The Impact of Various Economic Sectors on the Price of the S&P/TSX Composite Index*

The Analysis of the Canadian Stock Market from 1998-2022

Rayhan Walia

06 April 2022

Abstract

In this report, we focus on the primary and secondary sectors of the economy, and analyze their influence on the S&P/TSX Composite Index. This is important to be able to predict the reaction of the market (the composite index) to potential movements in individual sectors. The results of this report could help governements with maneuvering money within sectors to maintain the market. It was found that primarily the energy, materials and utilities sector impacted the market; and therefore the Canadian economy.

1 Introduction

The stock market is arguably the best indicator of the health of an economy, and is used as a barometer of what cycle the economy is in (Tan 2020). With 48 countries having stock exchanges (Vodenska et al. 2016), Canada is amongst them. The study of various factors on the economy is essential for federal/central banks, as well as the regulation of monetary policy (Team 2021). This allows the growth of any economy. To further study the economy, it is broken-up into four major sectors; primary, secondary, tertiary and quaternary. The primary and secondary sectors account for raw materials and finished goods respectively, while the tertiary and quaternary sectors represent service and public sectors (Pettinger et al. 2020).

While all companies are individually important, only a few have a real impact on the market. The S&P/TSX Composite is an equity index that tracks the performance of the largest 230-250 stocks (at any given time) on the Toronto Stock Exchange (Fernando 2021) (largest by market capitalization). It is often used as an indicator of the strength of the Canadian economy (Fernando 2021). All of the sectors we will be analyzing today are publicly traded indices on the Toronto Stock Exchange, that comprise of the largest companies in their respective sectors. Each will be detailed in Section 2.

A note; a market index is simply a method of measuring the performance of various securities at once; i.e. a singular security representing numerous others (Chen 2022). This is how we are easily able to measure the health of individual sectors, without observing each subsequent security under them.

In this report; we focus on the primary and secondary sectors of the economy, and view their influence on the S&P/TSX Composite Index; from 1998 until 2022. With data from (Statistics Canada 2022); this comprises of the energy, industrial, materials and utilities sectors, provided with their respective indices (the Standard and Poor's/Toronto Stock Exchange Canadian Energy Index, ' ' ' ' Canadian Industrial Index, ' ' ' ' Canadian Materials Index, ' ' ' ' Canadian Utilities Index). Data was provided for past dates (from 1958), however all the indices were not present since then, making it hard to quantitatively measure the value of sectors. This data therefore begins at the birth of these sectors (all in 1998). The hope with this analysis is that it provides key insights to the workings of major sectors of the Canadian economy, and their overall impact on it.

*Code and data are available at: https://github.com/RayhanWalia/stock_market_influence

Via applying a linear model to our data (with the S&P/TSX Composite as our response variable), we can attempt to analyze the factors influencing the response. Via first checking, then correcting assumptions to the linear model, we are able to perform statistical tests; such as t-tests (Student 1908) and ANCOVA-F tests (Philippas 2014), that allow us to deduce quantitative measures of the data. Note, we use the model to, "help us explore and understand the data that we have" (Alexander 2022), meaning they are not absolute, or even *really* present in the data. We are simply aiming to make sense of what is provided, i.e. further understand the data set, and a model helps us achieve that (Simsion et al. 2015).

2 Data

3 Model

4 Results

5 Discussion

5.1 Weaknesses

Appendix

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