

# Labor Sector Efficiency and Diversification in the Middle East

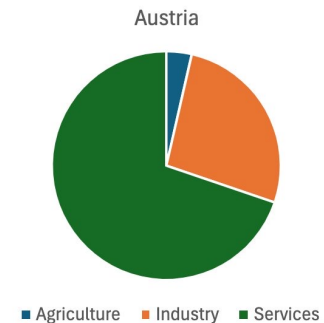
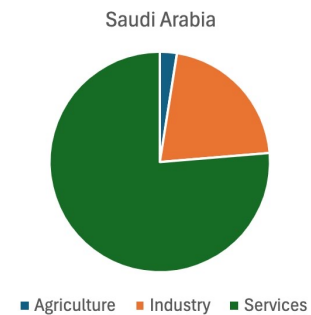
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# Poster One Takeaways

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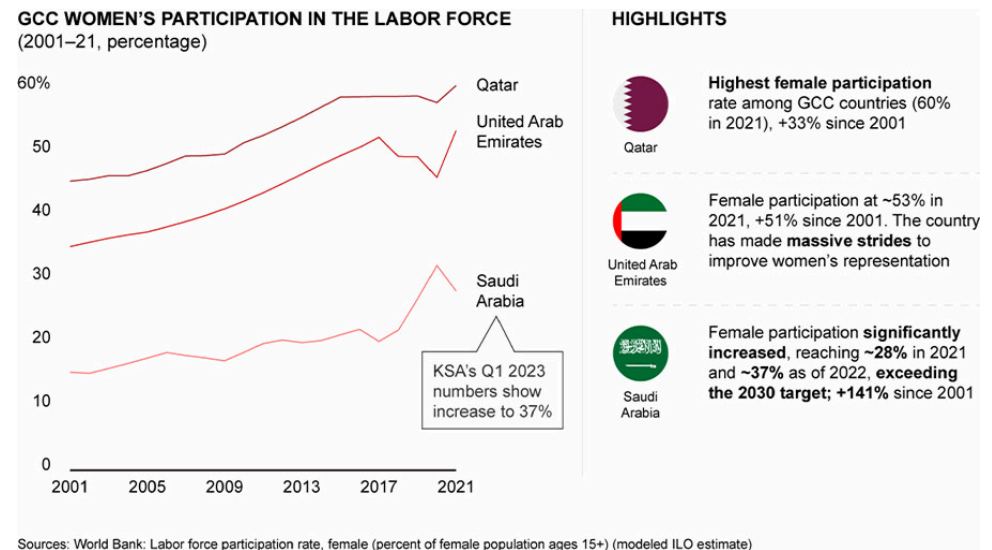
- Our initial analysis focused on overall economic trends in two countries with similar GDP per capita values: Saudi Arabia and Austria.
- We analyzed skilled labor force participation, labor industries, women in the workforce, and overall economic complications.
- We found that the two countries had significantly different labor force diversification levels yet still produced similar economic outcomes.
- Much of Saudi Arabia's GDP per capita was derived from oil, while Austria was most profitable in services. We also noticed that Saudi Arabia had been making a transition towards a service-based economy.



These graphs show the overall labor force makeup for these countries.

# Poster Two Takeaways

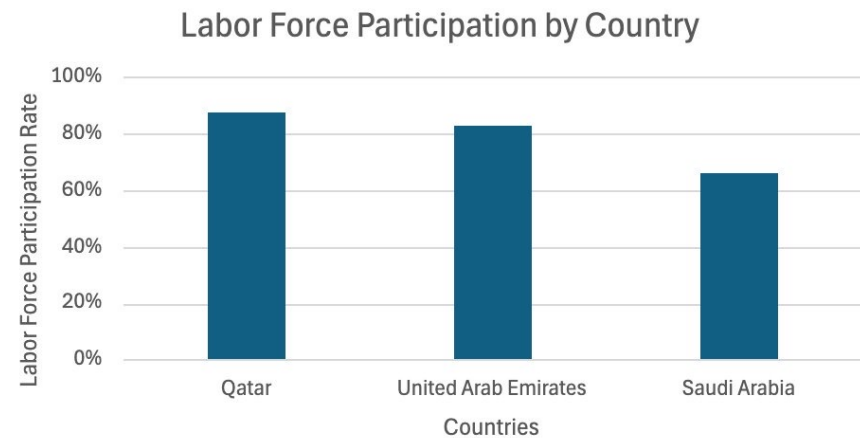
- For poster two, we narrowed our focus to Middle Eastern countries. These included Saudi Arabia and the United Arab Emirates.
- We chose to focus on these countries because they all benefitted from the oil economy in the Middle East.
- Some key points of analysis for poster two included the makeup of the labor force, women in the workforce, and an overall labor force industry breakdown.
- We found that the involvement of women in the workforce had positive economic outcomes.
- We also found that diversity in labor force sectors was beneficial to Middle Eastern economies.



This graph shows female labor force involvement from 2001 – 2021.

# Effects of Migrant Labor in the Middle East

- During the peak of the oil economy in the Middle East, the necessity for migrant workers grew substantially. Many Middle Eastern countries did not incorporate women into the labor force during this time. For example, in Qatar during this time, 95% of labor was from migrants.
- As diversification has persisted in recent years, migrant labor has begun to decrease. Women are being incorporated into the labor force at a higher rate, and less physically demanding labor sectors are becoming more prominent.
- This has resulted in an increase in overall labor force participation in Middle Eastern countries. These initiatives have increased economic efficiency.



This graph shows the overall labor force participation for Qatar, the United Arab Emirates, and Saudi Arabia.

# Determination of our Final Study

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- After looking into these variables, we found that the most interesting was the labor force sector breakdown.
- We studied numerous economic models in class, such as the Lewis Model that prompted us to analyze this variable.
  - This model explains that as economies shift towards modern sectors and industries, the marginal product of labor rises.
  - Because of this, we believed that countries that moved towards modern sectors, such as services, would see the greatest benefits.

# Introduction

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- Our previous posters looked at labor markets in the Middle East. We analyzed the importance of female labor force participation and sector variety within the labor force.
- Countries with higher female labor force participation had improved GDP per capita outcomes.
- We also found that countries with diverse labor force sectors had stronger economies.
- Our goal for this project is to see whether there is a correlation between different labor force sectors and the overall GDP per capita for each country.
- The three labor sectors we will analyze include industry, services, and agriculture.
- The countries we chose to analyze include Saudi Arabia, Qatar, the United Arab Emirates, Sudan, and Yemen.

# Research Question and Hypothesis

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- **Research Question:**

- How does the diversification of sector employment in Middle Eastern labor forces affect the overall efficiency & development of the economy?

- **Hypothesis:**

- Countries with diversified sector labor, specifically countries with high proportions of service-based labor, will perform at higher levels than countries with less diversification. We believe that this statement will be reflected in GDP per capita and other economic metrics.

# Country Selection



**Qatar:**

- GDP Per Capita: \$87,482
- HDI: 0.855



**Yemen:**

- GDP Per Capita: \$533.37
- HDI: 0.455



**Sudan:**

- GDP Per Capita: \$2,272
- HDI: 0.516



**UAE:**

- GDP Per Capita: \$52,976
- HDI: 0.911

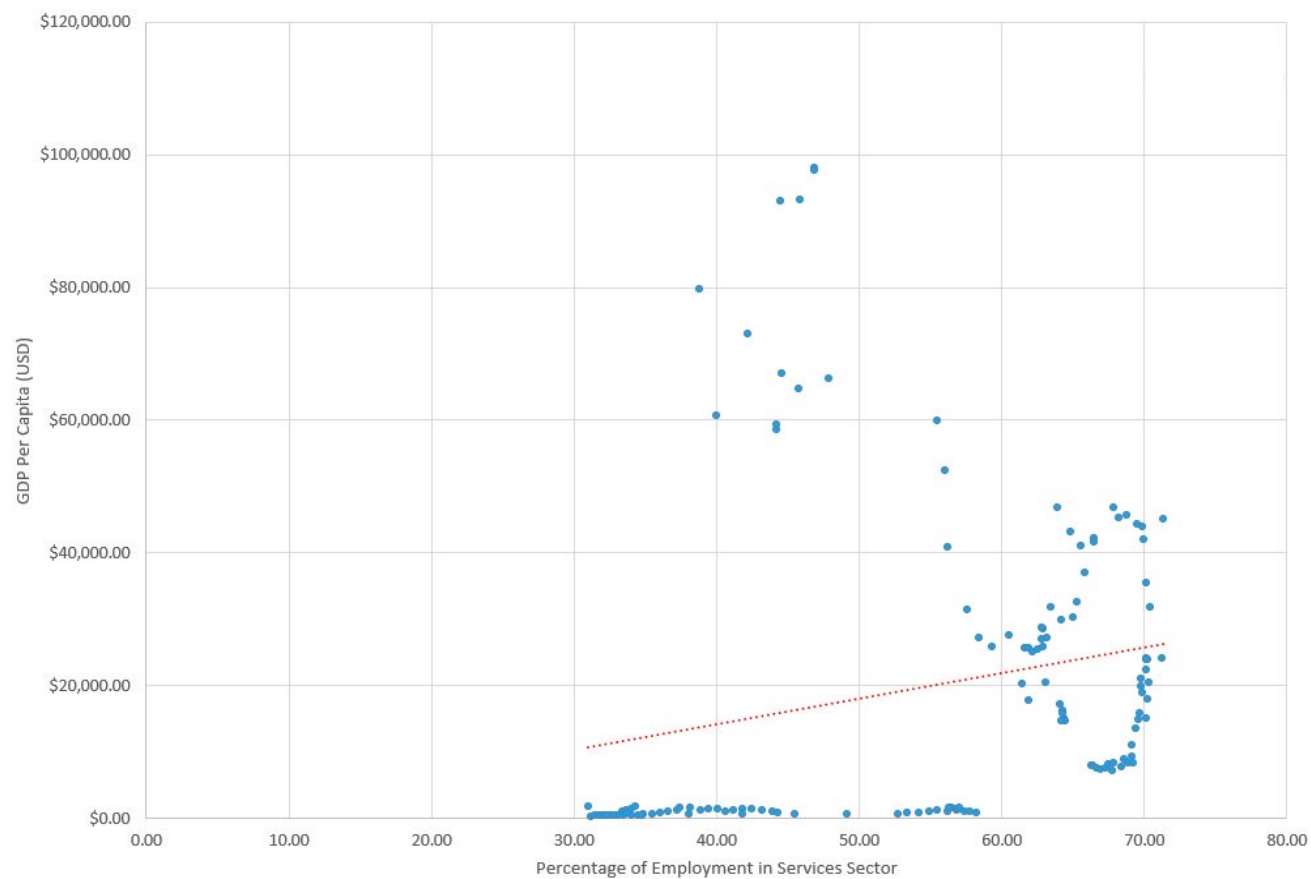


**Saudi Arabia:**

- GDP Per Capita: \$28,894
- HDI: 0.875

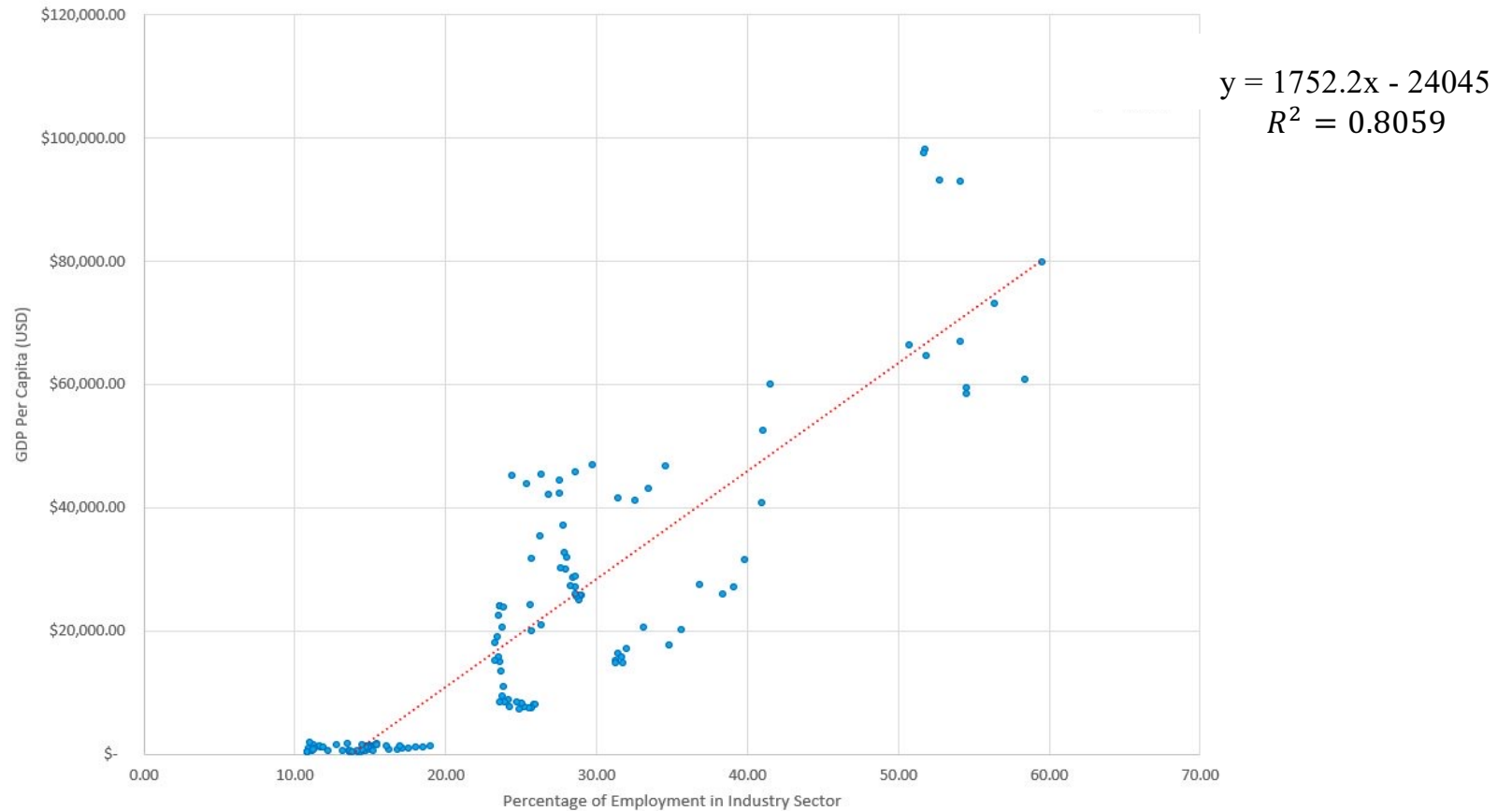


# Services Employment vs GDP Per Capita

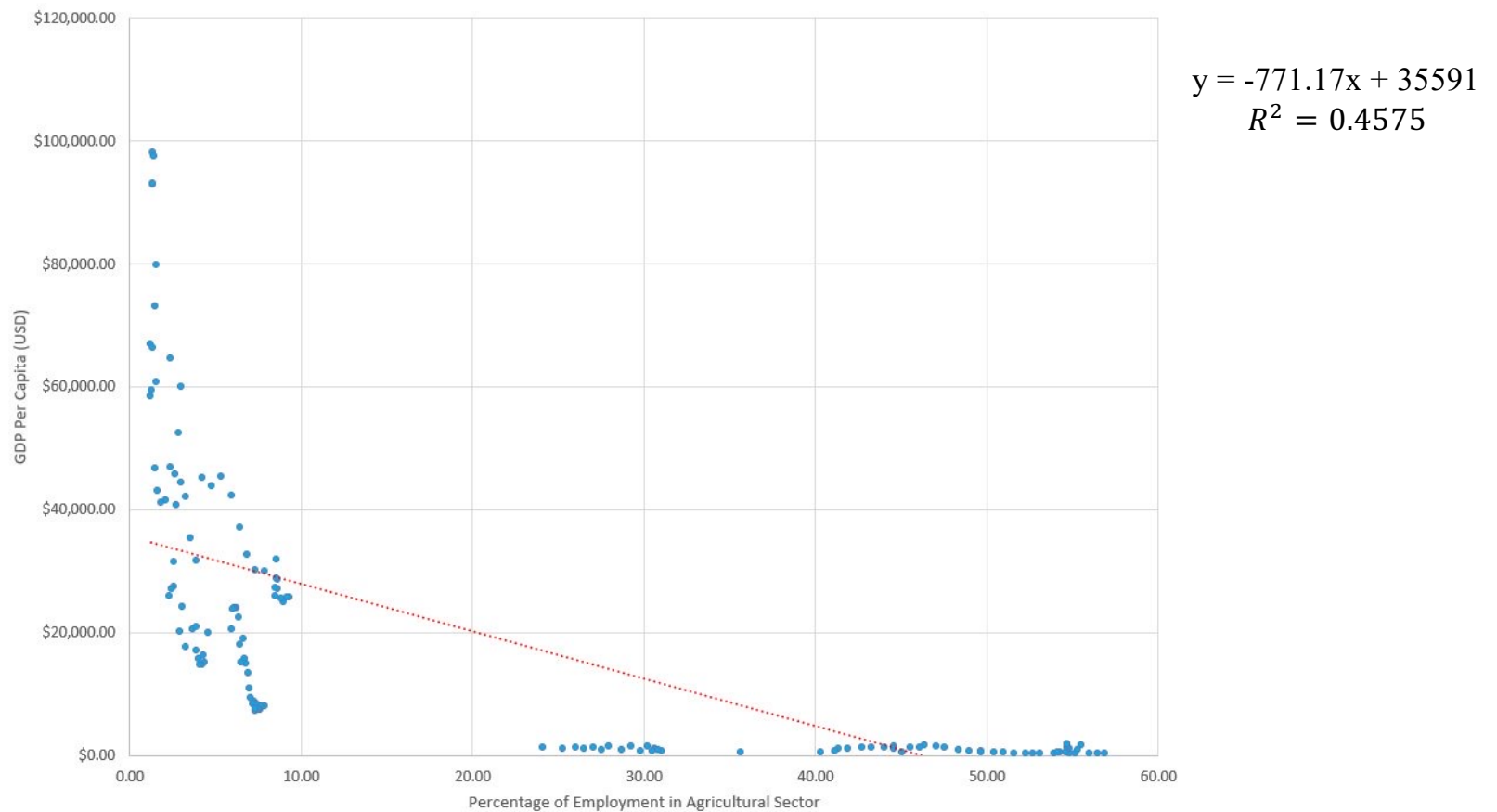


$$y = 387.9x - 1367.8$$
$$R^2 = 0.0517$$

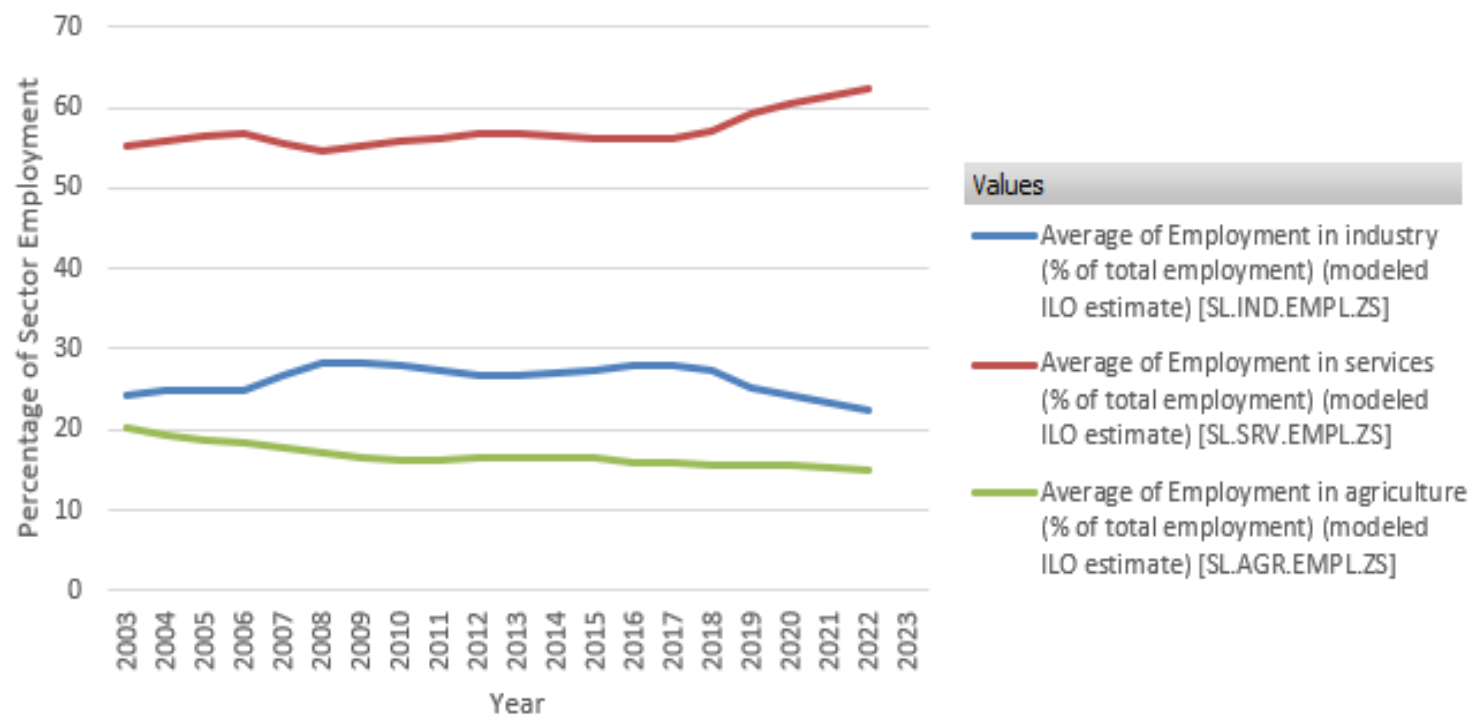
# Industry Employment vs GDP Per Capita



# Agricultural Employment vs GDP Per Capita



# Average Sector Employments, 2003 - 2022



Time ▼

# Analysis

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- After generating these graphs, we reached some interesting findings. We found a slight positive correlation between services employment and GDP per capita. Though we anticipated that the correlation would be positive, we expected a stronger slope value. Much of this is explained by our country selection. Yemen and Sudan had lower GDP per capita values, which drove the slope value down.
- We found a strong, positive correlation between industry employment and GDP per capita. The slope was much stronger than we had anticipated. This is largely due to the high profitability of the oil industry in the Middle East.
- Lastly, we found a negative correlation between the percentage of workers in agriculture and GDP per capita. We anticipated this in our hypothesis. This resembles the Lewis Model we analyzed in class.

# Conclusion and Key Findings

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- Through our graphs, we reached a few interesting findings. Our primary research question was as follows: How does the diversification of sector employment in Middle Eastern labor forces affect the overall efficiency & development of the economy? In the Middle East, having strong employment levels in services and industry has been the primary driver of strong GDP per capita values. We also found that having an agriculture-based economy decreases the overall GDP per capita.
- This allows us to draw some interesting conclusions. Our original hypothesis was as follows: Countries with diversified sector labor, specifically countries with high proportions of service-based labor, will perform at higher levels than countries with less diversification. After looking at our scatter plots, we found that we were partially correct. In the Middle East, some of the highest-performing areas had a higher proportion of industry workers. Much of this is due to oil exports, which are a major revenue driver for many Middle Eastern countries.
- We also found that some data points caused the data to skew. These were the points associated with Sudan and Yemen, as these countries have the weakest GDP per capita values.
- Overall, though our hypothesis was not completely correct, we believe that the information conveyed in these graphs explains the current landscape of Middle Eastern economies. Hopefully, in time, these economies will continue to diversify.