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International Journal of Current Research
Vol. 7, Issue, 03, pp.13503-13507, March, 2015

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

REVIEW ARTICLE

EXAMINING THE EFFECTS OF REAL EXCHANGE RATE ON TRADE BALANCE IN PAKISTAN

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ARTICLE INFO

Article History:
Received 17th December, 2014
Received in revised form
10th January, 2015
Accepted 22nd February, 2015
Published online 17th March, 2015

Key words:
Exchange,
Determinant,
Coefficient.

ABSTRACT

This study examines the impact of real exchange rate on trade balance between Pakistan and its major trading partners. Earlier empirical data offered mixed benefits from the impression regarding genuine swap prices in business account balances. In this study, we considered the data related to the variables for the period 2003-2013 and use Panel Data Regression Model for investigating the relationship between real exchange rate and trade balance. The results show that coefficient of real exchange rate is insignificant on the trade balance in case of Pakistan. Pakistan's trade deficits are the deficits incurred with its major trading partners. We can say the imports are more than from export of Pakistan with its major trading partners that way the trade deficit incurred with its major trading partners. There in need to make strong trade policy this eliminates trade deficit from Pakistan. Furthermore, the facts from this study indicate that foreign real income is significant determinant of Pakistan's trade balance.

INTRODUCTION

This study explores the effect of real exchange rate on trade balance with reference to Pakistan and its major trading partners. In theory, foreign currency accounting allowance could increase the deal balance should the general selling price among the land and it is exchanging associates and also other aspects stay unchanged. The particular affordable two-way change charge used in this kind of study can be stated throughout expression regarding Pakistan foreign currency (PKR/foreign currency). Thus, a difference inside the real change charge can result in change inside the country's trade sense of balance. No matter if devaluation can improve trade sense of balance is always cloudy. A number of economist believe that, when there is a combination of sufficiently huge selling price elasticity of demand and also sufficiently smaller selling price elasticity of present, these circumstances usually are enough and also required for a marked improvement from the industry stability. An important station to advancement from the industry stability will be intake impact, from the economic method. Additionally, a few international monetarists contest in which wear and tear or maybe accounting allowance decreases the important price connected with income amounts and/or your comparable charges, which leads to increase the business balance. Even though, as stated previously mentioned a number of experts realize that depreciation enhances the particular industry sense of balance, additional reach contrary results [Miles (1979), Himarios (1989), in addition to Reinhart (1995)]. Numerous acquiring countries having large outer unbalances normally depreciate his or her local foreign currencies to help elimination of buy and sell failures. Because generally recognized in the international buy and sell books, the potency of wear and tear is determined by your result of buy and sell moves to help comparable rates resulting from a true wear and tear. The particular impact connected with genuine exchange fee modifications with deal currently is contentious issue. This really is the principle issue which the potency of minimal exchange fee modifications with genuine wear and tear or thanks. Furthermore, researchers wonder no matter if genuine exchange fee modifications increase or lessen deal amounts. Empirical research shows that in a few countries changes within the actual alternate charge possess damaged deal bills, although not in every countries. This means that the particular direction in the actual alternate charge changes about the deal bills isn't apparent.

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Exchange rates affect the prices of goods and services traded among countries of the world; it determines the price actually paid when each trade transaction is completed. At the same time, we can determine the changing patterns in the prices of trading goods and services by domestic inflation. The changing pattern in the prices of tradable commodities may be accelerated by instability of exchange rate. However, using a single currency such as the US dollar (USD) as a vehicle currency can help separated trade from such deterioration by keeping the domestic currency exchange rate stable. Through this strategy low-income developing countries can overcome the uncertainties in trade flows.

In developing countries inflation and other external elements disturb the flow of international prices paid for commodities make hurdles regarding trade sharpen. Such elements interrupt smooth and regular exchange rate flows and are often displayed through currency crisis and stock market crashes. Sometimes, such deterioration may also be unnaturally generated in the form of speculation. Exchange rates usually exhibit highly unstable and not determinable patterns in response to these shocks (problem regarding trade sharpen due to inflation and external elements), and resulting pattern is referred to as uncertainty. Such shocks have temporary effect that causes a wave in the flow of exchange rates, and if these waves delayed the movement of exchange rates back to their original position, this may result trade patterns will disturb the stream of expected returns by raising the probability of loss of the trade concerned.

From the last four decades the State Bank of Pakistan has adopted different strategies to control exchange rate variations. From 1973 to 1981 the nominal exchange rate was fixed at PRs 9.9/$, but when a authorities was used the managed-float trade charge in 1982 there was a 14.8 percent depreciation occurred in the actual exchange rate. In 1999, the PKR/USD rate jumped from PRs 46/$ to PRs 51.39/$ (an 11.7 percent depreciation) the State Bank of Pakistan (SBP) stopped to announce the official exchange rate. The rupee became fully flexible in 2000; as a result, once again there is a rise in exchange rate from PRs 51.79/$ to PRs 58.44/$. In the last quarter of the year, PKR/USD equality raise to PRs 64/$ a 9.51 percent depreciation. In 2001, the rupee showed some appreciation. In contrast to, Pakistan's reveal on this planet imports possesses ranged coming from at least 0.12 percent inside 1980 to be able to only 0.17 percent inside 1992. With 2002/2003, it had been 0.17percent, hinting that that will Pakistan's foreign trade functionality has been impacted by the actual alterations within the alternate rate (Mustafa along with Nishat 2005).

Judging by several empirical scientific tests, the item ensures that business scales in the wake regarding decline or maybe thanks are usually decided not only by alter in the true exchange pace or maybe comparative charges, but in addition your alter in the revenue effect (domestic and also foreign incomes). Actually, these consequences may possibly work contrary course for the deal balances. Examination similar literary works demonstrates will never be proved to be this sturdy take into account many cases. On this analyze we check out this influence regarding change pace good and bad for the two-way deal stability throughout Pakistan. On this analyze for opinion we make use of cell info regression design.

Literature Review

Beneath method of authorities a hard and fast trade charge, deal flows may possibly reply in different ways to a adjust throughout family member costs resulting from a big change in the trade charge rather than resulting from a big change throughout national foreign currency costs of conveying items. There' no requirement being the truth underneath the authorities the versatile trade charge. Wilson in addition to Takacs (1979) specifically appraisal with the half a dozen main commercial places, particularly USA, The Japanese, Germany, Great Britain, Canada, in addition to Portugal that this reply connected with industry passes to changes inside charges in addition to change premiums utilizing quarterly transfer in addition to foreign trade equations over the period of time 1957-1971 (Bretton Forest era) while places applied the particular fixed change rate program. Their particular information present of which deal runs influenced in different ways to help modifications in price ranges plus the swap charge. Various replies to help modifications in the price ranges and swap prices ended up furthermore witnessed. Mile after mile (1979) look at the end results regarding accounting allowance (domestic currency exchange under a new adaptable swap charge system) by coming into your swap charge into your deal equilibrium equation. They discover that statistical relevance in addition to signal in the exchange price coefficient can't be found acceptable. This exchange price coefficient depending on business sense of balance seemed to be considerable (one-tailed test) among only 3 out of 18 international locations.

Warner as well as Kreinin (1983) utilized standard equations to be able to establish the actual determinants associated with business sense of balance associated with twenty formulated nations. They observed which letting the actual swap pace to be able to levitate affected the quantity associated with imports inside the majority of the key nations, though the route associated with change was not determinate. Within the export aspect, the issues of adjustments within genuine change price on the number of exports usually are major seeing that backed with the theory. Because the adjustments inside change price as well as the price tag stage, your high intensity and also period way of industry scales usually are sketchy. Bahmani-Oskooee (1986) is effective to help evaluate transfer as well as upload need function to get a test connected with 7 establishing international locations within the period of 1973-1980. The findings claim that industry passes modified in different ways to help industry stimuli, reinforced a result of Wilson as well as Takacs (1979). Bahmani-Oskooee likewise concluded that changes inside relative price ranges and the change rates afflicted the actual trade streams inside years to come. Grauwe (1988) discovers that bringing out the particular floating swap pace system brought on a large decrease inside the development pace associated with trade amid manufacturing international locations. This obtaining reinforced the particular dream how the increase inside the swap pace volatility because of floating swap pace incorporates a negative relation to trade sense of balance.

Himarios (1989) identified no matter if decline impacted true intensity of the industry stability. They will discover that coefficient of the true exchange pace confirmed substantial relationships using the industry stability. The finding likewise confirmed a good effect involving true decline about industry stability during that identical time period. Any kind of original J-curve deteriorating has been reversed through the stop on the primary calendar year. Nevertheless, this unwanted effects associated with J-curve dominate through the primary calendar year inside British Isles. The results supply a powerful service to the classic watch in which devaluation they can be handy application within term connected with adjust within parameters and also construction from the economic climate. Additionally, the effects connected with devaluation could be removed if at all accompanied by expansionary macro-economic procedures.

Koray (1990) looked at that when the foundation of economical boundaries were particular, this connection between trade equilibrium in addition to swap fee could be decided. Most of these boundaries can be expansionary fiscal in addition to budgetary insurance policies which have an effect on the eye fee, expense, economical development and also other offer aspect aspects. Some obstacles trigger good correlation whilst different reasons a good correlation. Among this particular, any time the sources of exchange price good and bad aren't effectively specific the issue of exchange price changes may often improve or even decrease this industry stability. Lastrapes in addition to Koray (1990) concluded that statistically there seemed to be a substantial connection involving changes in the condition regarding economic system to switch charge volatility in addition to business specifics. Contemporaneous shocks- such as a transform within funds source that places pressure in rates of interest or maybe a transform within how much creation could possibly expose fluctuating pressure around the genuine swap price. Furthermore, lagged unpredictability has informative strength only reserved for imports, exports ended up ignored. This is inverse to Cushman's (1983) discovering which showed that the impact of genuine swapping scale unusualness or hazard adversely noteworthy on exchange adjusts or exchange amount as a rule. Rose (1991) broke down the relationship between the genuine swapping scale and the total exchange equalization of five noteworthy OECD nations by utilizing flawed substitute's model. Rose find that there is no relationship between the genuine conversion scale and total exchange offset, and along these lines the summed up Marshall-Lerner condition did not hold.

Numerous scientists utilized the idea of genuine conversion scale misalignment. There are distinctive measures: the buying force equality (PPP) measure of genuine swapping scale unusualness, the model based measure of misalignment, and measure of misalignment utilizing the premium of the ostensible bootleg market conversion standard over the authority rate. Ghura and Grennes (1993) found that the effect of genuine swapping scale misalignment on fares and imports is affirmed by all measures of misalignment. What's more, Asseery and Peel (1991) inspected that imports and fares were additionally influenced by the genuine conversion scale insecurity. Reinhart (1995) reevaluated the relationship between relative value changes coming about because of a devaluation and exchange streams in 12 creating nations. On the premise of their discoveries the relative costs fundamentally influenced both imports and fares as a rule. Therefore his discovering backed the hypothetical forecast.

The most important consideration with regard to exchange rate unpredictability has negative effect on the trade flows because this can reduce the potential to expand trade. While the existence of a significant positive effect would be surprisingly because, in such a situation, increased in the exchange rate risk and variability and also increased in other financial variables risk and variability would expand trade expansion. In the literature related to Pakistan, Amor and Sarkar (2008) find that real exchange rate fluctuations can be reduce with the help of openness. Regardless of how, the structure of financial integration in Southeast Asian countries does not favor the stability of the real exchange rate. Mustafa and Nishat (2004) analyze the effect of the exchange rate on export growth. They find that unpredictability has a significantly negative effect with respect to major trading partners.

Kemal (2005) found that exchange rate variability affects positively and imports negatively, which improve the trade balance. Azid (2005) get insignificant but positive results that do not support the position that lavish unpredictability has a pronounced effect on manufacturing production. Kasibhatla (2003) investigated that changes in the exchange rate has a significantly negative impact on exports, implying that that against risk trader will contract their trade to minimize the rate of risk of exchange rate.

Data and Methodology

We gathered data for this study from various sources; World Bank Database (WDI), International Monetary Fund (IMF) CD-ROM, www.trademap.org, and www.oanda.com. For the reliable and unbiased data we selected these sources. The estimation period for this study is from 2003-2013. This period is enough for the study because all the countries that were included in the sample went through different economic cycle during this time period. This period provide us an ideal situation to get the strong and original results that include the crisis and non-crisis period. The total of six countries (Pakistan and five major trading partners of Pakistan) was considered in the study. The countries were selected on the availability of data for number of variables relevant to the study. The total of 55 firm year observation for each of the variable will enable us to examine the effects of independent variable (real exchange rate, and real income) on dependent variable (trade balance).

Base Line Regression Model

We will estimate the following base line regression model;

$$(RTB)_{i,t} = \alpha_0 + \beta_1 (RER)_{i,t} + \beta_2 (PGDP)_{i,t} + \beta_3 (FGDP)_{i,t} + \varepsilon_{i,t}$$

Where,

RTB = is the real trade balance measured as imports and exports with the specific country and divided with the Pakistan GDP. This is a dependent variable and is also used by the Miles (1979), and Kato (1999) as measured the correlation between the exchange rate and trade balance.

RER = is the real exchange rate measured as nominal exchange rate of Pakistan (CPI foreign country/ CPI of Pakistan). This variable is one of the independent variables used by Himarios (1989), and Koray (1991).

PGDP = is the domestic real income or real GDP of Pakistan measured as nominal GDP of Pakistan multiple with GDP deflator of Pakistan. This variable is also an independent variable and helps to examine the correlation between the real income and trade balance. FGDP = is the real income of foreign countries or real GDP of the major trading partners of Pakistan. This is measured as nominal GDP of that countries multiple with GDP deflator of that countries. This variable also helps determining the correlation between real income and trade balance.

Panel Data Regression Model

Common Effect Model

We will estimate the following common effect model;

$(RTB)_{i,t} = \alpha_0 + \sum_1 (RER)_{i,t} + \sum_2 (PGDP)_{i,t} + \sum_3 (FGDP)_{i,t} + \varepsilon_{i,t}$

We may not get the strong and generalized result from the common effect model. Common effect model assume the homogeneity of cross-sectional variable. However, our countries have only few similarities in that they all are trading partners of Pakistan. However, they differ in their level of development, size of economy, culture and their social economic variables. Thus, homogeneity of cross-sectional units may lead us biased and ungeneralized results.

Fixed Effect Model

We will estimate the following fixed effect model;

$(RTB)_{i,t} = \alpha_i + \sum_1 (RER)_{i,t} + \sum_2 (PGDP)_{i,t} + \sum_3 (FGDP)_{i,t} + \varepsilon_{i,t}$

Common effect model allows the assumption of cross-sectional variables, whereas, fixed effect model allows for the heterogeneity of cross-sectional variables, that's way we prefer fixed effect model over common effect model. Fixed effect model also allows us for controlling the biasness that may be fixed by the omitted variables.

Random Effect Model

We will estimate the random effect model;

$(RTB)_{i,t} = \alpha_0 + \sum_1 (RER)_{i,t} + \sum_2 (PGDP)_{i,t} + \sum_3 (FGDP)_{i,t} + \varepsilon_{i,t}$

Random effect model helps us for controlling the biasness caused by the error term, that's way it is a powerful estimation technique.

Hausman Test

Hausman test helps us for choosing the best model for generalizability and robustness because sometimes, common and fixed effect model gives us the conflicting, for this purpose we will conduct the Hausman test. We will conduct Hausman test under the following hypothesis:

H_1 = fixed effect model's results are accepted
H_0 = random effect model's results are accepted

If the probability or p-value is 0.05 or less allow us to select the fixed effect model and if the p-value is more than 0.05 than we will select the random effect model.

Empirical Results

In Table 1RTB (Trade Balance) is the dependent variable and there is number of independent variables RER (Real Exchange Rate), PGDP (Pakistan Real Income), and FGDP (Real Income of the Trading Partners).

Table 1.

Common Effect Model: D.V. = RTB				
I.V.	Co-efficient	Std. Err.	t-value	Prob.
RER	4.76E-08	1.39E-07	0.342858	0.7335
PGDP	-2.09E-07	8.11E-08	-2.573309	0.0138
FGDP	2.52E-07	1.30E-07	1.937724	0.0596
Cons.	4.20E-08	2.31E-08	1.816984	0.0765
Fixed Effect Model: D.V. = RTB				
I.V.	Co-efficient	Std. Err.	t-value	Prob.
RER	-8.95E-08	1.27E-07	-0.702159	0.487
PGDP	-2.14E-07	6.95E-08	-3.075557	0.0039
FGDP	2.30E-07	1.12E-07	2.063015	0.0462
Cons.	4.32E-08	1.98E-08	2.179796	0.0357
Random Effect Model: D.V. = RTB				
I.V.	Co-efficient	Std. Err.	t-value	Prob.
RER	-5.75E-08	1.25E-07	-0.457911	0.6494
PGDP	-2.13E-07	6.95E-08	-3.059089	0.0039
FGDP	2.35E-07	1.12E-07	2.10803	0.0412
Cons.	4.29E-08	2.36E-08	1.820881	0.0759

From Table 1 the end result shows that co-efficient of actual exchange rate (RER) is positive but insignificant in random effect model. Whereas, co-efficient of actual exchange rate (RER) is negative and insignificant in fixed and random effect models. The analysis for the impact of actual exchange rate on mutual trade balance is that devaluation of local currency (or a rise in the real exchange rate, local/foreign currency) has negatively effect on trade balance. Thus, your evidence seems to be able to reject your generalized Marshall-Lerner condition. On the subject of the domestic GDP variable (domestic real income), the expected co-efficient have an anticipated unenthusiastic sign in all three models (common, fixed and random effect models). Judging by final results we could claim make fish an increase throughout every day genuine Gross Domestic Product (GDP) may cause the particular imports to rise, and therefore aggravate the particular mutual industry bills, and vice versa. In case of foreign actual Gross Domestic Product (FGDP) and the mutual trade balances relationship, the co-efficient of foreign real GDP have significant with positive sign in fixed and random effect models and insignificant in common effect model. It means if there is increase in the foreign real income will cause to rise in export, and thus increase in the bilateral trade balances, and vice versa.

Conclusion

This study examines the effects of actual exchange rate on trade balances between Pakistan and its major trading partners (China, Japan, Singapore, United States, and India). Previous studies gave the blended outcomes of the influence involving true alternate charge about buy and sell account balances. Whilst Miles (1979) confirms of which alternate charge coefficient regarding buy and sell scales are generally minor 11 outside of 14 international locations. The result in the study demonstrates the genuine alternate charge is insignificantly influences within the buy and sells scales in between Pakistan as well as key trading companions. For that reason we conclude that this generalized Marshal-Lerner condition may seem to refuse. Pakistan's trade deficits are the deficits incurred with its major trading partners. We can say the imports are more than from export of Pakistan with its major trading partners that way the trade deficit incurred with its major trading partners. The trade policy methods to ease the deficits tend to be considered essential. Furthermore, the facts from this study indicate that foreign real income is significant determinant of Pakistan's trade balance.

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