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Report 3 (Singapore, Lao, & United States)

Human Development Index (HDI): The HDI is a measurement that indicates the level of human development in a given country. The HDI uses three different indices, the degree of education, the life expectancy of individuals, and the per-capita income of individuals. It is then calculated by using the three indices (education, life expectancy, per-capita income) by using the formula HDI = $\sqrt[3]{LEI \times EI \times II}$.

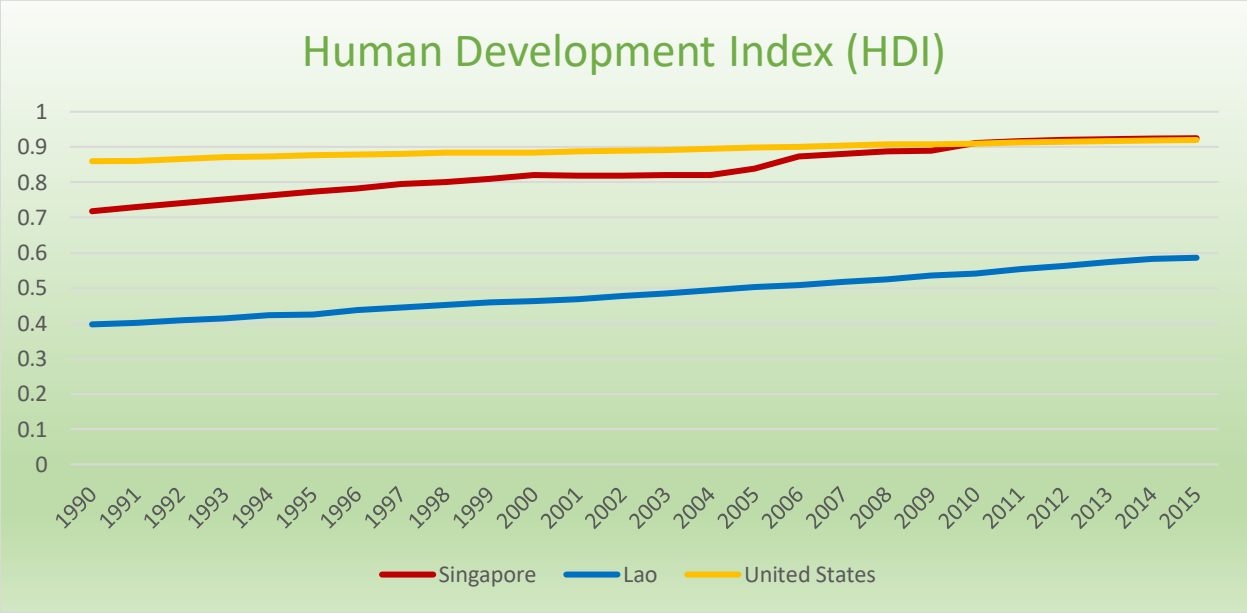

Figure 1

In *Figure 1*, you can see that Lao has a significantly lower human development index compared to the United States and Singapore. This means that the country of Lao has a lot less education, life expectancy and per-capita income than Singapore and Lao. Although, Lao has been improving at a steady rate over the last 25 years and has gone up by 0.2 in total. As shown on the graph, Singapore has caught up to the United States in terms of the HDI, and barely surpassed the United States in 2015. Singapore's HDI also went up by 0.2 in the past 25 years, but the growth isn't as steady as Lao. Lastly, the United States human development index has been relatively constant over the last 25 years. As you can see in *Figure 1*, the United States have increased the HDI by less than 0.05 over the last 25 years. To conclude the HDI, Lao has the most room to improve, while the United States and Singapore have a relatively high HDI that will most likely remain constant over the next decade.

Gender Development Index (GDI): The GDI measures gender equality in a given country. To calculate the GDI, all you do is calculate the HDI separately for males and females. Although, the only difference is life expectancy at birth for women is adjusted for an average of five years compared to men when calculating the separate HDI's.

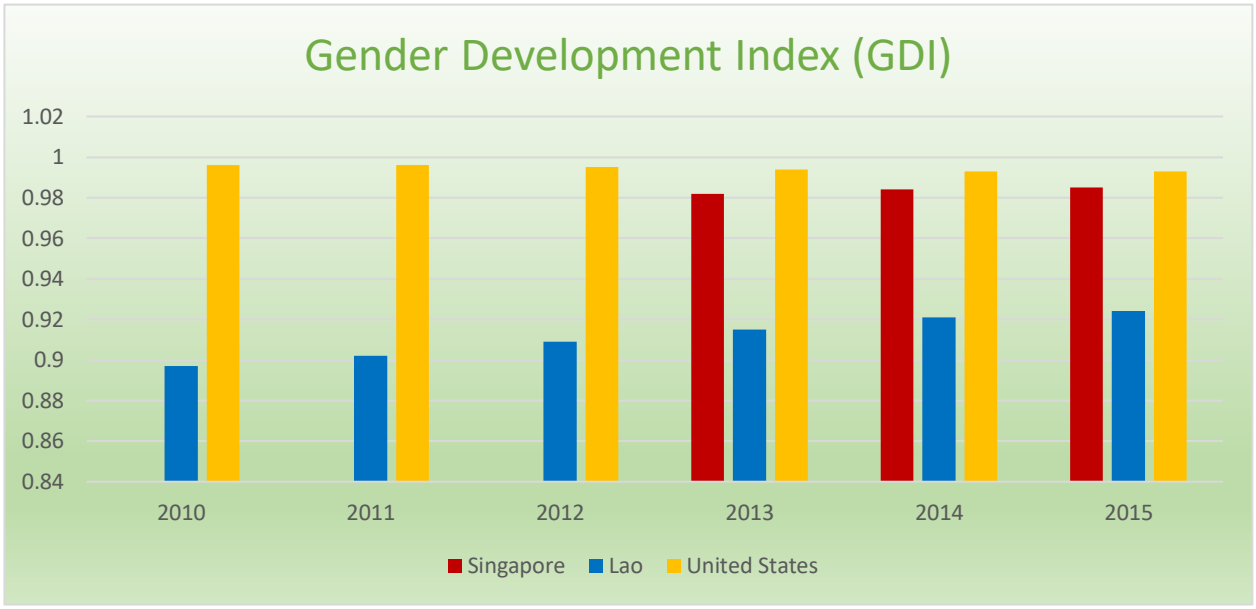

Figure 2

Shown above in *Figure 2*, is a bar graph of the gender development index of my three countries. On the website provided to retrieve this data, Singapore only had data for 2013 through 2015. I browsed other websites to find this data but the data I found seemed to be skewed or incorrectly measured, so I decided to display only the data found at *undp.org*. As you can see, Lao has significantly lower GDI than both the United States and Singapore, similar to the results seen above on the HDI graph. This means that Lao has far less gender equality in their country than the United States and Singapore have. Based on the results, Lao would be considered an unequal country. Although, Lao has been steadily improving the gender equality over the last five years, which I would predict to keep climbing at the same rate. The United States has been constant over the last five years with a high amount of gender equality. As you can see from the graph, the United States has been just under 1 for the last five years. Singapore only had legitimate data for the last 3 years, but as you can see they are just below the United States in gender equality and have slightly gone up in the past 3 years. After comparing the two graphs *Figure 1* and *2*, I believe that the HDI and GDI have a *strong correlation* with one another.

Gender Inequality Index (GII): The GII measures gender inequality in a given country, the opposite of GDI. The GII displays the overall loss in hypothetical human development due to inequality between genders. The GII compares the achievements of men versus the achievements of women in both economic status and empowerment.

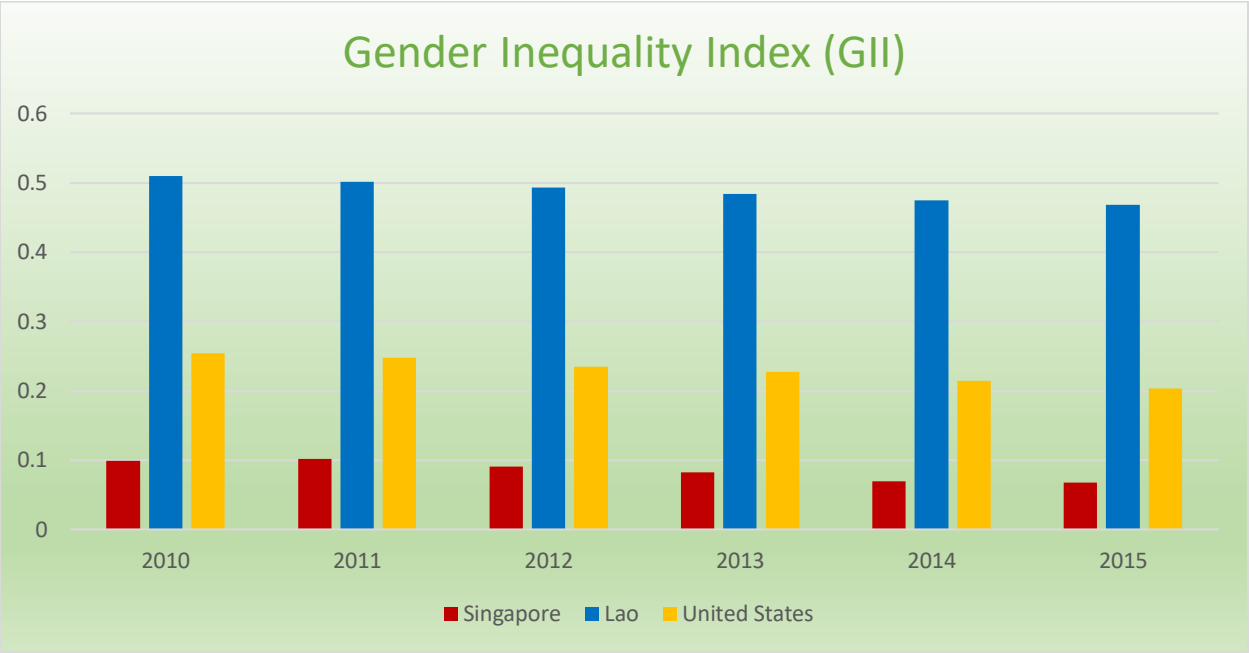

Figure 3

Shown above in *Figure 3*, is the gender inequality index for my three countries. From the results above, it is clear that Lao is considerably unequal compared to the United States and Singapore. In 2010, Lao was just above a 0.5 and over the last 5 years they have been able to bring the inequality down to 0.45. Although it's not a significant improvement, Lao is dropping their countries inequality over time which will hopefully continue as each year passes. The United States is about double unequal as Singapore in gender inequality. As you can see, the United States has been dropping over the last 5 years from 0.25 down to 0.2, which is about the same rate that the country of Lao has decreased their gender inequality. I believe that the United States will continue to drop at this steady rate for the next several years. Singapore, has an astonishingly low gender inequality in their country, which seems to still be dropping according to *Figure 3*. Over that last 5 years Singapore went from 0.1 to about 0.06, this means that there is little to no gender inequality in the country of Singapore. The United States and Lao should strive to be like Singapore when it comes to gender inequality. The GII also seems to be correlated with the overall HDI, I don't think it's as strong of a correlation as the GDI, but it's definitely correlated.

The Ratio of Mean Schooling Years (Female: Men): Using the undp.org website, I collected mean years of schooling for both male and female, and then divided the female years by the male years to find the ratio.

Country	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015
Singapore	0.86	0.87	0.87	0.90	0.92	0.92	0.92	0.92	0.92	0.92
Lao	0.44	0.52	0.58	0.63	0.72	0.74	0.75	0.76	0.77	0.80
United States	1.02	1.02	0.99	1.01	1.01	1.01	1.02	1.01	1.00	1.00

Figure 5

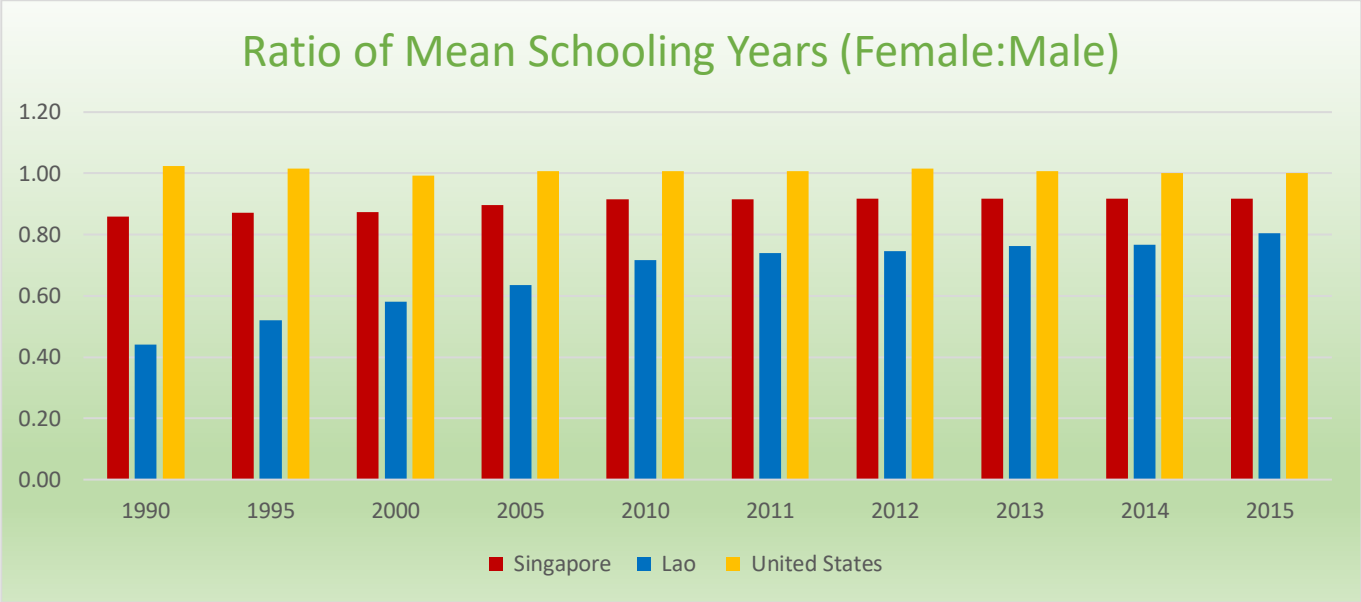

Figure 4

Female Share of the Labor force (%): On the World Bank website, I was able to extract the last 15 years of data on the percentage of females in the total labor force for each of my three countries. I then created a bar graph to compare the percentages of the three countries.

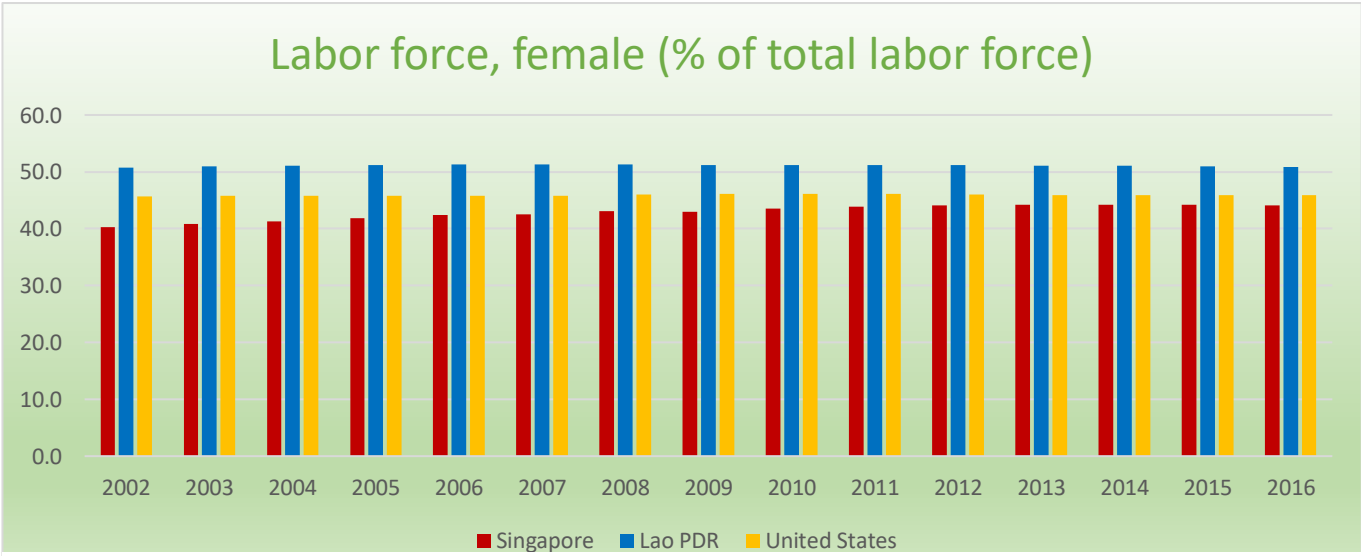

Figure 6

Ratio's Changing Over-time/Are they Correlated:

Looking at *Figure 4* and *Figure 5* on the previous page, it seems that Singapore's schooling ratio has been increasing over that last 15 years at a steady rate. They went from women going to school for 0.86 years compared to men in 1990, up to 0.92 in 2010. Although, they have been stagnating since 2010, and have remained at 0.92 for the past 5 years. Comparing Singapore's schooling ratio to female percentage in the labor force, I believe them to be strongly correlated because women make up 45% of Singapore's labor force on average over the last 15 years and they go to school for an average of 0.90 years compared to men. When it comes to my other country Lao, the mean schooling years ratio is a lot lower than both Singapore and the United States. In 1990, the ratio was 0.44 and over the past 15 years it has grown steadily up to 0.80 in 2015. On the other hand, in *Figure 6* you can see that Lao has the highest percentage of females in the labor force with an average of 51% over the last 15 years. After comparing both charts and data sets, I've concluded that the ratio and female percentage in Lao are uncorrelated because the female percentage has been held constant over the last 15 years, even with fluctuations in the ratio of schooling years. For my last country, the United States, we have a high ratio of schooling years for females that actually are higher than 1. In Figure 5, you can see that over the past 15 years, only in 2000 did the ratio fall under 1. This means that females have spent more than or equal to male years in schooling over the last 15 years. Also, the United States labor force female percentage has been roughly constant around 47% over the last 15 years. When comparing them, I believe there is a moderate correlation because they have both been held fairly constant over the last 15 years without much fluctuation between either variable.

Montalvo & Reynal-Querol's Ethnic Diversity and Economic Development:

Country	ETHPOL	ETHFRAG	RELPOL	RELFRAG
Singapore	0.666	0.421	0.738	0.623
Lao	0.674	0.479	0.270	0.545
United States	0.691	0.583	0.156	0.824

Figure 7

In *Figure 7*, I displayed for each of my countries their ethnic polarization (ETHPOL), ethnic fractionalization (ETHGRAG), religious polarization (RELPOL), and religious fractionalization (RELFRAG). ETHPOL measures the degree to which people in a population are dispensed across different ethnic groups. Montalvo & Reynal-Querol express that ethnic polarization effects development through civil wars, rate of investment, and government consumption out of GDP. ETHGRAG is the numerical, magnitude, socioeconomic distribution, and geographical location of cultures in a designated territory or state. The authors argue that ethnic fractionalization has a significant and direct effect on growth. They also argue that ethnic fractionalization has no real effect on investment, only if religious fractionalization is not included. Otherwise ethnic fractionalization has a negative impact on investment. RELPOL is the act of noticing differences in religious beliefs and therefore isolate ourselves from those who happen to have different beliefs than us. Religious polarization, according to the authors, is a key ethnic measurement in explaining ethnic civil wars worldwide and also has a negative effect on economic development when investment is reduced and government consumption is increased. Lastly, RELFRAG has no direct effect on economic growth, and has no effect on the risk of conflict according to both Montalvo & Reynal-Querol.

For my three countries, I was able to find all the data, even though the website that was provided only covered Singapore. After snooping around the internet, I was able to find figures for all three of my countries. As you can see in *Figure 7*, each of my three countries had relatively close ETHPOL, slightly different ETHFRAG, very skewed RELPOL, and relatively different RELFRAG.

Interesting Statistic: The Percentage of Women Unemployed with Advanced Education

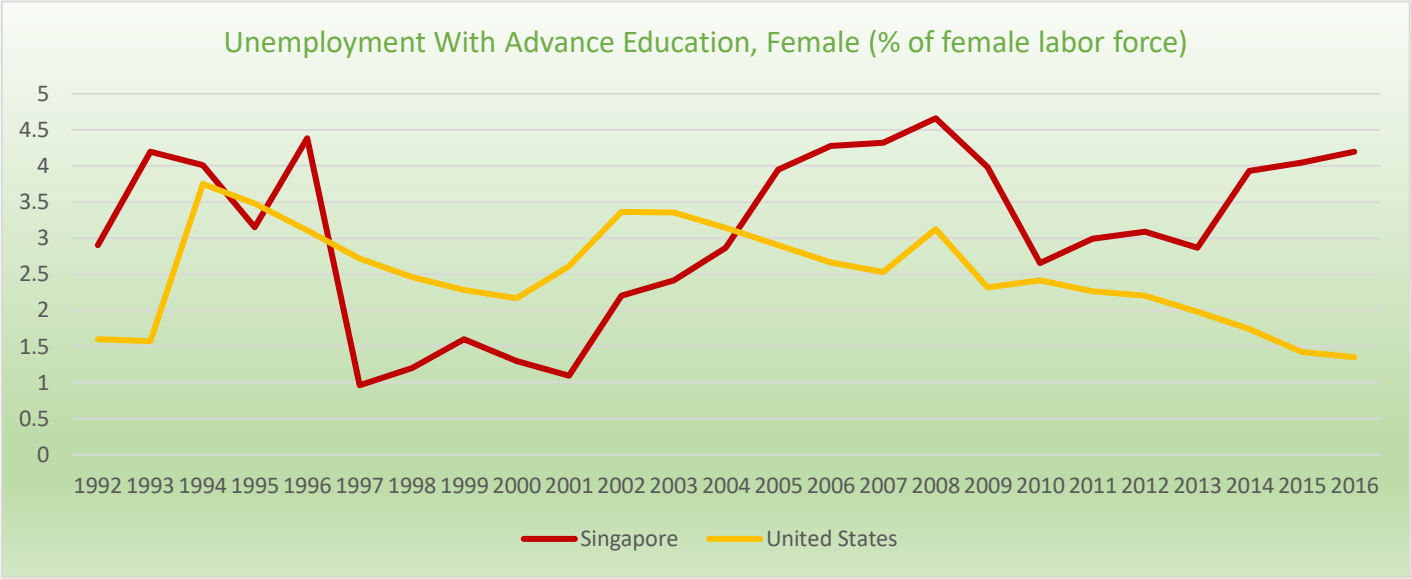

Figure 8

I chose a statistic that I find interesting about gender, and that turned out to be the percentage of females that are unemployed with advanced education. The results I graphed are pretty astonishing and seem to fluctuate immensely. In *Figure 8*, the red line is Singapore, and as you can see the percentage has been changing rapidly over the last 25 years. Though it fluctuates a bunch, it never exceeds 5% nor drops below 1%. My other country, the United States, has a steep increase from 1993 to 1994, and then seems to decline for the most part of the last 25 years with a couple peaks in 2002 and 2008. The percentage seems to maintain in the 1.5% to 4% range. Sadly, my third country Lao didn't have any data on this particular set, so I was unable to add all three of my countries.

Work Cited

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