

Examining the correlation between Currency Depreciation and Trade Balance in India

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This paper is an attempt to develop a comprehensive understanding trade balance and depreciation of currency in India. Depreciation of currency is the fall in value of a currency in terms of its rate of exchange in relation to currencies of other countries. There are various reasons responsible for the depreciation of currency such as economic fundamentals, interest rate differentials, and political conditions of a country or risk aversion among the investors in an economy. Exchange rate has bearings on trade surplus or trade deficit, a weaker and depreciated domestic currency stimulates exports. On the other hand, it makes imports more expensive. Conversely, a strong domestic currency hampers exports. It makes imports cheaper.

Balance of trade (BOT), on the other hand, is the difference between the value of a country's exports and the value of a country's imports for a given period. Balance of trade makes the biggest component of a country's balance of payments (BOP). Sometimes the balance of trade between a country's goods and the balance of trade between its services are distinguished as two separate figures. This paper studies the correlation between currency depreciation and trade balance of all products and all services in India by using statistical tools.

Key words: currency, depreciation, trade balance, products, services, export, import

Introduction

The problem of trade balance is faced by all the countries. This problem is more inherent in developing countries and the economies in transition. A majority of economists are of the opinion that real depreciation may lead to an improvement in the problem of trade balance. That said, the countries which face the problem of trade balance use real exchange rate depreciation in order to improve the trade balance situation. Also the balance of trade impacts currency exchange rates as supply and demand can lead to an appreciation or depreciation of currencies. A country with a high demand for its goods tends to export more than it imports, thus increasing demand for its currency. This paper is an attempt to study the correlation between currency depreciation and trade balance of all products and all services in India from the year 2005 to 2020.

Objectives

1. Analysis of trend in Trade Balance in India from 2005 to 2020.
2. To find out the correlation between Trade Balance in All Products and Exchange Rate in India.
3. To find out the correlation between Trade Balance in All Services and Exchange Rate in India.

Hypothesis

1. There is correlation between Trade Balance in All Products and All Services and Exchange Rate in India.

Methodology

The present study is based on secondary data. The data is collected from trademap.org and Handbook of Statistics on Indian Economy by Reserve Bank of India. Simple correlation method is used to find out the positive or negative relation between depreciation of currency and trade balance. Also, in order to find out the impact of depreciation of currency on Trade balance statistical tool linear regression has been used.

Review of Literature

Kurtovic, Safet. (2017) in his paper investigates the effect of real effective exchange rate depreciation on the trade balance of Albania using quarterly data from 1994 to 2015. The results of the study show that there exists a long-term co integration between the real effective exchange rate depreciation and the trade balance. Specifically, real effective exchange rate depreciation positively affects the trade balance of Albania in both the long-run and short-run indicating the weak presence of the **J-curve** effect.

Sokolova, M.V. (2017) in his paper shows that regional trade integration shifts the burden of exchange rate adjustment towards the less integrated trading partners. Thus, they bear the cost of trade balance expansion, while competitive exchange rate moves vis-à-vis R.T.A (regional trade agreements) trading partners result in no expansion or deterioration of the overall trade balance.

The paper United Nation Conference on Trade and Development Policy Issues in International Trade and Commodities (2013) contributes to understanding the relationship between exchange rates and international trade by investigating the effect of exchange rate volatility and misalignment on international trade and by exploring whether exchange rate misalignment affects trade policy decisions. The methodological framework consists of fixed effects regressions estimated on a detailed panel dataset comprising about 100 countries and covering 10 years (2000-2009).

Data Analysis and Interpretation

Table 1 Trade balance in All Products and All Services in India and Exchange rate of Indian rupees to USD

Year	Exchange Rate in USD (Annual Average)	Trade in Balance in All Products (USD Million)	Trade in Balance in All Services (USD Million)
2004-05	44.9315	-40509.030	-8456.600
2005-06	44.2735	-57011.834	-5731.600
2006-07	45.2849	-72747.241	-4483.500
2007-08	40.241	-133851.208	18099.486
2008-09	45.917	-89636.517	12336.655
2009-10	47.4166	-129620.891	2140.423
2010-11	45.5768	-160919.541	13239.456
2011-12	47.9229	-199411.609	15606.485
2012-13	53.2112	-129434.178	22272.786
2013-14	60.5019	-141824.822	28834.122
2014-15	61.1436	-126910.458	32711.380
2015-16	65.4685	-95722.458	28287.417
2016-17	67.072	-147990.638	30698.734
2017-18	64.4549	-185275.548	28896.114
2018-19	69.9229	-155633.003	35331.381
2019-20	74.1332	-92491.618	49328.147

Source: trademap.org and Reserve Bank of India

The balance of trade, commercial balance, or net exports, is the difference between the monetary value of a nation's exports and imports over a certain time period.

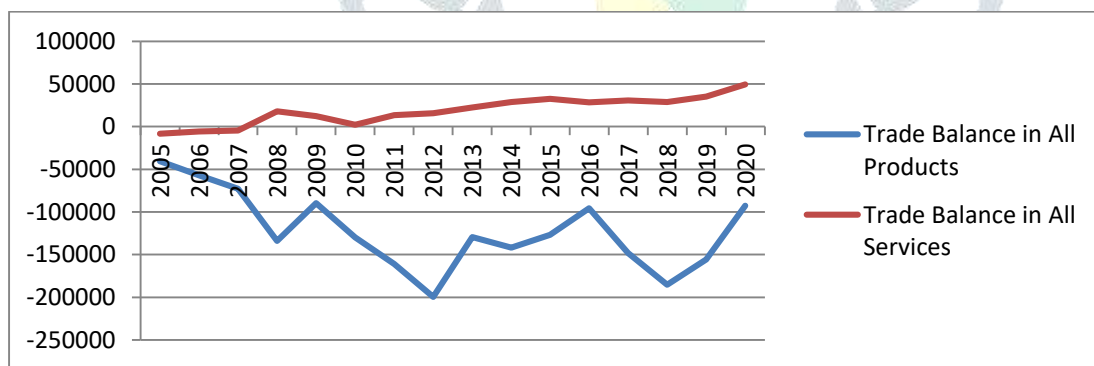
Table 1 shows the Trade Balance in all products, all services and exchange rate of Indian Rupee to US Dollar from year 2004-05 to 2019-20.

It is evident from the Table 1 that the exchange rate of Indian Rupee to USD declined over the years. In the year 2004-05, the exchange rate of Indian Rupee to USD was Rs. 44.9315 per USD. The exchange rate of Indian Rupees to USD remained fairly consistent, with slight decline till 2011-12 when it stood at Rs 47.9229 per USD. But from the year 2012-2013 onwards till 2019-20, the exchange rate of Indian Rupees to USD has shown a consistent decline. It was Rs. 53.2112 per USD in 2012-13 which declined to Rs. 74.1332 per USD in the year 2019-20. Thus, it is clear from Table 1 that the value of Indian Rupee to that of USD has depreciated considerably from the year 2004-05 to 2019-2020.

In case of Trade Balance in all products, it is clear from Table 1 that Indian economy has suffered Trade deficit. The Trade deficit in respect of all products has increased over the years. In the year 2004-05, the Trade Deficit in all products was -40509.030 (Million USD) which reached -133051.208 (Million USD) in 2007-08. In 2008-09, the Trade Deficit in all products showed a little improvement and reached -89636.517 (Million USD). But from 2009-10 the Trade deficit for all products again increased and reached -199411.609 in the year 2011-12. In the year 2012-13, the trade deficit in all products reached -141824.822 (Million USD). Till 2018-19, the trade deficit had reached to -155633.003 (Million USD). In the year 2019-20, it stood at -92491.618 (Million USD).

In case of Trade balance of all services, we see a different trend. From the year 2004-05 to 2006 -07, we see a trade deficit in case of all Services in India. But from the year 2007-08, we see trade surplus till 2019-20. After 2007-08, there is always trade surplus in all services. Table 1 clearly shows that trade deficit which was -8456.60 million USD in 2004-05 has become trade surplus of 49328.147 million USD in 2019-20 of all services.

Figure 1. Trade Balance in all products and all services from 2005 to 2020(US Dollar in Million)

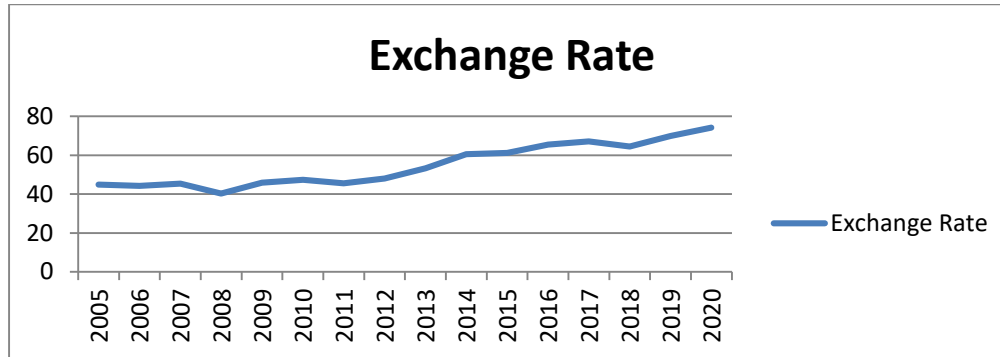


Source: Compiled by author

Figure 1, shows the Trade balances in all products and all services graphically. It is clear from Figure 1 that in case of all products, the trade deficit has increased over the years while in case of all services, the trade deficit has now changed to trade surplus after 2007 and has shown a consistent growth over the years.

Exchange Rate in India

Figure 2 Exchange rate of the Indian Rupee Vis-à-vis USD (Annual Average)



Source: Compiled by Author

Figure 2 shows the Exchange Rate of Indian Rupees to USD graphically. It is clearly seen that the rupee has considerably depreciated over the period of study. To find out the correlation between exchange rate and trade balance, simple correlation method is used.

Table 2 Correlation between Trade in Balance and Exchange rate in India 2005 to 2020

Correlation between exchange rate and trade balance in all products	-25.06037347
Correlation between exchange rate and trade balance in all services	85.84237906

Source: Compiled by Author

Table 2 shows the correlation between trade balance and exchange rate of Indian rupee with respect to USD from 2005 to 2020. The table 2 shows that correlation between exchange rate and trade balance in all products shows a negative value of -025.06, which means declining currency value and increased trade deficit in case of Trade balance in all products. While the correlation between exchange rate and trade balance in all services shows a positive value of 85.84, which means declining currency value increased trade surplus in case of Trade Balance in all services. Hence the hypothesis that there is correlation between Trade Balance in All Products and Services and Exchange Rate in India is not accepted.

Conclusion

India suffers from trade deficit in case of Trade balance in all products and trade surplus in case of trade balance in services .Trade deficit refers to a situation where the country's import dues exceed the receipts from the exports. Trade deficit arises in the course of international trade when the payments for imports exceed the receipts from export trade. A trade deficit is also referred to as a negative balance of trade. It is seen from the analysis that depreciation in currency, that is, declining exchange rate has negative relation with Trade balance in all products and positive relation with trade balance in all services. So, the hypothesis that there is correlation between Trade Balance in All Products and all Services and Exchange Rate in India is not accepted.

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