INDIA: AN EMERGING ECONOMIC FORCE FOR THE 21ST CENTURY

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ABSTRACT
During the last ten years, a country that has been making serious moves towards becoming an industrialized country and changing its status is India. The authors' purpose in this paper is to do an evaluation, historical, political and economic, to determine how successful India is, and where it is headed.

HISTORICAL BACKGROUND
In this section we are going to do an in-depth research into India's history, to present to the reader a solid background of India. After all our history is the basis of our future.

India, as will be discussed later in a time line, has a history of more than 5000 years. Obviously we cannot discuss and present everything that took place over these years, but we are going to discuss some of the most important events that played a major role in India's development.

Geographically, India has always been very attractive to invaders, of which some were the Persians, the Greeks, the Chinese, the Arabs and the British, but even though all these invaders went through India, they were not able to stay very long or influence the culture of India.

India's history shows us that the first invaders were the Aryans, around 1500 BC. The Aryans that came from the North brought with them cultural traditions that we can find in India even today. The Aryans remained there for about 700 years and then moved on to occupy the Ganges Valley and built their kingdoms there.

The second major invasion, took place around 500 BC, when two Persian kings, Cyrus and Darius conquered the Indus Valley. The Persian occupation did not last very long since Alexander the Great and the Greeks invaded and occupied the region around 326 BC. The next major development in India was the dynasty of the Maurya, and their king was Ashoka. The Mauryas conquered almost the entire subcontinent. King Ashoka also introduced Buddhism to most of central Asia, but the Maurya Empire lasted only 100 years after his death.

The next invaders were the Muslims, under Mohammed of Ghor, during 1192. The Turkish kings that ruled the Muslims stayed there until 1397 when the Mongols invaded. In more recent years, India was under British control, and this lasted for about 300 years. India had some good years under British control, but they finally got their independence under their great leader Gandhi by 1947. When the British left though, they created two separate states, Pakistan and Bangladesh. When the British left, the first Prime minister of India was Jawaharlal Nehru, and he kept that office until his death in 1964. Ever since then, India has been a parliamentary democracy.

As was mentioned earlier, India has a history of more than 5000 years, which of course cannot be discussed in a few pages. So below we are going to present a timeline of the most important years and events of India's history.

INDIA TIMELINE

2500 BC	Dravidian civilization
1500	Aryans invade India
518	Persians conquered Pakistan
326	Alexander the Great invaded India
322 – 182	Mauryan dynasty
320 AD	The Gupta Indian dynasty
700	Muslims invade India
1498	Vasco de Gama – the first European explorer
1526 – 1857	Mughal rule in India
1857	First war of independence
1858	India comes under direct rule of the British Crown
1905	British divided Bengal into Hindu and Muslim sections
1935	The Government of India Act and the creation of a new Constitution
1948	Mahatma Gandhi assassinated
1962	War with China
1964	Death of Prime Minister Nehru
1971	Third war with Pakistan
1984	Indira Gandhi assassinated and son Rajin becomes Prime Minister

Again this is not a complete timeline for India, as a history of thousands of years cannot be presented in just a few pages, but we presented some of the most important events and years.

CURRENT LITERATURE

This section will present the current economic situation in India. We all know what happened in the world economy since 2007; although India was affected, as the information will show below, it was not affected as much as the rest of the world.

India is a country with an abundance of natural resources, such as coal, iron ore, manganese, titanium ore, natural gas, diamonds and petroleum among others, and it is able to take advantage of all these resources and benefit out of them, but it also has a number of environmental issues, such as deforestation, soil erosion, air pollution, water pollution, and the fast growing population is using all these natural resources at a very fast rate.

On a different economic aspect, India is developing into an open market economy, where economic liberalization and industrial deregulation are obvious everywhere. As a result of this, India's average growth rate since 1997 is more than 7% per year.

India's economy is an agricultural one, since more than half of its labor force is in agriculture, but most of its growth is because of services which account for almost sixty seven percent of its output. In fact out of a GDP of $4.7 trillion during 2012, 17% was out of agriculture, 18% was out of industry and 65% out of services. What makes this more interesting is that out of 498.4 million labor force (2012), 53% were in agriculture, 19% in industry, and only 28% in services.

Even though India's economy was very strong for a number of years, it started slowing down around 2011 due to some tight monetary measures to fight rising inflation, which rose to 9.2% in

2012, up from 8.9% in 2011. As a result, its growth rate during 2012 dropped to 5.4%, down from 10.1% during 2010, and its unemployment rate rose to 9.9% up from 9.8% in 2011.

The overall production of India consists of agricultural products, such as rice, wheat, oilseed, cotton, tea sugarcane, onions, potatoes and dairy products. On the other hand the industrial production includes products such as textiles, chemicals, food processing, steal, transportation equipment, petroleum, machinery and pharmaceuticals. India's exports in 2012 totaled $309.1 billion and its imports $500.3. Obviously a trade deficit of around $200 billion.

Finally in the middle of all this world economic turmoil and slowdown, the International Monetary Fund, (IMF), projects that India will outpace China in growth with a 10.4% growth rate as opposed to 10.3% for China.

STATISTICAL ANALYSIS

In this next section, we are going to present India in numbers, in order to get a better picture about its economy during the last thirty years. Some of the data that will be presented include the Gross Domestic Product, Exports, Imports and Net Trade, Population, Inflation, just to name a few.

Table 1 that follows includes the GDP, Exports/Imports, Population and the GDP Growth Rate.

TABLE 1

YEAR	Exports	GDP	Imports	POP.	Net Exp.	GDP GR.R
1980	11.414	161.019	10.692	0.7	0.722	
1981	11.321	170.691	11.764	0.716	-0.443	6.006745
1982	12.003	176.623	12.171	0.733	-0.168	3.475286
1983	11.893	189.497	14.846	0.75	-2.953	7.288971
1984	12.761	196.737	12.719	0.767	0.042	3.820641
1985	11.955	207.075	14.483	0.784	-2.528	5.254731
1986	12.604	216.966	16.957	0.802	-4.353	4.77653
1987	14.208	225.569	16.674	0.82	-2.466	3.965137
1988	15.27	247.286	18.207	0.838	-2.937	9.627653
1989	17.099	261.993	18.587	0.856	-1.488	5.947365
1990	18.998	276.491	19.212	0.874	-0.214	5.533736
1991	20.834	279.413	19.215	0.892	1.619	1.056816
1992	21.853	294.731	23.275	0.91	-1.422	5.482207
1993	24.865	308.733	27.76	0.928	-2.895	4.750773
1994	28.108	329.292	34.034	0.946	-5.926	6.659152
1995	36.933	354.234	43.606	0.964	-6.673	7.574432
1996	39.256	380.977	42.542	0.983	-3.286	7.549529
1997	38.342	396.406	48.158	1.001	-9.816	4.049851
1998	43.665	420.921	58.197	1.018	-14.532	6.184316
1999	51.525	456.544	62.266	1.036	-10.741	8.463108
2000	60.878	474.692	65.124	1.054	-4.246	3.975082

2001	63.502	498.161	67.042	1.071	-3.54	4.944048
2002	76.891	517.627	75.084	1.089	1.807	3.907572
2003	84.259	558.748	85.509	1.106	-1.25	7.944137
2004	107.158	602.603	104.488	1.123	2.67	7.848798
2005	135.098	658.553	138.538	1.14	-3.44	9.28472
2006	162.598	719.562	168.297	1.157	-5.699	9.264099
2007	172.233	790.088	185.451	1.174	-13.218	9.80124
2008	197.375	820.83	227.574	1.191	-30.199	3.890959
2009	187.961	888.452	222.499	1.208	-34.538	8.238247
2010	230.569	973.325	257.178	1.225	-26.609	9.552908
2011	265.851	1040.06	304.679	1.241	-38.828	6.855881

SOURCES:

Exports (2000 = 100) US$ World Bank and OECD National Accounts data files
Imports (2000 = 100) US$ World Bank and OECD National Accounts data files
GDP Constants 2000 US$ World Bank and OECD National Accounts data files
Population Total, United Nations Population Division, World Pop. Prospects

This table gives us some very interesting conclusions. If we take a look at the GDP and the Population growth, we see that the GDP grew by about 540% between 1980 and 2011, whereas the population grew by 77%, which means that India's growth of the GDP did not result out of the population growth but out of improved efficiency and better use of resources. Another interesting conclusion is that the trade deficit has been steadily increasing, and has reached $38.8 billion by 2011, which shows that India has a growing economy, which cannot meet its demands domestically. The following pages present some figures which illustrate the data presented in Table 1.

FIGURE 1

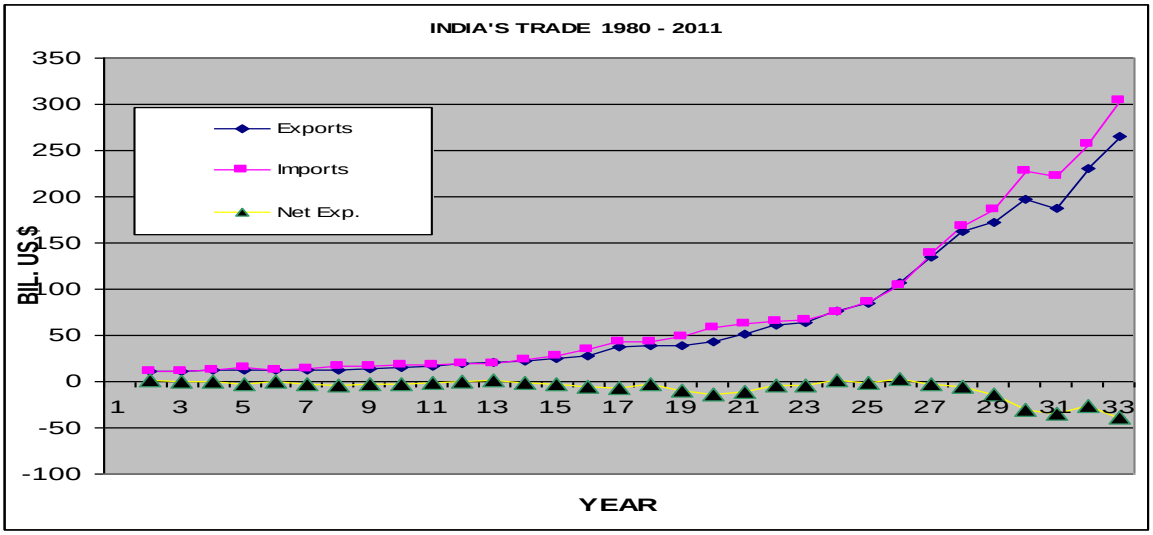


Figure 1 shows India's trade, and as can be seen even though both exports and imports are increasing, the imports are increasing faster.

FIGURE 2

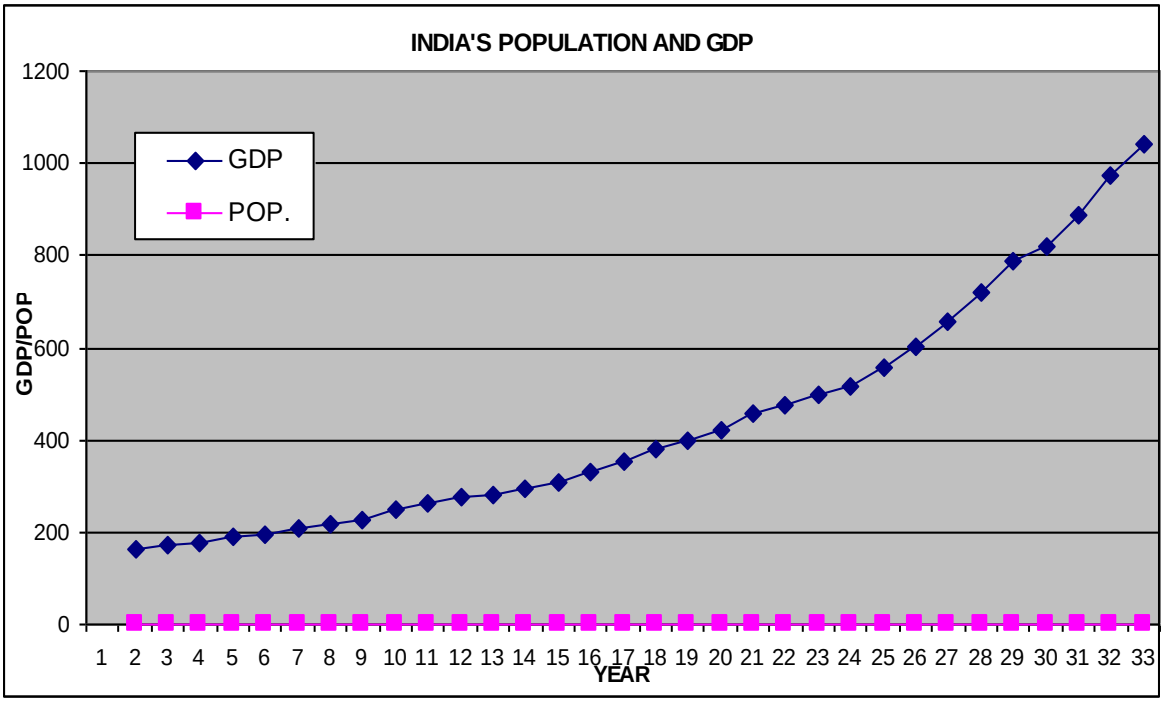
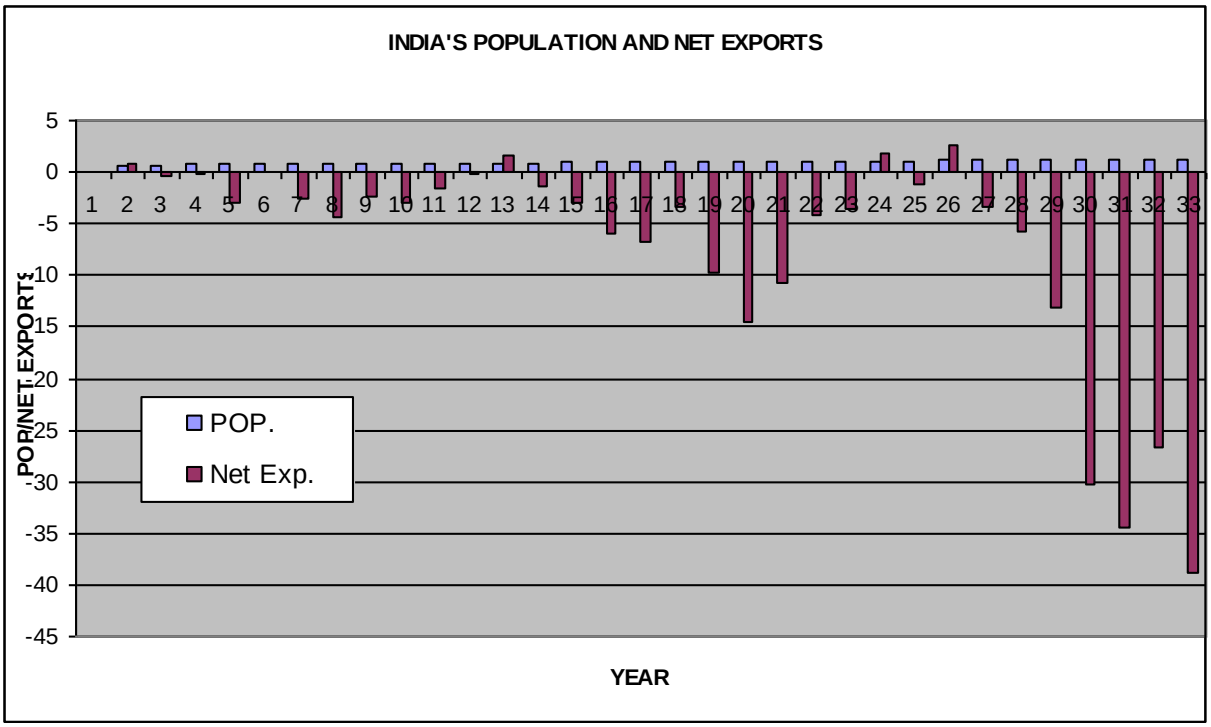


Figure 2 shows what we discussed above, that both the GDP and population have been increasing, although the GDP has grown by much more than the population.

FIGURE 3



The above figure also shows something we discussed above, that the increase in population has caused a big increase in the trade deficit.

FIGURE 4

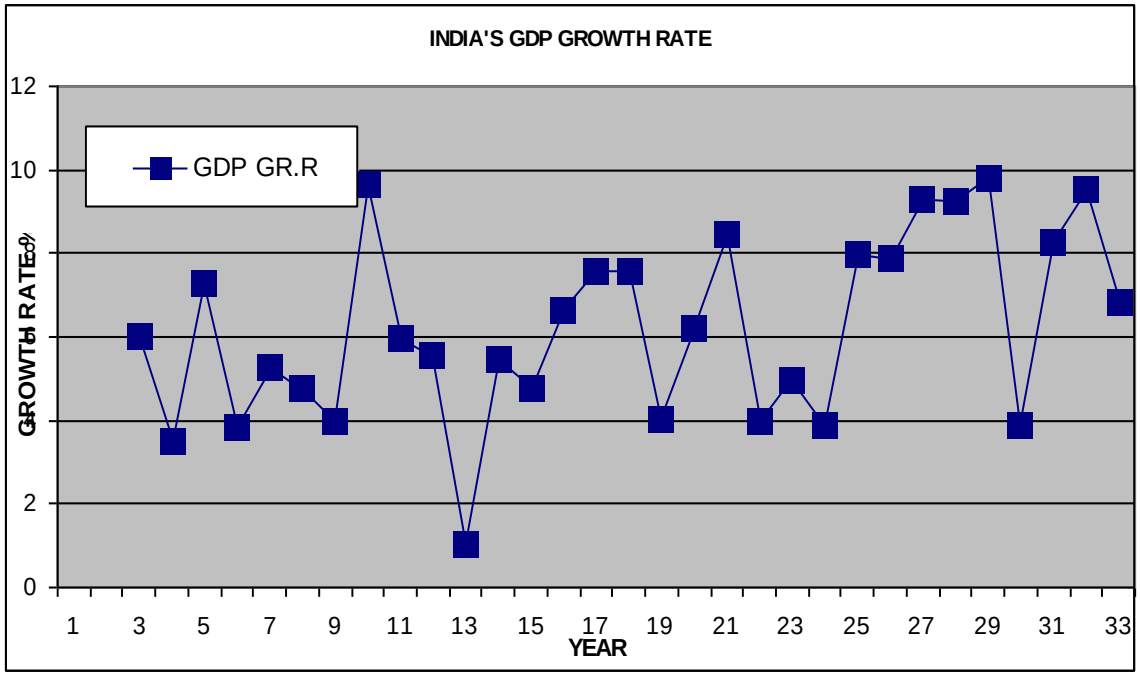


Figure 4, presented on the previous page, illustrates a steady growth in the GDP. The GDP growth rate, fluctuated between 3.4% and 9.8%, with the exception of 1991 when the growth rate was only 1.05%.

CONCLUSION

Finally in the conclusion we are going to put everything together, and try to derive some projections and possibly some recommendations.

The title of the paper is asking if India is becoming an economic superpower. Although India is growing with fairly fast rates, and this was shown in Table 1 and the figures that followed, it has a long way before it becomes a superpower. Obviously it is much better today than it was 30 years ago, with an increase in its GDP by more than 540%, but there are other things that need improvement as well, such as education, infrastructure and standard of living.

At this point we can make a couple of recommendations that can ultimately help the economy of India. The first thing is that they should try to improve their productive efficiency. Hey have both the human resources as well as the natural resources to do that, it is a matter of finding methods to do that, starting with education. If this is accomplished, it will lead India to the second recommendation which is to reduce the trade deficit, as this is very costly.

Finally a third recommendation is for India to take advantage of its IT industry. It is well known that India has an advantage in this area over a lot of countries, labor cost and know how, they should invest heavily in this in order to bring more investments in India. Once more the first thing that India can do here is investment and improvement in education.

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APPENDIX

In this section of the paper, the authors ran several regressions using the data presented earlier in the paper. The regressions are an attempt to measure aspects of India's economy. The hypothesis for each test is presented along with the findings and a graph illustrating the regressions.

Model #1

The first model uses India's population as independent and India's GDP as dependent. The hypothesis is that India's GDP does not depend on India's population. The value of the R^2 is 0.892, so that 89.2% of India's GDP is explained by the India's population. The P value for this hypothesis test is 4.24×10^{-16}; since this value is less than 0.05 the hypothesis is rejected. We are 95% confident that the slope of the regression line is between 1,251 million and 1,623 million, so an increase of 1 billion in India's population produces a substantial increase in India's GDP. This large number is due to the fact that India's population is growing and that we are measuring the population numbers in billions.

These results are shown below in Figure 1.

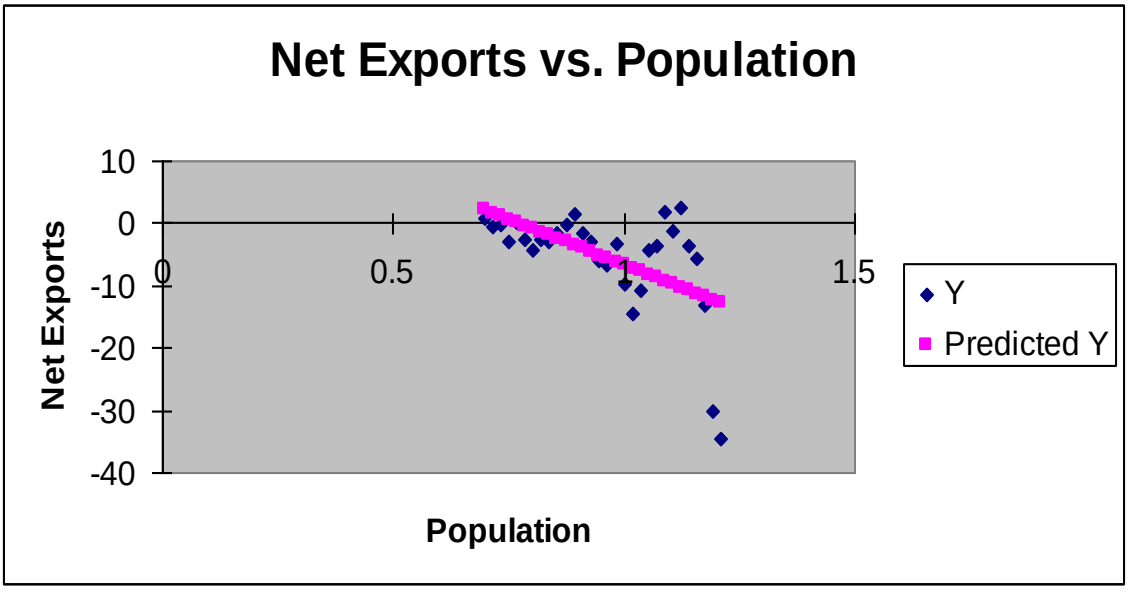
FIGURE 1

Model #2

The second model uses India's population as independent and India's Net Exports as dependent. The hypothesis is that India's Net Exports do not depend on India's population. The significance level of this test is 5%. The value of the R^2 is 0.296, so that approximately 30% of India's Net Exports are explained by India's population. The P value for this hypothesis test is 0.002; since this value is less than 0.05 the hypothesis is rejected. We are 95% confident that the slope of the regression line is between -47 and -12, so a 1 billion increase in India's population causes India's Trade deficit to expand between 12 million dollars and 47 million dollars.

These results are shown in Figure 2 on the next page.

FIGURE 2



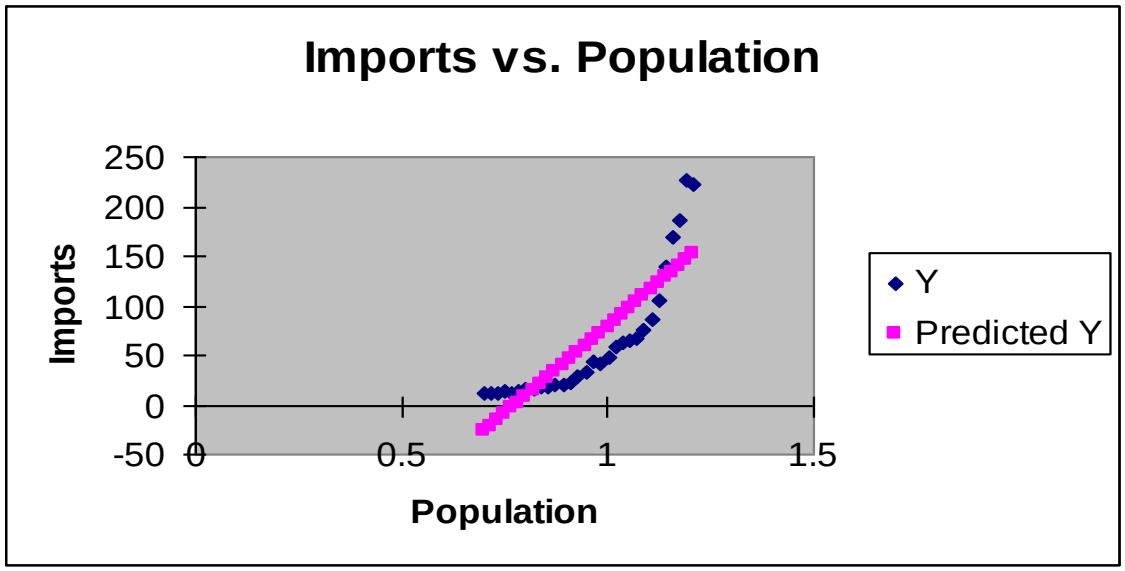
Model #3

The third model uses India's population as independent and India's Imports as dependent. The hypothesis is that India's imports do not depend on India's population. The value of the R^2 is 0.742, so that 74.2% of India's imports are explained by India's population. The P value for this hypothesis test is 2.54×10^{-10}; since this value is much smaller than 0.05 the hypothesis is

rejected. We are 95% confident that the slope of the regression line is between 333 and 521, so a 1 billion increase in India's population causes an increase in India's Imports.

These results are shown below in Figure 3.

FIGURE 3

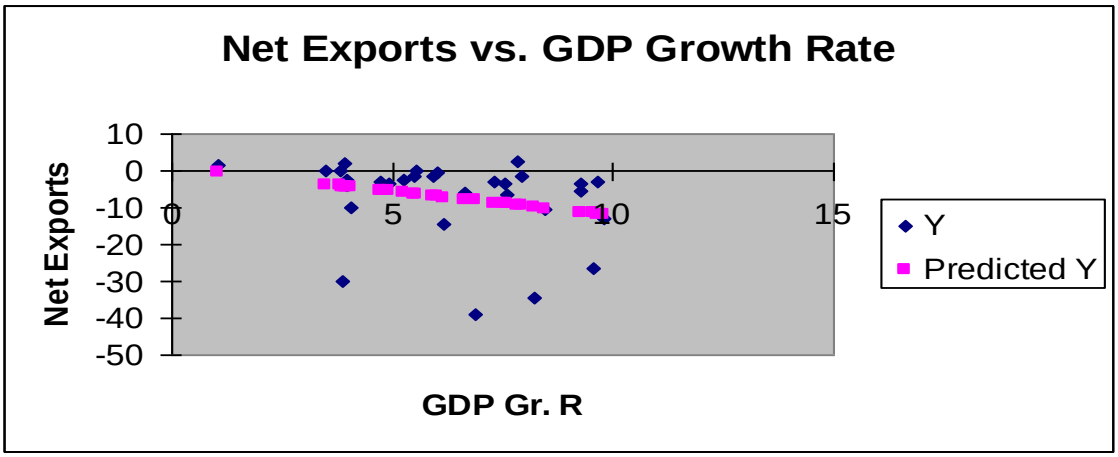


Model #4

Our last model uses India's GDP growth rate as independent and India's net exports as dependent. The hypothesis is that India's net exports do not depend on India's GDP growth rate. The value of the R^2 is 0.073, so that 7.3% of India's net exports are explained by India's GDP growth rate. . The P value for this hypothesis test is 0.14; since this value is larger than 0.05 the hypothesis that India's net exports do not depend on India's GDP growth rate is accepted. We are 95% confident that the slope of the regression line is between -3.09 and 0.46, so an increase of 1% in the GDP growth rate has a nominal effect on net trade.

These results are shown below in Figure 4.

FIGURE 4



In conclusion, our results are interesting, but by no means definitive. The impact on Net Trade by the GDP Growth Rate could be explored further-perhaps by examining the impact, if any, on imports and on exports. To this end, any suggestions or comments would be welcome.