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Exploration exogenous factor of exchange rate: Data from Indonesia

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Abstract
This study aimed to determine the relationship between remittance of Indonesian workers, gross domestic product, and foreign exchange reserves to the exchange rate of IDR/USD in 2013-2017. This research is quantitative research with regression analysis. The data collection technique uses secondary data of Indonesian labor remittance reports, GDP, foreign exchange reserves, and the rupiah's exchange rate against the dollar for the 2013-2017 period. The analysis of the results shows a significant relationship between remittance and the exchange rate; there is no significant negative correlation between GDP and the exchange rate, and there is no significant positive relationship between Foreign Exchange Reserves and the exchange rate.

Keywords: Remittance; GDP; exchange rate; foreign exchange reserves

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Introduction

One of the important mechanisms affecting a country's currency exchange rate currently receiving considerable attention is remittances (Nizar, 2013). Remittances are a major source of external cash flows and represent an important determinant of the exchange rate (Mughal, 2013). Both variables have great importance, especially in shaping the economic policy (Khurshid et al., 2017). In addition to remittances for Indonesian migrant workers and foreign exchange reserves, other factors affect the exchange rate, namely Gross Domestic Product (GDP). GDP can be interpreted as all final goods and services produced within the territory of the Republic of Indonesia (domestic) by both Indonesian and foreign residents, including in Indonesia's GDP (Departemen Komunikasi Bank Indonesia, 2016).

Another factor influencing the stabilization of the rupiah exchange rate against the US dollar is foreign exchange reserves. Strong foreign exchange reserves, or those sufficient to fulfill various foreign exchange needs of the people in a country, will hold the exchange rate from the depreciation of the foreign currency. The increasing popularity of the floating exchange rate regime in especially inflation-targeting countries makes the interaction between foreign exchange rate and the amount of exchange reserve hold by Central Bank an important topic in the context of intervention of Central Banks. Because the exchange rate is determined due to market conditions in the floating exchange rate regime, in this regard, excessive fluctuations in the exchange rate could be occurred due to excess demand or a decrease in exchange rate supply (Bayat et al., 2014). This study analyzes the effect of Indonesian labor remittances, gross domestic product, and foreign exchange reserves on the exchange rate in the 2013-2017 period.

Research Method

The research using secondary data provided by Bank Indonesia through the website www.bi.go.id. The population in this study is all data on Indonesian workers' remittances, all reports on Indonesia's gross domestic product (GDP), reports on Indonesia's foreign exchange reserves and data on the rupiah exchange rate against the US dollar.

The samples of this research are data on the period 2013-2017. In detail, the following are the operational variables in this study: a) Remittances (X1), The concept of remittances is the transfer of money in cash or other forms from migrants to households or families in their home countries; b) Gross Domestic Product (X2), all goods and services produced by all citizens of the community in a territory of a country (including the production conducted by foreigners/migrants in that country) within a certain period; c) Foreign Reserves (X3), foreign currency deposits stored in several reserve currencies can be used as an important indicator of a country's strength and weakness in international trade. Foreign exchange reserves are external assets of Bank Indonesia as the monetary authority that has a role in financing the balance of payments imbalances, intervene in the market to maintain exchange rate stability, and maintain economic resilience; d) IDR/USD Exchange Rate (Y). Currency exchange rates are the price of a currency relative to the currencies of another country. Because this exchange rate includes two currencies, the balance point is determined by the supply and demand of both currencies.

Empirical Result

Based on Table 1, it can be seen that: a) the effect of GDP on the exchange rate in 2013-2017 show that the value of sig. is 0.394> 0.05. Thus, it can be concluded that there is no significant effect of GDP on the exchange rate; b) the influence of the Indonesian Migrant Workers' remittance variable on the rupiah exchange rate can be seen from the sig value. 0.015 <0.05. This result concluded that the migrant worker remittance variable significantly affects the rupiah exchange rate. Furthermore, the beta coefficient obtained in the analysis is 0.589 (positive), which means that each change in the remittance variable for Indonesian Migrant Workers has an effect of 58.9% on changes in the exchange rate; c) The significant value of the effect of the foreign exchange reserve variable on the rupiah is 0.200> 0.05, these results show that the foreign exchange reserve variable does not have a significant effect on the exchange rate.

This research shows that the migrant worker remittance variable significantly affects the exchange rate. The result of this study is in line with Nizar (2015) that found the effect of Workers Remittances had a positive effect on the real exchange rate of the Rupiah. Gross Domestic Product which theoretically should have a positive and significant effect, has different results. In this research, the statistical test results show no significant effect of GDP on the exchange rate. This condition is related to the economic slowdown in the span of the data timeframe. The economic slowdown affected the domestic economy so that the market could not absorb the products produced so that this research doesn't in line with Velsa Nadira Pardede and Ni Putu Wiwin Setyari, which state that GDP has a positive effect on the dollar exchange rate (Pardede & Setyari, 2018).

Meanwhile, this research result shows that foreign exchange reserves positively affect the IDR/USD exchange rate. This is not in line with Purnomo's research, foreign exchange reserves, not had a positive effect on the exchange rate. The results of these two studies form the basis for selecting the foreign exchange reserve variable (Purnomo, 2012). Sutikno research shows that foreign exchange reserves have a negative and significant effect on the rupiah exchange rate (Soetikno, 2016).

Table 1. Regression result

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	Model	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	5734,387	7992,299		,717	,483		
	GDP	-890,049	1016,994	-,186	-,875	,394	,409	2,444
	Remittance	4,002	1,466	,589	2,729	,015	,395	2,535
	Foreign Exchange Reserves	,026	,019	,198	1,338	,200	,840	1,190

Conclusions

Migrant workers' remittances have been the dominant variable contributing to the exchange rate during the research period. Therefore, it is essential to appreciate all migrant workers who have contributed to the economy, especially in maintaining the stability of the rupiah exchange rate. Further research needs to be conducted by extending the observation period, adding determinant variables that can affect the rupiah exchange rate to obtain more comprehensive research results.

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