This research analyzes the effect of Canada’s VAT on income inequality using statistical models, historical circumstances, and economic theory. In doing so, the research questions addressed are the following: “has the presence of a nationwide Value Added Tax (VAT) increased income inequality in Canada,” and “have changes in the VAT’s rate had a statistically significant correlation with the level of income inequality in Canada?”

The two regressions below display the statistical analysis of Canada’s GST and income inequality. For both regressions, the dependent variable was the Gini coefficient. For the first regression, the independent variables were:

- Manufacturing employment as a percentage of overall employment
- Per capita consumption expenditure per household
- Total tax revenue per capita
- GDP per capita
- A dummy variable representing the existence of the GST

For the second regression, the dummy variable was replaced by the GST’s rate, and the dataset started in 1991.

In Regression 1, the statistically significant variables included the dummy variable representing the GST. With 35 observations, the adjusted R-squared value was 0.8606, which indicates that much of the variance in the data is explained by the regression.

In Regression 2, the variable which contained the GST’s rate was not statistically significant. With 24 observations, the adjusted R-squared value was 0.8791, which indicates that much of the variance in the data is explained by the regression.

The results of the statistical analysis indicated that:

- The introduction of the GST in 1991 had a statistically significant relation to Canada’s Gini coefficient,
- The changes in the GST’s rate that occurred in 2006 and 2008 did not have a statistically significant relation to Canada’s Gini coefficient.

However, it is not certain that the GST caused income inequality to rise, as there are other macroeconomic variables at play. Upon further exploration, manufacturing employment as a percentage of overall employment was a statistically significant variable in both regressions, and there was a historical and economic basis for a recommendation of further research on the phenomenon.

The level of unionization and collective bargaining agreements had decreased in the same period that income inequality rose, and many manufacturing jobs were part of a union.

Regarding the United States, the research suggests that policymakers should be most concerned by the immediate impacts of a VAT instead of those that occur in the long-run. If there is to be any significant effect on income inequality, it would likely make itself apparent shortly after the VAT is enacted. The VAT remains a plausible option to generate revenue for a country with an increasingly large national debt, though its impact on income inequality remains uncertain.

Canada’s Value-Added Tax: Its History and Effects on Income Inequality

James Paprocki
Kalamazoo College Department of Economics and Business

ABSTRACT
This research analyzes the effect of Canada’s VAT on income inequality using statistical models, historical circumstances, and economic theory. In doing so, the research questions addressed are the following: “has the presence of a nationwide Value Added Tax (VAT) increased income inequality in Canada,” and “have changes in the VAT’s rate had a statistically significant correlation with the level of income inequality in Canada?”

RESULTS
The two regressions below display the statistical analysis of Canada’s GST and income inequality. For both regressions, the dependent variable was the Gini coefficient. For the first regression, the independent variables were:

- Manufacturing employment as a percentage of overall employment
- Per capita consumption expenditure per household
- Total tax revenue per capita
- GDP per capita
- A dummy variable representing the existence of the GST

For the second regression, the dummy variable was replaced by the GST’s rate, and the dataset started in 1991.

In Regression 1, the statistically significant variables included the dummy variable representing the GST. With 35 observations, the adjusted R-squared value was 0.8606, which indicates that much of the variance in the data is explained by the regression.

In Regression 2, the variable which contained the GST’s rate was not statistically significant. With 24 observations, the adjusted R-squared value was 0.8791, which indicates that much of the variance in the data is explained by the regression.

INTRODUCTION
In 1991, Canada instituted a VAT, named the GST (Goods & Services Tax), at a rate of seven percent. In the following years the country’s Gini coefficient (a measure of income inequality) rose as well. In 2006 and 2008, the federal government reduced the rate of the GST to six and five percent respectively, and the Gini coefficient has remained relatively stagnant since that time. VATs are known to be relatively regressive, in that their incidence falls more severely on lower-income individuals. Thus, this research was undertaken to explore a possible correlation between the presence of the GST and a rise in income inequality in Canada.

METHODOLOGY
- Two Regressions
  - One, to determine whether the institution of the GST significantly impacted income inequality
  - Another, to determine whether the changes in the GST’s rate significantly impacted income inequality

CONCLUSIONS
The results of the statistical analysis indicated that:

- The introduction of the GST in 1991 had a statistically significant relation to Canada’s Gini coefficient,
- The changes in the GST’s rate that occurred in 2006 and 2008 did not have a statistically significant relation to Canada’s Gini coefficient.

However, it is not certain that the GST caused income inequality to rise, as there are other macroeconomic variables at play. Upon further exploration, manufacturing employment as a percentage of overall employment was a statistically significant variable in both regressions, and there was a historical and economic basis for a recommendation of further research on the phenomenon. The level of unionization and collective bargaining agreements had decreased in the same period that income inequality rose, and many manufacturing jobs were part of a union.

Regarding the United States, the research suggests that policymakers should be most concerned by the immediate impacts of a VAT instead of those that occur in the long-run. If there is to be any significant effect on income inequality, it would likely make itself apparent shortly after the VAT is enacted. The VAT remains a plausible option to generate revenue for a country with an increasingly large national debt, though its impact on income inequality remains uncertain.

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