

Effect of Remittance in the Transformation of Exchange Rate in Bangladesh Economy

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Abstract

The paper examines about the experience of Bangladesh with various exchange rate systems, looking at the presentation of past and current exchange rate systems with selected south Asian nations. The examination aims to how macroeconomic factors impacted the exchange rate. For these examinations, four noteworthy autonomous factors have been considered, for example, export, import, remittance and reserve, these factors effects in the floating exchange rate for assessing the relationship between exchange rate and remittance. The outcomes demonstrated that macroeconomic factors altogether impacted the exchange rate. The investigation inferred that in the floating exchange rate system Bangladesh speeding up positive effects of the macroeconomic improvement of the nation, where remittance impacts the conversion standard for national advancement. The national bank of Bangladesh and the administration may build up stimulating power over the remote trade business, to control inflation rate, to expand send out, and lessen the exchange deficiency and as remittances positively affects the conversion scale. Bangladesh should actualize progressively steady strategies for the non-resident Bangladeshi around the world.

Keywords: Macroeconomic Variables, Exchange Rates, Remittance, Floating Exchange, Bangladesh

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1. Introduction

The exchange rate is a significant macroeconomic variable utilized as a parameter for deciding universal aggressiveness and shows the worldwide situation of the economy of the nation. The improvement of the nation is firmly identified with its outside trade framework. The exchange scale framework comprises of a lot of principles, plans, and organizations under which countries influence installments among themselves. As indicated by Agnieszka Markiewicz, nations encountering expanding swelling and having higher spending shortages support adaptable systems; nations having a progressively created monetary division are bound to pick coasting systems and nations with more grounded governments and higher political soundness support pegs (See Markiewicz, 2006) [1]. An IMF working paper recommends that albeit numerous investigations have endeavored to reveal observational regularities in how nations pick their exchange rate systems, taken in general, the writing is uncertain (See Juhn and Mauro, 2002) [2]. Whatever the case might be, various nations embrace diverse exchange rate strategies. Bangladesh, the focal point of this paper, had a fixed exchange rate framework set up since January 1972, for all intents and purposes since the introduction of the Nation (Bangladesh won its war of Independence on December 16, 1971). After over 31 years, the Central Bank of (Bangladesh Bank) transformed it into a floating exchange rate framework in June 2003. Bangladesh has been seeking a floating scale framework from that point forward. A country's decision concerning which money system to pursue mirrors nationals' needs pretty much all realities of the economy, including expansion, joblessness, financing cost levels, exchange adjusts, and monetary development. Be that as it may, exchange rate strategy is as yet a wellspring of angering and the suitable decision is in no way, shape or form clear. Financial specialists don't give clear answers about whether a nation ought to enable its money to skim. As per Jhigan (2005) [3], the factors that impact the floating scale incorporates the nation's fares, imports, and auxiliary impacts. On the off chance that the nation's fare surpasses imports the interest for its cash rises and thus, it positively affects the conversion scale.

The key factor of the paper is the assessment of the exchange rate on the major macroeconomic markers of the economy. Four fundamental variables have been recognized to gauge the effect on conversion standard for example export, import, remittance and reserve. Since the exchange rate assumes a significant job to build up the economy of the nation the examination has been led around there as Bangladesh experience diverse floating exchange rate systems and for the shake of financial advancement of Bangladesh has excepted with the Floating exchange rate system.

2. Research Objectives

To think about the effect of various exchange rate systems on the Bangladesh economy. How Bangladesh experienced in the wake of taking the floating exchange rate system alongside some neighboring nation's involvement. In this manner, the settlement has more effect on the conversion scale or not looking at different pointers for example export, import, remittance and reserve.

3. Methods

The examination work has been done dependent on auxiliary information. Optional information from 2001 to 2018 originate from ADB and The Global Economy [4, 5] and has been considered distinctive distributed sources, articles, look into reports, and various types of writing on the floating exchange rate system, etc. for the examination of the information and data quantitative research philosophies for example Utilized SPSS for the investigation of measurable relationship and relapse. The factual examination has been determined to comprehend the exchange standard's hugeness on the financial factors for example export, import, remittance and reserve.

4. Literature Review

Bangladesh, the point of convergence of this paper, had a characterized floating exchange rate conspire in office since January 3, 1972. After over 31 years, the Central Bank of (Bangladesh Bank) transformed it into a drifting floating exchange rate conspire in June 2003. Bangladesh has been seeking a floating exchange conversion standard framework from that point forward. Dr. Mirza Azizul Islam, the previous counselor, Ministry of Finance of the Caretaker Government of Bangladesh, introduced a paper in January 2003, directly before the move from fixed exchange rate to a floating exchange rate system, clarifying the general execution of the fixed system and the plausible ramifications of the floating system on Bangladesh economy. He recommended that the encounters of different nations in the district demonstrate that the floating scale system creates more prominent unpredictability in return rates and this kind of vulnerability is probably going to influence antagonistically the general exchange and speculation atmosphere which is as of now burdened by numerous negative components in Bangladesh [6]. The floating exchange rate system Bangladesh experienced positive effects on the macroeconomic advancement of the nation (Farhana Akhter and Nushrat Faruqui, 2015) [6]. In other work, Uddin, Rahman, and Quaasar (2014) inspected a bivariate connection among GDP and floating scale without fusing other pertinent factors that could likewise impact yield development [7]. Kamal (2015) utilized a similar model to examine the long-run connection between the two factors [8]. Then again says, an arrangement of really fixed exchange rate powers nations to keep their value levels in line, and thusly they are probably going to tolerate the punishment of an exchange deficiency than their neighboring who pursue coasting floating exchange scale systems and an increasingly expansionist strategy (Mussa (2000) [9].

Resulting considers (e.g., Gluzmann, Levy-Yeyati, and Sturzenegger, 2012 [10]; Mario, Sebastian, and Gabriel, 2011 [11]; Mbaye, 2012 [12]; Razmi et al., 2011) [13] have commonly affirmed this positive relationship between underestimated trade rates and development. As per Gulzmann et al. (2012) [14], devalued trade rates don't impact the tradable segments, rather, as proposed by Rodrik expanded sparing and venture encourages development, interestingly, Mbaye (2012) [12] found that absolute factor efficiency development was supported by undervaluation. Mario et al's. (2011) [11] proof recommends that a devalued RER enhances and raises the innovation power of fares. Deverux and Engel (2003) [15] stressed that an adaptable conversion scale gives space for the modification of the relative cost when costs are slow. Islam and Biswas (2009) [16] endeavored to dissect the connections between conversion scale and expansion and between floating exchange rate and GDP in Bangladesh. Farhana Akhter and Nushrat Faruqui (2015) [6], She likewise has considered four macroeconomic components, for example, export, import, remittance and reserve by 1999 to 2013 information, at the same time, we continue to assess effect of exchange rate over them in this paper, since 2001 to 2018 and included estimate of 2019 and 2020 . This examination presumed that settlement has a critical commitment to monetary development over different factors impacted by the exchange rate.

5. History of Exchange Rate in Bangladesh

Bangladesh has been experienced two noteworthy exchange rate systems since the nation's Independence from sixteenth December 1971. A Fixed Exchange Rate Regime from 1972 to 1979 and a Floating Exchange Rate Regime since May 2003. Among the time span from 1971 to 2003, there were distinctive conversion standard courses of action as far as the cash instrument, as: Pegged to Pound Sterling (£): 1972-1979; Pegged to a bin of significant exchanging accomplices' monetary standards (£ as the mediating monetary standards): 1980-1982; Pegged to a bushel of real exchanging accomplices' monetary standards (US\$ as the interceding monetary forms): 1983-1999; Adjusted Pegged System: 2000-2003.

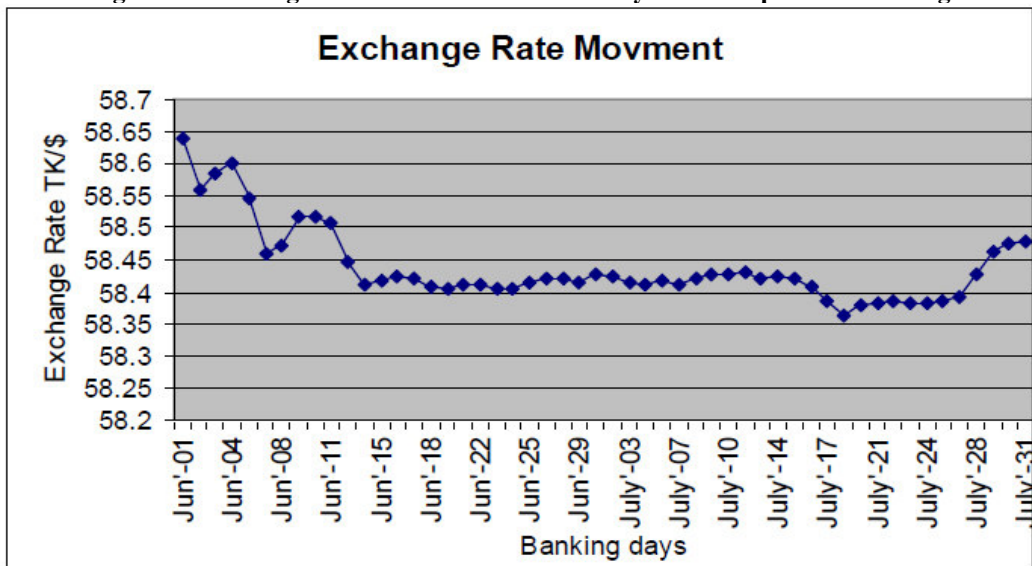
Floating Exchange Rate System: Since May 30, 2003, to Present. Every one of the arrangements of the conversion standard framework Bangladesh executed, with the destinations of quickening sends out, diminishing import weight and improve the equalization of exchange. After freedom, Bangladesh fixed its Taka's an incentive with British Pound Sterling on third 1972. From 1972 to 1990 the Taka was exaggerated. So, there was an immense shortage to be decided on installment that hurt the economy severely. From 1990 the hole started to limit. The exchange standard system worked very well as far as the parity of export, import, remittance and reserve.

6. The Transition from Fixed to Floating Exchange

To satisfy up the financial need and to satisfy the IMF contingency, on 29 May 2003 Bangladesh Bank gave a

roundabout expressing compelling from 31st May 2003, Bangladesh Bank skimmed its exchange rate standard and pursued a completely market-based floating exchange rate for Taka. Under this plan, the swapping scale is resolved depends on the interest and supply of the separate monetary forms.

Figure 1: Exchange Rate Movement immediately after inception of Floating



Source: Bangladesh Bank & Farhana Akhter and Nushrat Faruqui (2015) [6]

Following the commencement of floating exchange rate banks, financial specialists, cash dealers, and businesspeople have respected the deregulation of the floating scale saying that the nation's remote exchange and the settlement would get a brag up because of it and it would make the money advertise progressively productive and viable. Since the presentation, there is no bizarre ascent in the floating exchange scale until mid-2004. More often than not Taka keeps up acknowledging position during this period and Bangladesh Bank demonstrates a gigantic exhibition dealing with the 'infant' conversion scale framework. During mid-2004, Taka confronted critical instability against USD and it proceeded up to August 2004. After that period, the unpredictability of the conversion standard of Taka against USD facilitated, however, coming about to acknowledge USD till mid-January 2005. As of late, Taka has deteriorated fundamentally against USD in the between bank advertise. This has happened because the value climb in oil cost and scrap vessel in the worldwide market made a specialist import settlement.

7. After Floating Exchange Rate Regime

To assess the financial development of Bangladesh in the wake of receiving a drifting floating scale system, a few information correlations have been made among three neighboring countries in South Asia; those are India, Maldives, Nepal, Bhutan, and Pakistan. Macroeconomic components of growth rate of GDP, current account balance and inflation circumstances of Bangladesh are considered here in contrast with the neighboring states.

7.1 Growth Rate of GDP (% Per Year)

Similarly, we realize that Gross Domestic Product (GDP) is a significantly large-scale financial factor for the varieties of trade rates so we want to relook the ongoing circumstance of the development pace of GDP of Bangladesh alongside India, Maldives, Nepal, Bhutan, and Pakistan after the perception [6]. As per the table, Bangladesh is showing improvement over previously and following the reception of a drifting conversion standard system, since 2003 with the new floating exchange rate framework [6]. In these ongoing insights appears, there is a positive pattern of the GDP development rate including gauge 2014 - 2020. Bangladesh is consistently growing along with India, where Pakistan left behind in this race.

Table 1: Growth Rate of GDP for the Selected Countries, including **Forecast

Growth rate of GDP (% per year)							
Country Name	Year						
	2014	2015	2016	2017	2018	** . 2019	** . 2020
Bangladesh	6.1	6.6	7.1	7.3	7.9	8	8
India	7.4	8	8.2	7.2	7	7.2	7.3
Maldives	7.3	2.9	7.3	6.9	7.6	6.5	6.3
Nepal	6	3.3	0.6	7.9	6.3	6.2	6.3
Bhutan	4	6.2	7.4	6.3	5.5	5.7	6
Pakistan	4.1	4.1	4.6	5.4	5.2	3.9	3.6

Bangladesh and Selected South Asian Countries. **Forecast

Sources: Own computation and Asian Development Bank Website [5].

7.2 Current Account Balance

While the overabundance balance in the present record induces the valuation for the home money then again shortfall balance in the present record impacts devaluation of the home cash. To demonstrate the monetary development of Bangladesh after the reception of floating exchange scale system (since 2003) it was reliably great as [6], in the end here the ongoing information present that it has achieved as far as containing current record equalization is superior to anything a portion of the neighboring nations like India, Maldives, Nepal, Bhutan and Pakistan.

Table 2: Current Account Balance for the Selected Countries, including **Forecast

Current Account Balance (% per year)					
Country Name	Year				
	2016	2017	2018	** . 2019	** . 2020
Bangladesh	1.9	-0.5	-3.6	-2.3	-2.5
India	-0.6	-1.9	-2.3	-2.4	-2.5
Maldives	-23.5	-22.1	-23.7	-21.8	-22
Nepal	6.2	-0.4	-8.2	-9.3	-8.1
Bhutan	-31.1	-23.2	-18.2	-16.9	-13.4
Pakistan	-1.7	-4.1	-6.1	-5	-3

Bangladesh and Selected South Asian Countries. **Forecast

Sources: Own Computation and Asian Development Bank Website [5].

7.3 Inflation Status

Exchange rate system and inflation are applicable because an alteration in the floating exchange scale is sure to have an adjustment in the residential cost of tradable and in a roundabout way the expense of non-tradable too. The universal intensity of the economy is gravely dissolved by Inflation. Particularly 2006 to 2013 as [6]. In any case, later after the 2013 situation has been reliably changed, even we discover the reflection between late years 2016 to 2020 including estimated. Pakistan going to face a dramatic inflating rate along with Maldives, where Bangladesh will be at steady position with India and Bhutan.

Table 3: Inflation Situation for the Selected Countries, including **Forecast

Inflation Rate (% per year)					
Country Name	Year				
	2016	2017	2018	** . 2019	** . 2020
Bangladesh	5.9	5.4	5.8	5.5	5.8
India	4.5	3.6	3.5	4.3	4.6
Maldives	0.5	2.8	-0.1	1	1.5
Nepal	9.9	4.5	4.2	4.4	5.1
Bhutan	3.3	4.3	3.6	3.8	4
Pakistan	2.9	4.2	3.9	7.5	7

Bangladesh and Selected South Asian Countries. **Forecast

Sources: Own Computation and Asian Development Bank Website [5].

8. Result and Discussion

8.1 Correlation Analysis

Table 4 demonstrates the connection between the exchange rate and four factors i.e., export, import, remittance and reserve reflect very positively in the relationship. While the reserve is somewhat far then the connections of another variable. The relationship has been figured thinking about the information from 2001 – 2018 as connected.

Table 4: Correlation Analysis

Correlation of Exchange Rate with Variables			
Variables	R	P-Value	N
Exchange_Rate	1	.000	18
Export	.940**	.000	18
Remittance	.956**	.000	18
Total_Reserve	.839**	.000	18
Import	.932**	.000	18

** . Correlation is significant at the 0.01 level (2-tailed).

Sources: Own Computation.

Exchange rate is emphatically partner with Export and this affiliation is factually significant at 1% (Coefficient = 0.940, P = 0.000). Exchange rate likewise emphatically fixed with Remittance and this connected is measurably huge at 1% (Coefficient = 0.956, P = 0.000). While Total reserve by huge at 1% (Coefficient = 0.839, P = 0.000) and Import corresponded as significant at 1% (Coefficient = 0.932, P = 0.000).

8.2 Regression Analysis: Association between Exchange Rate and Remittance

The relapse examination has been performed with three free factors (Total Export, Remittance, and Total Import) and a reliant variable which is the exchange rate. The quantitative investigation plans to recognize if there is any connection between independent and ward factors and discover which factors have more effect on the Exchange rate. (FY 2001 to FY 2018) eighteenth-year information has been taken for the count.

**Table 5: Regression Model
 Variables Entered/Removed^a**

Model	Variables Entered	Variables Removed	Method
1	Import, Remittance, Export ^b	.	Enter

a. Dependent Variable: Exchange_Rate

b. All requested variables entered.

Sources: Own Computation.

Elucidation of yield outline,

The relapse model that way,

Here, I = Exchange Rate

N = Constant

g1, g2, g3, and g4= Regression coefficient

K1= Export Amount

K2 = Remittance Amount

K3 = Import Amount

From the co-productive table, the estimations of n, g1, g2, g3, and g4 are discovered and the relapse model can be composed as pursues:

$$I = n + g1K1 + g2K2 + g3K3$$

The relationship among the factors in relative term,

The relationship among the factors in relative terms can be determined with the guide of the coefficient of connection, (r) which has been shown in table 6. Since the estimation of R is 0.962, it demonstrates that the relations between the needy variable and the autonomous variable are exceptionally solid.

Table 6: Multiple Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.962 ^a	.925	.909	2.67279

a. Predictors: (Constant), Import, Remittance, Export

Sources: Own Computation.

8.3 Dialog on Independent Variables

The examination of change clarifies further the connection between the self-governing and ward factors. As in the ANOVA table, the estimation of F, 57.583 (Table 7) is bigger than the estimation of importance 0.00, the invalid speculation is rejected, it implies, it isn't valid that there is no connection between the needy and free factors. In another word, there is a connection between exchange rate over the export, import and remittance.

Table 7: Analysis of Variance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1234.084	3	411.361	57.583	.000 ^b
	Residual	100.013	14	7.144		
	Total	1334.097	17			

a. Dependent Variable: Exchange_Rate

b. Predictors: (Constant), Import, Remittance, Export

Sources: Own Computation.

The informative intensity of autonomous factors can be estimated with the assistance of the coefficient of assurance (r^2) which has been shown in table 6. It is likewise comprehended that the estimation of r^2 is .925 demonstrates that the varieties in Exchange Rate can be pardoned by the variety of Export Amount, Import Amount and Remittance Amount. The low estimation of the standard blunder of the gauge, 2.67279 showed a low disperse of information, it builds the quality of the finish of the connection between the dependent and independent variables.

Table 8: Coefficient analysis

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	54.482	1.432		38.045	.000
	Export	.000	.000	.214	.352	.730
	Remittance	.001	.000	.639	2.798	.014
	Import	6.331E-5	.000	.122	.218	.831

a. Dependent Variable: Exchange_Rate

Sources: Own Computation.

The table 8, which manages the coefficient examination, the assessed estimation of settlement is .001 which infers that for a 1% expansion of settlement sum the floating exchange rate will build 0.1% or will in general value the Taka against Dollar. On account of remittance, we can see it has a significant level .014, on the other hand, Export and Import is not significant on account of Bangladesh. It is found from this examination of these factors; the main remittance has a more prominent positive effect on the floating exchange rate.

9. To Reached the Opinion

Bangladesh seeks a new exchange system, called floating exchange rate system. Just after fixed rate system, the drifting conversion standard framework requires an individual reaction to changes. To oversee adequately the unmanageable free-gliding floating scale system in creating nations like Bangladesh, the national bank may demonstrate a stick authority over the outside trade business. Bangladesh Bank needs to make sense of on structure up a system for inflation focusing on strategies, to control aggressive trade deterioration, guaranteeing productivity in the monetary course of action all together control floating exchange rate effectively and Bangladesh likewise should be a worry more on settlement as it greatly affects the conversion scale, as opposed to different factors. Necessities to create talented labor to develop more in the worldwide market for the improvement of claim country.

9.1 Powerful administration of the drifting trade framework:

- Under the adaptable floating scale framework, there is a plausibility of nations taking part in the aggressive devaluation of their monetary forms to hold onto the world commercial center. So Bangladesh Bank should screen the managing remote monetary forms carefully.
- To expand more remittance inflow, Bangladesh bank needs to present another and client agreeable settlement framework, so natives of Bangladesh around the globe can without much of a stretch exchange cash to Bangladesh, with restricted counteractive action in addition to positive prizes/reward on the cash who will get from Bangladesh.
- Bangladesh should receive viable arrangements to expand Foreign Direct Investment, Import, and Export in the

financial framework. The system of Bangladesh makes a positive domain to expand outside direct venture, for instance, expanding the political steadiness of the country, giving duty occasion and diminishing the emergency of gas and power to the business parts.

- The adaptable conversion scale doesn't require national banks to keep up remote money reserve since there is no compelling reason to meddle in the outside trade commercial center. Be that as it may, Bangladesh bank ought to guarantee enough outside money save. Bangladesh Bank requires mediating in the remote trade showcase since Bangladesh is less created in rustic territories.

10. Conclusion

This examination breaks down the exchange rate standard arrangements of Bangladesh under a gliding floating exchange scale system that positively affects the monetary development of Bangladesh. Numerous countries of the world degrading its money in the wake of embracing the gliding floating rate system however the most experienced of Bangladesh were very calm and static. A large portion of the business analysts of Bangladesh has given a positive impact on the coasting conversion scale framework, they have imagined that the gliding floating exchange rate framework will guarantee to expand export, import-substitution, and to diminish the exchange shortage of the nation. For the examination, the researchers extended research from [6] to this paper, found that the pattern of expanded export and remittance positively affect exchange rate, though, remittance has more impact on floating exchange rate on account of Bangladesh at the significant level .014 and the pattern of expanded import and reserve have an exceptionally less effect on the floating exchange rate. In any case, not just these large-scale financial factors are in charge of gratefulness or devaluation of the cash yet, also, different factors, for example, High expansion rate, exchange shortage, low FDI, the loan cost is additionally mindful to acknowledge or deteriorate the money. Comprehensively, Bangladesh seeks after an oversaw coasting rate system, yet to oversee productively the unmanageable free-skimming floating scale system, in any event, creating nations like Bangladesh, the national bank and the administration of Bangladesh should make successful strides. That is the reason the investigation prescribed a few issues that ought to be taken by the legislature and national bank to deal with the drifting exchange rate system viably.

Conflicts of Interest: The authors declare no conflict of interest.

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Remittance: Bangladesh: Remittances
(measure: million U.S. dollars; Source: The World Bank)
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Remittance: Bangladesh: Remittances

(measure: million U.S. dollars; Source: The World Bank)

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Reserve: Bangladesh: Reserves (measure: billion U.S. dollars; Source: The World Bank)

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Appendix.					
	Dependant Variable	Independent Variable			
Year	Exchange Rate (Per	Export in Million (\$ USD)	Remittance in Million (\$ USD)	Total Reserve in Million (\$ USD)	Import in Million (\$
2001	55.81	7230	2094.14	1310	10100
2002	57.89	6790	2847.66	1730	9060
2003	58.15	6880	3179.97	2620	9760
2004	59.51	7260	3572.21	3220	10230
2005	64.33	9990	4630.06	2830	13890
2006	68.93	11740	5417.66	3880	15630
2007	68.87	13530	6553.13	5280	18270
2008	68.6	16180	8925.33	5790	22870
2009	69.04	17360	10507.63	10340	23730
2010	69.65	18470	10836.03	11170	25110
2011	74.15	25630	12053.86	9170	35370
2012	81.86	26890	14101.73	12750	37270
2013	78.1	29300	13845.79	18090	40140
2014	77.64	32830	14963.97	22320	44130
2015	77.95	33820	15271.42	27490	48280
2016	78.47	36860	13548.99	32280	47170
2017	80.44	37550	13473.45	33430	50610
2018	83.47	40560	15500	32030	64240