Numerical and Verbal Hypothesis

The countries studied to determine the effectiveness to export and import are the United States, China, Canada and Chile. The different elements that are considered in this test are the economic downturn, depressed markets and high unemployment rates for each country. According to the data, the United States has the lowest unemployment percentage, second to highest population, and it imports more than it exports. In this case, it will be beneficial for the United States with all the elements considered to export and import. In the case of China, they have the highest population, highest unemployment percentage, but the import and export is relatively close. China exports 35 billion more than it imports. Looking at the data and taking into consideration that China has the highest population, so it makes sense that they also have the highest unemployment percentage and would be cost effective for China to export and import. In the case of Chile and Canada it does not seem to be cost effective for these two countries to export and import based on the data provided. Canada and Chile has relatively low population compared to the other two countries. They both have high unemployment percentages. Canada has a very small population and it imports and exports just as much as China, who has a population of 1,273,111 (thousands). Evaluating the data it does not seem to be cost effective for Canada to import and export. The data indicates Chile has the lowest population and a high unemployment percentage and, even though Chile has the lowest export and imports it may not be cost effective for Chile to import or export. The population is so low and the unemployment percentage is too high for the country to export and import in a cost effective way.

The verbal and numerical hypothesis statement was based on the four countries (United States, China, Canada, and Chile), the population, unemployment percentage, and how much each country import and export. Findings indicate the cost effectiveness for the United States and China to import and export. However, may not be cost effective for Chile and Canada to export and import goods based on the data provided.

Calculations and Test Statistics

Samples of statistics show the difference in unemployment, exports, imports, and population by country. Four countries were analyzed which were; (1) Canada, (2) Chile, (3) China, and (4) United States. Out of the four countries China shows to be ranked the highest in population at 1,272,111,000 and employment high at 10% where the United States is ranked second in population at 278,059,000 but the lowest in unemployment with 4%. The statistics show that the United States commands results in export/import business. What follows is a graph that shows the variables between countries.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| **Country** | **Population (expressed in thousands)** | **Unemployment (percent)** | **Exports (expressed in billions)** | **Imports (expressed in billions)** |
|  |  |  |  |  |
| **Canada** | 31,592 | 6.8 | 272.3 | 238.2 |
| **Chile** | 15,980 | 7.4 | 38 | 30.1 |
| **China** | 1,273,111 | 10 | 232 | 197 |
| **United States** | 278,059 | 4 | 776 | 1223 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

t-test results

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
| t-Test: Paired Two Sample for Means |  |  |
|  |  |  |
|  | *Variable 1* | *Variable 2* |
| Mean | 329.575 | 422.075 |
| Variance | 99037.5225 | 293198.0092 |
| Observations | 4 | 4 |
| Pearson Correlation | 0.986548599 |  |
| Hypothesized Mean Difference | 0 |  |
| df | 3 |  |
| t Stat | -0.781688078 |  |
| P(T<=t) one-tail | 0.245708151 |  |
| t Critical one-tail | 2.353363435 |  |
| P(T<=t) two-tail | 0.491416302 |  |
| t Critical two-tail | 3.182446305 |  |
|  |  |  |
|  |  |  |

T-test results reflect the 4 observations used the mean in variable 1 was 329.575 where variable 2 increased mean to 422.075 by adding both metrics of export and import.

Results

research question revolves around the economic turmoil that has thrown countries such as Canada, Chile, China and the United States into a downward spiral in unemployment and the impact on import and export business in each of the countries. Canada’s unemployment rate has jumped to an all time high of 7.7% as of February 2009, the construction industry being hit the hardest due to the housing decline. The United States unemployment rate has increased to an all time high of 8.1% and considered the largest increase in United States history for unemployment in 25 years (Trading Economics, 2009). All industry types have been affected by the recession in the United States, from housing, factory, auto, and the largest industry, the banking industry.

The import/export business continues to be an important factor; in 2007 the United States remained well ahead in stats compared to Canada. The United States exports were 776 billion and imports 1223 billion while the unemployment rate was at 4%. Population in United States compared to Canada dominates over Canada and Canada’s unemployment rate happens to be 2.8% over the United States unemployment rate (Hercules, 2009). Below is a chart of how Canada, Chile, China and the United States continue to increase in the export and import business from year to year.

**United States**

|  |  |
| --- | --- |
| **Year** | **Exports (Billion $)** |
| 2000 | 663 |
| 2001 | 776 |
| 2002 | 723 |
| 2003 | 687 |
| 2004 | 714.5 |
| 2005 | 795 |
| 2006 | 927.5 |
| 2007 | 1024 |
| 2008 | 1140 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**Canada**

|  |  |
| --- | --- |
| **Year** | **Exports (Billion $)** |
| 2000 | 277 |
| 2001 | 272.3 |
| 2002 | 260.5 |
| 2003 | 260.5 |
| 2004 | 279.3 |
| 2005 | 315.6 |
| 2006 | 364.8 |
| 2007 | 405 |
| 2008 | 440.1 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**China**

|  |  |
| --- | --- |
| **Year** | **Exports (Billion $)** |
| 2000 | 194.9 |
| 2001 | 232 |
| 2002 | 312.8 |
| 2003 | 325.6 |
| 2004 | 436.1 |
| 2005 | 583.1 |
| 2006 | 752.2 |
| 2007 | 974 |
| 2008 | 1221 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**Chile**

|  |  |
| --- | --- |
| **Year** | **Exports (Billion $)** |
| 2000 | 15.6 |
| 2001 | 18 |
| 2002 | 18.5 |
| 2003 | 17.8 |
| 2004 | 20.44 |
| 2005 | 29.2 |
| 2006 | 38.03 |
| 2007 | 58.21 |
| 2008 | 66.43 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**United States**

|  |  |
| --- | --- |
| **Year** | **Imports (Billion $)** |
| 2000 | 912 |
| 2001 | 1223 |
| 2002 | 1148 |
| 2003 | 1165 |
| 2004 | 1260 |
| 2005 | 1476 |
| 2006 | 1727 |
| 2007 | 1869 |
| 2008 | 1987 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**Canada**

|  |  |
| --- | --- |
| **Year** | **Imports (Billion $)** |
| 2000 | 259.3 |
| 2001 | 238.2 |
| 2002 | 229 |
| 2003 | 229 |
| 2004 | 240.4 |
| 2005 | 256.1 |
| 2006 | 317.7 |
| 2007 | 353.2 |
| 2008 | 394.4 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**China**

|  |  |
| --- | --- |
| **Year** | **Imports (Billion $)** |
| 2000 | 165.8 |
| 2001 | 197 |
| 2002 | 268.6 |
| 2003 | 295.3 |
| 2004 | 397.4 |
| 2005 | 552.4 |
| 2006 | 631.8 |
| 2007 | 777.9 |
| 2008 | 917.4 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

**Chile**

|  |  |
| --- | --- |
| **Year** | **Imports (Billion $)** |
| 2000 | 13.9 |
| 2001 | 17 |
| 2002 | 18 |
| 2003 | 15.6 |
| 2004 | 17.4 |
| 2005 | 22.53 |
| 2006 | 30.09 |
| 2007 | 35.37 |
| 2008 | 41.8 |

([CIA World Factbook](https://www.cia.gov/library/publications/the-world-factbook/), 2008)

Even though the global economy continues to be depressed and unemployment is at its all time high the import/export business increases from year to year for each of the countries that

Five-Step Hypothesis Test