an important component of this strategy.13

The research conducted for this report builds on the ideas of *Vision 2030* by focusing on the demand side of the labor market—the private-sector companies that hire Saudis. Saudi Arabia has upgraded the skills of its population—although improvement is still necessary—and there

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10 Kingdom of Saudi Arabia, 2016b, p. 44.
12 Kingdom of Saudi Arabia, 2016a, p. 56.
13 Kingdom of Saudi Arabia, 2016a, p. 56.
are a variety of methods that people can use to find jobs that fit their skills. Yet the overall lack of opportunities for people who have built skills can lead to dissatisfaction, increasing the need for the development of private-sector companies that can offer quality employment.

There are two broad ways to foster private-sector development. First, it is imperative that countries improve the overall business environment, creating a situation in which entrepreneurs and businesspeople with good ideas can implement those ideas. This is fundamental to economic reform, since businesspeople will see opportunities that government planners cannot. In fact, as noted above, Saudi Arabia is implementing a great many reforms to improve the business environment. For example, in the 2016 World Bank *Doing Business* report, Saudi Arabia was ranked 82 out of 189; by the 2020 report, it had risen to 62 out of 190, a dramatic improvement.\(^\text{14}\)

Second, with a strong business environment, countries can attempt to encourage specific industries that might be appropriate given their demand patterns, human resources, and global market opportunities. This research takes that approach, considering how to create or expand a specific industry that can provide quality private-sector employment. Based on consultation with the DSC, food manufacturing constitutes the target industry. Chapter Five presents the analysis behind this selection. We refer to this as the candidate industry. Our aim was to develop policies that could be implemented to help this industry expand and provide quality employment. Ideally, policies aimed at this industry can also be applied to other industries, either because other industries have characteristics similar to food manufacturing, or because such policies can improve the overall investment environment.

To devise potential policies, we considered three different approaches. First, we studied industries that Saudi Arabia has successfully developed previously. Specifically, we considered the telecommunications industry and the banking industry. Both provide the types of employment that Saudis desire, although neither is an ideal industry for comparison to food manufacturing. We refer to these as the

comparison industries. Second, we studied the current state of the food manufacturing industry itself in Saudi Arabia. Third, we studied how the food manufacturing industry had developed successfully in a case-study country, in this case Switzerland. While the practices identified in a different country may not be transferrable directly to Saudi Arabia, they can serve two purposes. First, they can provide information on how the food manufacturing industry in the case-study country was initially developed. Second, they can provide information on whether certain policies or other conditions encouraged—or hampered—the industry’s growth. Combined with the analysis of Saudi Arabia’s food manufacturing industry, these findings can help to identify potential policies or factors Saudi Arabia could change to foster the growth of its food manufacturing industry.

Methods and Data Sources

We used a variety of methods to conduct this research: quantitative data on the Saudi economy; interviews, focus groups, and discussions; new surveys conducted by the DSC; media reports and academic and policy literature; and multiple forms of data for the country case study.

Quantitative Data on the Saudi Economy

First, we drew on a variety of existing datasets to describe current conditions in the Saudi labor market, and in the candidate and comparison industries. For the Saudi labor market as a whole, we relied on the Saudi Labor Force Survey (SLFS).\textsuperscript{15} We also used World Bank data from the World Development Indicators database to make comparisons between the labor market indicators of Saudi nationals using the SLFS with regional benchmarks—the Middle East and North Africa (MENA) region and the Organisation for Economic Co-operation and Development (OECD).

For the candidate and comparison industries, we used two sources. First, we used the Saudi Establishments Economic Survey (SEES), which is conducted by the Saudi Arabian General Authority for Statistics (GAStat), to examine changes in total Saudi and non-Saudi employment from 2010 to 2017.16 Second, working with our counterparts at the DSC, we obtained detailed administrative data from the General Organization for Social Insurance (GOSI) to examine employment and compensation for Saudis and non-Saudis in the three industries by gender, province, firm size, and occupation. (Hereafter, we refer to these as the administrative data.)17 We have one snapshot of these administrative data, which reflect the situation as of November 2019.

The administrative data are not directly comparable to the survey data. The GOSI data cover Saudis who are registered as employees and are not in the civil service. The SEES data are collected using survey methods and cover private and semi-government establishments.18

17 For some analyses, we aggregated the seven-digit occupations in the GOSI data, accounting for 80 percent of Saudi and expat employment, into ten broad occupational categories based largely on those found in ISCO-08, the International Standard Classification of Occupations, and on the Arab Standard Occupational Classification (International Standard Classification of Occupations), “ISCO-08 Structure, Index Correspondence with ISCO-88,” webpage, updated June 21, 2016; Arab Standard Occupational Classification, “Directory of Occupations,” webpage, 2016). The specific classification scheme we used is as follows: Directors and Managers (all codes starting with 11 or 12); Science, Engineering, and IT Professionals (all codes starting with 21 or 22); Business and Administration Professionals (all codes starting with 24, 26, or 36); Technicians and Associate Professionals (all codes starting with 31, 32, or 82, plus 6122023); Clerical Support Workers (all codes starting with 41 or 42); Services and Sales Workers (all codes starting with 51 or 52, plus 6111014 and 6123045); Protective Services Workers (all codes starting with 62); Craft and Related Trade Workers (all codes starting with 83 or 92, plus 6122115); Plant and Machine Operators and Assemblers (all codes starting with 91 or 94, plus 6331045); and Workers (6132045, 6132115, 6321015, 6331015, 6331025, and 6331035).
18 The most recent wave of the Establishments Economic Survey (2010–2017) is a series of surveys that samples establishments from the Establishment Census 2010. The survey population is “all public and private sectors of profitable establishments working in Saudi Arabia” pertaining to the survey year (GAStat, 2017, p. 6). An establishment is defined as having a “legal personality,” a fixed location, and being owned by “one or a group of individuals, company or a semi-government sector” (GAStat, 2017, p. 9). In terms of sampling methodology,
Therefore, these two data sources are not always consistent in terms of Saudi and non-Saudi employment within an industry. However, the overall picture of Saudization within each of the target industries is consistent across the two data sources.

We also drew on the World Bank labor market survey (3LMS) that was conducted in 2015–2016 and surveyed approximately 5,000 Saudi nationals, 3,400 non-Saudi nationals (expatriates), and 2,000 firms.\(^{19}\) The survey of Saudi nationals was limited to individuals age 18–64, and sampling occurred in a variety of locations including shopping malls, workplaces, mosques, coffee shops, parks, and other open spaces. Quotas were set to ensure there was sufficient representation among inactive, unemployed, and employed respondents.

Finally, we used two different input-output models to better understand the links the food manufacturing industry has with other industries in Saudi Arabia and with the global economy. The first is from the OECD and shows relationships for 2015.\(^{20}\) The second is a DSC input-output model finalized in 2020. It shows relationships for 2015 and 2020, based on projections from a base year of 2010. These input-output tables show the amount of output from one industry used as an input in all other industries.

**Interviews, Focus Groups, and Discussions**

We supplemented these quantitative data with a series of interviews, focus groups, and discussions. We conducted interviews with human resources managers and other senior executives in 16 private firms in the telecommunications, banking, and food manufacturing industries. We also interviewed representatives from four education and training organizations and from three public-sector organizations. We conducted

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\(^{19}\) The 3MLS survey was commissioned by the Saudi Ministry of Labor and Social Development and provided to us but is not available to the general public.

two focus groups with university students and two focus groups with employees from the comparison industries. The DSC also arranged a workshop of policymakers, private-sector representatives, and experts with whom we discussed a variety of issues related to the Saudi labor market, private-sector jobs, and employment opportunities for Saudis. These interviews and focus groups, as well as the policy workshop, took place between April 2019 and June 2019. The DSC also arranged a second workshop of policymakers in October 2020, with whom we shared preliminary findings and recommendations. We used the input from this workshop to refine and extend the recommendations.

New Surveys Conducted by the DSC
All the focus groups, and many of the interviews, took place in Riyadh. This is in large part because many companies are headquartered or have senior staff located in Riyadh. Nonetheless, to broaden the samples to cover other parts of Saudi Arabia, the DSC fielded three surveys for this research in 2019. First, the DSC administered a survey to a sample of 1,350 recent college graduates. The sample was 57 percent female, and just over half of respondents (52 percent) were age 25 and over. The sample was drawn from a roster of students across 24 universities using a proportional stratified sampling approach with a minimum sample size per stratum set at 30 and distributed according to gender representation by university.

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21 According to the DSC, 14,623 students were contacted; 9 percent completed surveys, 10 percent refused, 16 percent did not meet sampling criteria, and 66 percent surpassed the maximum number of attempts. The actual sample size was 1,262.

22 Approximately 38 percent graduated from one of three universities: King Abdul Aziz University, King Faisal University, and Imam Mohammed bin Saud Islamic University. The respondents represented a wide range of degrees, including business and administration (22 percent); administrative sciences (18.3 percent); computer networking and communications (7.8 percent); computer science (7.8 percent); organizational structure, commerce, and administration (6.2 percent); accounting sciences (5.2 percent); food and food manufacturing engineering (5 percent); economics (3.3 percent); finance, insurance, and investment (3.2 percent); and marketing and electronic commerce (2.8 percent).
Second, the DSC conducted a survey targeted at 1,000 recently employed Saudi men and women in the three target industries. A non-probability-based, quota-based sampling method was employed, and the sample was evenly split between female and male respondents and across the three industries.

Third, the DSC sampled 91 firms in the three target industries, successfully completing a survey for 49 firms for a response rate of 54 percent. The survey was administered to employer representatives across the three industries. The final sample included 31 banks, 13 firms in food manufacturing, sales, and distribution, and five firms in telecommunications and information technology (IT). Most of the sample consisted of shareholding companies or corporations (27), followed by limited liability companies (15), foreign branch companies (4), and sole-owned firms (3). Similar to the employee survey, the sampling strategy for the firm survey was non-probability-based, and thus we are careful not to make generalizations to the population of employees and firms. Nonetheless, the findings from these surveys provide important insights on the views of current employees and human resources managers.

Media Reports and Academic and Policy Literature
We drew on media reports to better understand current developments in Saudi Arabia because of the fast-moving pace of policy development. Academic literature provided an understanding of longer-range developments in Saudi Arabia, cross-country comparisons, and analysis of the relationship between policy changes and economic outcomes. We

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23 According to the DSC, outreach was conducted to 1,796 potential respondents, with 1,050 completed surveys and 746 refusals.

24 The sample was further split by years of experience (over half of the sample had three to four years of experience, and the remainder had fewer than three years of experience), education (close to two-thirds had a bachelor’s degree), and wages (close to half of those who responded reported a salary range of between 5,001 and 8,000 Saudi riyals per month).

25 Given the small sample, we will not be making generalizations to the population of companies in Saudi Arabia. Our discussion of comparisons by industry will also be limited given the small number of companies represented in each industry. Nonetheless, we will draw out insights that are illustrative of differences by industry where possible.
drew on policy literature from Saudi Arabia, U.S. government agencies, and private law firms and consulting firms for their professional understanding of developments and conditions in Saudi Arabia.

**Multiple Sources As Inputs into the Swiss Case Study**
For the Swiss case study, we used a detailed, firm-level database, Osiris, to understand the Swiss food manufacturing industry, and CrunchBase, a database that includes information about investments in start-ups. We also consulted relevant literature about the industry’s development, including consulting reports, government reports, and academic studies.

**Data Limitations**
There are a variety of limitations to the data used in this report. The Saudi economy is changing rapidly, especially in light of the COVID-19 pandemic that emerged on the world stage in late 2019, and so even data from 2018 may not fully capture current conditions. In addition, there may be gaps and inaccuracies in the quantitative data as collected. Every industry is different in terms of its skill demands, organization, and regulatory oversight, and the reasons why some industries developed successfully may not apply in whole to other industries. Conditions are different in each country, and so how an industry developed in one country may not apply in whole to how Saudi Arabia can develop a target industry. Interviewees and focus group participants may be unwilling to provide information that could give a more complete understanding of their views, or they may provide inaccurate information. They might not be representative of the broader public. Likewise, some of the surveys, in particular the employer and employee surveys, were not based on a probability sample, and so may not be representative. Despite these limitations, the information emerging from numerous, uncoordinated data sources was largely consistent, providing confidence that our inputs provided enough valid information with which to draw useful policy implications.
Organization of This Report

This report provides the context for establishing quality private-sector employment in Saudi Arabia and the results of our research to create policies for doing so. In Chapter Two, we provide more detail about recent reforms to foster private-sector development. In Chapter Three, we give an overview of employment trends. In Chapter Four, we discuss how two successful industries, telecommunications and banking, developed. Chapter Five provides a profile of the food manufacturing industry in Saudi Arabia. In Chapter Six, we widen the aperture and explain how the food manufacturing industry developed successfully in Switzerland and how this might apply to Saudi Arabia. Chapter Seven provides information on employer, employee, and student views on the banking, telecommunications, and food manufacturing industries, and on job attributes and quality more generally, reporting on the three DSC-fielded surveys. Finally, in Chapter Eight, we provide policy guidance for developing quality employment in the food manufacturing industry and discuss how this might also apply economy-wide.
Implementation of Vision 2030 has included a wave of reforms. The social reforms, such as introducing live music performances and movies in public, and allowing women to drive, have attained the highest profile.1 But, notably, many of the reforms were significant business measures that hold the promise of making the economy more efficient and spurring the private sector. These reforms cover labor markets, investment, conditions for doing business, and more. They have built on earlier efforts to encourage private-sector growth that have produced varying results.

In this chapter, we provide a brief overview of reforms that the Kingdom has undertaken in recent years, focusing on those that are most relevant to the Saudization of the private sector.

**Labor Force Participation and Saudization of the Private Sector**

Efforts to increase the number of Saudi citizens in the workforce actually started as early as 1932, but a large population of foreign workers remained in the Kingdom, and this population grew in the 1970s following dramatic oil price increases and the concomitant revenue

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flows. Efforts to increase Saudi labor force participation multiplied in the 1990s with a new law requiring Saudization, limits to employment of foreigners in certain sectors, and the creation of a special fund to help with Saudization. Additional measures were taken in the 2000s, including a mandate by the Saudi Manpower Council in 2003 to limit the number of foreign workers and their families to 20 percent of the population by 2013.

However, these policies did not prove effective. So, in June 2011, Saudi Arabia launched the Nitaqat program, which combines sectoral quotas, subsidies, and taxes. Under Nitaqat, firms are required to meet certain quotas for hiring Saudis; these quotas differ by industry and firm size. Based on their degree of Saudization, firms are given a rating of platinum, green, yellow or red. Firms in the lower-ranked red and yellow categories face restrictions on hiring expatriate workers, while firms in the higher-ranked green and platinum bands receive benefits, including easier access to visas for expatriate workers. As we discuss in more detail below, expatriates whose employers are in the red or yellow bands are allowed to change jobs to move to a green or platinum firm without the consent of their current employer, likely giving these latter two sets of firms access to higher-quality foreign labor.

Evidence suggests that the Nitaqat program has succeeded in increasing Saudi employment. However, the policy has also had potential negative effects, including a decrease in overall employment and

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increased firm exits. In the World Bank 3LMS survey of firms, 20 percent of small firms and 10 percent of large firms indicated that they had difficulties complying with Nitaqat requirements. In the same survey, approximately 20 percent to 25 percent of firms indicated that they were aware of others employing “ghost” workers (that is, carrying Saudi employees on the books but not requiring them to do any work) or the practice of Tassatur (that is, when a company is registered in the name of a Saudi who does not take an active role in running it). The prevalence of these practices was confirmed in the concurrent 3LMS survey of Saudis.

Saudization requirements have also been applied to specific occupations. For example, in December 2018, the Minister of Labor and Social Development announced that 41 occupations in hospitality and tourism in Al-Madinah province would be open to Saudi nationals only. As we discuss in Chapters Four and Five, the requirement that certain occupations—such as bank teller—in the comparison industries be closed to non-Saudis is likely to have played an important role in the overall Saudization of these industries.

Training and Skills Development Programs

Saudi Arabia has developed a number of programs to improve education, training, and skills, particularly among youth. The Hafiz program, begun in 2011, provides unemployment payments to young job seekers on the condition that they engage in training provided by the Saudi Human Resources Development Fund and actively search for work. In 2014, the program was expanded to cover older citizens. A related program, Taqat, provides job placement centers and other services to help match Hafiz recipients with private-sector jobs.

Training programs have also facilitated postsecondary education in universities and technical institutes. The King Abdullah Scholar-

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ship Program (now the Custodian of the Two Holy Mosques Scholarship Program) provides assistance for Saudis to pursue postsecondary degrees at foreign universities and includes support for preparatory training in language or other necessary areas.\textsuperscript{11} Within the Kingdom, the Technical and Vocational Training Corporation (TVTC) provides training in more than 45 disciplines, largely focused on sub-baccalaureate degrees in technical fields.\textsuperscript{12}

On-the-job training programs have also been developed in the private sector and encouraged by various government policies. For example, the Saifi program aims to help private firms provide classroom and on-the-job training to Saudi youth during the summer. The Human Resources Development Fund also developed an on-the-job training program that subsidized up to six months of wages for unemployed Saudis who were hired by private-sector firms that met several conditions.\textsuperscript{13} However, our interviews with various government and private-sector representatives indicated that this program created various unintended consequences, as private-sector firms would often keep employees on board for six months while receiving the subsidies and then let them go and hire new employees.

\textbf{Reforms Targeting Working Conditions and Labor Market Flexibility}

Reforms have targeted not just placing Saudis in private-sector jobs but improving working conditions for all workers in those jobs. In October 2015, the MOLSD introduced amendments to the Labor and Workmen’s Law, including improved compensation for work-related injuries; a requirement that employers with 50 or more employees train a greater share of their Saudi employees; an increase in the amount of leave provided for maternity, paternity, and marriage; and an automatic conver-
sion of fixed-term contracts to indefinite-term contracts after a certain number of renewals or a certain period of time.

Several of the amendments also loosened labor market restrictions for private-sector employers, making it easier to terminate employees’ contracts if they fail to appear for work and more difficult for Saudi employees who are dismissed to seek legal redress, allowing a probationary period for new workers to be extended, and increasing the number of situations under which employment contracts can be terminated.14

Reforms Targeting the Business Environment

Reforms have aimed to improve various aspects of doing business in Saudi Arabia. Many of these reforms predate Vision 2030. The Foreign Investment Law, passed in 2000, established the Saudi Arabian General Investment Authority (SAGIA, transformed into the Ministry of Investment in 2020 by royal decree) and encouraged foreign investment through a variety of measures, including accelerating the approval process and allowing repatriation of profits.15 Accession to the World Trade Organization (WTO) in 2005 brought about a range of market, legal, and regulatory reforms to bring Saudi Arabia into conformance with international standards.16

In recent years, several private-sector regulations have been introduced or updated. In May 2016, the new Companies Law came into effect. The law clarified regulations for limited liability corporations and joint stock companies, streamlined procedures for business entry


and other operations, and put into place procedures to improve corporate governance.\textsuperscript{17} In March 2017, the National Centre for Privatization began operating to implement the privatization program launched by the Council of Economic and Development Affairs; the aim is to privatize government assets and services or improve them through private participation.\textsuperscript{18} A 5 percent value-added tax (VAT) on goods and services was introduced in 2017.\textsuperscript{19} In 2018, a comprehensive bankruptcy law was passed.\textsuperscript{20} And in March 2019, the Competition Law was updated.\textsuperscript{21}

Reforms have also aimed to deepen capital markets and facilitate foreign investment, to enable private-sector growth. In 2015, the Capital Market Authority (CMA) allowed qualified foreign investors to invest in shares listed on the Saudi Arabian stock exchange (Tadawul), and in 2017 it loosened asset management rules for investment banks.\textsuperscript{22} In July 2018, the first licenses for financial technology firms were granted.\textsuperscript{23} Foreign investment licensing was streamlined, and restrictions were lifted in several sectors; in August 2017, Saudi Arabia announced it would allow foreign companies to have full ownership

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of engineering, health, and education companies, without requiring them to partner with a Saudi-owned firm. Twenty-four five new foreign banks entered between October 2018 and April 2019, and 20 venture capital firms were licensed in April 2019. A primary dealer system was established with five banks in August 2018, and a domestic 30-year sukuk (bond) was issued in April 2019. The Financial Sector Development Program, part of Vision 2030, aims to further this growth of capital markets to encourage private-sector growth.

Other reforms have aimed to make interactions with the Saudi Arabian legal system more predictable. In 2012, the Saudi Arbitration Law was issued and is based on the UN Commission on International Trade Law Model Law. Among many other things, it allows for the recognition and enforcement of foreign judgments. The Implementing Regulations of the Arbitration Law were approved by the Council of Ministers in May 2017 and came into force in June 2017. Parties to a contract in Saudi Arabia may now agree to resort to arbitration in accordance with the Saudi Arbitration Law. To provide easier and more cost-effective access to dispute resolution, the Saudi Center for Commercial Arbitration (SCCA) was established in March 2014. SCCA administers arbitration procedures in civil and commercial disputes in which parties agree to do so. In April 2020, the Kingdom

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25 International Monetary Fund, 2019.

26 International Monetary Fund, 2019.


announced the Commercial Courts Law, to improve the enforcement of contracts and facilitate other aspects of the legal process.\textsuperscript{31} In keeping with Vision 2030’s emphasis on SMEs, several initiatives have also been aimed at encouraging entrepreneurship and small business growth. In 2017, the Kingdom allowed foreign entrepreneurs to start businesses in Saudi Arabia.\textsuperscript{32} The Small and Medium Enterprises Authority (SMEA) has also announced a variety of initiatives to encourage investment in SMEs, including an SME-focused venture capital fund.\textsuperscript{33}

### Policies Toward Expatriate Workers

The evolution of Saudi Arabia’s labor policies began with alignment of national laws to international labor laws and norms regarding working conditions and workers’ rights and is gradually progressing toward efforts to stem a dramatically growing reliance on expatriate or foreign labor. The underlying approach has been to take steady measures to make expatriate labor more expensive relative to Saudi labor, thereby compelling the private sector to change the composition of its workforce. An additional, more recent policy thrust has been to make expatriate labor more mobile, with more freedom to move between employers, thereby increasing the efficiency of the allocation of labor and helping make expatriate labor more expensive. We provide a brief history of these laws below.

Saudi Arabia’s residency and migration policies date back to a law issued on residency regulations in 1952, followed by the Saudi Arabian Nationality Law in 1954.\textsuperscript{34} In 1999, a law was passed that required


\textsuperscript{33} International Monetary Fund, 2019.

employers to offer all workers health insurance, radically transforming
the provision of health care in the country.\textsuperscript{35} Beginning in the 2000s,
the Saudi government took a more active role in enacting labor laws that
addressed working conditions and providing some regulatory oversight
on the composition of the workforce in terms of Saudi and non-Saudi
workers.\textsuperscript{36} Several forces have shaped a greater involvement of the Saudi
government and eventual overhaul of labor laws in the country. One is
the rising rate of unemployment among Saudis, applying pressure on
the government to seek policy remedies to increase Saudi employment
in the private sector. The second is pressure from international organi-
zations, such as the International Labour Organization (ILO) and the
WTO, to curtail private-sector labor abuses and increase the rights of
all workers. This push led to the enactment of a new labor law in 2005
instituting a wide range of reforms.\textsuperscript{37}

The provisions of the 2005 law (along with subsequent amend-
ments) concerning private-sector workers explicitly prohibit practices
such as confiscating passports, charging recruiting fees, and compel-
ling work outdoors at certain times of the day during the hot summer
months. There are also provisions concerning required rest periods,
overtime, annual leave, and end-of-service “gratuity” or bonus.

One key development in the law is specifying sponsorship arrange-
ments. Expatriate workers may choose to change employment sponsor-
ship with the permission of their current employer if they have worked

\textsuperscript{35} Yagoub Al-Mazrou, Taghreed Al-Ghaith, Abdo S. Yazbeck, and Tamer S. Rabie, “How
Labor Laws Can Transform Health Systems: The Case of Saudi Arabia.” \textit{Health Systems and

\textsuperscript{36} Kamel Mellahi, “The Effect of Regulations on HRM: Private Sector Firms in Saudi

\textsuperscript{37} Kingdom of Saudi Arabia, Labor Law, Royal Decree No. M/51, 23 Sha’ban 1426 / 27
International Labour Organization, “Regulatory Framework Governing Migrant Workers:
with the current employer for at least one year. There are, however, some exceptions. First, the transfer of sponsorship can occur before the minimum one-year wait period if the new employer has adhered to the provisions of Nitaqat, and the current employer gives permission for the transfer. Second, an expatriate worker can move without his or her current employer’s permission, if he or she moves from a company with lower compliance with Nitaqat (a company in the red or yellow categories) to a company with higher compliance (a company in the green or platinum categories). More generally, sponsored workers may choose to change sponsorship without the permission of their original employer only under three conditions: (1) failure of the employer to renew the worker’s residency permit, (2) failure of the employer to pay wages in a timely fashion, or (3) revelation of legal violations by the employer. In Chapter Eight, we also discuss forthcoming changes to the employment relationships for expatriates, which were announced subsequent to research for this report being completed, and which will become effective in March 2021.

More recently, the Saudi government has instituted new taxes. In 2017, Saudi Arabia began to impose a “dependent tax” on expatriate employees, starting at 100 Saudi riyals and rising to 300 Saudi riyals by 2019. More directly affecting the cost of foreign employees, Saudi Arabia started a monthly tax of 400 Saudi riyals per expatriate employee in 2018 if the expatriate employees in a company outnumber Saudi employees, and 300 Saudi riyals if Saudi employees outnumber expatriate employees. These figures were set to rise to 800 Saudi riyals and 700 Saudi riyals, respectively, by 2020.

38 International Labour Organization, 2019, p. 4.
Conclusion

Reform is not new in Saudi Arabia, but the effort to modernize and shift the economy more toward the private sector has accelerated since the publication of Vision 2030 in 2016. Furthermore, Saudi Arabia has taken steps to make the use of expatriate labor less inviting, although employers still have strong business reasons to use foreign employees. Taken together, these reforms represent a wide-ranging, concerted effort to encourage growth and Saudi employment in the private sector. Chapter Five discusses additional policies that are particularly relevant to the food manufacturing industry.

Further analysis would be useful to identify differential consequences on lower-skilled and higher-skilled expatriate employees.
As discussed in Chapter One, Saudi firms have long relied on expatriate labor, and, in turn, many Saudis have preferred not to work for private employers. In this chapter, we set the stage for the examination of employment conditions in the comparison and candidate industries by illustrating important features of the labor market in Saudi Arabia and how they have evolved since 2000. These features show the overall prevalence of Saudi and expatriate workers, the extent to which Saudis are participating in the labor market, and the types of jobs for which firms are hiring Saudis. For these analyses, we draw largely from the Saudi Labor Force Survey (SLFS) and the Saudi Establishments Economic Survey (SEES).

We also draw on the World Bank 3LMS surveys to discuss the perceptions of Saudi employers toward hiring Saudis, and the attitudes of Saudi workers toward private-sector employment in 2015–2016, prior to Vision 2030. These perceptions and attitudes have also evolved over time, especially since the introduction of Vision 2030, and we present the 2015–2016 findings here as a baseline. In Chapter Seven, we present results from the 2019 surveys conducted by the DSC, which illustrate some of the key ways in which attitudes and perceptions are changing among employers and employees within the comparison and candidate industries.
Saudi Firms Rely on Expatriate Labor

Between 2000 and 2018, the number of employed Saudis grew from 2.7 million to 5.3 million. This rapid growth was driven by increases in employment among both men and women. Employment among Saudi men nearly doubled, growing from 2.4 million to 4.3 million, while employment among Saudi women nearly tripled, growing from 350,000 to 960,000 (Figure 3.1).

During the same period, the number of employed expatriates in Saudi Arabia grew even more rapidly than the number of employed Saudis, rising from approximately 3 million in 2000 to 8 million in 2018. In other words, despite the rapid growth in Saudi employment, Saudis made up a smaller share of the workforce in 2018 (40 percent) than they did in 2000 (nearly 50 percent).

Figure 3.1
Number of Employed Saudis and Expatriates

SOURCE: Authors’ calculations based on SLFS data (GAStat, 2020a).
NOTES: Data are for first half of the year or second quarter. For 2000–2005, only the first half of the SLFS was available, and this was used for consistency. Only the second half was available for 2009 and 2011, and timing of data for 2010 was ambiguous. For 2017 and onward, SLFS Q2 was used.
The World Bank 3LMS surveys from 2015–2016 suggest some potential reasons for firms’ historical reliance on expats relative to Saudis. Fifty percent of surveyed firms reported difficulties in hiring Saudis for manual jobs (compared with 30 percent reporting difficulty hiring expatriates for those types of jobs), 40 percent for nonmanagerial jobs, and 20 percent for managerial jobs. Sixty percent of firms reported difficulties recruiting Saudi men. Among those that did report difficulties, the most commonly reported difficulties (20 percent or more) were lack of experience, lack of skills, lack of willingness to accept manual labor jobs, and high salary requests. While few surveyed firms employed women, those that did reported similar difficulties in recruiting them. However, most firms that employed Saudi women also reported that they made better employees than Saudi men because they were more motivated, productive, skilled, experienced, and reliable.

The reported challenges in finding qualified Saudi employees were related to firms’ perceived difficulties in complying with Nitaqat. About 20 percent of firms—particularly small firms and those with a higher share of manual jobs—reported such difficulties. These firms indicated that the jobs they had to offer were not attractive to Saudis, and that it was difficult to find qualified and interested Saudis and compensate them at their expected pay levels. Conversely, firms that reported fewer difficulties in complying with Nitaqat typically indicated that they were able to recruit from a good supply of qualified Saudis.

The Proportion of Saudis Who Participate in the Labor Market Is Low but Increasing

Although Saudi employment has risen rapidly since 2000, many Saudis still do not participate in the labor market. The labor force participation rate (LFPR) of Saudi men has remained relatively steady, growing slightly from 63 percent in 2000 to around 66 percent in 2019.
The labor force participation rate is the percentage of the working age population (typically age 15 and older or 15 to 64) that is either (1) working or (2) not working but actively looking for work.
The LFPR among Saudi youth (ages 15–24) is also low compared with that of the OECD; in 2019, approximately 29 percent of Saudi male youth were in the labor force, compared with 42 percent in the MENA region and 51 percent in the OECD. Similarly, only 8 percent of Saudi female youth were in the labor force, compared with 13 percent in the MENA region and 43 percent in the OECD.²

Because many young people may still be building their human capital through education before joining the labor force, it is also useful to consider the share who are not in employment, education, or training (NEET). Among OECD countries, NEET rates for youth in 2015 were around 12 percent for men and 17 percent for women.³ The NEET rate for Saudi male youth in 2015 was lower than the OECD rate (7 percent). However, the NEET rate Saudi female youth was higher than the OECD rate (26 percent). In addition, these rates are likely for the entire population, including both Saudis and non-Saudis, and therefore may underestimate the NEET rate among Saudi youth. According to the 3LMS surveys from 2015–2016, NEET rates for Saudi men and women age 18–34 were 20 percent and 67 percent, respectively.

The relatively high NEET rate for Saudis that appears in both data sources was reported prior to Vision 2030, and there was evidence—even by 2015—that young Saudis may be more likely to work in the future. This was especially true of young Saudi women. The World Bank 3LMS surveys indicated that more than three-quarters of Saudi men and more than half of Saudi women (with the exception of the 45–54-year-old age group of women) responded favorably to statements describing their perceptions of work (Figure 3.3). Positive

²  World Bank, 2020c; variables are “Labor force participation rate for ages 15–24, female (%) (modeled ILO estimate)” [SL.TLF.ACTI.1524.FE.ZS], “Labor force participation rate for ages 15–24, male (%) (modeled ILO estimate)” [SL.TLF.ACTI.1524.FMA.ZS].

³ The World Bank’s measure of NEET, drawn from the International Labour Organization database, varies by country in terms of ages covered. In some cases, it includes youth ages 15 to 24, but in others, people ages 15 to 29 (World Bank, 2020c; variables are: “Share of Youth Not in Education, Employment or Training, male (% of Youth Population)” [SL.UEM.NEET.MA.ZS], “Share of Youth Not in Education, Employment or Training, female (% of Youth Population)” [SL.UEM.NEET.FE.ZS]).
attitudes toward work were higher among younger Saudi women. In addition, young women were more likely than older women to indicate that their guardian would give them permission to work (albeit in some cases with restrictions on the number of hours and need to work in women-only workplaces). This may reflect a decline in guardians’ willingness to provide permission to work once women reach ages at which marriage and family formation are likely to occur; among the most frequently cited reasons for nonparticipation in the labor force among Saudi women in the 2015–2016 survey was “looking after home and family.” Previous research has already established that marriage and family formation have a negative effect on labor force engagement among women in the MENA region.4

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The difference in attitudes towards work between younger and older women may also reflect changing preferences among younger Saudis. In 2009, there was a steep drop-off in the number of Saudi women participating in the labor force starting at the age of 29, likely coinciding with household responsibilities related to marriage and family formation. In that year, only 17 percent of the Saudi female labor force was age 40 and above, compared with 38 percent of the Saudi male labor force. By 2019, the drop-off in female labor force participation was much less pronounced, and 28 percent of the Saudi female labor force was age 40 and above. Thus, it is evident that by 2019, women are staying longer in the labor force.5

Women’s changing preferences are also reflected in their growing educational attainment. In 2000, about 9 percent of women (compared with 13 percent of men) aged 25 and up had completed at least some postsecondary education. By 2017, the share was slightly higher for Saudi women (32 percent) than for Saudi men (31 percent).6

Many Saudis Who Enter the Labor Market—Especially Saudi Women—Find It Challenging to Get Jobs

Concurrent with the rapid rise in the number of Saudi women into the labor force, the unemployment rate for Saudi women rose from 18 percent in 2000 to a peak of 35 percent in 2013, then fell slightly to around 31 percent in 2018 (Figure 3.4).7 By comparison, the unemployment rate for women in the MENA region has remained persistently at 18 percent over that same time period. The Saudi male unemployment rate has averaged around 7 percent over the 20-year time span, on par with the OECD male unemployment rate and lower than the MENA

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5 GAStat, 2020a.
6 World Bank, 2020c; variables are “Educational attainment, at least completed postsecondary, population 25+, male (% cumulative)” [SE.SEC.CUAT.PO.MA.ZS], “Educational attainment, at least completed postsecondary, population 25+, female (% cumulative)” [SE.SEC.CUAT.PO.FE.ZS].
7 Unemployment captures the share of people in the labor force who are not working but are both willing to work and actively looking for work.
male unemployment rate average of around 9 percent. Both the female and male unemployment rates in the OECD remained around 7 percent over that time period, having peaked in the wake of the global financial crisis in 2010 at around 9 percent.

**These overall unemployment figures do not fully reflect the larger challenge of youth unemployment.** In 2019, the unemployment rate among Saudi male youth was 20 percent—slightly lower than the overall average for the MENA region (23 percent) but much higher than the OECD average (12 percent). Moreover, the unemployment rate for Saudi female youth was 60 percent—nearly 20 percent-
age points higher than the MENA average (43 percent) and five times as high as the OECD average (12 percent).  

**These high rates of unemployment may reflect the mismatch between employers’ and workers’ expectations about skills, compensation, and working conditions.** As noted above, prior to **Vision 2030**, many firms identified challenges in finding Saudis with appropriate experience and skills who were willing to work for the levels of compensation and under the conditions that the employers offered. Potentially because of these mismatches, the World Bank 3LMS surveys also found that a large proportion of Saudis searching for job opportunities, whether currently employed or not, indicated that they were seeking work in the government sector rather than the private sector. Unemployed Saudis were more willing to consider jobs in either the government or the private sector, but a preference for the government sector was still high, with 60 percent of unemployed men and 48 percent of unemployed women indicating that they sought a government job.

This preference for government work may have reflected working conditions in the public sector: Saudis working in government were more likely to report that their skills were effectively utilized, that they had more opportunities for promotion, and that they received salary increases. However, the private sector was reported to provide comparable or greater benefits than the public sector in some ways. Saudis working in the private sector were more likely to report receiving allowances for accommodation, transportation, and meals. With the availability of the GOSI, employees in the private and quasi-government sectors are also eligible to contribute toward a pension.

Among surveyed Saudis who indicated a willingness to work in the private sector, a **majority of surveyed men and women who were employed in 2015–2016 preferred to work for a large, prestigious**

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8 World Bank, 2020c; variables are “Unemployment, youth male (% of male labor force ages 15–24) (modeled ILO estimate)” [SL.UEM.1524.MA.ZS], and “Unemployment, youth female (% of female labor force ages 15–24) (modeled ILO estimate)” [SL.UEM.1524.FE.ZS]).

9 The greater likelihood of salary increases could be attributed to tenure on the job, which tends to be higher in the government sector.
company. Among unemployed Saudis, however, at least half of those willing to work in the private sector would do so for any private-sector company. Both employed and unemployed women tended to be more flexible on salary than on working conditions—in other words, they said they would take a lower salary for better working conditions. This was generally not the case among Saudi men, although employed men said they were more willing to be flexible on working conditions, whereas more unemployed men were willing to be flexible on salary.

Most Saudi men, and most unemployed Saudi women, reported that they were willing to consider a wide range of jobs or almost any job (Figure 3.5). However, when asked whether they would consider specific types of jobs, 60 percent of Saudi men considered unskilled manual work unacceptable, and 46 percent considered skilled manual work unacceptable. Reflecting current employment patterns among Saudi women, women considered education (over 50 percent) and health (24 percent) to be the dominant sec-

Figure 3.5
Willingness to Consider a Range of Jobs, Employed and Unemployed Job Seekers

SOURCE: Authors’ calculations based on World Bank 3LMS surveys.
NOTE: Weighted estimates based on sample size of 92 employed respondents looking for work and 733 unemployed (not working but looking for work).
tors acceptable for work, although over 20 percent considered all jobs to be acceptable.

**Saudis Who Do Find Jobs Are Concentrated in the Public Sector and in Certain Private-Sector Industries**

These differing attitudes and perceptions of employers and employees result in a situation in which the **Saudis who do find jobs are highly concentrated in certain industries**. Approximately 40 percent of Saudi men are employed in general administration (government ministries and other government entities). Education accounts for another 14 percent of male employment, and agriculture, manufacturing, wholesale and retail trade, transportation and communication, real estate and business services, and health and social services each account for 5–6 percent (Figure 3.6).

Saudi women are even more concentrated in certain industries. In 2000, nearly 85 percent of employed Saudi women worked in edu-

**Figure 3.6**

Employment Distribution of Saudis, by Industry and Gender

![Employment Distribution Chart](image)

cation; by 2016, that share had fallen to 67 percent. During the same period, the share of women employed in health and social services rose from 5 to 14 percent, and the share in several other industries, including wholesale and retail trade, banking, and manufacturing also rose from close to zero to a few percent.

Turning to a comparison of Saudi and non-Saudi employment, we find that Saudis make up over half of the workforce in utilities, mining and quarrying, and a number of professional service industries (Figure 3.7). In contrast, construction, agriculture, and accommodation are dominated by expatriates, with Saudis making up less than 20 percent of the workforce. There have been some small

Figure 3.7
Rates of Saudi Employment, by Industry, Excluding Government

shifts over time, but these overall patterns have been consistent over the past ten years.

Summary

Since 2000, overall Saudi employment, particularly among women, has increased substantially. At the same time, however, employment of expatriates has increased even more rapidly, so that Saudis made up a lower share of the workforce in 2018 than they did in 2000. This illustrates one of the central challenges facing the government as it tries to reshape the economy for the future. Employers in most industries rely on expatriates to fill the majority of jobs, and, as of 2015, expressed difficulties in finding a sufficient number of Saudis with the skills, experience, and willingness to accept the salaries and working conditions offered.

Although more Saudi women are joining the labor market, overall Saudi participation in the labor force remains low, and unemployment rates remain high among women and youth—a critical challenge for a country with a young population and a growing number of women interested in working outside the home. In 2015, although most Saudis were more willing to consider a wide variety of jobs, they also indicated a strong preference for government jobs and reported that performing unskilled manual labor—and in many cases, skilled manual labor—would not be acceptable. This illustrates a second central challenge facing the government as it tries to deemphasize expatriate employment. These attitudes may be changing, especially since the advent of Vision 2030, and we explore these changes in more detail in Chapter Seven.

The vast majority of Saudis who do work are found in the public sector or in a relatively small set of industries within the private sector. In Chapter Four, we examine two industries that have a high share of Saudi employment (banking, within financial and insurance activities, and telecommunications, within information and communications), to examine how those industries initially induced, and have sustained, increases in their shares of Saudi employment.
CHAPTER FOUR

The Development of Successful Industries in Saudi Arabia

In this chapter, we describe how we selected two industries in Saudi Arabia that have already successfully Saudized (the “comparison” industries) and summarize our findings about what factors are likely to have played a role in this.

Selection of Comparison Industries

We analyzed data from 83 industries found in the GAStat’s Establishment Economic Survey from 2012 to 2017, using the following quantitative criteria: number of Saudi employees, percentage of Saudi employees in total employment, average Saudi compensation, and average annual value added growth. For each criterion, a higher value was considered more desirable. We ranked each industry in terms of each criterion and then calculated an overall rank as the average of the individual ranks. Table 4.1 shows the top ten industries by overall rank.

Based on discussions with the DSC, we also considered several other factors qualitatively. First, we focused on industries with relatively high average annual employment growth (shown in Table 4.1). Second, we focused on industries that are perceived as attractive to Saudi job seekers. Third, we excluded industries with a strong public-sector presence, as our aim was to select industries that could contrib-

1 GAStat, 2020b.
<table>
<thead>
<tr>
<th>ISIC Code</th>
<th>Industry</th>
<th>Total Employment</th>
<th>Saudi Employment</th>
<th>Share Saudi Employment (%)</th>
<th>Average Annual Saudi Compensation (1,000 Saudi riyals)</th>
<th>Average Annual Value Added Growth (%)</th>
<th>Average Annual Employment Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>Telecommunications</td>
<td>79,931</td>
<td>65,230</td>
<td>82</td>
<td>140</td>
<td>9.6</td>
<td>1.1</td>
</tr>
<tr>
<td>64</td>
<td>Financial service activities, except insurance and pension funding</td>
<td>90,534</td>
<td>69,331</td>
<td>77</td>
<td>250</td>
<td>8.7</td>
<td>0.9</td>
</tr>
<tr>
<td>51</td>
<td>Air transport</td>
<td>35,507</td>
<td>26,974</td>
<td>76</td>
<td>176</td>
<td>16.6</td>
<td>0.9</td>
</tr>
<tr>
<td>35</td>
<td>Electricity, gas, steam and air conditioning supply</td>
<td>71,613</td>
<td>57,031</td>
<td>80</td>
<td>136</td>
<td>5.5</td>
<td>0.8</td>
</tr>
<tr>
<td>20</td>
<td>Manufacture of chemicals and chemical products</td>
<td>97,640</td>
<td>48,643</td>
<td>50</td>
<td>183</td>
<td>6.5</td>
<td>0.7</td>
</tr>
<tr>
<td>53</td>
<td>Postal and courier activities</td>
<td>3,433</td>
<td>1,818</td>
<td>53</td>
<td>107</td>
<td>12.5</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Extraction of crude petroleum and natural gas</td>
<td>62,157</td>
<td>52,497</td>
<td>84</td>
<td>603</td>
<td>-12.3</td>
<td>0.2</td>
</tr>
<tr>
<td>19</td>
<td>Manufacture of coke and refined petroleum products</td>
<td>19,606</td>
<td>15,210</td>
<td>78</td>
<td>366</td>
<td>2.7</td>
<td>0.7</td>
</tr>
<tr>
<td>80</td>
<td>Security and investigation activities</td>
<td>33,883</td>
<td>27,398</td>
<td>81</td>
<td>40</td>
<td>11.2</td>
<td>1.2</td>
</tr>
<tr>
<td>85</td>
<td>Education</td>
<td>188,419</td>
<td>105,262</td>
<td>56</td>
<td>48</td>
<td>7.7</td>
<td>1.1</td>
</tr>
</tbody>
</table>

NOTES: ISIC = International Standard Industrial Classification.
ute to private-sector employment growth. Finally, we excluded petroleum and related industries, as the factor underlying the strength of these industries—a rich hydrocarbon resource base—is unlikely to be translatable to other industries.

Based on these analyses, the DSC and RAND selected the two top-ranked industries from the overall ranking—(1) telecommunications and (2) financial service activities except insurance and pension funding (in other words, the banking industry).\(^2\) Both these industries had several strengths as comparison industries, as well as some drawbacks that we consider when interpreting results.

The banking industry was one of the first to be Saudized, and ranked highly across the dimensions we considered. It is highly regulated by the Saudi Central Bank (formerly the Saudi Arabian Monetary Authority, or SAMA), and is profitable in part because a large share of deposits does not receive interest. Thus, it may be difficult to translate practices from banking to other industries. Nonetheless, at the time of the analysis, there were 12 Saudi banks, 16 foreign-invested banks, and about 30 financial leasing companies, and major bank branches can be found in most cities, which means there is geographic variety to employment opportunities. Outside of industries related to petroleum, finance has the highest compensation and is attractive to Saudi job seekers.

The telecommunications industry also ranked highly across all of the dimensions we considered. It is dominated by three large firms, and employment is highly concentrated in Riyadh, which may limit the usefulness of the industry as a case study for other industries with a less concentrated market structure. However, despite the dominance of the three largest firms, there are almost 3,400 establishments in the industry, many of which are small or medium-sized. Furthermore, the three dominant firms are publicly traded and compete with each other, which means the industry is subjected to market forces. Finally, telecommunications represents a growing industry that has local success stories and may be attractive to young Saudis.

\(^2\) Air transport was tied for second place with the banking industry but was excluded because of strong government presence.
In the following sections, we draw on our interviews and focus groups, as well as survey and administrative data on Saudi and expat employment and wages in the comparison industries, to examine the factors that are related to Saudization in these industries.

**Saudization in the Financial Service Activities (Banking) Industry**

Until the 1970s, much of the formal banking activity in Saudi Arabia was performed by foreign banks. Starting in the late 1970s, Saudi Arabia passed a series of laws that required foreign banks to form joint ventures with Saudi banks to continue to operate in the Kingdom. These joint venture formations were completed by 1983, and it was subsequently difficult for foreign banks to enter Saudi Arabia.\(^3\) Starting in 2000, SAMA once again began to allow some foreign banks to operate in Saudi Arabia, alongside 12 Saudi banks.\(^4\)

**The Banking Industry Is One of the Most Highly Saudized in Saudi Arabia**

Following the early reforms, the banking industry has been highly Saudized for many years. Between 2010 and 2017, total employment grew by approximately 60 percent, while Saudi employment grew by 65 percent, thus slightly increasing the share of Saudis in the industry (Figure 4.1). Administrative data from November 2019 indicate that approximately 15 percent of Saudi employees in banking are female. There are very few (less than 50) female expats employed in this industry.\(^5\)

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5. Administrative data from November 2019 indicate a higher Saudization percentage of 90 percent; this is unlikely to reflect a substantial change between 2017 and 2019, but rather a difference in data sources and methodologies.
A review of the available literature, as well as our interviews and focus groups, suggest that a number of factors are likely responsible for this high level of Saudization.

**Saudization in the banking industry began well before the Nitaqat program was started in 2011 and has been driven largely by the Saudi Arabian Monetary Authority (SAMA).** The Ministry of Labor, and subsequently SAMA and the CMA, have required quotas for Saudization, beginning with bank branch employees (e.g., tellers) and proceeding to positions outside of bank branches. Interviewees and focus group participants reported that employers often do not believe that Saudis will do good work, but that after they have some experience working with Saudis, their trust grows. The early push for Saudization may have increased banks’ experience with, and trust in, Saudi workers.

**The number of qualified Saudi candidates has increased in recent years.** Several interviewees noted that when banks first started to Saudize, the available labor pool was small and many candidates did not have the right education. However, our interviews indicated
that the quality of university education in the Kingdom has improved since the early 2000s, and the number of Saudis educated abroad has increased. In addition, in 2006, the standard work shift in banking was changed from a split shift to a continuous shift, which was considered more desirable, and thus increased the number of candidates who applied for positions. In recent years, more Saudi women have also been entering the workforce, and Saudi women now make up a growing share of banking employment.

A number of banks have also developed training pipelines targeted at young Saudis. Cooperative programs, in which firms partner with universities to develop structured, on-the-job experiences for students while they are still in school, are common in the banking industry. Banks also have their own selective recruiting and training programs to provide both classroom and on-the-job training for top candidates. The ability to provide such in-house training is likely facilitated by the fact that most employment in the banking industry is in large firms with more than 250 employees. At the same time, the industry makes use of government-provided diploma programs aimed at banking and finance.

Today, Saudis in leadership positions are contributing to continued Saudization of the banking industry. Our interviews suggested that as the pipeline of qualified Saudi candidates entering the banking industry expanded, the number who were promoted over the years also rose. Thus, Saudis who entered the banking industry in the early 2000s are now in leadership positions and are helping to drive the continued push for Saudization in the industry. Several interviewees stressed that top officers have to make Saudization a priority, plan for certain jobs to be Saudized, and use targeted succession planning for Saudization to be successful.

Industry reputation and salaries are high. Interviews and focus groups suggest that the banking industry is seen as prestigious and as

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6 Azhar, Edgar, and Duncan, 2016.

7 These cooperative programs are distinct from summer internships, which are required by the Ministry of Labor and Social Development but are not reported to be an important recruiting channel.
having a good work environment, including the opportunity to work in an office. In addition, the industry pays the highest salaries outside of the petroleum industry (Table 4.1). The World Bank 3LMS data show that expats typically receive lower salaries than Saudis, even when controlling for observable job characteristics. However, in the case of the banking industry, our interviewees suggested that, historically, banks typically paid expats the same, or even higher, wages than Saudis and so did not gain a clear cost advantage from hiring expats. Nonetheless, in today’s banking industry, average salaries are substantially lower among expats than among Saudis, as we discuss in more detail below.

**There Are Still Several Limitations to Saudization in the Banking Industry**

**Occupations that require specific technical skills or specific experience remain hard to Saudize.** In Figure 4.2, we show the proportion of Saudization in all occupations that together account for 80 percent of Saudi or expat employment in the industry. We color-code these disaggregated seven-digit occupations into ten broad occupational categories, as discussed in Chapter One (footnote 17). The size of each circle indicates the number of employees in that occupation. Most of the largest occupations in banking are either completely (or almost completely) Saudized or are completely (or almost completely) filled by expats.

Eighty percent of Saudi employment in banking is in ten occupations, nearly all of which fall into two general groups: “directors and managers” and “clerical support workers.” There are very few expats in these occupations. Conversely, 80 percent of expat employment is in 16 occupations, with the largest in the “business and administration professionals” category (for example, financial analyst and public accountant) and the “science, engineering, and IT professionals” category (for example, computer programmer and general systems analyst). Only a few occupations, such as general systems analyst (which is about 40 percent Saudized) and money and currency exchange (which is about 50 percent Saudized) include a substantial share of both Saudis and expats.
This lack of overlap makes it difficult to compare Saudi and expat salaries within the same occupation. However, for the top Saudi occupations in which there are at least 50 expats and the top expat occupations in which there are at least 50 Saudis, male Saudi salaries are, on average, between two and six times higher than male expat salaries.

The observed employment patterns are consistent with our interview findings. Interviewees noted that it remains challenging to fill certain positions that require experience in specific areas, such as risk management. More broadly, it remains challenging to find Saudis for technical positions; private-sector representatives posited that this is
because many Saudis prefer client-facing jobs. The banking industry also faces the global challenge of filling positions in high-demand occupations, such as cybersecurity. And, despite the success of Saudization in the banking industry, there is little evidence that Saudi bank employees will provide a pool of Saudi talent for the growing venture capital industry, which requires a different view of risk than traditional banking. Venture capital representatives emphasized the difficulty in finding mid-level and senior candidates in the Kingdom (and indeed in the region as a whole), as the industry is new in the region and there are few people with experience.

The banking environment was sometimes perceived as requiring long hours of work and having a highly competitive environment. Some interviewees and focus group participants indicated that Saudis are willing to work long hours, especially if they believe they have substantial career growth opportunities. Others perceived that it is difficult to find Saudis willing to take jobs in highly competitive environments.

**Despite improvements through the 2000s, the pool of highly educated, talented Saudis remains small, and many private-sector banks are fighting over the same people.** Our interviewees noted that the recent surge in hiring by the semi-government sector and the government sector (in contract positions) has increased competition for this talent. Industry representatives generally perceive that employees are moving to the semi-government sector for higher pay, for the ability to make an impact in the Kingdom, and to have more freedom in their work environment. The small pool of talent was viewed as particularly challenging for smaller, younger firms, which cannot afford to pay high salaries and which account for nearly 20 percent of banking industry employment. This is likely hampering firm growth, and may even be causing firm exits.

**Saudization in the Telecommunications Industry**

The telecommunications industry in Saudi Arabia has historically been dominated by a few large firms. The first major provider of fixed and mobile services in the Kingdom, STC, was established in 1998 and
was wholly government-owned. In 2002, STC was partially privatized, with 30 percent of shares offered to the public through an initial public offering; today, the Public Investment Fund still owns 70 percent of its shares. The following year, the Communications and Information Technology Commission (CITC) was established as the industry’s regulator. During the next few years, several additional telecommunications providers entered the market. Today, the industry is dominated by three large firms: STC, Mobily, and Zain. Several mobile virtual network operators also provide services, but they do not own the underlying infrastructure.

The Telecommunications Industry is Highly Saudized
Between 2010 and 2017, total employment in the telecommunications industry grew by approximately 80 percent. Most of this growth came from Saudi employment (Figure 4.3). According to administrative data from November 2019, Saudi women make up approximately 10 percent of Saudi employment in this industry. As in banking, there are very few female expats.

9 Mobily (Etihad Etisalat) was established in 2004 and was granted a license to provide mobile services (Kingdom of Saudi Arabia, Ministry of Information and Communications Technology, “Brief History,” webpage, undated; Mobily, “About Mobily,” webpage, undated). The majority of Mobily’s shares are held by private and institutional investors. Its major shareholders are the Etihad Emirates Group, with 27.99 percent of shares, and GOSI, with 11.85 percent of shares (Mobily, undated; Tadawul, “Etihad Etisalat,” webpage, undated-b). The Integrated Telecom Company (ITC) was established in 2005 to provide broadband services, and a Kuwait-based provider, Zain KSA (Mobile Telecommunication Company Saudi Arabia), was licensed to operate in Saudi Arabia (Anis Ali and Mohammad Imdadul Haque, “Telecommunication Sector of Saudi Arabia: Internal and External Analysis,” International Business Management, Vol. 11, No. 6, 2017). Three major shareholders collectively own a majority of Zain KSA’s shares: Kuwait Investment Authority (24.6 percent), Oman Telecommunications (21.9 percent), and Noboudh Development Trading & Contracting Co. (5.05 percent) (Tadawul, “Mobile Telecommunication Company Saudi Arabia,” webpage, undated-c).

11 Administrative data from November 2019 indicate a Saudization percentage of 83 percent, slightly lower than the 87 percent indicated by the survey data.
The origins and regulatory environment of the telecommunications industry played an important role in Saudization. Because STC started as a government entity, it was already highly Saudized. When STC was privatized, the existing government workers were given the opportunity to stay with the newly privatized company—thus providing STC with an already Saudized workforce. In addition, as licenses were granted to additional mobile service providers, the Saudi government required some level of Saudization among the new entrants. Our interviews indicated that an important feature of Saudization in telecommunications was that the government imposed Saudization requirements in leadership positions early on; having Saudis in key management positions helped to create management buy-in for Saudization and provided examples of success stories for young Saudis.

Recent regulatory reforms have further increased Saudization in the industry. Two recent regulatory changes have played a role in further Saudization. First, Nitaqat regulations have required an increase in the share of Saudi employees in the telecommunications industry. Second, as part of the Kingdom’s broader Saudization strategy, the Ministry of Labor and Social Development, the Saudi Chamber of Commerce, and the Human Resources Development

Figure 4.3
Saudization in the Telecommunications Industry

![Graph showing Saudization in the Telecommunications Industry](image)

SOURCE: Authors’ calculations using data from GAStat (2020b).
Fund developed specific initiatives to Saudize certain occupations in the telecommunications industry, such as mobile maintenance, sales, and marketing.

Our interviews also indicated that two key features of the telecommunications industry in Saudi Arabia have enabled Saudization. First, the high profit margins among the dominant players in the telecommunications industry make it easier for firms to pay higher salaries to Saudis than would be paid to expats. Second, the industry has become increasingly attractive to Saudis, in part because of the overall digital transformation and local success stories in the telecommunications industry.

In addition, several large telecommunications firms have started their own in-house training programs, aimed at identifying, developing, and providing clear career pathways for qualified, young Saudis. There are also government training programs for specific occupations and skills within telecommunications, and private-sector representatives noted that the Tamheer program—which subsidizes wages during on-the-job training—was useful in giving employers a chance to evaluate and train employees with little cost to the firm. Many programs focus on fresh graduates, but there are also private and public efforts to train Saudis for mid-level and upper management. Our interviews and focus groups suggest that a combination of professional development, clear career pathways, good compensation, and a good work environment have served to make the telecommunications industry attractive to young Saudis. The dominance of large telecommunications firms makes it easier for this industry to provide in-house training to develop career paths.

As in Banking, Saudization in Telecommunications Has Limitations

Our interviews and focus groups indicated that, historically, it has been perceived to be difficult for firms to find Saudis willing to remain in technical career tracks. Although this perception appears to be changing, it remains difficult to Saudize technical jobs. There are two main reasons for this challenge. First, the specific technical expertise for certain jobs may be lacking in the Kingdom. This is particularly true given the fast-paced nature of the telecommunications industry, which
makes it difficult to find Saudis who can fill positions that require expertise in emerging technologies. Second, although Saudi attitudes toward nonmanagerial jobs are becoming more positive, there remains a need to increase the social acceptability of technical jobs—and those that do not have certain desirable titles, such as “manager.”

It also remains difficult to Saudize low-wage, low-skilled occupations and occupations with less favorable working conditions. In contrast with technical jobs, which are challenging to Saudize because of lack of specific skills and social desirability, many operational jobs are undesirable for Saudis because they require workers to work outside and to do physically demanding work. To some extent, these conditions are part of the nature of those jobs; however, because employers have access to expatriate employees, many of whom are willing to work for lower wages and in poorer working conditions than Saudis, firms do not have a strong incentive to find ways to improve those conditions. It is also particularly difficult to keep Saudis in positions for which there is no clear career ladder (for example, receptionist, call center employee, technician); in some cases, such as call centers, firms have developed a workforce strategy that incorporates high employee turnover. In fact, supervisory positions in operations are easier to Saudize.

The wage gap between Saudis and expats remains a challenge, especially for small businesses, for businesses with relatively thin profit margins, and for businesses that seek to export their goods or services. Although wage subsidies may encourage temporary hiring of Saudis, employers are unlikely to retain Saudis after those subsidies end because of the Saudi-expat wage gap and the low-skilled nature of the jobs.

Thus, in telecommunications, as in banking, there are few occupations in which substantial numbers of both Saudis and expats are found. In Figure 4.4, we show the proportion of Saudization in all occupations that together account for 80 percent of Saudi or expat employment in the industry. We color-code these disaggregated seven-digit occupations into 10 broad occupational categories, as discussed in footnote 17 in Chapter One, and the size of each circle indicates the number of employees in that occupation.
Figure 4.4  
Saudi Share of Employment in Telecommunications, by Occupation

![Saudi Share of Employment in Telecommunications, by Occupation](image)

**SOURCE:** Authors’ calculations based on the most recently available data from GOSI provided by the DSC.

**NOTES:** The figure shows the Saudi share of employment in each seven-digit occupation in the GOSI data for the largest occupations that together account for 80 percent of Saudi or expat employment in the industry. The size of each circle represents total employment in the occupation. For each occupation, the figure also shows the average salary for Saudi males. For occupations that do not have any Saudi employees, the circles are shown at the Saudi minimum wage of 3,000 Saudi riyals/month and are “jittered” around a Saudi share of 0.0 so that the separate circles can be seen. Each occupation is color-coded into ten broad occupational categories, as discussed in Chapter One (footnote 17).

The most prevalent Saudi jobs in telecommunications are somewhat more diverse than in banking. While “clerical support workers” and “directors and managers” still make up a large share of Saudi jobs, a number of Saudis are classified as “workers” or “services and sales workers” (specifically, sales representatives).

As with banking, there are few expats in the occupations with the highest numbers of Saudis; expats are concentrated in more technical jobs, typically in the “technicians and associate professionals” category (for example, communication technician), the “science, engineering,
and IT professionals” category (for example, computer programmer and communication engineer), and the “business and administration professionals” category (for example, marketing specialist). A somewhat larger number of occupations than in banking include a substantial share of both Saudis and expats; these occupations are generally in the “technicians and associate professionals” category (including, for example, the occupation with the largest number of expat jobs: communication technician) or the “science, engineering, and IT professionals” category (for example, communication engineer, general systems analyst, and computer engineer). This somewhat greater overlap may be partly due to Saudization strategies used by telecommunications firms; our interviews suggested that one common strategy for training Saudi engineers was to hire new college graduates and have them work with foreign vendors to learn the necessary on-the-job skills. Similar to the situation in banking, when Saudis and expats do share the same jobs, Saudis are typically paid between two and five times as much.

Telecommunications firms also reported substantial competition among industry players to keep Saudis with top talent, given the growing requirements for Saudization, competition from the semi-government sector, and the relatively small pool of highly-skilled Saudis. This may be particularly challenging for firms that are not considered to be leading players in the industry. Government representatives, private-sector employers, and university representatives we spoke with also expressed concern about the lack of coordination between the training that universities provide and the specific skills that the telecommunications industry requires.

Despite relatively high Saudization, outsourcing of certain functions remains common. Our interviews with both private-sector and government representatives indicated that some firms outsource non-core functions, or some share of jobs in a number of different occupations, in part to lower labor costs and meet Saudization targets. There is, however, a perception that there has been less of this kind of “fake” Saudization (for example, registering an employee who is in one occupation as being in another, in order to meet Saudization targets) in recent years. This was attributed in part to requirements that customer-facing positions (for which enforcement is easier) be Saudized and in
part to increased enforcement. There is also concern among government officials that some telecommunications firms misreport their industry to avoid high Nitaqat targets.

**Implications for Other Industries**

The banking and telecommunications industries both have unique characteristics that contributed to their success in Saudization, which may not be possible to replicate elsewhere. Throughout the world, both industries have relatively high profit margins and pay high wages, which makes them more attractive to Saudis. Telecommunications also benefited from having an initial, large pool of Saudi private-sector workers when STC was privatized.

Nonetheless, there are several commonalities across these two industries that may be relevant to other industries. First, in both banking and telecommunications, Saudization has been driven in large part by a strong industry regulator. Firms have had an incentive to comply with Saudization requirements, not just to meet Nitaqat rules but also to avoid other potential consequences that could be imposed by the regulator. Although other industry regulators may not have as strong a presence as SAMA, the Ministry of Communications and Information Technology, or CITC, this finding suggests that the government agencies that play a role in day-to-day regulation of a target industry may be able to influence Saudization—even if they are not directly involved in labor regulation. However, excessive regulation could affect economic performance, especially in industries that have lower barriers to entry than banking or telecommunications.

Second, both banking and telecommunications benefited from both public- and private-education and training pipelines that provided young Saudis with the skills required by these industries. In the case of banking, the King Abdullah Scholarship Program (now the Custodian of the Two Holy Mosques Scholarship Program) was an early source of Saudis with needed skills. Several banks and telecommunications firms have also developed in-house training programs, and banks in particular often hire university students through cooperative
programs. Firms have also drawn some workers from industry-specific training programs provided by the government.

Third, both the banking and telecommunications industries are viewed as being desirable for Saudis to work in, albeit for different reasons. Banking is generally viewed as prestigious, while telecommunications is viewed as dynamic and entrepreneurial, with local success stories such as Mobily.

Fourth, large firms in both industries have developed clear career pathways for many of their employees. In both cases, students, employees, and firm representatives indicated that offering junior employees a path to advancement—even if it is not guaranteed—was an important factor in their interest in working in an industry.

Fifth, in both industries, the buy-in of firm leadership for Saudization was critical. Our interviews suggested that Saudis in key leadership positions were more likely to drive Saudization within their firms than expats in the same positions. In addition, the presence of Saudis in leadership positions offered role models to junior employees, enforcing the potential for a career path within the firm and the industry.

Finally, there are also important implications to be drawn from the jobs that have not yet been Saudized in banking and telecommunications. Technical jobs—especially those that rely on years of experience, rather than formal education—remain difficult to fill with Saudis. To some extent, this may be solved over time, as Saudis develop the needed expertise by working in the industry. However, many of our interviewees also emphasized that there may be cultural preferences for sales and customer-facing jobs, rather than back-office, technically oriented jobs. In addition, jobs with low wages or poor working conditions—for example, those that require outdoor work or physically demanding tasks—remain difficult to Saudize. Some of these conditions—such as the need to work outdoors—may be inherent parts of the job that cannot be changed. However, employers may be able to improve other working conditions, such as reducing the physical demands of certain jobs by investing in capital. Currently, employers may not have the incentive to make such improvements, as they have access to expatriate workers who are willing to work under those conditions.
In Chapter Eight, we examine the implications of these findings for Saudization of the target industry, and of the private sector more broadly.
In this chapter, we discuss the analysis underpinning the selection of a candidate industry. Based on this analysis, the DSC made the final determination to select food manufacturing as the candidate industry. We then provide a profile of the industry in Saudi Arabia. Following that, we discuss advantages and challenges that food manufacturing faces in Saudi Arabia, and we extend that discussion to how the advantages and challenges may be similar in other industries in the Saudi economy.

Selection of Food Manufacturing as the Candidate Industry

As with our selection of the comparison industries, we started by analyzing data from GAStat’s Establishments Economic Survey from 2012 to 2017. We screened on the following quantitative criteria, similar to the criteria on which we assessed the selection of the banking and telecommunications industries, for all 83 industries listed: number of Saudi employees in 2017, percentage of Saudi employees in 2017, average Saudi compensation in 2017, and value-added growth from 2012 to 2017. In each case, we calculated the 25th, median (50th), and 75th percentiles for each industry so that we could filter the industries based on different criteria. Following the filtering, we also evaluated total

Filtering the Industries
We conducted three progressively broader filters of the 83 industries and arrived at 12 potential candidate industries. Of these, five were selected for further discussions between RAND and the DSC, based on their suitability as target industries for development, and these were narrowed down to three finalists (Table 5.1).

Industry Pros and Cons
Each of these industries presented advantages and disadvantages. In addition to evaluating how each industry compared with other industries in the Saudi economy, we considered international trends in each of the three industries to better understand growth potential.

International Standard Industrial Classification (ISIC) 71, “Architectural and engineering activities [not including civil engineers]; technical testing and analysis,” is above the median for Saudi employment, but Saudi employment constitutes only 23 percent of total employment in the industry, indicating a good possibility for Saudization. Compensation and growth of value added are both high, with the latter suggesting growth possibilities. In addition, there are more than 2,300 establishments in the industry, suggesting plenty of opportunity for hiring. Boosting the likelihood of Saudization, the Saudi Council of Engineers in 2018 started enforcing standards for expatriate engineers that are already required of Saudi engineers, which should help to shift demand toward Saudis. Finally, in other countries, the distribution of occupations within this industry includes a relatively large share of highly skilled occupations and several semi-skilled occupations.

Despite these advantages, engineering and architectural services tend to grow and shrink along with the business cycle. Although this cyclicality is likely to be most pronounced in civil engineering, which is not included in this industry, the architectural and engineering activities are also quite closely linked to construction. Developing and Saudizing this industry would require a strong pipeline of Saudis trained and prepared to pass the licensure exams for the relevant engi-
Table 5.1
Three Potential Candidate Industries, 2017

<table>
<thead>
<tr>
<th>ISIC Code</th>
<th>Industry</th>
<th>Total Employment</th>
<th>Saudi Employment</th>
<th>Share Saudi Employment (%)</th>
<th>Average Annual Saudi Compensation (1,000 Saudi riyals)</th>
<th>Average Annual Value Added Growth (%)</th>
<th>Average Annual Employment Growth (%)</th>
<th>Establishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>Architecture and engineering</td>
<td>47,904</td>
<td>11,027</td>
<td>23</td>
<td>107</td>
<td>7.08</td>
<td>0.92</td>
<td>2,348</td>
</tr>
<tr>
<td>73</td>
<td>Advertising and market research</td>
<td>25,180</td>
<td>7,322</td>
<td>29</td>
<td>83</td>
<td>3.92</td>
<td>1.06</td>
<td>3,681</td>
</tr>
<tr>
<td>10</td>
<td>Food manufacturing</td>
<td>113,866</td>
<td>25,293</td>
<td>22</td>
<td>83</td>
<td>9.51</td>
<td>0.85</td>
<td>11,891</td>
</tr>
</tbody>
</table>

Filter 1 had the following criteria: Saudi employment in the 50th to 75th percentile; percentage of Saudi employment in the 25th to 75th percentile; average Saudi compensation above the 50th percentile; value-added growth in the 25th to 75th percentile. This filter resulted in only three potential candidate industries, among which was ISIC 71, architectural and engineering activities; technical testing and analysis.
Filter 2 widened the range for 2017 Saudi employment to the 25th to 75th percentile. This filter added six more potential candidate industries, for a total of nine, among which was ISIC 73, advertising and market research.
Filter 3 widened the range for value-added growth to value-added growth above the 25th percentile. This filter added three more potential candidate industries, for a total of 12, among which was ISIC 10, manufacture of food products.
neering disciplines. If such a pipeline does not already exist, it would take time to develop. Finally, the industry is highly diverse in terms of tasks and jobs, and so developing a coherent set of policies for the entire industry might be difficult.

In ISIC 73, “advertising and market research,” fewer than a third of people working in the industry are Saudis, suggesting potential for Saudization. Compensation and employment growth are both high. There are also almost 3,700 establishments, suggesting a highly competitive industry with hiring potential. The industry is also attractive for two other reasons. First, it can provide employment to people who studied liberal arts and humanities in university, rather than only people who studied technical subjects. Employment areas include management, business-related occupations, arts, design, and entertainment. Second, it is linked to several other priorities for Vision 2030, including tourism and entertainment. Despite those advantages, the industry is smaller than the other industries in terms of total employment (although still above the median).

ISIC 10, “manufacture of food products,” is a large industry in terms of employment and has almost 12,000 establishments, suggesting a competitive industry with hiring potential. It has a low rate of Saudi employment—only 22 percent of total employees—suggesting room for expansion, and the industry pays those Saudis well. Furthermore, it has had high growth of value added, although not of employment. This is the only manufacturing industry among the three finalists, and manufacturing has high potential for employment of less-educated Saudis and particularly Saudis with technical or vocational educations. This industry does have highly skilled employees as well, including managers and scientists.

Despite these advantages, a large share of the occupations in this industry are low-skilled; thus, it may not be seen as attractive by Saudi job seekers, even though it also includes high-skilled occupations and even though a large share of youth are unemployed. Furthermore, the industry as a whole does not have as positive an image as banking and finance, for example. In addition, this industry is highly competitive internationally and has high productivity in the economically advanced countries. It may be more efficient for Saudi Arabia to continue to take
advantage of import possibilities and instead develop parts of the economy that are less subject to international competition.

Selecting Food Manufacturing
Based on available industry data and the needs of Saudi Arabia, food manufacturing was selected as the candidate industry. As discussed below, there has been a policy focus on the food sector as part of Vision 2030. Furthermore, it can serve as a test case for three purposes. Food manufacturing is not necessarily the type of industry that Saudi Arabia’s top university talent aspires to, but the Kingdom has a number of leading multinational food companies with strong business leadership, good compensation, and good career paths. Successful private-sector development will depend not just on fostering growth in a few, choice industries, but in multiple industries, of which food manufacturing could be one.

Second, fostering private-sector growth will also mean creating jobs for lower-skilled and middle-skilled Saudis, and food manufacturing has jobs throughout the skill range. Finally, there may be valuable lessons to be learned from attempting to develop a manufacturing industry, as opposed to a service industry. Manufacturing often has higher productivity than services, and that higher productivity is at the heart of faster economic growth.

Food Manufacturing in the Economy
In terms of number of employees, food manufacturing was the 17th-largest industry in the Saudi economy in 2017, out of 83 industries.\(^1\) If all industries were equal, their share of a specific economic variable would be 1.2 percent of the total (1/83); on most but not all measures, the food manufacturing industry is larger. In 2017, there were almost 12,000 food manufacturing establishments in Saudi Arabia, making up 1.2 percent of all economic establishments. These food manufacturing establishments employed about 25,000 Saudis, or 1.5 percent of

\(^1\) GAStat, 2017. Data presented in this paragraph are drawn from this survey.
all Saudis employed in establishments, and almost 89,000 expats, or 1.9 percent of all expats employed in establishments. Food manufac-
turing paid 4.8 billion Saudi riyals in annual compensation in 2017, which was equal to 1.7 percent of all compensation paid by establish-
ments in the economy. Revenues and expenditures were recorded as 2.5 percent (79 billion Saudi riyals) and 2.7 percent (35 billion Saudi riyals), respectively, of total revenues and expenditures in the economy, above the share of establishments, employees, and compensation. The industry is less capital-intensive than it is labor-intensive: Gross capital 
formation of 2.9 billion Saudi riyals equaled 1.4 percent of all gross capital formation among establishments in 2017. Finally, in compari-
son with other industries, labor productivity, as measured by revenues and operating surplus relative to the number of employees, is high. Revenues amounted to 694,000 Saudi riyals per employee in 2017, the 17th-highest of all industries, and operating surplus amounted to 345,000 Saudi riyals per employee, the 13th-highest of all industries.

Among all industries, the food manufacturing industry is strongly skewed to small establishments in terms of number of establishments. In 2017, almost 81 percent of all establishments had fewer than five employees, placing food manufacturing at 19 among 83 industries. More than 94 percent had fewer than 20 employees, placing food manu-
ufacturing at 30 among the 83 industries. The importance of small establishments is not as important in terms of employment. In 2017, 19 percent of all employees in food manufacturing worked in an establish-
ment with fewer than five employees, placing food manufacturing at 32 of 83 industries. And 32 percent of all employees worked in an establishment with fewer than 20 employees, placing food manufacturing at a rank of 40, just about in the middle. This means that employment in food manufacturing takes place in predominantly very small establishments and large establishments.

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2 Economy-wide, these figures are 83 percent and 97 percent, respectively, but this is strongly skewed by retail trade, which accounted for 34 percent of all establishments in 2017 and for which these figures were 92 percent and 99 percent, respectively.

3 Thirteen percent of employees in food manufacturing worked in establishments with five to 19 employees in 2017, ranking the industry 47. Economy-wide, 30 percent of employees worked in establishments of fewer than five employees, 19 percent worked in establishments
Compared with the food manufacturing industry in other countries, Saudi Arabia’s industry varies a great deal depending on the measure. Out of 85 countries with available information in 2017, Saudi Arabia ranked 44th in terms of wages and salaries per employee. However, of the 75 countries with available data, it ranked 16th in terms of growth of wages and salaries per employee from 2008 to 2017. Measuring labor productivity in terms of value added per employee, the latest comparative data are from 2014. In that year, out of 99 countries with available data, Saudi Arabia ranked 83rd. However, in terms of value added relative to output, returning to 2017, Saudi Arabia ranked 4th out of 86 countries. These data—low value added per employee but high value added relative to output—suggest that the Saudi food manufacturing industry is relatively less capital-intensive than food manufacturing in other countries. And in 2016, the latest year of available data, the Saudi food manufacturing industry ranked 17th out of 53 in terms of gross fixed capital formation per employee. However, this is a measure of investment, which is a flow, rather than total capital in place, which is a stock, so we cannot definitively say the Saudi industry is more or less capital-intensive. These four measures together suggest both that there is room for improvement in performance and that investors see opportunity.

Saudi Arabia runs a trade deficit in food manufacturing. In 2018, Saudi Arabia had $3.1 billion worth of exports and $13.0 billion worth of imports. These exports constituted only 1.0 percent of all Saudi goods exports that year. Excluding oil exports, food manufacturing of five to 19 employees, and 49 percent worked in establishments of fewer than 20 employees. As with the number of establishments, these figures were strongly skewed by retail trade, which had 16 percent of all employees, of whom 65 percent worked in establishments of fewer than five employees, 20 percent worked in establishments of five to 19 employees, and 84 percent worked in establishments of fewer than 20 employees (the numbers do not add exactly because of rounding).


5 United Nations, UN Comtrade Database, accessed June 3, 2019, June 15, 2019, June 25, 2019, July 29, 2019, and July 24, 2020. We include in food manufacturing most, but not all, products that are within Harmonized Tariff System 2007 codes 02-05, 07-12, and 14-23.
exports constituted 4.9 percent of Saudi exports. And further excluding organic chemicals, food manufacturing exports constituted 6.3 percent of all Saudi goods exports.\(^6\) By far, the largest commodity group exported within the Saudi food manufacturing industry is that of dairy products, constituting almost 35 percent of the industry’s exports in 2018.\(^7\) The next biggest groups are preparations of cereals, at 14.1 percent, and preparations of vegetables and fruits, at 12.2 percent.\(^8\)

Saudi Arabia’s food imports constituted 9.6 percent of all Saudi goods imports in 2018. No single commodity group dominated food manufacturing imports. However, five groups constituted almost 60 percent of all food manufacturing imports: meat products (14.2 percent), dairy products (13.2 percent), preparations of cereals (10.8 percent), miscellaneous edible preparations (10.2 percent), and cereals (10.1 percent).\(^9\) The fact that some of these groups were also major export groups suggests that the imports were used as inputs (or the exports were used as inputs elsewhere), or that there is a good deal of product and brand differentiation within groups. Both explanations are likely.

The food manufacturing industry is linked to many other industries in the Saudi economy, but it is linked most strongly to agriculture,

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\(^6\) We include as oil exports all products under Harmonized Tariff System code 27, “mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes.” We include as organic chemicals exports all products under Harmonized Tariff System code 29, “organic chemicals.”

\(^7\) These products are in Harmonized Tariff System code 04, “dairy produce; birds eggs; natural honey; edible products of animal origin, not elsewhere specified or included.”

\(^8\) The preparations of cereals are in Harmonized Tariff System code 19, “preparations of cereals, flour, starch or milk; bakers’ wares,” and the vegetables and fruits products are in Harmonized Tariff System code 20, “preparations of vegetables, fruit, nuts or other parts of plants.”

\(^9\) The meat products are in Harmonized Tariff System code 02, “meat and edible meat offal;” the dairy products are in Harmonized Tariff System code 04, “dairy produce; birds eggs; natural honey; edible products of animal origin, not elsewhere specified or included;” the preparations of cereals are in Harmonized Tariff System code 19, “preparations of cereals, flour, starch or milk; bakers’ wares;” the miscellaneous edible preparations are in Harmonized Tariff System code 21, “miscellaneous edible preparations;” and the cereals are in Harmonized Tariff System code 10, “cereals.”
forestry, and fishing (Figure 5.1). In our discussion of food manufacturing links within the Saudi economy and with the global economy, we use two different input-output tables, one from the OECD and the other, completed in 2020, from the DSC. We begin our discussion with the OECD input-output table.

Figures 5.1–5.3 presents the food manufacturing industry links three ways. Figure 5.1 shows which domestic industries produce inputs for the Saudi food manufacturing industry. Figure 5.2 shows which foreign industries produce inputs that are imported for the Saudi food manufacturing industry. Finally, Figure 5.3 shows how inputs produced by the Saudi food manufacturing industry are used in other domestic industries. In each figure, the width of the lines indicates the size of the flow from the designated industry to the food manufacturing industry (Figures 5.1 and 5.2) or to the designated industry from the food manufacturing industry (Figure 5.3). In addition, the wide looped line in each figure shows the food manufacturing industry’s production of its own inputs. We discuss these relationships in the remainder of this section.

The Saudi food manufacturing industry in 2015 bought 73 percent of all its inputs from domestic industry and imported the remaining 27 percent. The leading industry for domestic inputs was agriculture, which produced 20.1 percent of total inputs (the sum of both domestically produced and imported inputs) used in food manufacturing. The output of the wholesale and retail trade industry constituted 13.9 percent of total food manufacturing inputs, and the domestic food manufacturing industry itself produced 12.1 percent of its own inputs. Other industries that produced at least 2 percent of total food manufacturing inputs were, in order, business sector services (5.1 percent), transportation and storage (3.5 percent), financial and insurance activities (3.1 percent), coke and refined petroleum products (2.7 percent), and mining and extraction of energy producing products (2.3 percent).

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11 In the input-output tables, food manufacturing is industry 10T12, “food products, beverages and tobacco.”
Figure 5.1
The Food Manufacturing Industry’s Inter-Industry Relationships in Saudi Arabia: Domestic Input Relationships


NOTES: The figure uses 2015 data. The width of the lines shows the size of the flow from the designated industry to the food manufacturing industry, and the wide looped line shows the food manufacturing industry’s production of its own inputs.
Figure 5.2
The Food Manufacturing Industry’s Inter-Industry Relationships in Saudi Arabia: Imported Input Relationships

NOTES: The figure uses 2015 data. The width of the lines shows the size of the flow from the designated industry to the food manufacturing industry, and the wide looped line shows the food manufacturing industry’s production of its own inputs.
Figure 5.3
The Food Manufacturing Industry’s Inter-Industry Relationships in Saudi Arabia: Food Manufacturing Inputs into Other Domestic Industries

NOTES: The figure uses 2015 data. The width of the lines shows the size of the flow to the designated industry from the food manufacturing industry, and the wide looped line shows the food manufacturing industry’s production of its own inputs.
The top three domestic input industries (agriculture, wholesale and retail trade, and food manufacturing) produced 46.1 percent of Saudi food manufacturing’s total inputs, and the next ten (all but one above 1 percent) produced an additional 24.5 percent of total food manufacturing inputs.

The leading industries for imported inputs were the same as the top three for domestically produced inputs, although in different order. The agriculture industry was the top source of imported inputs. These inputs accounted for 6.6 percent of total inputs. This was followed by the food manufacturing industry, at 6.3 percent, and wholesale and retail trade, at 4.6 percent.

Most food manufacturing outputs are final goods. However, some are used as inputs in other industries. In 2015, this amounted to 16.8 percent of total food industry production. Aside from producing inputs for itself, other industries that are the main users of food industry production as inputs into their own production include accommodation and food service; human health and social work; arts, entertainment, recreation, and other service activities; agriculture, forestry, and fishing; education; business sector services; and chemicals and pharmaceuticals.

The DSC input-output table provides similar results with one difference and one advantage. The difference is that it finds that the domestic food manufacturing industry provides itself with only 3 percent of its inputs, as opposed to the 12.1 percent in the OECD table. Notably, it finds that imports from the global food manufacturing industry constitute 12 percent of all inputs used in the domestic food manufacturing industry, whereas this figure is 6.3 percent in the OECD table.

The advantage is that the DSC input-output table allows a comparison between 2015 and 2020. In general, relationships did not change a great deal, but there were some small changes. The input-output tables record total output of 116,238 million Saudi riyals in 2015 and 120,893 million Saudi riyals in 2020, a 4 percent increase. Total inputs accounted for 65.6 percent of the value of output in 2015 but 64.4 percent in 2020. Of those inputs, *domestically produced inputs* accounted for 65.3 percent of total inputs in 2015 and 67.3 percent
in 2020. The proportion of output exported declined slightly, from 5.8 percent to 5.1 percent. Taken together, and recognizing that these are extrapolations and may contain error, these numbers indicate modest growth, slightly higher value added (output net of inputs), and a small shift toward more domestically produced inputs, and more domestic consumption of outputs.

As for the industries that produce the inputs, we have already noted the role of the domestic food manufacturing industry. Among other industries, domestic agriculture, hunting, and forestry provided 27 percent of inputs in 2015 and 28 percent in 2020, while imported agriculture, hunting, and forestry products provided 17 percent of inputs in 2015 and 15 percent in 2020, in line with the slight overall decline in the use of imports. Finally, the broad category of domestic wholesale and retail trade, repair services, and personal goods provided 18 percent in both years.

Bringing this information together, it is apparent that food manufacturing is a sizable industry with a current labor-intensive structure and many more expat employees than Saudi employees. This suggests that there is not only much room for Saudization, but also potentially for increasing the industry’s capital intensity, thereby increasing labor productivity and wages. It is an internationally exposed industry, but exports are highly concentrated. With productivity improvement and greater export promotion, higher levels of exports could be enabled, helping spur industry growth. Finally, greater growth in food manufacturing will have positive and noticeable spillover effects on a number of other industries in Saudi Arabia. But other industries will also need to be developed for further spillover effects to reach all parts of the economy.

**Food Manufacturing in Policy, Reforms, and Recent Documents**

Saudi Arabia has supported the food manufacturing industry with various programs since the 1970s, including subsidies on rent, equip-
ment, and inputs, as well as access to financing. The food industry plays a role in Vision 2030. In the section on building a thriving economy, Vision 2030 states a goal of supporting “major national companies, which have already gained a leading market share, by promoting their products and services regionally and globally.” Food is one of the seven industries specifically noted. The document also calls for the accumulation of “safe and sufficient strategic food reserves.”

Even before Vision 2030, reforms aided the food manufacturing industry. The 2000 Foreign Investment Law allows wholly foreign-owned facilities, and international firms have established wholly owned or joint venture companies in Saudi Arabia. Reforms subsequent to Vision 2030 also had implications for the industry. First, Saudi Arabia introduced a 5 percent VAT on goods and services in 2017. The VAT applies to all food items. Second, in 2019, Saudi Arabia introduced a 50 percent excise tax on “sugar sweetened beverages.”

The initial document describing the National Transformation Program and a subsequent Delivery Plan document expand on the content of Vision 2030. The National Transformation Program designates a national strategy for food security as a performance indicator for the Ministry of Environment, Water and Agriculture and, as a strategic objective for the Saudi Food and Drug Authority (SFDA), the establishment of the SFDA as “the global reference for Halal food and products.” The program’s Delivery Plan goes further. Under the

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13 Kingdom of Saudi Arabia, 2016b, p. 59.

14 Kingdom of Saudi Arabia, 2016b, p. 65.


18 Kingdom of Saudi Arabia, 2016a: p. 47 for the Ministry of Environment, Water and Agriculture, and p. 81 for the SFDA.
third theme of ensuring the sustainability of natural resources, the plan calls for ensuring food security, in part by developing a sustainable food production system and ensuring the “diversity of labor resources appropriate to sectors associated with development and food security, through substitution and localization.”

A more detailed approach is contained in a document describing the National Industrial Development and Logistics Program. In that program, food processing is one of nine industries specifically targeted in the industry sector, which is one of four broad sectors covered by the plan. For each broad sector, the program aims to “create favorable growth conditions, infrastructure and environment.” The program’s strategy aims to create an enabling system for the targeted industries, promote innovation and productivity, and take advantage of Saudi Arabia’s natural resources and local and regional demand. The program also discusses strategies for enhancing human capital development and exports.

For the food industry specifically, the program notes that rising global population and income should lead to growth in food demand, and specifically identifies dates, dairy, seafood and Halal meat as a focus. But it does note a variety of challenges. The program includes an assessment of the relevant competitive factors for each of seven different sub-industries within food processing. Concerns that apply to all sub-industries include few trade agreements, thus hampering exports.

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23 Kingdom of Saudi Arabia, National Industrial Development and Logistics Program, 2019, p. 140.
and gaps in cold storage. However, the greatest competitive weakness is identified as natural resources, reflecting the Kingdom’s lack of suitable climate for most agricultural production, and imports of most raw materials for food processing. In fact, recent policy changes aimed at reducing groundwater use have highlighted this concern, and reduced the availability of local inputs, particularly for the dairy industry. Saudi Arabia largely banned wheat production in 2015–2016. The government also aimed to decrease local forage production by more than 40 percent from November 2018, and at that time allowed some domestic wheat production to provide an alternative crop. The notable exception to this challenge of imported natural resources is seafood, and the program aims to increase local aquaculture production through a variety of strategies, including increasing investment, using anti-dumping measures to shield local producers against imports, and developing marketing campaigns to increase consumption of local seafood.

Nonetheless, the reliance on imported raw materials is not necessarily an insurmountable challenge, and the various concerns suggest how coordinated policies can mitigate this challenge. Agricultural inputs are freely traded in competitive markets worldwide. Improving trade connectivity and internal cold storage and supply chains can go far in removing the lack of domestic supply of some inputs as a constraint.

The National Industrial Clusters Development Program predates the National Industrial Development and Logistics Program but was mandated to implement the National Industrial Development and Logistics Program’s National Industrial Strategy. Accordingly, food processing is one of ten targeted industries identified for the clusters development program. The clusters program is designed to develop enablers, such as human capital and cluster-specific incentives, to pro-

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mote the targeted industries to investors and purchasers of its products, to provide data and research relevant to each target industry, and to develop partnerships.27 Regarding food processing, the clusters program notes potential growth and identifies dates, dairy, seafood, and Halal meat as potential advantages for Saudi Arabia. It also expects greater processing in Saudi Arabia of imported dairy, meat, bakery, fruits, and confectionary products.28

Just as there is an effort to develop the domestic food industry, there is also an effort through SAGIA (working with other Saudi agencies and partners) to attract foreign participation in that industry.29 SAGIA notes several advantages the food industry has in Saudi Arabia: large and increasing demand for food products; specific advantages in dates, seafood, and Halal foods; and government commitment.30 However, despite the statements of the National Industrial Development and Logistics Program document, SAGIA also states that infrastructure and the cold storage chain is an advantage. Notably, SAGIA also says the industry has a strong talent pool. SAGIA indicates that investors in the food processing industry today can access low land leases for food processing factories, as well as soft loans from the Saudi Industrial Development Fund and the Saudi Agricultural Development Fund.31

The food manufacturing industry and food security have been priorities for decades. Recent policy initiatives have emphasized this importance. And as long as global trade stays relatively free, food manufacturing can be at least partially delinked from domestic production in the industry that produces its raw materials: agriculture, forestry, and fishing. Because of its importance, it appears ripe for further attention in the way of private-sector job creation.

30 Saudi Arabian General Investment Authority, 2018, p. 3.
Saudization in the Food Manufacturing Industry

The food manufacturing industry is a large industry in Saudi Arabia. As noted above, in terms of number of employees, it ranked 17th out of 83 industries in 2017, the year of latest available data, with almost 114,000 employees.\(^3\) Although 68 percent of employees work in firms of 20 people or more, it is actually slightly below the median in terms of this metric. Total compensation is about on par with number of employees, with the industry ranked 19th out of 83 industries.

Increasing Saudization in the Food Manufacturing Industry

The food manufacturing industry in Saudi Arabia is dominated by expats and males (Figure 5.4). However, the industry has made progress in Saudization in recent years. Overall employment grew by about 35 percent between 2010 and 2017, while Saudi employment grew by 65 percent from a relatively small base, thus increasing the share of Saudi employees from 18 percent to 22 percent. Nitaqat targets have been a major driver of recent Saudization; in some cases, companies

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\(^3\) Data in this paragraph are from GAStat, 2017.
also have internal targets for Saudization that are set by their management. A large share of administrative jobs has already been Saudized.

According to administrative data from November 2019, Saudi women make up approximately 35 percent of Saudi employment in food manufacturing—a substantially higher share than in the comparison industries. As in those industries, however, there are very few female expats in food manufacturing.33

**Firms reported that government policies to introduce Saudis to the private sector, and encourage firms to hire Saudis, were helpful in the Saudization of food manufacturing.** Several programs were mentioned as effective, including both the Saifi summer training program and the Tamheer program for fresh graduates, both offered by the Human Resources Development Fund.

**Working conditions and career progression were identified as two key factors in Saudization.** Industry managers and executives consistently noted that offering employees a clear career path was critical for ensuring that Saudis would remain. This does not mean guaranteed promotions, but rather the possibility of promotion to positions with more responsibility if the employee meets certain performance objectives.

**Small firms find it particularly difficult to Saudize.** According to the administrative data on employment, over half of all employment in the food manufacturing industry is in relatively large firms with 250 or more employees. However, approximately 15 percent of food manufacturing firms have fewer than 50 employees, and another 30 percent have between 50 and 249 employees. Our interviewees indicated that small firms find it more difficult to hire Saudis than larger firms. Small firms often have lower profit margins than larger firms, making it more difficult for them to accommodate Saudi salary demands. In addition, small firms have fewer managerial positions, and thus fewer opportunities to build career pathways for Saudis. Finally, small firms may lack the prestige that larger firms with brand names have, and

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33 The administrative data as of November 2019 indicate a Saudization percentage of 26 percent, slightly higher than the 22 percent indicated by the survey data in 2017.
some interviewees noted that Saudis tend to leave small firms to join larger firms once they have developed experience.

**Despite widespread thought that Saudis will not work in production, firms have found it possible to Saudize some portion of production jobs.** Several interviewees noted that they had been able to find Saudis willing to work in production jobs since about 2012 or 2013, and that this is different from how less-skilled Saudis viewed the labor market even in 2008. One firm reported that its entire supply chain is filled with Saudi workers. In some cases, prestige is a factor, and people will take a production job for a prestigious company. In other cases, Saudis will accept production jobs if there appears to be a career path or other forms of opportunity for advancement (for example, from production line worker to production line supervisor and potentially to managerial jobs). In some cases, the ability to find Saudis willing to work in the industry depends on location. For example, one firm reported that it is easy to hire Saudis to work in farm jobs in the southern and eastern parts of the Kingdom.34

**The food manufacturing industry is not as prestigious as banking and telecommunications, but some students were willing to work in it.** Students indicated they would consider a job in the industry if it matched their educational background, or if it were in a well-established firm. One student recognized that manufacturing is an underappreciated sector and a good place to learn sales and marketing.

**Challenges to Saudization**

Within the industry, top management jobs and office jobs tend to be highly Saudized (Figure 5.5). As in Figures 4.2 and 4.4, we show the proportion of Saudization in all occupations that account for 80 percent of Saudi or expat employment in the industry, and the size of the

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34 The same firm reported that this is also true of drivers and lower-skill workers. We did not delve into the reasons for this, but we note that according to the 2010 Saudi census, the four southern provinces of Asir, Al-Baha, Jazan, and Najran have the lowest rates of literacy in the country among the Saudi population age 10 and higher (GASStat, *Census 2010*, Population and Housing Census webpage, 2020c, Table 11-4). It may be the case that less-educated Saudis are more willing to take these types of jobs.
circle indicates the number of employees in that occupation. We color-code these disaggregated seven-digit occupations into ten broad occupational categories, as discussed in footnote 17 in Chapter One. Lower-skilled jobs, such as regular workers, tend to be dominated by expats. However, as noted above, there are production jobs with high proportions of Saudis, such as in the categories of “craft and related trades workers” and “plant and machine operators and assemblers.” Specific examples include confectionary jobs and some machine operators. Still, some jobs are hard to Saudize, such as building cleaning workers. Figure 5.5 also shows the average Saudi male salary for each occupation. Notably, as in banking and telecommunications, Saudis are paid more than expats. For the top Saudi occupations in which there are at least 50 expats, and the top expat occupations in which there are at least 50 Saudis, male Saudi salaries are, on average, between two and five times higher than male expat salaries.

**Positions that require specific skills or have poor working conditions are proving difficult to Saudize.** Long-haul truck driving, for example, has been challenging to Saudize, both because few Saudis have commercial licenses and because the job requires being away from home for many days at a time. The job is important to the industry for purposes of moving food products from factory to wholesale and retail outlets. Many technical positions are also filled by non-Saudis because of local Saudis’ lack of specific skills or experience. This includes both semi-skilled jobs that require expertise in food manufacturing equipment maintenance and certain high-skilled jobs, such as purchasing. Especially for machine technicians and equipment maintenance specialists, firms reported that training in Saudi Arabia is insufficient and that they have to go abroad for qualified workers. Among professional occupations, firms have difficulty filling jobs for which degrees are not offered in Saudi Arabia, such as corporate communications director. In addition, jobs that require long hours of work (especially with travel away from home) or work in remote locations are also harder to Saudize. Banking and telecommunications face similar challenges, but our analysis of administrative data indicates that the share of jobs with these challenging characteristics is higher in food manufacturing.
Sales jobs present a mixed picture, but certain sales jobs were identified as the most challenging to Saudize. Multiple firms reported that one of the most challenging positions to Saudize is sales to small retail shops. This position involves particularly difficult working conditions, including having to drive to many shops each day, negotiate with the shop owner, and physically carry goods. A large part of earnings come from commission, which may be perceived as risky. In contrast, Saudis are willing to work in sales jobs that involve manag-
ing key accounts, such as supermarkets and hypermarkets. Some firms reported that filling the position of sales manager is also difficult. This may be because a pipeline has not been established.

Another challenge is that turnover among Saudis is relatively high. Many food manufacturing firms indicated that there is strong competition for qualified Saudis, especially once they have gained some experience. In some cases, they stay within the same industry but go to a job with higher pay or a better title. Among lower-skilled people, the major competitors for talent are the armed forces or private security, and sometimes the government. Among higher-skilled people, the semi-government sector is a major competitor for talent; previously, Saudis often left for other private-sector firms, and multinationals in particular.

Recruiting, Training, and Retention in the Food Manufacturing Industry

As noted above, Saudization has increased in part because of government policy, but also because firms have been paying attention to career progression. Students in our focus groups expressed a clear preference for firms that offer advancement.

The number of training pipeline programs for the food manufacturing industry is growing. For middle-skilled jobs, one firm worked with the Saudi Technical and Vocational Training Corporation to establish the Dairy and Food Polytechnic, which trains Saudis for jobs in food manufacturing.\(^3\) For university graduates, some firms have established partnerships with universities to prepare students for employment, through cooperative programs, summer training, and programs to provide information to students about what work in the private sector is like. Several large firms also noted that they have established their own in-house training academies, which offer training and professional development courses to their employees.

Some large firms have also established clear career paths for employees. Several large firms have established clear paths for both skilled and unskilled employees. Although promotions are not guar-

\(^3\) Dairy and Food Polytechnic, homepage, 2019.
anteed, employees are told what they can achieve if they perform well. For unskilled workers, the career ladders are shorter, but production workers can be promoted to production managers and, in some cases, to higher levels of management.

**Food manufacturing firms reported a variety of recruiting sources.** For lower-skilled positions, these are typically informal, such as word-of-mouth and walk-ins. For university graduates, firms reported hiring through online recruiting sources, headhunters, and directly from universities.

**Many firms have started recruiting female Saudis.** Several firms reported pilot programs to hire more Saudi women, including in production and sales jobs. Nearly all firms said that female employees are productive and valuable employees. At least one firm representative noted that the firm might benefit from the availability of day care for its female employees’ children.

**Some also had programs to hire disabled Saudis in production jobs.** The firms that employ people with disabilities, generally deaf people, also reported great satisfaction at their job performance.

**Potential Evolution of the Food Manufacturing Industry**

To this point, we have discussed present characteristics of the food manufacturing industry in Saudi Arabia. If Saudi Arabia succeeds at improving the industry as a site of desirable, quality employment for Saudi citizens, the industry is likely to evolve in its structure, its ability to innovate, and employment, the last of which is an important policy goal. We first discuss concentration and innovation, since the two are linked, and then move to employment. Results for all three variables are inconclusive.

Regarding concentration and innovation, two opposing economic forces are at play. Theoretical models of product life cycles predict progress and growth via disruptive innovations from small, nimble firms, of which the Saudi food manufacturing industry has many (at least in terms of establishments, if not firms). This implies a propensity for industrial sectors to become less concentrated, with many compet-
ing firms. On the other hand, the large and risky expense of research and development (R&D) and of investment may be more feasible for established and large firms with market power, suggesting a tendency toward a concentration of fewer, larger firms.

Empirical research suggests that neither of these economic forces strictly dominates; instead there is variation across countries, industries, and time. Regarding concentration, the value added share produced by the 200 largest companies in the U.S. manufacturing sector has remained relatively stable since the 1960s, varying between about 40 percent and 45 percent the entire period.\(^{36}\) Economy-wide, although the number of firms with more than 10,000 employees has risen (along with population), the aggregate concentration of employment in the private sector among the largest 1,000 companies has remained stable since at least 1988.\(^{37}\)

Regarding concentration and innovation together, the relationship between these two industry characteristics is highly variable in individual industries across countries. A review of 28 independent samples from 20 studies, comprising U.S. and international sources in the 1970s, 1980s, and 1990s, found no “evidence of substantial differences in the strength of the influence of size or competition” on process or product innovation.\(^{38}\) Another review identified a robust, positive relationship between firm size and R&D spending, but also found that the success of this spending at maintaining or expanding firm position within an industry is not assured.\(^{39}\)

We now move to employment. As with concentration, overall employment could increase or decrease if the industry grows. And

\(^{36}\) Lawrence J. White and Jasper Yang, “What Has Been Happening to Aggregate Concentration in the U.S. Economy in the Twenty-First Century?” *Contemporary Economic Policy*, Vol. 38, No. 3, July 2020, Figure 1.

\(^{37}\) White and Yang, 2020, Figures 2 and 4.


even if overall employment decreases, employment of Saudis could still increase. Saudi employment would increase under at least three conditions. First, it would increase if Saudis replaced expatriate workers and the ratio of labor to capital or labor to output remained the same. Second, it would increase if expatriate workers were replaced by machinery and Saudis were hired to operate and maintain that machinery. Third, it would increase if industry output increased, the ratio of employment to output stayed steady, and the ratio of Saudi employees to expatriates also stayed steady. A variety of scenarios for declines in Saudi employment also exist. Assuming that the hiring of expatriates becomes more expensive or difficult, the relevant scenarios would include industry decline, or sizable investments in labor-saving capital equipment that displaced Saudi employees.

The Saudi food manufacturing industry is already relatively large in terms of overall employment, and that might suggest that the likelihood of further employment growth is low. However, the correlation of the cross-country rank of employment in the food manufacturing industry across 79 countries in 2008 and the cross-country rank of employment growth over the next ten years, through 2017, is only –0.09, slightly negative, but very small. This suggests that some large food manufacturing industries experienced high employment growth as well. The correlation of the level of employment and the level of growth is still very small and even less negative, at –0.04. Standouts include Mexico, ranked 14th for employment in 2008 and 7th for ten-year growth, and Turkey, ranked 17th for employment in 2008 and 9th for growth.

In considering future industry structure, innovation, and employment, results are largely inconclusive. National and historical initial conditions and idiosyncrasies play an important but hard-to-predict role. Thus, as the food manufacturing industry in Saudi Arabia develops, any tendency toward concentration or deconcentration is uncertain. However, if Saudis generally replace expatriates and the industry continues to grow, Saudi employment is likely to rise. Innovation poten-

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40 Data for this paragraph are drawn from United Nations Industrial Development Organization, 2019.
tial is also uncertain and is likely to depend on educational developments, national innovation policy, and the availability of risk finance. We explore industry evolution further in a case study in Chapter Six.

**Implications for Other Industries**

A full understanding of the applicability of opportunities and challenges observed in the food manufacturing industry to other industries would require additional sets of interviews and data analysis. However, a number of patterns seem clear. Findings from the food manufacturing industry can be extended because there are commonalities across manufacturing industries: They tend to produce goods using sometimes complicated machinery; production jobs take place in factories, which may involve uncomfortable surroundings; such jobs may be repetitive and may not have high levels of status in society; and output needs to be delivered to a variety of customers under a variety of conditions.

One of the most notable patterns we found in researching the food manufacturing industry is that managers said Saudis would take production jobs under the right conditions. This is especially important as a means to bring down youth unemployment, because many young people will not be qualified for office jobs but may find fulfillment with production jobs. As the government proceeds with Saudization plans, success will depend on Saudis replacing expats and taking such jobs. The policy issue will include determining under what conditions Saudis will take production jobs; in some cases, no policy changes will be needed.

Highly technical jobs, such as maintenance and repair of complex machinery, may be hard to fill with Saudis. This would argue for upgrading technical training in the Kingdom or arranging for young Saudis to receive such training abroad, in addition to the already existing encouragement to attend university abroad.

In addition, sales and delivery of product may not be appealing. Sales and delivery to small shops may challenge any industry, as could
long-haul driving for deliveries or for moving inputs from source to factory.

Management and office jobs should be relatively easy to fill. This is especially true as women continue to advance in education and enter the workforce. With their higher levels of education, relative to even just in the early 2000s, they will expand the workforce from which employers can choose. Likewise, given that the food manufacturing industry has found that training and defined paths of advancement can help attract Saudis, these elements should apply to other industries as well.

Finally, from the discussion above, it is apparent that the food manufacturing industry contains jobs across the skill spectrum. This will also apply to other industries. If policymakers can provide an environment in which the industry can attract Saudis into jobs requiring all types of skills, other industries may also benefit from that environment.

We expand on potential policy implications in Chapter Eight.
In its attempt to develop successful industries, Saudi Arabia may find it helpful to examine how a specific industry developed successfully elsewhere. Working in coordination with the DSC, we identified a set of countries in which the success of the food manufacturing industry could provide valuable guidance for Saudi development. Following analysis of country and industry characteristics, the DSC made the final determination of Switzerland as case study. This chapter examines the economic and policy factors that contributed to the success of food manufacturing in Switzerland. This case study is only one of many that could be done, and information gained from it can be enhanced by case studies of food manufacturing in other countries.¹

Selecting the Case-Study Country

The DSC and RAND engaged in an iterative process to determine a case-study country. There are numerous metrics upon which to base the selection of a case-study country. We initially considered such factors as similarity of population, urbanization, GDP per capita, arable land, international migrant stock, level of oil and mineral resources, climate, and cultural similarity, along with data on the food manufacturing industry.

¹ Based on our selection process with the DSC, these countries could include Australia, Mexico, and Singapore.
However, focusing on the food manufacturing industry in a country that is similar to Saudi Arabia could miss an important contribution of the case study. The goal of developing the private sector in Saudi Arabia is future-oriented, and therefore there may be value in considering a country that both is more developed than Saudi Arabia and has a strong food manufacturing industry. Such a country can provide an example for Saudi Arabia to follow on its path toward becoming a “global model of excellence,” as stated in Vision 2030.2

Accordingly, we screened on a simple set of three country criteria, including similarity in overall real GDP, real per capita GDP, and international migrant stock. Then, for countries that met that screen, we looked more in-depth at their food manufacturing industries. Specifically, we considered food manufacturing value added relative to national GDP, food manufacturing value added relative to food manufacturing output, food manufacturing value added and wages per employee, food manufacturing exports, and domestic market potential. Using these data, we narrowed the set of potential candidates to Australia, Mexico, Singapore, and Switzerland, and the DSC made the final selection of Switzerland, a selection with which we concurred. The DSC and RAND also agreed that case studies of Australia, Mexico, and Singapore would be useful, when and if possible to carry out.

Overview of Manufacturing in Switzerland

Despite being a small, mountainous, landlocked country, Switzerland has become one of the richest countries in the world, with a 2018 nominal GDP per capita of $82,829.3 Its wealth is particularly impressive because it has not always been rich and was among the poorest countries in Western Europe in the early 19th century. From these poor beginnings and geographical deficits, Switzerland’s economic success was fueled by the development of export-driven manufacturing indus-

2 Kingdom of Saudi Arabia, 2016b, p. 5.
3 World Bank, 2020c. Switzerland is behind only Monaco, Luxemburg, Lichtenstein, Macao, and Bermuda.
tries. The small size of the Swiss domestic market forced firms to seek export markets from the start, and by 1920 many Swiss industries exported large shares of their production, including watches (98 percent), textiles (95 percent), and chocolate (80 percent).

As the world economy developed during the 20th century, many Swiss manufacturing industries were faced with lower-cost foreign competition, forcing them to become more innovative and efficient, justifying higher prices with a focus on quality. But with high wages and high costs of production, many Swiss industries were uncompetitive. Policymakers typically resisted protecting declining industries, instead allowing uncompetitive industries to fail in keeping with the Austrian economist Joseph Schumpeter’s concept of “creative destruction.” The textile industry, for example, which was important at the start of the century, underwent a structural change over the first half of the 20th century, and textile production in Switzerland has virtually disappeared. Similarly, between 1965 and 1975, employment in the banking industry increased by 40 percent, while employment in the watch industry declined by almost 45 percent.

Despite these sectoral shifts, the Swiss have continued to maintain a large, export-focused, high-value-added manufacturing sector. Although a lengthy recession in the 1990s hurt manufacturing, a focus on efficiency and quality helped manufacturing firms survive and gain a competitive advantage. Today, manufacturing accounts for 13 per-

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7 Weder and Weder, 2009.


cent of Swiss employment and 18 percent of Swiss GDP, and a 2018 study ranked Switzerland first in the world for its overall manufacturing environment.\textsuperscript{10}

The analysis of Swiss industrial policies in the sections that follow will identify the key enablers of this success and draw conclusions for how they might be used to promote industrial development in the Kingdom of Saudi Arabia.

**The Food Manufacturing Industry in Switzerland**

Food manufacturing has become a particularly important industry in the Swiss economy since at least the early 20th century.\textsuperscript{11} This success is particularly striking because Switzerland is a net food importer, and its farm production prices are higher than those of other countries. Swiss food manufacturing has succeeded, however, through a focus on value-added manufacturing based on imported food inputs, particularly chocolate and beverages.\textsuperscript{12}

Nestlé, founded in 1866 by Henri Nestlé, is the largest food company in the world. It was one of several firms founded in Switzerland during the 19th century by foreign entrepreneurs who came to Switzerland to mechanize the production of what had formerly been specialty foodstuffs. Among the country factors attracting these entrepreneurs were political and religious freedom, along with an ability to more freely use international patents than elsewhere.\textsuperscript{13}


Chocolate makers in particular established factories in what we would now recognize as industrial clusters near Geneva and Zurich. These clusters encouraged what are known as agglomeration economies, advantages brought about when companies in one or more related industries locate near each other.\textsuperscript{14} In the Swiss case, their proximity to one another allowed them to innovate rapidly, and entrepreneurs such as Nestlé were able to take advantage of existing industrial capabilities developed for the Swiss dairy industry to innovate and grow, both by creating new industrial processes and new products, including milk chocolate and the chocolate bar.\textsuperscript{15} Building on these early successes, these companies continued to innovate, creating new products, such as instant coffee in the 1930s, that were well suited to the growing international export market.\textsuperscript{16}

These early developments are significant because they gave the Swiss food manufacturing industry much of its current organizational structure. A firm-level analysis of the industry shows that while many firms have been founded in the past several decades, a large number (730, or 15 percent) of Swiss food manufacturing firms are 50 or more years old (Table 6.1). In addition to these established, anchor firms, there is also a substantial number of new firms founded in the past ten years, which speaks to the dynamism of the industry.

Notably, the older firms include the largest firms in the country, indicating that, whether through mergers and acquisitions or through organic growth, Swiss firms have been able to evolve and grow to remain successful (Table 6.2). These well-established firms have created a pool of highly skilled workers and a supply chain of enabling industries that encourages innovation and startup activity in the industry.

\textsuperscript{14} For more on the advantages of agglomeration, or clustering, see Shanthi Nataraj, Howard J. Shatz, Keith Crane, Steven W. Popper, Xiao Wang, and Chaoling Feng, Creating an Innovation System for Knowledge City, Santa Monica, Calif.: RAND Corporation, TR-1293-GDD, 2012.


Swiss food manufacturing derives the bulk of its export profits from several key product areas: chocolate, beverages, and miscellaneous edible preparations (Figure 6.1). Because Swiss manufacturers rely primarily on imported ingredients, net exports (exports minus imports) of many types of food commodities are negative. However, the Swiss have consistently been exporters of chocolate and miscellaneous food products, and net exports from the chocolate and miscellaneous preparations industries have remained fairly stable over the past 30 years. In contrast, net exports from the beverage industry shrank between 1995 and 2003 but have since grown substantially, with Switzerland creating approximately $1.5 billion in new export products

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17 “Miscellaneous edible preparations” refers to Harmonized System code 21, which in the 2017 version includes certain products related to coffee, tea, and other beverages; yeasts; sauces; soups and broths; ice cream; and food preparations not elsewhere specified (World Customs Organization, “Chapter 21: Miscellaneous Edible Preparations,” HS Nomenclature 2017 Edition, Brussels, 2017).
Table 6.2  
Publicly Traded Food Manufacturing Companies in Switzerland, by Date of Incorporation

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Subsector</th>
<th>Worldwide Operating Revenue (turnover; $1,000)</th>
<th>Number of Employees Worldwide</th>
<th>Date of Incorporation (oldest first)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barry Callebaut Cocoa, chocolate, and sugar confectionery</td>
<td>7,202,076</td>
<td>11,570</td>
<td>1994 (1842)</td>
<td></td>
</tr>
<tr>
<td>Lindt &amp; Sprungli Chocoladefabriken Cocoa, chocolate, and sugar confectionery</td>
<td>4,399,817</td>
<td>14,570</td>
<td>1845</td>
<td></td>
</tr>
<tr>
<td>Orior Production of meat and poultry meat products</td>
<td>586,311</td>
<td>1,630</td>
<td>1852</td>
<td></td>
</tr>
<tr>
<td>Nestlé Other food products</td>
<td>95,787,551</td>
<td>308,000</td>
<td>1866</td>
<td></td>
</tr>
<tr>
<td>Bell Food Group Processing and preserving of meat</td>
<td>4,122,575</td>
<td>12,058</td>
<td>1869</td>
<td></td>
</tr>
<tr>
<td>Groupe Minoteries Bread, fresh pastry goods, and cakes</td>
<td>143,872</td>
<td>189</td>
<td>1885</td>
<td></td>
</tr>
<tr>
<td>Hochdorf Holding Other food products</td>
<td>572,490</td>
<td>694</td>
<td>1895</td>
<td></td>
</tr>
<tr>
<td>Aryzta Bread, fresh pastry goods, and cakes</td>
<td>3,772,855</td>
<td>17,269</td>
<td>2008 (1897)</td>
<td></td>
</tr>
<tr>
<td>Hero Prepared meals and dishes</td>
<td>1,183,857</td>
<td>4,300*</td>
<td>1898</td>
<td></td>
</tr>
<tr>
<td>Emmi Operation of dairies and cheese making</td>
<td>3,515,085</td>
<td>6,151</td>
<td>1993 (1907)</td>
<td></td>
</tr>
<tr>
<td>Schweizer Zucker Sugar</td>
<td>265,980</td>
<td>380*</td>
<td>1912</td>
<td></td>
</tr>
<tr>
<td>Hugli Holding Other processing and preserving of fruit and vegetables</td>
<td>385,072</td>
<td>1,506</td>
<td>1935</td>
<td></td>
</tr>
</tbody>
</table>


NOTE: Founding dates in parentheses are dates of initial corporate founding, while nonparenthetical dates are incorporation of merged companies. Starred employee values were not included in the initial dataset and were added from corporate websites and other data services.
since 2003 and becoming a net exporter during a few recent years. The turnaround of this industry rests on a single product, Nespresso capsules, which are used to brew coffee from the Swiss-developed Nespresso coffee maker. The capsules are quite expensive relative to the coffee they contain—the price premium for the coffee within them is roughly ten times that of traditional roasted beans. Because of this high retail price per pound of coffee processed by Nespresso, Switzerland is one of the top five coffee-exporting countries in the world even though it processes a relatively small volume of beans. Thanks to this single product innovation, Switzerland exported $2.2 billion worth of coffee in 2015.18

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Paired with this growing export market, food and beverage manufacturing is a steadily growing source of employment in Switzerland, with the total workforce expanding by approximately 7.5 percent from 2003 to 2014 (Figure 6.2).

In the analysis below, we examine the factors that led to the success of this industry and develop recommendations that can be used to guide industrial development decisions in Saudi Arabia.

**Policies That Have Fostered Growth**

One consistent theme in Swiss industrial policy is the relatively limited involvement of the central government in development. Structurally, the federal government in Switzerland is relatively weak, with the cantons that make up the federation having significant responsibility for local policies and governance. As a result, the federal government typically does not intervene to support specific industries or to subsidize uncompetitive sectors. Surveys of manufacturing in Switzerland high-

![Figure 6.2](source: Office Fédéral de la Statistique [Federal Statistical Office], *Annuaire Statistique de la Suisse* [Swiss Statistical Yearbook], Office Fédéral de la Statistique, Swiss Confederation, 2006–2015.)

NOTE: The statistical reporting category also includes tobacco manufacturing employment.
light the advantages of low corporate tax rates and high public infrastructure spending, but aside from these policies that create a favorable environment for growth, there is little direct intervention by the government. Instead, many of the necessary ingredients for growth and innovation are provided by the private sector.

**Funding for Innovation**

Access to investment capital is a key requirement for growth and innovation, and Swiss firms benefit from a vibrant banking and venture capital sector. The largest food manufacturing firms in Switzerland (Table 6.2) are public companies that have raised significant capital through equity offerings. In addition, their large size and global presence enable them to raise money through bond offerings at very advantageous terms. Startups and smaller ventures are likewise able to secure financing through angel investors, incubators, and venture capital, with at least 20 funding rounds secured by Swiss-based food manufacturing startups since 2015.

In addition to their focused investing in the food manufacturing industry, established firms also play an important role in fueling innovation through their own research and development. Nestlé, for example, operates an active R&D program, with an 800-person R&D headquarters in Lausanne and nine of its 40 R&D centers worldwide located in Switzerland. In 2017, Nestlé spent CHF 990 million

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19 Deloitte, *White Paper on Swiss Manufacturing Industry: Challenges and Prospects in Global Competition*, 2013. One exception is the strong regulation and protectionism in the primary agriculture sector. Legislation supports Swiss farms despite their high production costs and mandates a minimum acreage of farmland in the country to ensure that farms are not developed for housing or other purposes. This intervention is less concerned with the economic productivity of the sector than it is with the social and cultural commitment to maintaining the Swiss landscape in its traditional pastoral form.


21 Crunchbase, website, 2020.

(approximately $1 billion) on research and development in Switzerland, or 57 percent of the company’s global research budget.\textsuperscript{23}

In addition to the availability of funding from financial institutions and investors, manufacturing innovation more broadly is also fostered by the leading firms in the industry. Nestlé, for example, operates the Nestlé Venture Capital Fund, with an estimated investment portfolio of $100 million to $500 million that is intended to “[provide] Nestlé with a better access to new science, technology, and know-how opportunities through acquisitions, minority stakes, licensing, and joint-ventures.”\textsuperscript{24} Other large firms operate similar investment portfolios.

Another mechanism is through the provision of R&D space. In 2019, Nestlé founded an R&D accelerator near its R&D headquarters to facilitate collaboration with experts from outside of Nestlé. The research site provides a space where external scientists, students, and startups can use shared laboratories, kitchens, and bench-scale and pilot-scale equipment.\textsuperscript{25}

By creating a center for collaborative R&D projects, this accelerator allows Nestlé to benefit from the innovation hub that has developed around Lausanne. In addition to Nestlé’s R&D operations, the region also includes leading academic institutions such as the Swiss Federal Institute of Technology in Lausanne (EPFL) and the Swiss Hospitality Management School in Lausanne (EHL) as well as a wide range of innovation partners, suppliers, and startups.\textsuperscript{26}

**Benefiting from Anchor Companies**

The formation of geographically localized innovation clusters such as that surrounding the Nestlé R&D center in Lausanne is common in many industries and is exemplified by the development of the semicon-

\textsuperscript{23} Nestlé, 2018.

\textsuperscript{24} Crunchbase, 2020.


\textsuperscript{26} Nestlé, 2019. The École Polytechnique Fédérale de Lausanne and École hôtelière de Lausanne are referred to by their initials, and we do so in this report.
ductor and computer industry in Silicon Valley and the movie industry in Hollywood. In both cases, the early success of anchor firms in the region led to the development of a local ecosystem of enabling supply chains, skilled workers, and attendant industries, such as banking and law, with the specialist knowledge required to help the industry to grow. By anchor institution, we mean a major company or institution that is well regarded and can serve to attract suppliers, buyers, and other tenants to the area; provide a source of talent; or serve as a source of research that can be commercialized or of spinoffs.27

As with those other industries, the formation of geographic clusters is beneficial to food manufacturing because of its reliance on specialized techniques and product knowledge.28 Local networks can take two different configurations. The first is that of horizontal clusters, in which many small firms group together to take advantage of a local resource, such as a skilled labor force. The second is that of vertical clusters, which are dominated by one or more anchor firms and associated suppliers. More broadly, suppliers and buyers can gather around anchor firms, and those anchors can also create spinoffs and increase specialized skills among the local workforce.29

Horizontal and vertical clustering are not mutually exclusive, and both are beneficial to the Swiss food manufacturing industry.30 Both within and between these clusters, Swiss food manufacturing firms are organized into horizontal industry associations that enable firms in

27 Nataraj et al., 2012, p. xxvi.
the same industrial sector—for example, chocolate makers or cheese producers—to work together for international marketing and political and legal advocacy. Individual industrial sectors are organized into industry associations such as the Association of Swiss Soups and Sauces Manufacturers and the Association of Swiss Mineral Springs and Soft Drink Producers that provide a platform for coordination within a particular part of the industry. These industry groups are themselves organized under an umbrella organization, the Federation of Swiss Food Industries (Fédération des Industries Alimentaires Suisses [FIAL]), which advocates on behalf of the industry as a whole. This dual level system ensures maximum effectiveness because coordination, advocacy, marketing, and lobbying efforts can be effectively managed at both an industry-wide or product level.

**The Effect of the Legal and Regulatory Environment On Employee Mobility and Startups**

Employee mobility is a key element in the success of innovation clusters. Silicon Valley thrived, for example, because employees in the high-tech companies in the region were free to seek new jobs or found new companies, often taking a certain amount of intellectual property embodied in human capital with them. When Japanese firms challenged the Silicon Valley–based U.S. semiconductor industry in the 1970s and 1980s, many engineers left existing firms to start their own companies, some in the semiconductor industry and some that produced computers, disk drives, software, and networking equipment.31 This gave rise to a new generation of companies that enabled Silicon Valley to remain successful during the microcomputer and internet revolutions of the next decades. Conversely, the cluster of high-tech firms that had emerged near Boston failed during the same period because corporate cultures valued allegiance to large, monolithic firms and left little room for new, spinoff ventures.32

These conditions for success are available to startups in the Swiss food industry. The Swiss legal code offers strong protections for

employee mobility, ensuring that employees are free to form their own startup companies unless their business involves direct intellectual property theft from their previous employer.33 Likewise, Switzerland’s geographic position precludes major firms from informally blacklisting startups or employees that leave the company. The availability of work in the surrounding countries and the presence of similar food manufacturing conglomerates in Europe effectively ensure employee mobility and freedom to work in cases that are not limited by Swiss law. The result is that, using the industry expertise and experience developed at anchor firms, entrepreneurs are able to form new companies to develop innovative ideas. According to data from Crunchbase, 66 Nestlé alumni have founded 21 startup companies in the food manufacturing industry that have collectively raised $194.9 million in venture funding.34 Startups like these allow the industry to innovate and experiment with new ideas with more agility than large firms often allow. If the startups succeed, they grow as independent companies or are acquired by more established firms with the potential to develop and market new product ideas at larger scale.

**Internships and Training Programs**

Underlying these structural features of Swiss food manufacturing, the availability of a highly trained workforce has been a traditional advantage that has allowed the manufacturing industry to expand even as the Swiss franc has strengthened dramatically over the past 20 years. As the former president of the Swiss Manufacturer’s Association commented, to succeed, the Swiss needed to compete as exporters because of the small size of their domestic market. To do so, he argued, Swiss manufacturers need to have better quality, more innovation, and better efficiency, given their high standard of living and high labor costs. Switzerland has succeeded on this front, and its workforce is among the best in the world. A 2020 study ranked Switzerland first in the world

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34 Crunchbase, 2020.
for worker competitiveness.\textsuperscript{35} An important driver of this success is the Swiss apprenticeship system.

The Swiss educational system has been lauded as an international model for pairing high-quality university education with a robust apprenticeship system.\textsuperscript{36} Under this system, Switzerland places nearly 70 percent of graduating secondary school students in a traineeship before having them return to either a university or a vocational school to complete their education. The underlying assumption of this model is that the country does not need large numbers of university-trained researchers; rather, Switzerland needs a small number who can work with highly skilled technicians and designers as partners.\textsuperscript{37} Thus, only the top 30 percent of students graduating from secondary school are eligible for admission to the university system, which is very inexpensive, with per semester fees of CHF 660 ($635).\textsuperscript{38} The other 70 percent of students spend the three years from ages 16 to 19 in apprenticeships in which they work for a firm part-time while taking additional classes related to their field of work. At the end of their apprenticeships, students are awarded a certificate (after two years) or a diploma (after three years) and are then eligible to follow an academic track by completing a university education or can continue to more advanced vocational training.\textsuperscript{39} Upon completion of the training program, there are roughly 400 federal professional examinations and 55 study programs at professional education institutions that allow students to earn credentials for their work. This system has the additional advantages of keeping the youth unemployment rate very low (2.2 percent in 2019),


\textsuperscript{37} Hoffman and Schwartz, 2015, p. 16.

\textsuperscript{38} Eidgenössische Technische Hochschule (ETH) Zürich, “Tuition Fees,” webpage, 2020.

\textsuperscript{39} Hoffman and Schwartz, 2015.
encouraging high youth labor force participation (66.5 percent for 15 to 24 year-olds in 2019), and maintaining a very low level of student debt.\footnote{Government of Switzerland, Federal Department of Foreign Affairs (Eidgenössisches Departement für Auswärtige Angelegenheiten EDA), “Vocational Education and Training & Apprenticeships,” webpage, Swiss Confederation, last updated July 7, 2020a; Organisation for Economic Cooperation and Development, “Labour Force Participation Rate,” OECD iLibrary, 2020.} The system enjoys broad support from Swiss employers, with roughly 30 percent of companies participating in the apprenticeship program.

The advantage of this program is that it produces cohorts of students who have hands-on experience and training in business environments that enable them to enter the workforce with significant skills and training. Additionally, even those who choose to pursue a university education that may be unrelated to the area of their internship retain a knowledge of the business environment and a perspective on the needs of the industry. This experience in business ensures that even politicians and policymakers have direct experience in the workforce that can provide useful perspective as they devise policy related to the business environment and the development of the economy. A final benefit of this training-intensive approach is that Swiss workers can perform at a consistently high level of technical expertise, allowing some low-skill processes to be automated without significantly increasing job dislocation. This capital-intensive approach enables firms to leverage their highly capable employees to best advantage and enables them to maintain high quality standards and predictable levels of production.\footnote{This analysis stems from Hoffman and Schwartz, 2015; Government of Switzerland, 2020a; and Embassy of Switzerland in the United States of America, 2016.}

One striking feature of the system is that the training costs are largely borne by the companies that participate in it. The business share is roughly 60 percent of the total costs, with the company contribution typically covering the costs of training courses within the company, supervision, and the apprentices’ salaries. While there are no requirements that trainees return to the site of their apprenticeship after graduation, each industry sector works in partnership with the
State Secretariat for Education, Research and Innovation to set a standardized curriculum, qualifications, and assessments to ensure that workers trained at other sites have comparable skills. The cantons pay 30 percent of the cost, primarily to fund technical schools, career guidance services, and apprenticeship trainers. The Swiss Confederation covers the final 10 percent of the costs to ensure standardization across the cantons and to coordinate the system as a whole.

**Trade Agreements**

Trade agreements give Switzerland low barriers to exporting manufactured food products across the globe. For food manufacturing, an important distinction between two classes of trade agreements emerges. Processed agricultural products tend to be covered under free trade agreements (FTAs), whereas unprocessed agricultural products usually fall under agricultural agreements. A food manufacturing enterprise would need to be aware of both types of agreements when considering sourcing of imports and markets for exports.

Switzerland is not a member of the European Union (EU) or the European Economic Area (EEA), but it maintains preferential trade and agricultural agreements with its European neighbors. The main trade agreement between Switzerland and members of today’s EU was initially formed in 1972, and it has been updated in the intervening decades. Additionally, Switzerland has negotiated 29 FTAs covering 40 countries outside the EU through its membership of the four-country European Free Trade Association (EFTA). The EFTA seeks to negotiate agreements that “build on World Trade Organization (WTO) rules and commitments, thereby enhancing framework conditions for transborder economic exchange and creating added value in terms of reducing obstacles to trade and legal security.”

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42 Hoffman and Schwartz, 2015, p. 3.
43 Embassy of Switzerland in the United States of America, 2016.
45 The other EFTA members are Iceland, Liechtenstein, and Norway.
46 European Free Trade Association, “Free Trade Agreements,” webpage, undated.
cover countries and blocs across the Americas, Sub-Saharan Africa, the Middle East and North Africa, Eastern Europe, Central Asia, South Asia, and Southeast Asia. In addition, Switzerland has negotiated bilateral free trade agreements with Japan and China.

For Swiss food exporters, agricultural agreements provide preferential export market access for specifically delineated product classes. For example, the bilateral Swiss-Japanese agreement’s goal in agricultural sectors is described as “a system of balanced concessions for selected processed and basic agricultural products,” including Swiss exports of cheese specialties, dried meat, chocolate, and wine. Post-implementation analysis of the Swiss-Japanese trade and agricultural agreement revealed that the export categories with the highest total value of tariffs eliminated were all food-related: sugared beverages, chocolate, coffee, and cheese.47

Conclusions

The Swiss food manufacturing industry developed over more than 100 years and has become one of the most innovative and well known in the world. It is also one of many successful food manufacturing industries from which Saudi Arabia can learn. There are limits to the applicability of a single case study, and so as Saudi Arabia continues to devise policies to help not only the food manufacturing industry but other industries modernize, expand, and provide expanded quality employment opportunities to Saudis, exploring industrial development in other countries will help. However, even single case studies can support empirical generalizations.48 Four factors stand out in the success of the food manufacturing industry in Switzerland:


• **Education and training**: High-quality vocational education and training has been a critical element of Swiss industrial success. The Swiss system, which relies on two-to-three-year-long vocational apprenticeships taken by 70 percent of 16- to 19-year-olds after their secondary education is complete, provides a natural training ground and onramp for students to enter industry. Following the completion of these internships, students can enter the workforce, go to a technical school to receive additional vocational education, or attend a technical university. In Switzerland, these internships are largely funded by the participating firms, with the government providing oversight and coordination and operating the technical schools.

• **Anchor firms, industry clusters, and supporting industry associations**: The co-development of related firms and supporting institutions is a common feature of economic development in many global contexts. The Swiss food manufacturing industry has benefited from the co-location of educational institutions, large anchor firms, supply chains, and startups. These geographic hubs produce a supply of specialist workers and encourage enabling industries and service sectors to locate nearby. This benefits both anchor firms and promotes innovation among startup companies that gain from the local availability of technical resources, services, and human capital. These hubs also benefit from the creation of industry associations that can provide venues for the collaboration and cooperation of firms in similar industries.

• **Developing an export market**: Much of the success of the Swiss food manufacturing industry is based on high-value-added manufacturing for export to the surrounding countries of Europe. More

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49 Anchor firms often draw other businesses (either in the same industry, or in industries that are upstream or downstream in the supply chain) and workers to a country or region, provide a pool of trained workers who can move to other firms, and create the potential for spinoff firms (Ashish Arora, Alfonso Gambardella, and Salvatore Torrisi, “In the Footsteps of Silicon Valley? Indian and Irish Software in the International Division of Labor,” in Timothy Bresnahan and Alfonso Gambardella, eds., Building High-Tech Clusters: Silicon Valley and Beyond, Cambridge, UK: Cambridge University Press, 2004; Steven Klepper, “The Origin and Growth of Industry Clusters: The Making of Silicon Valley and Detroit,” *Journal of Urban Economics*, Vol. 67, 2010, pp. 15–32).
broadly, exports have played an important role in the growth of manufacturing in many countries. Switzerland itself has a relatively small population, so its industries were forced to expand internationally to grow very early in their lifecycles. The industry’s growth was fueled by an early focus on the global export market, and its current trade policies are designed to ensure that its manufacturers are supported by trade agreements that enable firms to enter markets throughout the world on favorable terms. In addition, industry associations enable firms to market their goods successfully to international buyers.

- **Venture funding, entrepreneurs, and incubators:** Throughout the world, growth and innovation require the availability of venture financing to enable startup companies to experiment with new product ideas. In Switzerland, these financial services are provided by a well-developed financial sector that provides angel, seed, and developmental investments in food manufacturing startups. Furthermore, Switzerland allows employee mobility, which is an important feature of successful labor markets, allowing innovative ideas to develop and spread. International mobility also played an important role in the development of the food manufacturing industry: many successful Swiss companies were founded by immigrants. Lastly, the cost and difficulty of innovating can be reduced by the formation of incubators that provide space, equipment, and expertise to entrepreneurs or academic-industry partnerships. In Switzerland, these incubators are funded and operated by anchor companies that hope to use them to develop new products, although in other countries and contexts these incubators are at least partially government funded.

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As noted above, the Swiss food manufacturing industry evolved over more than a century. Industrial development can happen much faster now, but it will still take time. This suggests that, for Saudi Arabia, sustained policy reform and implementation will be important, with monitoring, flexibility, and course corrections throughout.
In this chapter, we examine findings from surveys administered in 2019 by the DSC to recent college graduates, firm representatives, and junior employees in the three industries of banking, telecommunications, and food manufacturing. The student and employee surveys shed light on the underlying preferences of young Saudis toward different types of jobs and job attributes and toward the comparison and candidate industries in particular, as well as young Saudis’ job search and labor market experiences. Although we highlighted findings from student and employee focus groups in earlier chapters, the surveys provide a broader representation of the perspectives of young Saudis who have just entered, or are about to enter, the labor market. These perspectives are particularly important to understand, given Saudi Arabia’s youthful population and high levels of youth unemployment. The employer survey also complements the employer interviews, allowing us to examine the views of a broader sample of firms in the comparison and candidate industries toward hiring Saudis, and the opportunities and obstacles these firms face to recruiting and retaining Saudis in their workforces. Importantly, all three surveys provide a recent snapshot of Saudi attitudes, allowing us to investigate how those attitudes may have evolved since the initiation of Vision 2030.
Saudi Perceptions and Expectations Toward Work

The goal of the 2019 DSC survey of recently hired employees in the candidate and comparison industries was to gather information on the current attributes of jobs in those industries, respondents’ job search activities, and respondents’ participation in government programs. The survey of recent university graduates asked them about their preparation for work, the attributes they considered in looking for a job, and their impression about the candidate and comparison industries. Since the employee survey was non-probability-based, we do not discuss the statistical significance of the results. For the student survey, which was probability-based, we provide information on statistical significance when it is available in the survey report provided by the DSC.

Perceptions of Employees in Banking, Telecommunications, and Food Manufacturing

Job Search

Among current employees, the most common job search activities were direct application on the company website (63 percent of respondents), sending CVs to family and relatives (51 percent of respondents), and visiting the company directly (49 percent of respondents). A substantial number of respondents also reported having used a government program that facilitates employment: Approximately 25 percent of respondents had used Hafiz, 21 percent used Taqat, 16 percent used Tamheer, and 16 percent used Employment Beginning with Training.

Use of government programs did vary somewhat by demographics and by the industry the respondent was employed in. For example, male respondents in banking who used at least one government program were more likely to cite Hafiz (29 percent) and Taqat (20 percent), whereas female respondents in the same industry cited Hafiz (18 percent) as the most commonly used program. Interestingly, Taqat (35 percent) was by far the more commonly cited program among males in the telecommunications industry, but it was slightly less common among females (14 percent) than Hafiz (16 percent). Hafiz was the most commonly cited by males (30 percent) and females (23 percent) in the food manufacturing and distribution industry.
Attributes of Current Job

The survey of employees listed a series of questions around a set of attributes describing their current work. Employees tended to agree or strongly agree with positive statements describing their current position regarding most aspects of their jobs. Although still relatively high, the share of employees agreeing with positive statements related to salary and benefits, promotion, and flexibility of work hours was lower than statements describing other attributes. There were few notable differences across the three industries or by characteristics such as gender and experience (Figure 7.1).

Reasons for Job Choice

When asked about the drivers of job choice, around 30 percent or more of both men and women noted monthly salary, reputation of sector, reputation of establishment, and ease of getting to work were key factors in their choice of a job. However, women were close to twice as likely as men to emphasize opportunities for career development as a key factor in their choice of a job (Table 7.1). This finding is consistent with our focus groups, in which participants noted the opportunity for career development as a key advantage of the private sector over the public sector.

The greater emphasis that female employees placed on career development is notable, particularly given historically low but recently rising labor force engagement among Saudi women. Among surveyed employees, Saudi women were more likely to rate themselves higher than men as prepared for their job in terms of technical knowledge (66 percent versus 58 percent) and labor law and administrative regulations (66 percent versus 56 percent), while females and males, respectively, rated themselves about equally on interpersonal skills (72 percent versus 70 percent). These findings suggest the potential for Saudi women to continue to gain a stronger foothold in the labor market as long as key obstacles and structural constraints they have historically faced are addressed.

There are a few notable differences across industries in terms of the reasons employees reported for choosing their jobs. Employees in banking (41 percent) were slightly more likely than those in telecom-
Figure 7.1
Percentage of Employees Agreeing or Strongly Agreeing with Statements Describing Current Job Attributes

<table>
<thead>
<tr>
<th>Salary and benefits</th>
<th>Percentage Agreeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic salary is satisfactory</td>
<td></td>
</tr>
<tr>
<td>Receive suitable allowances</td>
<td></td>
</tr>
<tr>
<td>Bonuses and commissions policy are fair</td>
<td></td>
</tr>
<tr>
<td>Ease of getting to place of work</td>
<td></td>
</tr>
<tr>
<td>Receive suitable professional development opportunities</td>
<td></td>
</tr>
<tr>
<td>Supervisors and colleagues ensure knowledge sharing</td>
<td></td>
</tr>
<tr>
<td>Always find encouragement from my supervisors</td>
<td></td>
</tr>
<tr>
<td>Promotion and salary raise system is fair</td>
<td></td>
</tr>
<tr>
<td>Degree of respect between employees is high</td>
<td></td>
</tr>
<tr>
<td>Ease of communication between employees</td>
<td></td>
</tr>
<tr>
<td>Degree of trust between employees is high</td>
<td></td>
</tr>
<tr>
<td>Absence of racial discrimination of all kinds</td>
<td></td>
</tr>
<tr>
<td>Job responsibilities are clear</td>
<td></td>
</tr>
<tr>
<td>All are committed to work ethic</td>
<td></td>
</tr>
<tr>
<td>Find job security and stability</td>
<td></td>
</tr>
<tr>
<td>Security and safety policies are clear</td>
<td></td>
</tr>
<tr>
<td>Work environment is safe (emergency exit, electric outlets safe, etc.)</td>
<td></td>
</tr>
<tr>
<td>Health benefits are suitable</td>
<td></td>
</tr>
<tr>
<td>Ease of dealing with colleagues</td>
<td></td>
</tr>
<tr>
<td>Ease of dealing with different administrative levels</td>
<td></td>
</tr>
<tr>
<td>Work hours are flexible</td>
<td></td>
</tr>
<tr>
<td>I am proud to be affiliated with this establishment</td>
<td></td>
</tr>
<tr>
<td>I always defend this establishment</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: DSC survey of employees.
NOTE: Employees were asked to respond to statements about the availability of the attribute in their current job (5-completely agree, 4-agree, 3-neutral, 2-do not agree, 1-do not agree at all).
munications (35 percent) and food manufacturing (34 percent) to have chosen their jobs because of the reputation of the industry. This finding was echoed in our focus groups and interviews, in which students, junior employees, and firm representatives all noted that the banking industry was considered prestigious. Employees in both banking (41 percent) and telecommunications (39 percent) were more likely than those in food manufacturing (32 percent) to have chosen their jobs because of company reputation. Notably, employees in food manufacturing (33 percent) were more likely than those in telecommunications (25 percent) or banking (17 percent) to report that they had chosen their job because their preferred job was not available. This suggests that, at least for current employees, banking and telecommunications continue to be viewed as more desirable compared with food manufacturing.

Perceptions of Recent Graduates
Self-Reported Preparation
The survey of recent graduates provided insights into how current and future job seekers view their opportunities in the job market, and how they perceive the comparison and candidate industries. Among

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st choice</td>
<td>Monthly salary higher than other available jobs (43%)</td>
<td>Opportunities for training and career development (39%)</td>
</tr>
<tr>
<td>2nd choice</td>
<td>Reputation and status of establishment (41%)</td>
<td>Monthly salary higher than other available jobs (38%)</td>
</tr>
<tr>
<td>3rd choice</td>
<td>Reputation and status of industry (37%)</td>
<td>Reputation and status of industry (37%) Ease of getting to place of work (37%)</td>
</tr>
</tbody>
</table>

SOURCE: DSC survey of employees. Authors’ calculations of percentages based on frequencies of response.
NOTES: Respondents were asked to choose key reason from a list. The number of respondents who chose that reason was divided by the total number of possible respondents by gender.
recent graduates, the majority of respondents (62 percent) said that they selected their major because of desire and ambitions, and this proportion was higher among women (66 percent) than among men (58 percent). The vast majority of surveyed recent graduates expressed confidence in their preparation for a job in terms of technical knowledge (around 71 percent) and interpersonal skills (around 86 percent), while more than half (54 percent) expressed confidence in their knowledge of the labor law and administrative regulations. According to the analysis conducted by the DSC, there were no statistically significant differences by gender or university. Recent graduates expressed generally high confidence in their English proficiency: 83 percent rated their English reading, 76 percent rated their English writing, and 73 percent rated their English speaking as good, very good, or excellent.

Job Search

Recent graduates who were surveyed indicated “other” as the most common way to find a job (write-ins included WhatsApp and Snapchat). This was closely followed by applying on the website where the job was posted, applying through LinkedIn or Bayt, visiting the place of work, and giving their CV to relatives and friends.

A majority of respondents rated the career services at their university as good to excellent. However, a substantial number rated their university services as satisfactory or poor regarding job placement and employer follow-up (30 percent), career planning (21 percent), professional consultation such as how to prepare a CV (23 percent), and workshops and professional development (22 percent). Notably, a large share of respondents (15 to 18 percent, depending on the question) reported “I don’t know” to questions about rating their university career services. The DSC analysis found no statistically significant differences by gender, but there were differences by university, with King Faisal University achieving the highest ratings.

Respondents reported participating in several government programs, including Doroob (25 percent), Saifi (5 percent), Tamheer (14 percent), Hafiz (52 percent), Employment Beginning with Train-
ing (4 percent), and Taqat (47 percent). All programs received an average or higher rating by most participating respondents, but a few programs received a poor rating by a substantial minority of respondents. For example, 19 percent of Taqat participants rated the program as poor or very poor. Similarly, 23 percent of participants in Tamheer rated the program as poor or very poor.

By comparison, the share of participants who rated the remaining programs as poor were relatively lower for Saifi (13 percent), Hafiz (11 percent), Employment Beginning with Training (13 percent), and Doroob (5 percent).

**Desired Job Attributes**

Recent graduates responding to the survey indicated that the most important characteristics in their search for a job were career or professional development, job security, and work environment. The full set of job attributes categories and sub-categories are shown in Figure 7.2. Over 80 percent of respondents rated each of the attributes related to career development—promotion opportunities, professional development workshops, and knowledge transfer learning opportunities—highly. While 65 percent or more of respondents rated each attribute related to job security and work environment as important or very important, the highest ratings within that broader category were for job security (95 percent), teamwork (89 percent), and

1 Doroob is an online platform with free training courses for Saudi nationals managed by the Saudi Human Resources Development Fund. For more details, see Human Resources Development Fund, “Doroob,” webpage, 2020a. Employment Beginning with Training consists of two types of training: Training in Non-Profitable Institutes and Rehabilitation for Health Diploma Holders. Training in Non-Profitable Institutes consists of training by nonprofit organizations under government contract for work in uncommon specializations in demand in the private sector (Human Resources Development Fund, “Training in Non-Profitable Institutes Program,” webpage, 2020d). Rehabilitation for Health Diploma Holders provides additional training to Saudis who hold diplomas in the health field to include six months of theoretical training in one of the Colleges of Excellence and six months of training in a hospital or Ministry of Health affiliated center for direct employment after training completion (Human Resources Development Fund, “Rehabilitation for Health Diploma Holders Program,” webpage, 2020b).

2 According to the DSC analysis, each of these attributes received a rating of 4.3 (out of 5), with 4 being important and 5 being very important.
the managerial style of the direct supervisor (87 percent). Other attributes rated important or very important by three quarters or more of the respondents included health insurance (81 percent) and name and reputation of the company (75 percent).

The DSC analysis identified statistically significant differences between men and women on the attributes of social status, flexibility, and job security and work environment (Table 7.2). For example, a significantly higher share of women than men placed importance on the name and reputation of the company (81 versus 67 percent), the leadership style of the immediate supervisor (92 versus 81 percent), and office work (80 versus 60 percent). Recent male graduates, in contrast, placed

![Figure 7.2](image-url)

**Figure 7.2**

*Rating of Specific Job Attributes as Important by Recent Graduates*

<table>
<thead>
<tr>
<th>Monetary benefits</th>
<th>Monthly income</th>
<th>67</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child tuition allowance</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Annual bonuses</td>
<td>66</td>
</tr>
<tr>
<td>Non-monetary benefits</td>
<td>Health insurance</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Annual leave</td>
<td>66</td>
</tr>
<tr>
<td>Social status</td>
<td>Job title</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Name and reputation of company</td>
<td>75</td>
</tr>
<tr>
<td>Career development</td>
<td>Promotion opportunities</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Professional development workshops</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>Knowledge transfer learning opportunities</td>
<td>81</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Variety of tasks and responsibilities</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Flexibility in working hours</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Flexibility in distance work</td>
<td>35</td>
</tr>
<tr>
<td>Job security and work environment</td>
<td>Work pressure and completion expectations</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>Managerial style of direct supervisor</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Office work</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Teamwork</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Job security</td>
<td>95</td>
</tr>
</tbody>
</table>

**SOURCE:** DSC survey of recent graduates.

**NOTE:** The numbers show the percentage of respondents who rate attribute as important or very important.
more importance than women on whether the job placed a lot of pressure on an employee (67 versus 62 percent) and incorporated teamwork (91 versus 87 percent), although the differences in both cases were small in terms of magnitude.

**Perceptions Toward Private Sector and Comparison and Candidate Industries**

Survey respondents were asked whether they targeted a specific sector to look for work, and slightly less than half indicated they did

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**Table 7.2**  
**Notable Male-Female Differences in Reasons for Selection of Job by Recent Graduates**

<table>
<thead>
<tr>
<th>Job Attribute Category</th>
<th>Job Attribute Sub-Category</th>
<th>Men (% Rating Important or Very Important)</th>
<th>Women (% Rating Important or Very Important)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social status</td>
<td>Job title</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Name and reputation of company</td>
<td>67</td>
<td>81</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Variety of tasks and responsibilities</td>
<td>70</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>Flexibility in working hours</td>
<td>65</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>Flexibility in distance work</td>
<td>33</td>
<td>36</td>
</tr>
<tr>
<td>Job security and work environment</td>
<td>Work pressure and speed</td>
<td>67</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Leadership style of immediate supervisor</td>
<td>81</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Office work</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Teamwork</td>
<td>91</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Job security</td>
<td>93</td>
<td>97</td>
</tr>
</tbody>
</table>

**SOURCE:** DSC survey of recent graduates.  
**NOTES:** Cell percentages are the share of respondents who indicated that this factor is important or very important. Each row represents a statistically significant difference for that factor between men and women at the 0.05 level using an independent samples t-test.
Among those who did target a sector for work, the government sector was ranked the highest, with a score of 3.5 out of 4, followed by the private sector (2.6), the quasi-government sector (2.5), and self-employment (1.6). Of those who indicated they were targeting a specific sector, 70 percent prioritized the government sector. There were, however, differences by gender. Among the 70 percent of recent graduates who indicated they were prioritizing the government sector first, a significantly higher share consisted of women (67 percent) than men (33 percent). However, the much smaller share (10 percent) who prioritized the quasi-government sector first consisted of significantly more men (65 percent) than women (35 percent).

Our focus groups shed some additional light on students’ perceptions of the private sector. University students generally perceived the private sector as more dynamic and as providing more career and skills development than the public sector. However, there were widely varying perceptions about the compensation, benefits, and other conditions in the private sector; some of this variation in perception reflects the variation in reality among private-sector firms. Some students were concerned about discrimination against Saudis and that managers might not be willing to train junior staff, who might take their jobs; others reported positive perceptions of training and mentoring in private-sector firms, especially international firms. Our interviews and focus groups also suggested that many young Saudis may want to start their careers in the private sector but eventually move to a public-sector job. The quasi-government sector was perceived as combining many of the positive attributes of the private sector (career development, dynamism, novelty) with key attributes of the public sector (most notably, implied if not contractual job security).

Survey respondents were also asked to rank banking, telecommunications, food manufacturing, and an “other” category in terms of those they might want to target for future work. Respondents were most likely to rank the banking industry the highest (for an average score of 3.5 out of 4), followed by a tie between telecommunications and “other” (3.0) and then food manufacturing (2.2). This serves as a reminder that policy efforts to develop the food manufacturing indus-
try may be challenging, but successfully doing so could help change perceptions and attitudes.

Our focus groups with university students corroborated these findings. Banking was generally perceived as prestigious, although there was some concern about its formality and lack of creativity. Telecommunications was perceived as a high-paying industry, but potentially not as attractive as other technology-related industries. Students reported either lack of familiarity with the food manufacturing industry or somewhat positive perceptions. Among students who reported willingness to work in food manufacturing, several said they would only do so if the job were in their area of specialization or were with a well-established firm. Those students who would not be willing to work in food manufacturing cited a variety of reasons, including that the industry was geared toward employing expats, and a lack of jobs in administration and nonproduction areas.

Survey respondents were also asked to rate six industries across a range of attributes (Table 7.3). The six industries were banking, telecommunications, food manufacturing, general administration and defense, logistics services, and wholesale and retail trade. The industries were ranked consistently across the five factors of salary and pecuniary benefits, nonpecuniary benefits, career development, social status, and work environment. Banking followed by telecommunications and general administration and defense topped the list on each of these factors. Food manufacturing ranked next to last after logistics services and before retail.³

**Willingness to Move**

One notable difference between the sample of Saudi nationals in the World Bank 3LMS survey administered in 2015–2016 and the recent DSC graduate survey of 2019 is in willingness to move for a job.

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³ On two job attributes, the rankings did differ. In terms of flexibility, telecommunications received the highest ranking, followed by banking, and general administration and defense. Food manufacturing was ranked fourth, before logistics services and retail. In terms of job security, banking ranked first, followed by general administration and defense, and telecommunications. Food manufacturing was ranked next to last, after logistics services but before retail.
Table 7.3
Recent Graduate Ranking of Industry Attributes

<table>
<thead>
<tr>
<th>Job Attribute</th>
<th>Banking</th>
<th>Telecom</th>
<th>Food Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility</td>
<td>4.5 (2nd)</td>
<td>4.6 (1st)</td>
<td>3.4 (4th)</td>
</tr>
<tr>
<td>Job security</td>
<td>4.9 (1st)</td>
<td>4.5 (3rd)</td>
<td>2.7 (5th)</td>
</tr>
<tr>
<td>Salary and pecuniary benefits</td>
<td>5.4 (1st)</td>
<td>4.6 (2nd)</td>
<td>2.9 (5th)</td>
</tr>
<tr>
<td>Non-pecuniary benefits</td>
<td>5.1 (1st)</td>
<td>4.5 (2nd)</td>
<td>3.2 (5th)</td>
</tr>
<tr>
<td>Career development</td>
<td>5.2 (1st)</td>
<td>4.8 (2nd)</td>
<td>2.9 (5th)</td>
</tr>
<tr>
<td>Social status</td>
<td>5.4 (1st)</td>
<td>4.6 (2nd)</td>
<td>2.6 (5th)</td>
</tr>
<tr>
<td>Work environment</td>
<td>5.2 (1st)</td>
<td>4.7 (2nd)</td>
<td>2.8 (5th)</td>
</tr>
</tbody>
</table>

SOURCE: DSC recent graduate survey and analysis.
NOTES: Cells represent the score of each industry among six industries (banking, telecommunications, food manufacturing, general administration and defense, logistics services, and wholesale and retail trade), with higher ranking representing a better score. The overall rank based on the score is provided in parentheses.

Whereas the vast majority of unemployed respondents in the 3LMS survey (around 80 percent), including diploma and bachelor’s degree holders, indicated they would not be willing to move for a job, approximately 70 percent of students in the 2019 survey indicated they would be willing to move to obtain their desired job. Of those who were willing to move, approximately 45 percent would be willing to move anywhere in the Kingdom, and nearly 30 percent would be willing to move outside the Kingdom to obtain their targeted job. Although the wording of the question and response categories differed across the two surveys, this difference could suggest changing attitudes with respect to labor mobility especially among younger Saudis.  

4 In the World Bank 3LMS survey, the question posed was “Would you be willing to relocate to take up a new job?” whereas the wording on the DSC recent graduate survey was a two-part question with the first question being “Are you prepared to move to a new city to obtain a targeted job?” followed by “Rate the following areas that you would prefer to move to.”
Employers’ Views

In 2019, the DSC administered a survey to representatives from 49 firms, including 31 banks; 13 firms in food manufacturing, sales, and distribution; and 5 firms in telecommunications and IT. The surveys covered a wide range of topics, including job attributes, employee recruiting, preferred attributes of job candidates, and Saudization. Because the sample was non-probability-based, we do not discuss the statistical significance of the results.

Recruiting Methods

Almost all companies (94 percent) indicated that they rely on online job platforms (e.g., LinkedIn, Bayt) to recruit candidates. Also common were internal company databases (88 percent), employee recommendations (69 percent), and cooperating with universities (67 percent). More than half of surveyed companies (57 percent) also noted that they relied on recommendations from company leadership and holding job fairs. Notably, a greater share of companies in the banking industry (71 percent) relied on employee recommendations for job candidates, whereas a greater share of companies in food manufacturing, sales, and distribution (77 percent) relied on job fairs to recruit candidates. Establishments were also asked whether they had partnership agreements to either hire Saudis or train students, and a greater share of companies indicated that they had pipeline programs to train students (80 percent) compared with programs to hire Saudis (61 percent) for employee recruiting purposes.

Desired Attributes in Job Candidates

The most frequently cited desired candidate personal trait was general behavior across the three categories of positions that companies hire into (managerial, specialist, and technician and assistant specialist). The majority of firms in both banking (18 out of 31) and telecommunications and IT (3 out of 5) emphasized general behavior, whereas those in food manufacturing, sales, and distribution (8 out of 13) emphasized self-confidence for managerial positions. For specialist positions, banking companies (23 out of 31), telecommunica-
Employers were asked to rank the importance of interpersonal skills among job candidates. The most frequently emphasized interpersonal skills were problem-solving and decisionmaking along with work ethic for managerial positions; for the specialist and technician and assistant specialist positions, they were effective communication and teamwork. In terms of technical skills, across the three industries, companies emphasized project management skills for managerial positions and job-specific skills for the specialist, technician, and assistant specialist positions. Examples of job-specific skills include coding in a specific programming language, and dealing with numbers.

Notably, two-thirds of companies emphasized experience in considering candidates for a specific job position, particularly experience in the specific job, over other criteria such as specialization, education degree, or institution attended. A slightly higher share of companies in banking compared with food manufacturing, sales, and distribution emphasized experience, whereas a higher share of companies in food manufacturing, sales, and distribution emphasized specialization.

Overall, companies also emphasized local experience, particularly experience working in a Saudi company, over experience in a foreign company in Saudi Arabia, and experience in foreign companies outside Saudi Arabia. Importantly, this was largely driven by the higher representation in the survey of companies in the banking industry, as there were differences by industry. For example, close to half of surveyed companies in banking compared with a third of those in food manufacturing, sales, and distribution emphasized job candidate experience in a local Saudi company, whereas more than half of companies in food manufacturing, sales, and distribution compared with a third in banking emphasized experience in a foreign company in Saudi Arabia. This
may reflect the well-established presence of international food manufacturing companies, such as Pepsi, in Saudi Arabia.

**Policies and Approaches to Hiring Saudis**

Employers were asked about the factors that incentivize Saudization of jobs. Consistent with the evidence from our interviews, the leading factors cited by the surveyed companies were appointing Saudi leadership in the company (39 percent), possessing the appropriate skills (35 percent), and government policies (20 percent). Some differences in terms of the primary factor driving Saudization were noted between industries. For banking, 39 percent reported that Saudization was driven by the availability of the appropriate skills in the labor market, whereas among companies in food manufacturing, sales, and distribution, 38 percent noted that government policies were an important driving factor behind Saudization, equal to the share that reported the appointing of Saudi leadership. This likely reflects the fact that banking was one of the first industries to be Saudized and, as noted in Chapter Four, already has a relatively large pool of Saudi workers who are trained and have experience in the industry.

**Difficulties Hiring Saudis**

In terms of general difficulties hiring by position, one of the most frequently noted challenges was finding candidates with sufficient practical skills for each of the different types of positions (managerial, specialist, and technician and assistant specialist).

Companies were specifically asked to indicate whether they encountered difficulties hiring Saudis for certain positions, and we highlight the most compelling findings. Responses suggest that lack of required skills was the main challenge in hiring both Saudi men and women into the more specialized and technician positions. Companies noted that difficulties hiring Saudi women into managerial positions stemmed from difficulty finding candidates rather than lack of skills.

Companies attributed difficulty hiring Saudi men into managerial positions most frequently to lack of skills. As a case in point, 19 out of 31 companies in banking, all five telecommunications and IT com-
panies, and 9 out of 13 food manufacturing, sales, and distribution companies attributed difficulty hiring Saudi men to lack of required skills. In contrast, barriers to hiring Saudi women for managerial positions were more likely to be attributed to a general difficulty finding job candidates in banking (20 out of 31), telecommunications and IT (3 out of 5), and food manufacturing, sales, and distribution (7 out of 13). Notably, in banking, a majority of companies (21 out of 31) also attributed difficulty hiring Saudi women for managerial positions to suitability of working environment for job candidates, whereas 3 out of 5 indicated that was the case in telecommunications and IT, and 4 out of 13 indicated that was the case in food manufacturing, sales, and distribution.

When it came to filling specialist positions, a majority of banking companies attributed difficulty hiring Saudis to lack of required skills for both men (20 out of 31) and women (22 out of 31); this was the case for food manufacturing, sales, and distribution more so in terms of hiring Saudi men (10 out of 13). These trends also seemed to fit difficulties noted in hiring Saudis in the assistant specialist and technician positions. A majority of banking companies noted that difficulty hiring men (18 out of 31) and women (20 out of 31) was due to lack of required skills for these positions. About half of banking companies indicated that difficulty hiring for those positions was because of difficulty finding both men and women candidates for those positions.

**Job Attributes**

Surveyed companies in the banking industry reported the widest salary range among Saudi employees (4,799–138,042 Saudi riyals per month) compared with telecommunications and IT (4,207–78,472 Saudi riyals per month), and food manufacturing, sales, and distribution (5,604–72,589 Saudi riyals per month). Surveyed companies in banking reported much higher salaries for Saudi employees in specialist positions even at the lowest end of the range (14,927–35,403 Saudi riyals per month) compared with telecommunications and IT (8,138–25,351 Saudi riyals per month), and food manufacturing, sales, and distribution (8,974–18,486 Saudi riyals per month). A much higher share of companies surveyed in banking (90 percent) noted that they
had a clear system in place for determining annual bonuses compared with surveyed companies in food manufacturing, sales, and distribution (62 percent). However, surveyed companies in food manufacturing, sales, and distribution reported offering, on average, more training workshops for employees (5) than did banking (3) and telecommunications and IT (1). Surveyed companies in food manufacturing, sales, and distribution provided training most frequently to professionals and technicians (8), followed by managers (4) and clerks and services and sales workers (3).

The vast majority of companies indicated that they provide to some extent or to a great extent a fair performance appraisal system (98 percent), activities to enhance employee connections (92 percent), free coffee and tea (90 percent), dedicated employee lounge (86 percent), and flexible working hours (76 percent). Less common but still provided by a majority of companies were discounts at select retailers (63 percent) and monetary benefits such as housing allowance (57 percent), although a greater share of surveyed companies in the banking industry (around two-thirds) compared with food manufacturing, sales, and distribution (around a third) provided both discounts at select retailers and monetary benefits such as a housing allowance.

**Summary**

The findings discussed in this chapter suggest several broad patterns and trends over time regarding Saudi views toward work. As noted in Chapter Three, in 2015–2016, both Saudi men and women generally had positive views toward work, although younger women had more positive views toward work than older women did. As of 2019, young men and women continued to express positive attitudes toward work, but also a continued preference for work in the government sector compared with the private sector.

There are some signs that attitudes may be changing about certain aspects of work. Younger job seekers, in particular, expressed greater willingness in 2019, compared with 2015–2016, to relocate for an ideal job. Our focus groups also indicate that attitudes might be changing,
with some younger job seekers indicating that there is growing interest in private-sector jobs in light of the perception that such jobs provide more dynamism and career development.

Saudis willing to work in the private sector are particularly interested in working at large, prestigious firms that offer attractive wages and career opportunities. Junior employees reported that the key factors they consider in looking for a job are monthly salary, reputation of industry, reputation of establishment, and ease of getting to work. Women also particularly expressed an interest in career development. Among recent graduates, job security, teamwork, and leadership style of an immediate supervisor were all highly valued. For women, the name and reputation of the establishment was also particularly important.

Perceptions of recent graduates toward the food manufacturing industry are generally lower compared with banking and telecommunications. This was corroborated by our focus groups, in which students reported mixed attitudes toward food manufacturing, and noted potential drawbacks including a perceived lack of nonproduction jobs. And although some employees in food manufacturing indicated that this industry was not their first choice, food manufacturing employees reported that they were equally satisfied with their salary, benefits, and other working conditions relative to employees in banking and telecommunications. This latter finding suggests that if barriers to seeking jobs in food manufacturing can be overcome, Saudis might find the type of quality employment they are hoping for.

Employers, employees, and students all reported using a wide variety of recruiting channels, most notably online services. However, there is evidence that a substantial share of recent graduates find their university career services lacking. Employers in banking, telecommunications, and food manufacturing all reported a desire for job candidates with job-specific technical skills, as well as soft skills including good general behavior and self-confidence.

In 2015–2016, many employers—particularly small firms—reported difficulties in hiring Saudis; the most commonly reported difficulties were lack of experience, lack of skills, lack of willingness to accept manual labor jobs, and high salary requests. In 2019, most recent graduates were confident in their technical and interpersonal
skills; it is not clear whether this represents a shift in the quality of education or differing perceptions of employers and candidates. Consistent with interview findings reported in Chapters Four and Five, firms indicated that the leading drivers of Saudization were Saudis in leadership positions, having candidates with the appropriate skills, and government policies. In Chapter Eight, we explore the implications of these findings—along with those from the interviews, focus groups, and secondary data—for Saudization of the food manufacturing industry.
Saudi Arabia is facing the difficult challenge of rebalancing its economy toward greater private-sector activity. Although a variety of detailed policies can help the country move in this direction, an overarching guiding idea that produces private-sector development is that investors and entrepreneurs must see the possibility of generating profits before they commit their capital and their time. Any return on capital can then be ploughed back into firm growth, generating employment and expansion of the private sector.

The opportunity to create profits can come from general business conditions or from direct policy interventions. Improving business conditions is the main point of the World Bank’s long-running *Doing Business* project. It considers how easy it is in a country to trade, form a new company, and hire (and fire) employees, among other factors. Direct policy interventions can cover a wide range of subjects, from improving general business conditions to investing in workforce development to subsidizing economic activity, thereby improving profitability. Ideally, policies, and especially subsidies, should be sustainable in the sense that they will produce a higher return than they cost and that the recipients will not become dependent on them.

Saudi Arabia faces two particular challenges in reshaping its economy. First, the country has a very young population. Among Saudis only, the proportion of people age 24 or under was almost 49 per-
cent in 2016. Globally, the proportion of people age 24 or under that same year was 42 percent, well below the Saudi mark. Those young people will need jobs, and, given population growth and size, long-term energy trends, and policy directions, many will need to find jobs in the private sector. In addition, Saudi women are joining the labor force in greater numbers—a positive change for Saudi Arabia, but one that requires even more job growth.

Second, many private-sector jobs involve manual labor, may have unpleasant working conditions, and do not require high levels of education. As discussed in Chapters Three and Seven, although perceptions of the private sector are changing, recent surveys show that many Saudis do not find manual work (even skilled manual work) acceptable, and many still prefer government and quasi-government jobs to private-sector jobs. Other private-sector jobs involve specialized technical skills that may be hard to acquire in Saudi Arabia—or may take many years to gain. Even in industries that are highly Saudized, employers express concerns about finding a sufficient number of skilled Saudis to fill them.

For decades, expatriates—many of whom earn wages below the Saudi minimum wage—have filled most of these private-sector jobs, with the government providing employment to the majority of Saudis who are employed, either directly or indirectly. And yet if Saudi Arabia hopes to cause its private sector to expand, firms will need to seek out and hire young Saudis, who in turn will need to seek and accept employment in the private sector, replacing expatriates.

Given these two challenges, there is a strong national interest in creating not just jobs, but quality employment in the private sector. Such jobs, which are characterized by decent pay and working conditions, challenging but potentially fulfilling tasks, and a path for advancement, can help attract young Saudis to a growing private sector. Private-sector managers and knowledgeable policymakers

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2 U.S. Census Bureau, International Data Base, online demographic database, last updated December 2019.
Policies for Developing the Food Manufacturing Industry

repeatedly contended that even though prestige was one factor in how Saudis determine their employment choices, good working conditions and reasonable pay could make up for a lack of prestige.

In its effort to shift toward a more robust private sector, Saudi Arabia has embarked on a set of comprehensive reforms, as discussed in Chapter Two of this report. Many of these reforms, such as the new bankruptcy law and the updating of the competition law, are aimed at the overall business environment. Others are aimed at the development of specific industries.

In this joint DSC-RAND research project and this report, we focus on the development of a specific industry, the food manufacturing industry. At first glance, the further development of food manufacturing appears to be a challenging choice. The exemplary industries that provide quality employment in the private sector are banking and telecommunications, and, as discussed in Chapters Four and Five, those industries are very different from food manufacturing. Furthermore, as discussed in Chapter Seven, those industries are perceived very differently than food manufacturing.

However, there are three benefits to considering food manufacturing. First, it is a large and growing industry but has a relatively small number of Saudi employees, as discussed in Chapter Five. There is plenty of room for overall employment growth, as well as Saudization. Second, an advanced food manufacturing industry can provide quality employment and serve as a source of innovation and growth, as shown in Chapter Six’s examination of food manufacturing in Switzerland. And third, lessons from food manufacturing can be applied to other challenging industries that Saudi leadership would like to see developed, such as logistics. Rather than shying away from the development of challenging industries, this research project recognizes that the challenge must be taken on and provides one approach.

In the remainder of this chapter, we discuss the policy implications of the research presented in this report, focusing on food manufacturing but drawing broader implications for manufacturing and other sectors. Many of these implications are not presented in great levels of detail. Rather, they provide broader guidance. This is because only Saudi government officials have both the knowledge and the authority
to identify specific details that will suit Saudi society. However, at the end of this chapter, we present initial guidance on the level of priority that each of the policy proposals might have in efforts to develop the food manufacturing industry, with any final determination to be made by Saudi policymakers.

It is important to recognize that these policy proposals should not be considered in isolation. In fact, a number of policies, including Vision 2030 and the National Industrial Development and Logistics Program, have laid out proposals to encourage Saudization, including within the food manufacturing industry. Other planned changes in Saudi policies will also require synchronization. The Human Resources Development Fund has embarked on developing a new strategy that is to focus on a variety of development paths and will be aimed at strengthening its partnership with the business sector.\(^3\) And the Ministry of Human Resources and Social Development as of late October 2020 was working on a variety of initiatives to organize and develop the labor market.\(^4\)

The policies discussed here are meant to contribute to and amplify existing efforts by government agencies and other stakeholders. Moreover, our goal is to assist Saudi Arabian policymakers in creating a lasting set of policies and programs that can be sustained over a long time horizon, giving private-sector firms the chance to adapt to the new conditions and to thrive.

For selected policies, we provide short examples from other countries. Because Saudi Arabia is a member of the G-20 leading economies and aims to develop its economy to the highest international standards, such as by becoming one of the top ten countries in the World Economic Forum’s Global Competitiveness Index, we provide examples from the advanced western economies of the United States, the EU, and Australia.\(^5\)

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\(^3\) “Social / His Highness the Emir of Al-Qassim Receives a Report . . . .” AlKhaleej Today, October 11, 2020.


\(^5\) For the goal of reaching the top ten among countries in the Global Competitiveness Index, see Kingdom of Saudi Arabia, 2016b, p. 53.
In the past, especially as discussed in Chapter Four, regulatory mandates have provided an important push to bringing Saudis into the private sector. Such mandates may still be necessary, but they also carry some risk. If the Saudi employees do not have the right skills or work attitude, or if the Saudi private-sector firms do not invest in the development of these employees, there may be little value added to the company or the economy, other than not taking a place on the public payroll. However, if Saudi employees have the right skills and work attitude, especially when hired, and if Saudi private-sector firms develop the capabilities of these employees, then value will be added to the firm and the economy and their employment will be sustainable. The policies presented below are aimed at creating an environment where firms will want to hire Saudis and Saudis will want to work for private-sector firms.

One other factor, not included among the policies presented below, will be important no matter what industry is addressed: For many Saudis, government employment is the preferred option. Although addressing the benefits of government employment is outside the scope of this research, limiting those benefits will make private-sector employment relatively more attractive and help in the development of the private sector.

**Overcoming Challenges of Industry Characteristics**

As detailed in Chapter Four, banking and telecommunications have succeeded at offering quality employment in part because of their industry characteristics, especially high levels of profit and prestige. Food manufacturing does not have those advantages. Its profit margins are narrow. As discussed in Chapter Seven, young Saudis identified the reputation of the industry and the establishment as important attributes they look for when seeking jobs. While food manufacturing has a few large, well-known firms in Saudi Arabia, the industry does not have strong reputational benefits. And, there are a great many small firms that cannot afford to provide various benefits that might make employment with them more inviting. There is no easy way to over-
come these issues. However, a package of policies, as discussed below, can go very far to make employment in the industry inviting. And the food manufacturing industry does have one important industry characteristic: several anchor institutions, which the case study in Chapter Six indicates are critical for development, in the form of large, well-established Saudi and international firms.

Regardless of policies instituted, one idea that became clear in all of our company interviews was that commitment to Saudization and commitment to providing quality employment has to start at the top. Government mandates for Saudization certainly can attract the attention of senior executives, just as SAMA oversight bred banking Saudization. But greater understanding among companies of the benefits of and pathways to Saudization may also help. Annual awards to small and mid-level firms that have not only Saudized but provided quality employment may provide other firms with illustrations of business paths they could follow. Collecting information for judging such an award could also provide the government with indicators of how well the industry is doing at upgrading its employment.

A number of our policy implications suggest there are advantages to supporting industry collaboration through an industry association. Such advantages include, for example, collaboration on training, export promotion, and working with ancillary suppliers that might serve the entire industry but that would not succeed by serving only a few companies. This collaboration could be especially beneficial for small firms that would otherwise be unable to afford the costs of such programs. Such an association or alliance would need to be in accordance with competition laws, but the Swiss case study described in Chapter Six illustrates the value that such associations can bring.

**Bringing Capital into the Equation**

Further Saudizing the food manufacturing industry—or just about any manufacturing industry in Saudi Arabia—faces the twin challenges of replacing low-skill jobs held by expatriates with Saudis, and
providing them quality employment. One solution is to upgrade the capital intensity of the industry.

Equipment and machinery can often—although not always—be used to replace low-skill jobs. At the same time, that equipment needs to be maintained and monitored, so there are capital-labor complementarities. In our discussions, and especially in a policy workshop that the DSC organized, employers and experts noted that firms have little incentive to upgrade capital, because (1) expatriate labor is relatively inexpensive and (2) labor and training are sometimes subsidized, whereas capital purchases are not. Saudization—which is likely to involve a smaller overall workforce paid higher wages—will almost certainly require upgraded capital equipment. Increasing capital investment would increase the productivity of workers who use that capital—thus increasing the potential for employers to provide higher-wage jobs with better working conditions. The use of capital could also improve working conditions directly, by reducing the need for manual labor. In addition, investing in state-of-the-art equipment could enhance the attractiveness of the industry for young Saudis.

Large food manufacturing firms have already been upgrading their production lines, so that labor primarily maintains equipment and performs certain tasks that have not been automated. Many more smaller firms could benefit from upgrading but might not have the finances or the knowledge to do so. A new government program subsidizing investment and either the leasing or purchase of capital equipment could solve some of the problems companies face regarding upgrading the quality of their employment. Such a program will be especially important to smaller firms, for which the cost of capital equipment might be prohibitive. In addition, capital upgrading need not be related to fewer job opportunities, even if some of the capital replaces labor. Out of 79 economies with data, the advanced economies of Singapore, Greece, and Switzerland were all in the top 25 in employment growth in their food manufacturing industries between 2008 and 2017.6 Furthermore, small enterprises can thrive in a capital-intensive industry: In the United States in 2017, 91 percent of firms in

the food manufacturing industry had fewer than 100 employees, and 73 percent had fewer than 20.7

Saudi Arabia already has programs aimed at the industrial sector—for example, those offered through the Saudi Industrial Development Fund.8 Policymakers may want to revisit these programs and ensure that they offer capital upgrading assistance for the purpose of Saudization. Such capital upgrading will necessarily involve a training effort, and we discuss this below.

**Changing Jobs into Careers**

For many students who took part in our focus groups, and participated in the DSC’s survey, quality employment meant some type of a career path. Not only students discussed career paths; managers and executives at leading banking, telecommunications, and food manufacturing companies also said that they offered their employees a defined path for advancement. And such a path did not extend only to managers and office workers. Among larger, more sophisticated food manufacturing companies, production workers had a career path as well.

By *career path*, we mean the opportunity to progress, based on job performance and training, to jobs with more authority and higher pay. We discuss training in a separate section below, but we address certain specific training issues related to career paths in this section. In some of our conversations, *career path* was interpreted to mean guaranteed promotions, as in some government jobs. However, students and most managers took career paths to mean the *opportunity* for advancement, rather than the *guarantee* of advancement.

Students contemplating entering the labor market saw training and the opportunity to learn as an important component in their choice of jobs. Positive perceptions of training and mentoring in private-sector

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firms, especially international firms, were factors that attracted new job seekers to the private sector rather than government. More generally, students reported that they would consider a number of factors when looking for a job, including the reputation of the industry and of the specific organization, salary, job title, and alignment with Vision 2030. For female students, whether the organization is actively recruiting women can also be a factor. Where the private sector ranked most highly among students was in the impression that it would provide the best opportunity for people to develop their skills.

Although the largest firms offer career paths and extensive training opportunities, smaller firms may struggle with this. In some cases, as we learned in our interviews, management may not be interested in formalizing a firm’s employment advancement structure, may not know the benefits of doing so, or may not know how to create career paths. In other cases, management may have their hands full with the day-to-day running of the business or may not have the time or money to invest in further training for themselves or their employees.

For companies that need help creating career paths, executive education and technical assistance can help for human resource and upper-level managers and executives. Providing such training about modernizing human resources procedures could take place in a multi-company food technical training center (such as the Dairy and Food Polytechnic, as described later in this chapter), with the training center offering regular technical classes to students and short workshops or classes to management. Such training could also take place at university business schools, or in some other industry-sponsored management training institutions. Subsidies to companies to send managers may help. Another model is to create a core of trainers, possibly of retired or expatriate executives, to work on-site. Those trainers could be placed at companies, paid for either through an industry association or by a government program, to work directly with senior management on improving human resources procedures.

Even if small firms can provide training to help employees upgrade their skills, it is not clear that they will be able to provide career paths, simply because of the limited number of jobs available at the firm. Instead, policymakers may wish to encourage industry alliances.
Box 8.1. A Policy for Training and Career Paths in the United States

In 2014, the United States passed the **Workforce Innovation and Opportunity Act (WIOA)**, legislation to spur states to foster regional and local collaborations and innovations to strengthen labor markets and boost economic growth and development. Among the provisions of the law was the establishment of workforce development boards to promote industry and sector partnerships, meet workforce needs, and provide incentives to employers to invest in training their own employees. The law also encourages state and local authorities to utilize collaborations between employers, training institutions, and other nongovernmental support organizations to provide further education, employment, and training assistance to enhance opportunities for career advancement and success. The WIOA provided the framework and the resources for states to support the implementation of a sectoral, regionally focused approach to take into account the local industrial base, and several states enacted legislation to implement the provisions of WIOA. Each state was required to develop a strategic plan that outlined its implementation of WIOA and use of resources.

For example, California’s most recent plan linked to WIOA outlines the state’s policy objectives of “fostering demand-driven skills attainment,” “enabling upward mobility for all Californians,” and “aligning, coordinating, and integrating programs and services.” The plan goes on to outline a set of strategies to ensure the concerned state agencies align to achieve those policy objectives, such as targeting opportunity sectors for growth, developing career pathways to ensure a pipeline of skills, encouraging regional partnerships to build connections between the various stakeholders, and developing capacity for data collection. The state also has an operational plan with a detailed approach to implementing the strategies, including assignment of state agency roles, regulatory guidance, and requirements for assessing and reporting on progress.

**Sources:**

to develop career pathways for the industry. A career pathway can be defined as a “series of connected education and training strategies and support services that enable individuals to secure industry relevant certification and obtain employment within an occupational area and to advance to higher levels of future education and employment in that area.”9 A number of career pathways are typically developed within a career cluster, or group of related occupations. For example, production occupations in food manufacturing are often grouped within a broader manufacturing career cluster, which also includes logistics, maintenance, quality assurance, and other related functions.10 We caution that a career pathway should not be interpreted as an artificial hierarchy through which workers would be promoted. Rather a career pathway provides a less hierarchical path than a traditional job ladder and allows workers to enter at different points and to progress through a variety of paths by gaining education and experience.

An important feature of this model is that it is typically done in partnership with industry, and workers can earn industry-recognized credentials that are stackable—that is, they can be combined with other certifications—and portable across employers. These features would be particularly useful for small firms that may not be able to offer career advancement opportunities to all junior employees. If the industry as a whole has identified feasible career pathways, then workers entering a small firm could envision how their careers could progress even beyond their initial employer—and beyond the food manufacturing industry into the broader manufacturing career cluster.

Moving Saudis into Food Manufacturing Industry Jobs

As illustrated in Figure 5.5 in Chapter Five, many of the jobs in food manufacturing that are easy to Saudize have already been Saudized.


Management and office jobs have high levels of Saudization, for example. However, there are a number of production-type jobs that also have relatively high levels of Saudization. These include confectionary-related jobs, chef, some machine operator jobs, and the job of packaging and wrapping worker.

In fact, although there is a widespread view in Saudi Arabia that Saudis will not take production jobs, both the data and our interviews suggest that this is not entirely true. Especially for people from rural areas or with less-than-university education, a production job may be perfectly acceptable.

One way to encourage young Saudis to consider production jobs is to help them become familiar with them through summer programs in high school. The government may need to subsidize companies to offer either summer jobs or introductory experiences, as the productivity of high school students is expected to be low. Beyond helping introduce students to work experiences, highlighting successful currently employed production workers with annual recognition or awards may also raise the status of those types of jobs, especially if production workers can be shown to be contributing not only to the success of their families but also to the development of the private sector in Saudi Arabia.

More-concrete actions can also help. Saudi Arabia has subsidized employment, for example through the Human Resources Development Fund’s Tamheer program. Company representatives we interviewed consistently said that, often, when the subsidy ends, the company releases the employee. There is value to subsidizing employment. It helps potential employees learn about opportunities and develop skills, and it helps potential employers learn about job candidates. However, using only the subsidy and not offering permanent employment can be counterproductive. There are two potential mechanisms for changing the program to avoid this challenge:

- The employment subsidy program could include a requirement to retain a certain percentage of program participants,

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with the penalty being a clawback of the amount the government has disbursed under the program. This would guarantee continued employment for some, but could lead to companies ending employment for others just at the limit of the number of people they need to retain.

• Alternatively, company participation could be conditioned on the proportion of people kept for permanent employment. For example, hypothetically, if a company keeps 90 percent or more of program participants, that company can participate fully in future years. If a company keeps 60 percent to 89 percent, the number of people it can bring on in future years is limited. A variety of levels of employment and conditions can be designed.

The Human Resources Development Fund has already shown flexibility in program design regarding Tamheer. The program has been available for university graduates with bachelor’s, master’s, and doctoral degrees, providing a monthly salary of 3,000 Saudi riyals. In late summer 2020, the program became available for diploma holders from technical and training institutes, providing a monthly salary of 2,000 Saudi riyals.¹² This should help improve the opportunities for Saudis in technical and administrative jobs, including those that historically have been staffed by expatriates.

Efforts to encourage the hiring of overlooked workers can also help. As noted in Chapter Three, women in the labor force are generally highly educated, but many other Saudi women do not have high levels of education. With Saudi Arabia encouraging the entry of women into the labor force, young women with less-than-university education could be promising candidates for production jobs. Handicapped individuals form another class of sometimes-overlooked workers. One food manufacturing company said that it had tremendous success with deaf workers. In both cases, some type of subsidy program may help, especially if companies need to make special accommoda-

¹² Human Resources Development Fund, “Trainees with Diplomas are Entitled to a Monthly Reward of SR2,000 Under Tamheer Program,” September 2, 2020e.
tions, such as creating gender-segregated areas or installing modified equipment.

**Policymakers could also allow expatriate employees to move more freely between employers.** This policy has already been implemented to some degree under Nitaqat, as firms with a platinum or green rating can hire expats from firms with red or yellow ratings. Expanding this mobility would likely increase the market wages paid to expats, thereby lowering the average ratio of Saudi to expat pay and incentivizing firms to hire more Saudis.

Subsequent to research for this report being completed, the Ministry of Human Resources and Social Development, on November 4, 2020, announced changes in employment relationships for expatriate employees, effective March 14, 2021. Called the Labor Reform Initiative, the new policy will allow expatriate employees to change jobs freely at the end of the work contract that brought them to Saudi Arabia. It will also allow them to freely travel outside Saudi Arabia and to reenter without the employer’s permission, and it will allow them to obtain a final exit visa without the employer’s permission. The initiative is designed to “increase the flexibility, effectiveness, and competitiveness of the labor market and raise its attractiveness in line with the best international practices and the Saudi labor law.” An additional motivation is to increase Saudi Arabia’s rankings on international competitiveness. Expected outcomes include developing the local labor market, increasing productivity in the private sector, and attracting highly skilled talent, all under the umbrella of Vision 2030.

Media reports before the announcement, particularly in the Maaal news outlet, said that the change was part of a larger effort to improve the quality of life of expat workers and to make sure their rights are upheld, and that it would been have announced earlier in

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2020 but was delayed by the COVID-19 pandemic. It said that the Kingdom expects that the change will affect more than 10 million workers. Notably, this is one of several reforms that the ministry is working on, so more are to be expected. Subsequent articles in Maaal discussed and defended the change further (see footnote 15 in this paragraph).

Whatever is decided regarding any program, policymakers should refrain from frequent program changes so that there is less uncertainty about future policy direction, and should increase coordination across government agencies to avoid conflicts among programs. Employers indicated that frequent changes bred uncertainty and that lack of coordination across government agencies created challenges for the private sector regarding program take-up and the benefits of programs. Several food manufacturing firms noted that the shifts over time in government policy—in particular, regulations about Saudization—have made the process more challenging. Lack of coordination across government agencies is also reported as a challenge. For example, when the Saudi Food and Drug Authority changes the classification of a particular facility, this affects the Saudization targets required by the Ministry of Human Resources and Social Development, which can disrupt a firm’s staffing plans. One option for solving this is to have one agency serve as the sector lead. Another is to at least increase coordination and information-sharing across agencies—for example, by meeting on a regular basis to compare program development, implementation, and outcomes.

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Training for Quality Employment

If companies are to provide better pay and working conditions while remaining profitable, it will be necessary for them to operate more productively. One way to increase a firm’s productivity is to upgrade the skills of its employees. The case study of food manufacturing in Switzerland illustrates the value of technical training in skills development. Most young people in Switzerland receive technical training rather than university training. And even if they go on to university, they will have gained skills necessary to work in a variety of private-sector roles. In Saudi Arabia, employers have seen the value—and absence—of technical training. Many machine operator jobs have only low or middle levels of Saudization, and, more importantly, technician jobs consistently have low levels of Saudization, as discussed in Chapter Five. Many of these jobs, such as electricity technician, computer technician, or production mechanical technician, could provide good opportunities for young Saudis who do not seek or achieve a university education.

Employers indicated that it was difficult to find Saudi technicians because training for those jobs in Saudi Arabia was weak. Generally, there are three providers of training: machinery and equipment vendors, domestic technical schools, and foreign technical schools. Saudi policymakers could consider taking advantage of all three options:

- First, if the aim is for young Saudis to gain from capital-labor complementarities and capital-skill complementarities, those skills need to be imparted; therefore, **technical training in Saudi Arabia needs to be upgraded.**
- Second, just as Saudi Arabia has funded foreign university educations for many young people, **it may now be worthwhile funding foreign technical training**, especially if such training can be packaged with subsidies for equipment purchases. More specifically, a subsidy for capital upgrading could be paired with funding for the people who will operate and maintain the equipment to go abroad to learn the necessary skills. This will make capital
upgrading lower-risk for the company and at the same time help Saudize jobs and potentially create quality employment.

- Third, as discussed in Chapter Four, the telecommunications industry has trained a relatively large number of Saudi engineers by having new graduates work alongside foreign vendors. A policy that makes it easier for companies to get expatriate visas for certain foreign vendors in the short run, with the understanding that those vendors will train young Saudis, who will eventually fill their positions, could create an added incentive for companies to hire Saudis who lack work experience. This option may be particularly attractive in the short run, as it would allow companies to fill their technical staffing needs immediately and to simultaneously train Saudi replacements for the longer term.

Industry alliances could help with the first option in particular. The Dairy and Food Polytechnic provides a good example that can be broadened. Started in 2009 by the Technical and Vocational Training Corporation (TVTC) and AlMarai, the polytechnic is managed by a Dutch company and trains young Saudis for technical jobs in the food industry. Such institutions can be expanded to include partnerships with other food companies, allowing the programs to be broadened and opening up more employment opportunities, which could in turn attract more students. The Swiss case study shows the power of broad industry alliances, with companies there pooling their efforts into training academies and apprenticeships.

The Dairy and Food Polytechnic also provides a good example of government-industry cooperation. But such cooperation is much broader than just the Polytechnic. It is part of an overall effort that includes 28 institutes and academic centers in seven regions licensed by TVTC and supported by the Human Resources Development Fund through the Strategic Partnership for Institutes. In this arrangement, the Human Resources Development Fund pays 75 percent of training expenses and 75 percent of the trainee’s wage, with the business that

17 Dairy and Food Polytechnic, 2019.
plans to employ the trainee paying the remainder. With improving skills a priority, the Human Resources Development Fund intends to expand the program to more institutes.\textsuperscript{18} Skill-building efforts can also be linked with the Human Capital Development Program for Industrial Clusters and any future program developments within the industrial clusters program, since food processing is one of the ten industries targeted by this program.\textsuperscript{19}

We note that while technical training is the most pressing issue, companies also said that other types of training were needed. Such training includes teaching young people about the private sector and teaching them so-called soft skills, such as communication and managing interpersonal relationships.

Another form of training could help young Saudis move into private-sector jobs. In some advanced economies, there is a less of a connection between field of study or training and type of employment. It is true that a foreign language major is unlikely to take an aeronautical engineering job, but a foreign language major could very well go into business, a management training program, or even investment banking, as long as rigorous education, no matter the course of study, imparts critical thinking and problem-solving skills. In many cases, private-sector companies have management training programs that are agnostic about course of study but more focused on a candidate’s capabilities. As discussed in Chapter Seven, employers value a number of traits, including general behavior and self-confidence, which are independent of technical skills.

\textbf{With many Saudi university students majoring in Islamic Studies, foreign languages, or nontechnical fields, Saudizing the workforce and expanding the private sector could involve helping them shift into private-sector industries. One way to help them do so is through subsidized on-the-job training.} As noted above, such subsidies should include incentives for employers to retain at least some

\textsuperscript{18} Human Resources Development Fund, “HRDF Supports 28 Institutes in Seven Regions to Train and Hire Job Seekers,” HRDF News, October 26, 2020f.

of the candidates for whom they receive the subsidies. **Another option is to develop special programs to help familiarize these students with business, impart necessary business skills, and then send them to work in business, whether that business is manufacturing, tourism, or some other industry.** Enabling the entry of graduates with arts and humanities backgrounds into private-sector business jobs would also involve something of a shift in thinking among employers, but incentives to employers could spur that shift.

Receiving technical training and certification through any of these programs is likely to make Saudis more attractive job candidates. However, some employers may still wish to hire Saudis or expatriate workers without technical training and certification, because the employers prefer to provide their own in-house training or because they can pay lower wages to workers without that training and certification. At the firm level, these decisions may depend on the individual employers’ circumstances. At a policy level, it may be worth reevaluating the criteria required for firms to bring in expatriate workers to Saudi Arabia.

These proposed policies would encourage Saudis to improve their skills through training, but would not make such training mandatory. If, in the future, certain credentials are required for Saudis to join a particular occupation, then it will also be important to consider what the requirements for expatriate workers in those occupations should be.

### Enhancing the Use of Information

In our interviews, a number of firms noted they could use more labor market data to inform their hiring decisions. Useful data include industry job openings, wages, and benefits so they can benchmark what they are offering. Companies may be reluctant to share this information, and most will be opposed to sharing it if their data would be identifiable. However, **regular industry reports with anonymized data may be useful for all companies.** Even beyond data, results from government analytic models that make sense of the data and are used to project trends in industry development and labor demand would be useful. Reports using descriptive data and output from models and analysis
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These reports could also help universities and other training institutions tailor coursework toward skills that companies need. Just as importantly, information about types of jobs, wages, and benefits could be a powerful recruiting tool by helping students to better understand what a career in the food manufacturing industry could look like. As discussed in Chapter Seven, recent university graduates perceive food manufacturing to be less attractive than many other industries. However, the survey of junior employees in food manufacturing showed that they were equally satisfied with their salary, benefits, and other working conditions relative to junior employees in

Box 8.2. Labor Market Information-Sharing in the European Union

Recognizing the importance of information-sharing for improved performance of labor markets, the European Commission has established several online platforms for data sharing and analysis. Eurostat is the official statistical office of the EU and is a comprehensive source of statistics and information covering a wide range of policy areas, including the economy, demographics, education, health, and the environment. Each policy area has a link for users to access and download data at various levels of aggregation. Eurostat also shares publications—including statistical portraits, as well as thematic reports on specific subjects and studies with empirical analyses using Eurostat and other data sources. Eurostat works closely with its partners in the National Statistical Institutes of the EU member countries.

A second source is the European Employment Policy Observatory, which provides an online resource for analysis of European labor markets with an emphasis on migration patterns. The website is designed to be simple with limited content beyond written documents that cover employment-related issues. The more recent articles have focused on the impact of the COVID-19 pandemic, but there is a repository of studies that date back to 2018. The observatory’s stated primary audience is policymakers, but the studies posted can appeal to a wider audience, including practitioners and researchers.

Sources:
banking and telecommunications. Our focus groups with university students suggest a potential reason for this mismatch between perceptions and actual experiences: Several students who did not have favorable impressions of the food manufacturing industry indicated that they were not familiar with it. Nonetheless, several students indicated that they might be willing to work in the industry if the job were in their area of specialization. Demonstrating to students that the industry has jobs that match their skills and interests, and that come with decent wages and working conditions, could increase the supply of skilled and educated Saudis who are willing to consider the food manufacturing industry.

Moving Beyond the Saudi Market

The Saudi market is large, but the global market is larger. Decades of research show that there are productivity advantages to exporting. Beyond the research, exporting was one of the advantages of the Swiss food manufacturing industry, as discussed in Chapter Six. As a member of the World Trade Organization, Saudi Arabian companies trade with the same basic benefits as companies from most countries. However, Saudi Arabia is a member of only two regional trade agreements, and so Saudi companies may be at a disadvantage relative to companies from countries with a broader network of regional trade agreements.20 Accordingly, policymakers should consider increasing the network of free trade agreements of which Saudi Arabia is a member.

Greater efforts at export promotion could enhance these opportunities. Such efforts could be coordinated by the government—for example through the Saudi Export Development Authority—but should be done in partnership with an industry asso-

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20 Saudi Arabia is a member of the Gulf Cooperation Council (GCC), which also has a trade agreement with Singapore, and of the Pan-Arab Free Trade Area. Announcements have been made for agreements between the GCC and the European Free Trade Area, the GCC and Australia, and the GCC and Japan, but these were not in force as of July 2020 (World Trade Organization, “Saudi Arabia,” Regional Trade Agreements Database, undated).
cation. Saudi Arabia has already made strides in developing its reputation for high-quality Halal products beyond its borders.\textsuperscript{21} It will be important to conduct market studies and trade missions to identify the best means through which to enhance this and other potential high-value-added areas of exports. Even if these activities are led by a government agency, their success will depend critically on the participation of industry leaders.

**Exploring New Frontiers in Saudi Arabia**

Our last policy implication can be considered a “stretch goal,” but is within reach of Saudi Arabia and can apply to a variety of industries. That goal is to bring more innovation to the industry. Although much of the food manufacturing industry produces timeless staples, there is also enormous innovation, as exemplified by Nestlé’s creation of Nespresso, which changed the global coffee industry. Also as illustrated by this example, innovation need not involve the most advanced technology, but instead can involve bringing a novel idea to market. Saudi Arabia is already seeing innovation in food manufacturing—for example in the growth of boutique artisanal food manufacturing, especially in Jeddah, and especially by women.

Increasing innovation requires risk capital, including an active venture capital industry, and job mobility. Saudi policymakers should consider reviewing their labor and competition laws to ensure that they enable the type of mobility that results in innovative people leaving larger companies to establish their own companies. Given the nascent stage of venture capital in Saudi Arabia, it may also be prudent to allow venture capital firms to bring in expatriate talent in the short run, which could encourage them to locate more of their operations in Saudi Arabia and help Saudis to gain experience with risk capital. On a related note, the importance of immigrant entrepreneurs to

the success of the Swiss food industry—and indeed, the contributions of immigrants to entrepreneurship in many countries—suggests that promoting innovation in the food manufacturing industry may benefit from encouraging entrepreneurial talent from around the world to consider setting up in Saudi Arabia.

The government can also consider directly supporting an expansion of the availability of risk capital. This is especially appropriate for basic research, a first stage of innovation, when commercial potential is unknown or not even considered, and then as the technology starts to be developed for commercialization, a second stage of innovation. This stage is sometimes considered a “valley of death,” in part because commercialization is highly uncertain. Although financing is usually more available during a third stage of innovation, when the idea is ready for commercialization, there are some government programs that target this stage, as well.22

Government programs for expanding the availability of risk capital can follow many different models. Models that seem to be most successful generally involve private-sector participation. Such models include public-sector agencies governed by a board that includes private-sector innovators; government funds that co-invest with private funds but as separate entities; and government investments into private investment funds, where all decisions are left to the private funds. In one implementation, for example, a government created ten private funds and invested into each on a matching basis with local and foreign private-sector partners as a way to spur the domestic venture capital industry.23 This enables the financing decisions to be depoliticized; to be informed by private-sector knowledge; and, ideally when the private sector co-invests, to spread the risk beyond the government.

Beyond capital and mobility, many of the topics discussed above could feed into an innovation ecosystem. By encouraging the development of technical education schools and related industries around

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22 Nataraj et al., 2012.

23 More information of these different models, and others, can be found in the case studies in Nataraj et al., 2012, pp. 27–65. The models discussed here are not specific to the food manufacturing industry.
existing industries, Saudi Arabia could foster the development of innovation hubs focused on the food manufacturing industry. These hubs also benefit from the creation of industry associations that can provide venues for the collaboration and cooperation of smaller firms and firms in similar industries. In addition, innovation-related efforts could usefully be linked to the Industry 4.0 strategy of the National Industrial Development and Logistics Program.\textsuperscript{24} Short for the fourth industrial revolution, Industry 4.0 involves a networking and digital fusion of technologies as exemplified by artificial intelligence, autonomous machines (such as automobiles), the Internet of Things, and additive manufacturing (also known as 3-D printing).\textsuperscript{25} A number of countries have developed specific Industry 4.0 strategies, as has Saudi Arabia in the National Industrial Development and Logistics Program within the umbrella of Vision 2030.

For all policies, small and medium-sized enterprises may require special attention. Large firms can often attract financing and talent. Small firms, even when they have great ideas and potential to grow into large firms, may be overlooked, not least because their owners and managers may be more time- or capital-constrained than those of large firms.

Saudi Arabia already has several large, sophisticated food manufacturing companies that could serve as anchor companies to innovation ecosystems. Tax, competition, or other laws that could encourage larger, more sophisticated companies to create seed or venture funds could feed into this innovation ecosystem. Lastly, the cost and difficulty of innovating can be reduced by the formation of incubators that provide space, equipment, and expertise to entrepreneurs or academic-industry partnerships. In Switzerland, these


Box 8.3. Support for Entrepreneurial Innovation in Australia

The Australian government has provided an online resource (business.gov.au) to provide “information, grants, services, and supports from across government” to help businesses succeed. Through the Entrepreneurs’ Programme, the Australian government takes a multipronged approach to subsidize training, provide expert advice and facilitation, and even provide seed money to help incubators support startups. The program has a number of components:

- **strengthening businesses** affected by the 2019–2020 bushfires to recover and rebuild
- **helping businesses grow** by designing a growth roadmap, accessing a high growth accelerator, and building SMART (specific, measurable, attainable, realistic, and time-related) projects and supply chains
- **researching innovations** by assessing needs and facilitating connections with the publicly funded research sector
- **funding for incubators** that support startups and securing the knowledge of an in-resident incubator expert
- **commercializing a project** by providing advice and grant funding to take it to the market.

As an example, for helping businesses grow, the government will fund an independent facilitator to analyze the business, assist in developing a roadmap to enhance its competitiveness nationally and globally, and provide the opportunity to apply for funding to implement the developed recommendations. The business also receives support from a mentor for up to one year. Eligibility for participation in the program is spelled out on the webpage.

Sources:

incubators are funded and operated by anchor companies that hope to use them to develop new products, although in other countries and contexts these incubators are at least partially government-funded.
Moving Forward on Policy Implementation

We have presented a variety of potential policies. These can be divided broadly into policies that support the labor demand side of private-sector development, meaning the firms that will hire workers, especially regarding helping substitute Saudis for expatriates; the labor supply side of private-sector development, meaning the employees; data and information to help firms, employees, and policymakers; and measures to spur growth and innovation in the food manufacturing industry, largely aimed at creating new quality jobs in which Saudis will want to work. We provide a comprehensive list in Table 8.1. In the table, we also provide initial guidance on the priority each policy might take, with any final determination sensitive to specific conditions as determined by Saudi policymakers.

Establishing Priorities

Of the 22 proposed policies, we suggest that seven have higher priority, nine have medium priority, and six have lower priority. A unifying theme of the higher-priority policies is that they relate to capital upgrading, the creation of skills and demand for more skilled employees, or the creation of more employment opportunities generally. The medium-priority policies tend to be more focused on active employment or labor market policies or aim at creating more innovative firms. The lower-priority policies tend to be enablers to expanding industry employment or improving the way that potential Saudi employees—and their families—view the private sector and the variety of jobs it offers. In the remainder of this section, we focus on the higher-priority policies.

Directly addressing the focus of this report—creating more opportunity for quality employment for Saudis in firms—four policies supporting firms have higher priority. Two are aimed at incentivizing firms to hire more Saudis: (1) conditioning participation in Tamheer on trainee retention and (2) further encouraging the employment of women and disadvantaged groups, especially in jobs that might not be traditional for them, such as production jobs now held by expatriate workers. Two are focused on support for the industry: (1) supporting
### Table 8.1
Policies to Encourage the Development of the Food Manufacturing Industry

<table>
<thead>
<tr>
<th>Policy Proposal</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving the Demand Side of Industry Development: Support for Firms</td>
<td></td>
</tr>
<tr>
<td>Support industry-wide association or alliance that can collaborate on employee training, executive education, and international marketing</td>
<td>Higher</td>
</tr>
<tr>
<td>Support the lease or purchase of capital equipment to replace lower-skill expatriate labor and support more-challenging jobs for Saudis</td>
<td>Higher</td>
</tr>
<tr>
<td>Condition participation in Tamheer or other employment programs with employee retention after the program subsidy ends</td>
<td>Higher</td>
</tr>
<tr>
<td>Encourage entry of women, individuals with disabilities, and other overlooked groups into production jobs, perhaps with subsidy programs</td>
<td>Higher</td>
</tr>
<tr>
<td>Enable executive education and technical assistance to help firms develop training and career paths for employees, ideally through industry partnerships</td>
<td>Medium</td>
</tr>
<tr>
<td>Allow expatriate employees to move more freely between employers</td>
<td>Medium</td>
</tr>
<tr>
<td>Create greater certainty, consistency, and coordination regarding individual programs and sets of programs</td>
<td>Medium</td>
</tr>
<tr>
<td>Highlight small and medium-sized firms that have Saudized and provided quality employment</td>
<td>Lower</td>
</tr>
<tr>
<td>Improving the Supply Side of Industry Development: Support for the Industry Workforce</td>
<td></td>
</tr>
<tr>
<td>Expand technical training opportunities at Saudi institutions in coordination with industry alliances</td>
<td>Higher</td>
</tr>
<tr>
<td>Fund technical training abroad</td>
<td>Higher</td>
</tr>
<tr>
<td>Develop programs to ease liberal arts and humanities graduates into business and technical fields</td>
<td>Medium</td>
</tr>
<tr>
<td>Ensure that summer work experiences in the private sector for high schoolers are widely available</td>
<td>Lower</td>
</tr>
<tr>
<td>Highlight successful Saudi production workers</td>
<td>Lower</td>
</tr>
<tr>
<td>Ease visa requirements for trainers and specialists from machinery and equipment operators selling and leasing to Saudi companies</td>
<td>Lower</td>
</tr>
<tr>
<td>Providing Useful Information About the Industry</td>
<td></td>
</tr>
<tr>
<td>Increase availability and timeliness of industry-level labor market data and produce regular industry reports</td>
<td>Lower</td>
</tr>
<tr>
<td>Further Measures Improving the Demand Side of Industry Development: Helping Firms in the Industry Grow</td>
<td></td>
</tr>
<tr>
<td>Engage in more intensive export promotion in association with industry alliance</td>
<td>Higher</td>
</tr>
</tbody>
</table>
Table 8.1—continued

<table>
<thead>
<tr>
<th>Policy Proposal</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand Saudi Arabia’s network of trade agreements</td>
<td>Medium</td>
</tr>
<tr>
<td>Increase flexibility to use expatriates for venture capital industry and to start new companies</td>
<td>Medium</td>
</tr>
<tr>
<td>Encourage company-sponsored seed or innovation funds</td>
<td>Medium</td>
</tr>
<tr>
<td>Review tax, competition, and other laws to allow industry collaboration in funding innovative products and startups</td>
<td>Medium</td>
</tr>
<tr>
<td>Consider industry-funded or government-funded incubators</td>
<td>Medium</td>
</tr>
<tr>
<td>Review labor and competition laws to ensure greater technical exchange and ease of starting new companies</td>
<td>Lower</td>
</tr>
</tbody>
</table>

Although this report focuses on improving the demand side of the labor market, there are also higher-priority steps that can be taken to support the industry workforce—the supply side of the labor market. Higher-priority policies aimed at employees involve greater technical training opportunities. This is especially important if firms in the industry upgrade their capital because new machinery will require operators and maintenance, and at present expatriate workers are often needed to serve as technicians for new and complex machinery.

The final higher-priority proposed policy involves export promotion. Exporting is not only related to better market opportunities and opportunities to achieve scale economies in production. It is also associated with greater employment opportunities and a higher probability that the firm survives.26

Not all of these policies can be implemented at once, and they will need to be carefully reviewed to make sure they accord with the overall Saudi situation and the Saudi food manufacturing industry situation as of 2021. Beyond priority, ease of implementation and sequencing are also

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important to consider. Saudi policymakers and technical experts will have the best idea of ease of implementation. It may be the case that a higher-priority policy is difficult to implement, but a lower-priority policy is easy and can give a quick win and provide momentum for the implementation of other policies.

Sequencing can relate to ease of implementation, but it also can be related to the way that some policies build on others. For example, if it is accepted that an industry association would be best placed to help executives develop career paths for employees, then the association would have to be created and developed before it could design and offer courses. Likewise, if an industry association were to take a more active role in export promotion, the industry association would need to be active and functioning.

Determining how to prioritize and sequence these policies will need further discussion among policymakers, industry representatives, and other institutions (such as educational institutions) that will be involved in implementation. Impact assessments of the potential costs and benefits of policies and programs in advance of deciding whether to implement those policies and programs could be useful, but may not be feasible or efficient depending on the availability of data and information about likely effectiveness of the policies from other settings. An alternative approach could involve pilot testing a policy on a small scale, tracking key outcomes and scaling up the policy if it is successful. More broadly, implementation will necessarily be a learning process; it will be important to track outcomes from policies after they are implemented, and to be ready to adjust them as needed at each step as all parties involved learn what works and what is beneficial.

Applicability to Other Industries

Many of the policy proposals in this report are applicable to other industries. For example, executive education can benefit nearly all industries. Additionally, some proposals will be most relevant to manufacturing industries, especially those that have a high proportion of production workers or do not require a high proportion of highly skilled workers with advanced degrees. The proposals aimed at the production aspects of manufacturing—such as developing the skills of production work-
ers and machine operators—will be relevant to nearly all manufacturing industries. However, some aspects of the food manufacturing industry—in particular, the sales of products to numerous small retail shops—are more relevant to manufacturing industries that produce nondurable consumer goods (such as toys or clothing), rather than those that produce durable goods (such as automobiles) or goods that are sold to other firms. Therefore, policies or programs that improve career paths for employees involved in sales to small shops may be applicable to a subset of other manufacturing industries.

Some proposals are not easily generalizable, and efforts to develop other industries may require different policies. Without completing more in-depth studies on other industries, we cannot definitively state which policies might be applicable to other industries but not to food manufacturing, but we can speculate. For example, some of the highest-technology manufacturing industries depend critically on air transport rather than ocean transport for their foreign-made inputs or for exporting. Were we to conduct a study on such an industry, we would want to understand the air cargo transport market in Saudi Arabia and devise ways to improve logistics so that inputs could move from arrival at the airport to the factory gate quickly. This is less applicable to food manufacturing.

Likewise, policies would differ were we to study a service industry. Recall that among the industries we considered for this report were architectural and engineering activities (not including civil engineers) and technical testing and analysis (ISIC 71) and advertising and market research (ISIC 73). In both of these cases, policies related to foreign trade will be much less important than they would be to manufacturing industries. Likewise, programs to promote capital upgrading would be less important. In the advertising and market research industry, we speculate that there would be large dividends to be gained from how the industry operates internationally, and so programs that help people work temporarily at international firms abroad may be useful. Tourism presents yet another case in which foreign experience could be valuable, not only in attending one of the plentiful and high quality hotel schools abroad, but also in working as a guide or planner with a tourism company.
Yet another dimension to be considered is the geographic distribution of the industry. Food manufacturing employment is concentrated in the Riyadh, Eastern, and Makkah provinces. However, some employment is located outside these areas, notably in the Qasim, Madina, and Asir provinces. The potential pool of employees is different in each province, and firms in the different provinces will face different challenges and opportunities with respect to hiring and retaining Saudi employees. Similarly, an industry that is more concentrated in the major urban areas—or that is more diffused across Saudi Arabia—may require different policies to foster Saudi employment.

The other main difference to be found among policies to improve different industries goes back to the idea that all of these policies need to be tailored. It is not enough to develop the skills of machine operators—they have to be skills applicable to food manufacturing machinery. Such skills might be different for other industries. This again underlines the idea that all of these policies will need refinement sensitive to specific conditions as determined by Saudi policymakers.

Conclusion

The Kingdom of Saudi Arabia is working to create conditions that will help its young and growing population find quality jobs in the private sector. Achieving this goal will require that Saudis upgrade their skills and seek private-sector jobs, rather than government jobs. Accordingly, much of the attention has focused on issues of labor supply. Equally important, however, is ensuring that the private sector creates demand for young Saudi workers and provides jobs that offer decent salaries and working conditions, as well as the potential to build a career. In creating receptive demand conditions, policymakers face a crucial balancing act between increasing job prospects for Saudis while enabling the continued profitability and survival of private firms.

The COVID-19 pandemic may slow implementation of economic reforms but reinforce their importance. The International Energy Agency projected in April 2020 that global energy demand for 2020 would fall by 6 percent, the largest proportional decline in 70 years
and the largest absolute decline ever. Economic diversification away from energy and the development of the private sector will help insulate Saudi Arabia from such volatility, regardless of cause.

There is no one policy that will address this challenge. However, our study of two industries in Saudi Arabia that have already Saudized successfully and a target industry that has the potential to do so indicates that there are several areas that policymakers will need to address. These areas are relevant not just to the food manufacturing industry, but broadly to any manufacturing industry that policymakers in Saudi Arabia wish to develop. First, it is necessary to start with a recognition of the realities imposed by the industry structure, such as profitability and firm size distribution. Next, mechanisms to encourage firms to upgrade job quality—including improved wages and benefits, or additional opportunities for training and career advancement in the firm, the industry, or the sector—need to operate within those realities of industry structure. At the same time, supply-side issues remain critical. Working with industry alliances and education and training institutions can enhance programs for providing industry-recognized skills and encourage on-the-job training. Such programs could include subsidies and technical assistance to help small firms that may not have the ability to provide such training on their own. These programs could be coupled with campaigns both to encourage industry leaders to Saudize and to encourage young Saudis to learn more about the private sector and to consider working there as a contribution to Vision 2030.

Finally, Saudization in any industry will be easier if the industry is growing. Saudi Arabia has already taken many steps to improve conditions for doing business in the past few years. Continuing to do so will help with private-sector development and will encourage innovation, investment, and private-sector growth, fostering an environment in which young Saudis can find a diverse array of fulfilling opportunities.


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The Kingdom of Saudi Arabia is striving to develop its private sector and generate quality employment for Saudi citizens, and its efforts to increase Saudization—the share of jobs filled by Saudis rather than expatriates—have focused on upgrading the skills and education of Saudis and on implementing legal reforms to improve the business environment. This report takes a third approach: assessing the potential for Saudi Arabia to develop a specific industry—food manufacturing—as a means of increasing the demand for Saudi labor. In September 2018, researchers from the Decision Support Center of the Royal Court and from the RAND Corporation set out to explore how Saudi Arabia has developed industries successfully in the past and how it could develop a target industry that can provide quality private-sector employment. Ideally, the findings based on researching a specific industry can be applied to other industries and to Saudi Arabia’s economy as a whole.