

Economic Research:

Greater Share Of Working Women Bolster Saudi Arabia's Economic Growth, Improving Productivity Will Entrench It

September 20, 2023

Key Takeaways

- As a result of Saudi Arabia's efforts to diversify its economy, its female labor force participation rate has nearly doubled in 2016-2022.
- If labor force participation in the kingdom continues to grow by 1 percentage point per year over the next 10 years, we project annual real GDP growth could be on average 0.3 percentage points higher than it would be if the participation rate grew at its historical trend.
- Expanding the workforce takes care of only one part of the equation in bolstering longer-run economic growth. The other, more important, part is to improve productivity.

PRIMARY CONTACTS

Satyam Panday

San Francisco

+ 1 (212) 438 6009

satyam.panday
@spglobal.com

Prarthana Verma

CRISIL Global Analytical Center, an
S&P affiliate, Mumbai

SECONDARY CONTACT

Ravi Bhatia

London

+ 44 20 7176 7113

ravi.bhatia
@spglobal.com

Saudi Arabia continues to diversify its economy away from oil and upstream crude production, with the non-oil sector now accounting for well over half of GDP. The government's ambitious Vision 2030 diversification program, announced in 2016, aims to grow the non-oil economy through investment in planned economic diversification projects, "Saudiization" of the workforce (replacing expatriates with Saudis), increasing female participation in the workforce, improving the business environment, and broader socioeconomic liberalization.

Saudi Arabia's labor market reforms have led the country's female labor force participation rate for Saudi nationals to nearly double to almost 36% in 2022 from 19% in 2016. This, in turn, boosted the overall participation rate to a record high of 61.7% in March 2023, compared with a record low of 54.2% in June 2017.

If labor force participation continues to grow at the current pace for the next 10 years, S&P Global Ratings Economics estimates the Saudi economy could potentially be US\$39 billion, or 3.5%, larger compared to a hypothetical scenario with historical (2000-2022) labor force participation rate growth.

While the biggest jump in Saudi Arabia's female labor force participation has clearly already

happened, even smaller, steady increases would continue to benefit the world's 17th largest economy. We calculate that increases in overall participation rate of just 1 percentage point (ppt) per year over the next 10 years would boost the country's annual real GDP growth by an average of 0.3 ppt, to 2.4% per annum (versus 2.1%), assuming that labor force productivity growth for the next 10 years will look the same as the last 20 years.

The odds of real GDP growth averaging 5% or above (which has happened nine times since 2000) during the next 10 years are only 25%, which would essentially require the economy to repeat some of the fastest labor force productivity growth it has ever seen. That said, the broader reforms that have been put in place under the Vision 2030 plan could tip the balance of risks on our assessment to the upside--that is, productivity growth could indeed come in higher than the median experience of the last 22 years.

Vision 2030

The overarching goal of Saudi Arabia's Vision 2030 is to diversify the kingdom's economy away from hydrocarbons. To achieve this, the labor reforms aim to:

- Reduce the percentage of illiterate adults and improve the percentage of graduates who have secured employment;
- Increase opportunities for Saudi nationals in the private sector, reducing the overall unemployment rate for Saudi nationals, and increase female labor force participation;
- Promote "Saudization" through technical and vocational training, enhanced funding for small- and medium-sized enterprises (with financial institutions required to allocate 20% of overall funding to these businesses), and reducing the share of Saudi nationals employed in the public sector to 20%; and
- Increase employment opportunities for women, especially in the private sector (to 3 million by 2030), increasing female labor force participation to 30% by 2030.

Higher Education And Lower Fertility Rates Drive Female Advancement

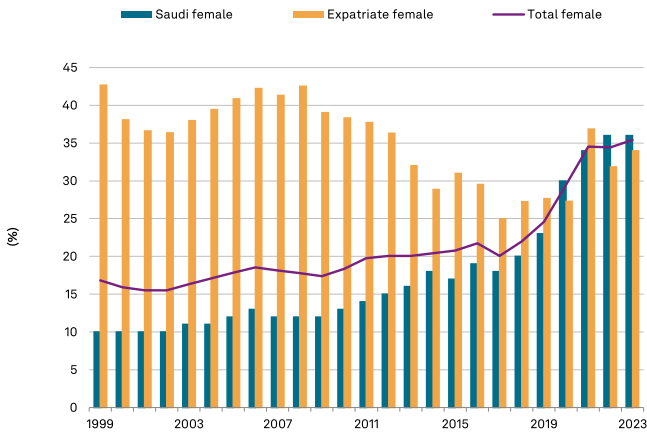
In almost all countries, men are still more likely than women to work outside the home, but the disparity has narrowed significantly in the past 50 years. Saudi Arabia is taking steps to close this gap but has a long way to go to catch up to other high-income countries.

Saudi Arabia's overall female labor force participation rate (nationals plus expatriates) jumped to 35% in 2022 from 17% in 1999, with most of the rise coming since 2016. For Saudi women, that number also rose to close to 36% from 19% in 2016 (see chart 1).

However, the kingdom's female labor force participation rate still lags on the global scale (see chart 2). This is, in part, due to differences in educational attainment and fertility rates (the number of births per woman), along with a still-conservative culture.

Chart 1

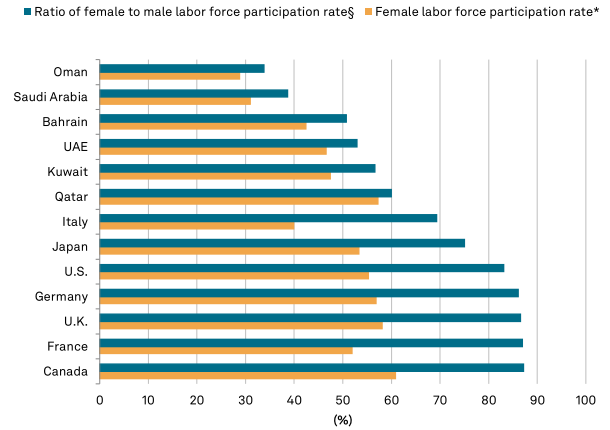
Saudi Arabia's female labor force participation rate



Data as of 2022. For 2023, data as of Q1. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 2

Female labor force participation and gender parity



Data as of 2021. *Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate). §Male labor force participation rate (modeled ILO estimate). Sources: ILO Stats and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

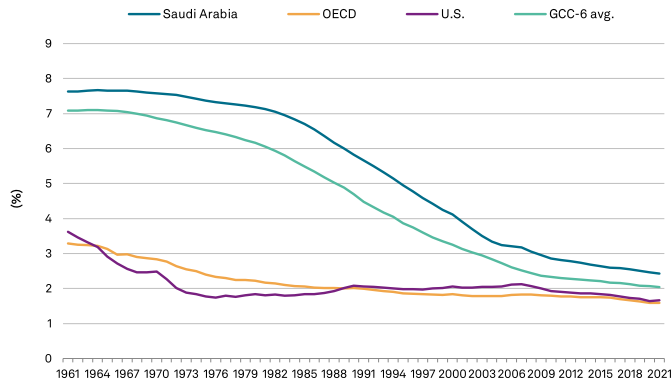
The increase in Saudi Arabia's share of working women can be attributed to improved female education, lower fertility rates, and cultural liberalization. In general, the fewer children a woman has, the more she's able to participate in the workforce. Fertility rates have declined to 2.4 children per woman in 2022, from nearly 4 in 2000. This decrease has brought the rate closer to (although still notably above) the level in other advanced economies (see chart 3).

Meanwhile, educational attainment has improved, as nearly 32% of women aged 25 and up in Saudi Arabia held at least a bachelor's degree in 2020, versus 26% in 2017. This is even higher than in some other developed or regional peers (see chart 4).

Furthermore, the female share of graduates from science, technology, engineering, and mathematics programs stood at 36.8% in 2018; on par with or above countries like the U.S. (38%), U.K. (34%), France (32%), and Germany (28%), while still below some regional peers like Oman (56%), Qatar (48%), the United Arab Emirates (41%), and Bahrain (41%).

Chart 3

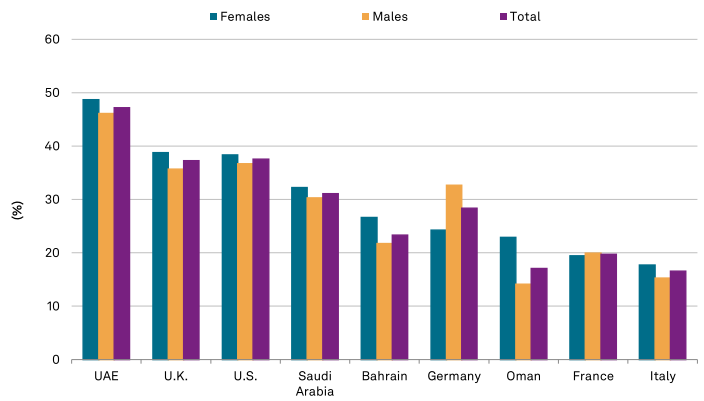
Fertility rate



Data as of 2021. OECD--Organization for Economic Cooperation and Development. GCC--Gulf Cooperation Council. Sources: WB-WDI and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 4

Educational attainment: At least bachelor's or equivalent



Data as of 2020. For France as of 2019 and for UAE as of 2021. Values depict educational attainment for at least bachelor's or equivalent, population: 25+, % (cumulative). Sources: WB WDI, UNESCO, and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

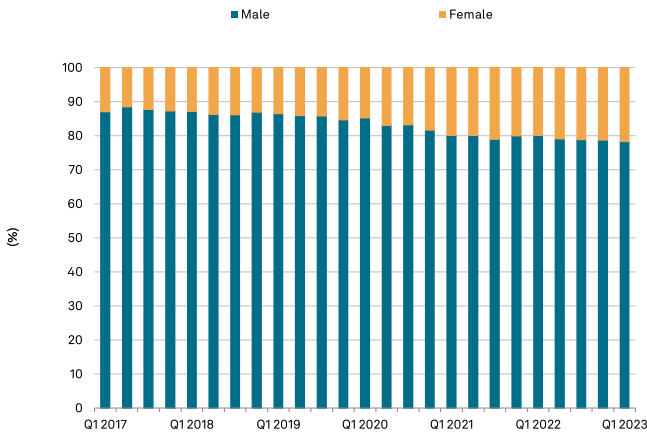
At the same time, Saudi authorities have implemented measures to reduce some of the impediments to women joining the labor force, such as:

- Providing transportation and childcare subsidies;
- Increasing the availability of childcare;
- Allowing women to drive;
- Increasing remote and hybrid work arrangements;
- Dropping the need for a male guardian to consent to a woman starting a business; and
- Increasing the number of female jobs in the military.

While Saudi female labor force participation has improved, women still make up only 20% of the employed population (see chart 5). Although total unemployment sits at a fairly low 5.6%, women--particularly Saudi nationals--are the bulk of that, making up more than half of jobless nationals (see charts 6 and 7).

Chart 5

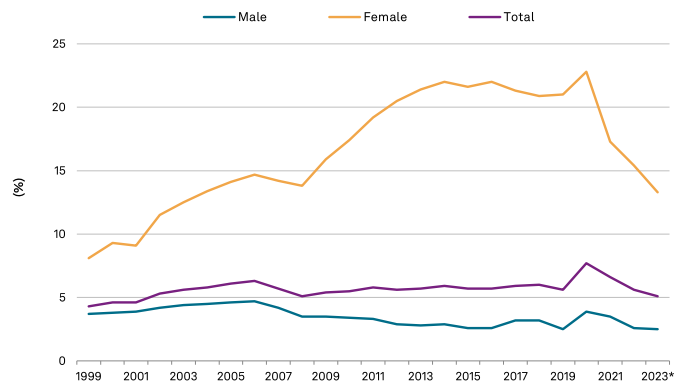
Saudi Arabia gender distribution of employed



Data as of Q1 2023. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 6

Saudi Arabia unemployment rate



Data as of 2022. *For 2023 data corresponds to Q1. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

For Saudi nationals, women's employment is mainly in the public sector (60%), while nearly 67% of working expatriate women are employed in the "other" sectors such as nonprofit organizations, domestic work, and regional and international organizations (see chart 8). Sectoral trends can partly be explained by the amount of education and the types of degrees women generally attain in the country.

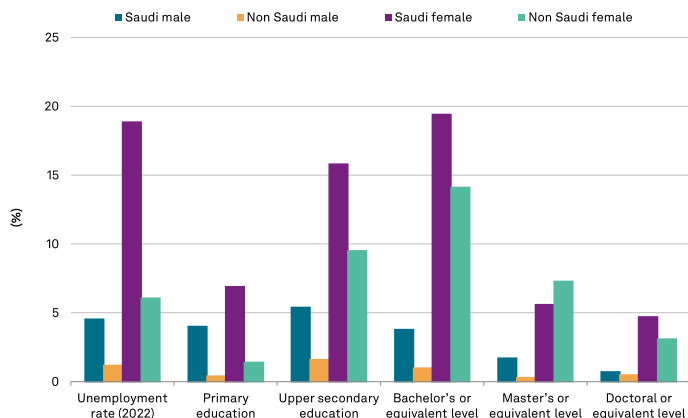
Only 16% of employed expatriate women in Saudi Arabia hold a bachelor's degree and 41% of them have only some level of secondary education. This, and the government reserving public sector jobs for Saudi nationals, could help explain why most non-Saudi women in the country work in "other" sectors and their concentration in public-sector jobs is exceptionally low. In contrast, Saudi women have better levels of education, with 55% of employed women having at least an undergraduate degree.

A plurality of Saudi women (35%) work as managers, followed by clerical jobs (21%). Among expatriate women workers, nearly 80% are engaged in sales/service roles (travel attendants, personal service workers, etc.) or elementary occupations (cleaning, domestic and office help) involving physical labor.

At the same time, technical skills between genders differ considerably, with women largely focused on humanities/education--a requirement for many public sector jobs (see chart 8). However, these skills aren't in high demand in the private sector, as noted by the IMF's 2018 report "The Economic Impact Of Policies To Boost The Employment Of Saudi Nationals," which pointed out the large share of unemployed Saudi women with degrees in education, humanities, and the arts.

Chart 7

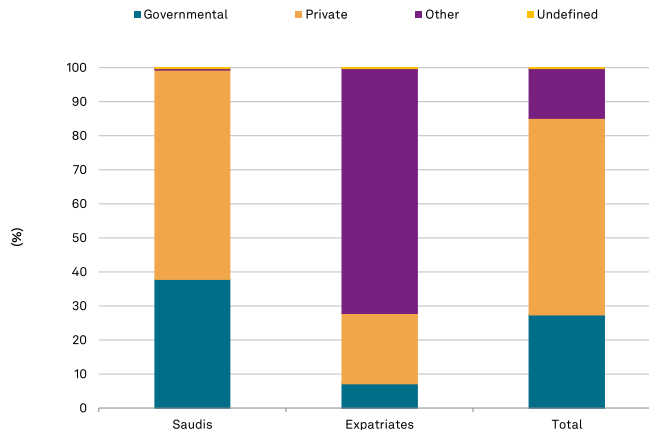
Saudi Arabia labor force participation rate by educational attainment



Data as of Q1 2023. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 8

Share of employed women by sector



Data as of Q1 2023. Governmental--Public sector. Private--Private and agricultural sectors. Other--Nonprofits, domestic workers, and regional and international organizations. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

And Higher Labor Force Participation Propels Growth...

Long-term economic expansion is essentially determined by the growth (not level) in total hours worked (labor quantity) and output per hour worked (labor productivity). Changes in these factors can bring about a range of plausible outcomes for growth in the next decade, especially past 2025, when our short-term forecast has the Saudi economy converging toward its long-run potential.

To see how labor force participation affects economic expansion, we split real GDP growth into growth in:

- Labor force participation;
- Real GDP per labor force participant; and
- The working-age population (those aged 16 and up).

Of the three sources of potential economic development, growth in labor quantity is straightforward: we more or less know what the working-age population will be (based on fertility and mortality rates, with immigration the only factor varying with policy).

Combine this with growth in labor force participation--that is, the fraction of the population working or looking for work (a somewhat greater unknown but a smaller contributor)--and we get the contribution to growth from labor quantity (see "Modified Growth Accounting Framework" below).

The other source of economic progress--growth in labor productivity--is trickier to project and can have an outsize effect on forecasts. Growth in labor productivity comes from three broad factors:

- Increases in the amount of capital per hour worked (also known as capital deepening or capital intensity);
- Improvements in the quality of labor (human capital, often derived through higher educational attainment); and

- Technological progress (growth in multifactor productivity, also called total factor productivity, which captures improvements in the way companies use their capital and labor but also embeds any errors in the estimated contributions from capital deepening and labor quality).

To model labor productivity, we randomly drew from the history of labor force productivity growth rates (2000-2022). By drawing on history, we effectively include not only a range of policy outcomes but also embedded uncertainty about the economy.

Modified Growth Accounting Framework

We use a modified version of a simple growth accounting framework to assess the impact of falling labor force participation and slowing working-age population growth on an economy's long-run economic performance.

We break the growth identity of real GDP down into its two primary contributions: GDP per labor force participant and labor inputs.

$$\text{GDP} = (\text{GDP}/\text{hrs worked}) * (\text{hrs worked}/\text{labor force}) * (\text{labor force}/\text{population 16+}) * \text{population 16+}$$

Or, simplifying the above equation gives:

$$\text{GDP} = (\text{GDP}/\text{labor force}) * (\text{labor force}/\text{population 16+}) * \text{population 16+}$$

$$\text{GDP} = \text{GDP per labor force} * \text{labor force participation rate} * \text{working age population}$$

We transform the multiplicative factor into an additive relationship by taking the natural log of both sides, thus giving us the growth rate contribution of each component (in percentage points) to GDP growth.

Note that the measure of GDP per labor force has its denominator reflecting the labor force (which includes employed and unemployed folks), as opposed to reflecting only the employed population of the labor force. The number of employed-only is generally used to calculate labor productivity in the literature. An accounting reduction similar to the one shown above can be done based on the employed-only segment of the labor force.

What do 1 million simulations tell us about Saudi's growth next 10 years?

To forecast Saudi Arabia's growth over the next 10 years, we applied what is known as a Monte Carlo simulation to generate a probability distribution of a range of outcomes. We estimated the likely range of future potential GDP growth by randomly drawing labor force productivity rates from 2000-2022, assuming 10% growth in working-age labor force participation over the next 10 years (similar to the 2016-2022 pace) and using U.N. population growth estimates.

In 1 million simulations, Saudi Arabia's estimated median annual real GDP growth rate over the next 10 years is 2.4%, with an interquartile range (25%-75% central estimate) of -0.2% to 5.0% (see scenario A in Table 1). 2.4% growth would still be a step slower than the 3.2% average of the recent past (2000-2022), due to lower population growth in the next 10 years compared with 2000-2022.

Table 1

Monte Carlo simulation tables

	5%	25%	50%	75%	95%
Scenario A: Assuming total labor force participation grows 10 ppts in the next 10 years					
Productivity	-7.00	-3.22	-0.59	2.04	5.81
Total labor force participation	1.00	1.00	1.00	1.00	1.00
Population	2.00	2.00	2.00	2.00	2.00
GDP	-4.00	-0.22	2.41	5.04	8.81
Scenario B: Based on historical trends					
Productivity	-7.00	-3.22	-0.59	2.04	5.81
Total labor force participation	-2.07	-0.44	0.70	1.84	3.48
Population	2.00	2.00	2.00	2.00	2.00
GDP	-4.89	-0.76	2.11	4.97	9.09
Scenario C: Assuming female labor force participation for Saudi nationals grows 10 ppts in the next 10 years					
Productivity	-7.00	-3.22	-0.59	2.04	5.81
Total labor force participation	0.30	0.30	0.30	0.30	0.30
Population	2.00	2.00	2.00	2.00	2.00
GDP	-4.70	-0.92	1.71	4.34	8.11

In all scenarios, we assume population growth of 2%. Annual average population growth in Saudi Arabia was 3.09% during 2000-2009 and 2.32% during 2010-2019. Source: S&P Global Ratings Economics.

In a scenario where labor force participation growth follows the longer historical average (2000-2022), combined with projected population growth of 2%, growth would likely average 2.1% with about the same interquartile range (see scenario B in Table 1).

Furthermore, following the same assumptions for population growth as above, we estimate that, in a scenario where growth in labor force participation is solely driven by that of female Saudi nationals, the median annual growth rate over the next 10 years would be 1.7% (see scenario C in table 1).

As a matter of "adding up," any softening from the working-age population and participation rate to supply-side growth must be offset by increasing labor force productivity growth to maintain the same level of GDP growth over time. As such, it's hard to foresee average annual growth changing by more than a few tenths of a percentage point in either direction in the coming decade.

...But Not As Much As Higher Productivity

According to this framework, improved labor productivity will be key to economic growth for Saudi Arabia over the next decade. Compared to the historical performance of East Asian growth champions such as Hong Kong, Singapore, South Korea, and Taiwan, Saudi Arabia's median growth path looks set to lag in terms of labor productivity growth. Therefore, to replicate East Asia's success, Saudi Arabia must improve its labor productivity by increasing capital investments and human capital.

Alternative scenarios that come with higher labor productivity growth would result in drastically different economic prospects. If the Vision 2030 policy reforms succeed, growth could sustainably

hit 4%-5%, rather than the 2%-3% based on historical productivity outcomes.

Increasing private-sector dynamism may also help wind down "ghost employment" created by the ever-evolving Nitaqat--a quota policy that forces firms to hire a certain number of Saudis--and instead open real opportunities for women to seek genuine productive employment.

Writer: Joe Maguire.

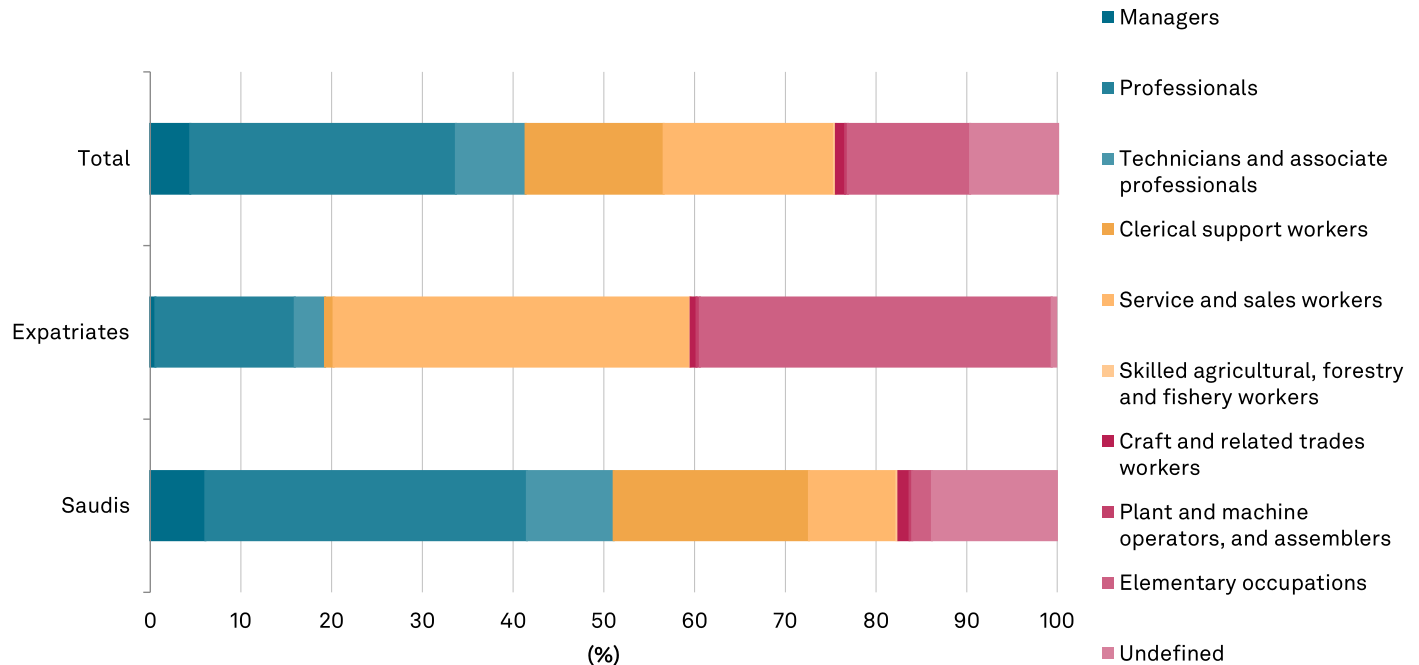
Related Research

- Saudi Arabia 'A/A-1' Ratings Affirmed; Outlook Stable, RatingsDirect, Sept. 15, 2023
- The Economic Impact Of Policies To Boost The Employment Of Saudi Nationals, IMF, Aug. 24, 2018
- Back To Work In A New Economy: Background Paper On The Saudi Labor Market; Evidence for Policy Design, Harvard Kennedy School, Harvard University; April 2015

Appendix

Chart 9

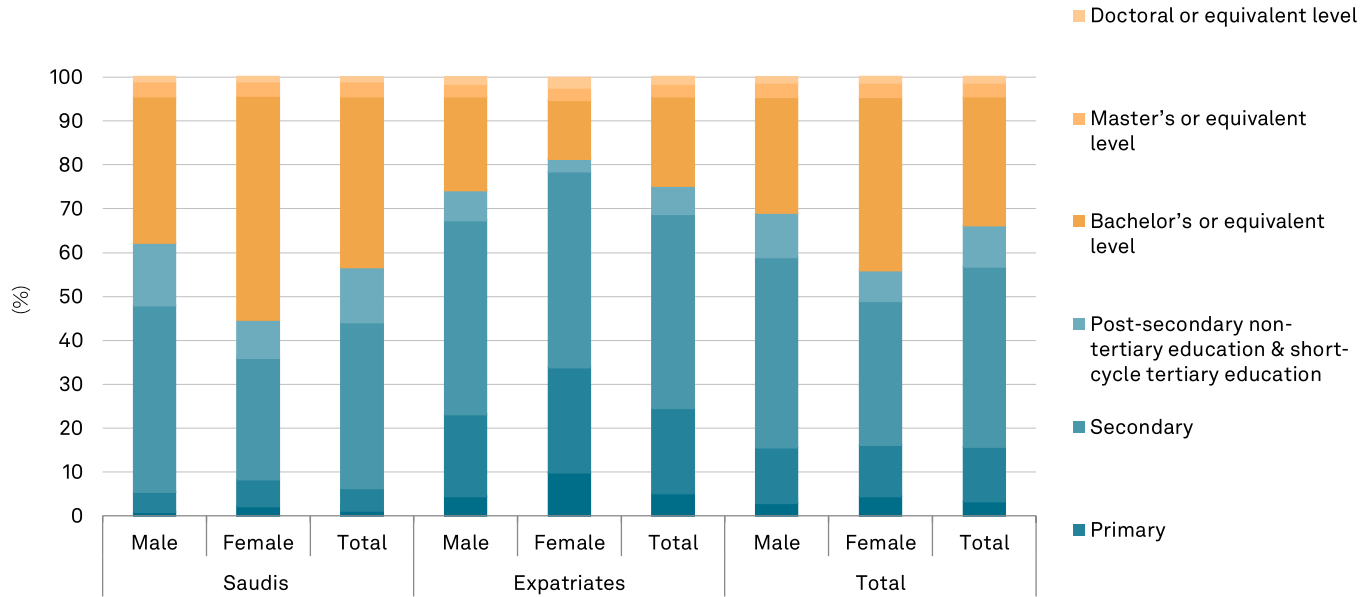
Share of employed females by main groups of occupations



Data as of Q1 2023. Classifications based on the International Labour Organization's International Standard Classification of Occupations. Shades of blue indicate formal work, shades of yellow indicate clerical support and allied work, and shades of pink indicate physical labor/elementary occupations. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 10

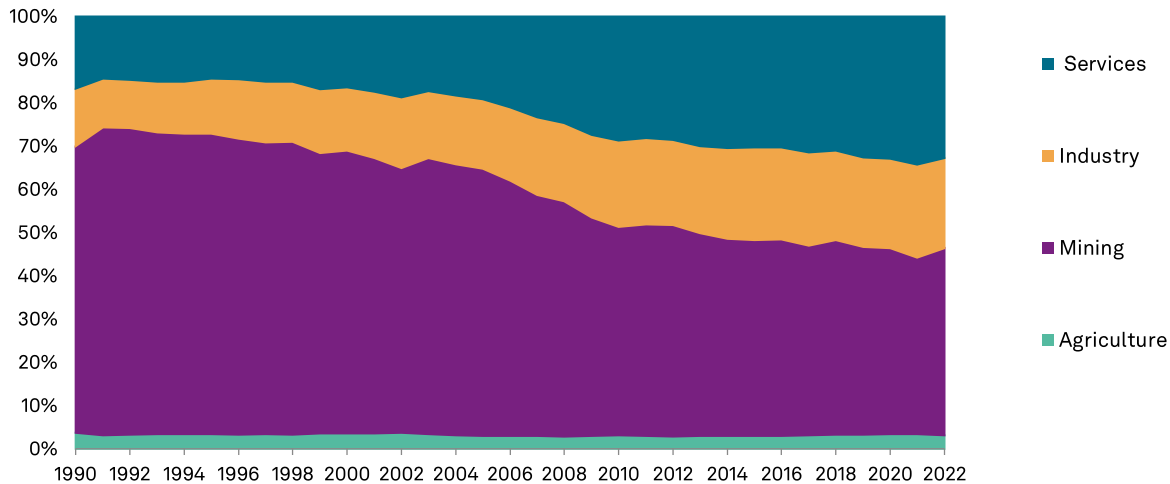
Percentage distribution of employed by education



Data as of Q1 2023. Specializations and educational levels classified based on UNESCO's 2011 (level) and 2013 (field) International Standard Classification of Education. Shades of blue indicate lower levels of education and shades of yellow indicate college graduates or above. Sources: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 11

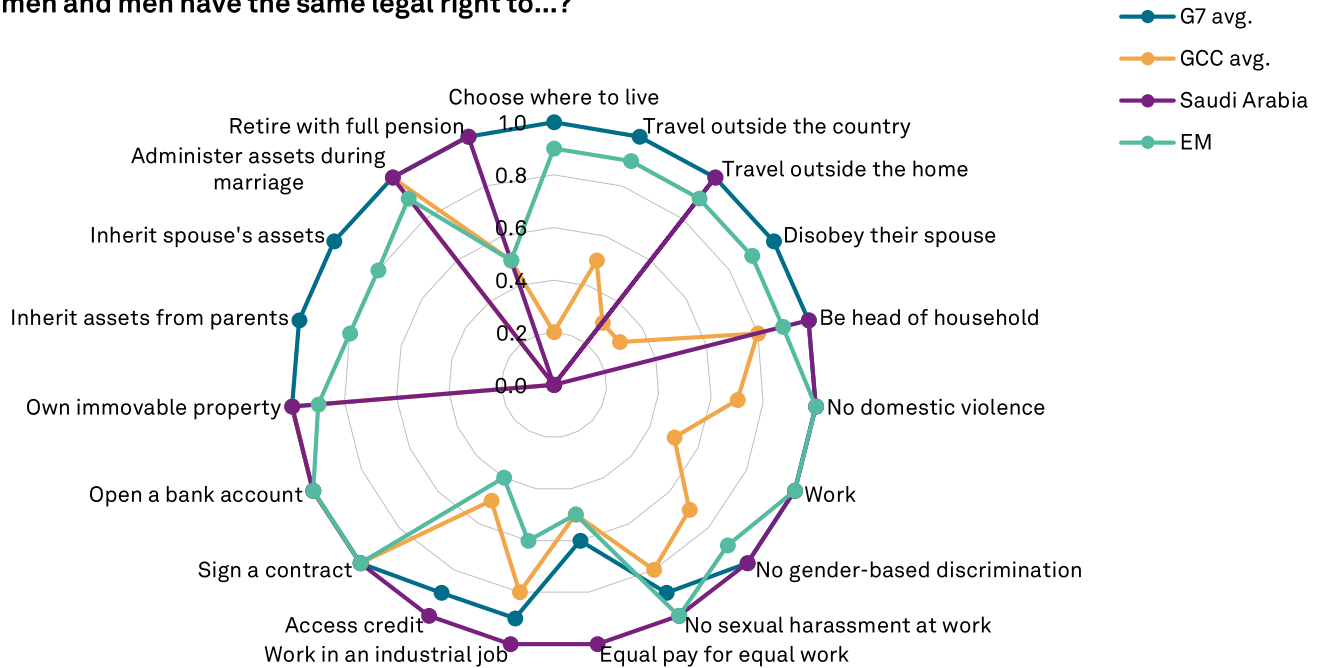
Saudi Arabia gross value added excluding government service



Data as of 2022. Source: GASTAT and S&P Global Ratings Economics. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 12

Do women and men have the same legal right to...?



Data as of 2023. Based on World Bank Women, Business and the Law survey data, which covers mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pension. Each of these variables is binary, with a value of 1 indicating equal rights between men and women. G7--Group of seven. GCC--Gulf Cooperation Council. EM--Emerging markets. Sources: World Bank Women, Business and the Law database and S&P Global Ratings Economics.

The views expressed here are the independent opinions of S&P Global Ratings' economics group, which is separate from, but provides forecasts and other input to, S&P Global Ratings' analysts. The economic views herein may be incorporated into S&P Global Ratings' credit ratings; however, credit ratings are determined and assigned by ratings committees, exercising analytical judgment in accordance with S&P Global Ratings' publicly available methodologies.

This report does not constitute a rating action.

Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

No content (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of Standard & Poor's Financial Services LLC or its affiliates (collectively, S&P). The Content shall not be used for any unlawful or unauthorized purposes. S&P and any third-party providers, as well as their directors, officers, shareholders, employees or agents (collectively S&P Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for the results obtained from the use of the Content, or for the security or maintenance of any data input by the user. The Content is provided on an "as is" basis. S&P PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. S&P's opinions, analyses and rating acknowledgment decisions (described below) are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P does not act as a fiduciary or an investment advisor except where registered as such. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives. Rating-related publications may be published for a variety of reasons that are not necessarily dependent on action by rating committees, including, but not limited to, the publication of a periodic update on a credit rating and related analyses.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P reserves the right to assign, withdraw or suspend such acknowledgment at any time and in its sole discretion. S&P Parties disclaim any duty whatsoever arising out of the assignment, withdrawal or suspension of an acknowledgment as well as any liability for any damage alleged to have been suffered on account thereof.

S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

S&P may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P reserves the right to disseminate its opinions and analyses. S&P's public ratings and analyses are made available on its Web sites, www.spglobal.com/ratings (free of charge), and www.ratingsdirect.com (subscription), and may be distributed through other means, including via S&P publications and third-party redistributors. Additional information about our ratings fees is available at www.spglobal.com/usratingsfees.

STANDARD & POOR'S, S&P and RATINGSDIRECT are registered trademarks of Standard & Poor's Financial Services LLC.