

## The Impact of Rural Inflation on Urban Inflation in Indonesia

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### Abstract

The Indonesian economy can be seen as segregated markets of rural and urban markets. Regarding that Indonesia is one of the largest archipelago country with many islands, it is a good example to get knowledge about the diversity in regional prices by investigating the relationship of urban and rural areas. However, the importance of rural inflation is still in under little consideration in Indonesian economy. This study is aimed to examine the determinants of rural inflation and the impact of rural inflation on the urban inflation. The urban inflation differentials across regions could be explained by the rural inflation faced by farmers.

### Keywords:

Rural Inflation, Urban Inflation, Inflation Differentials

### 1. Introduction

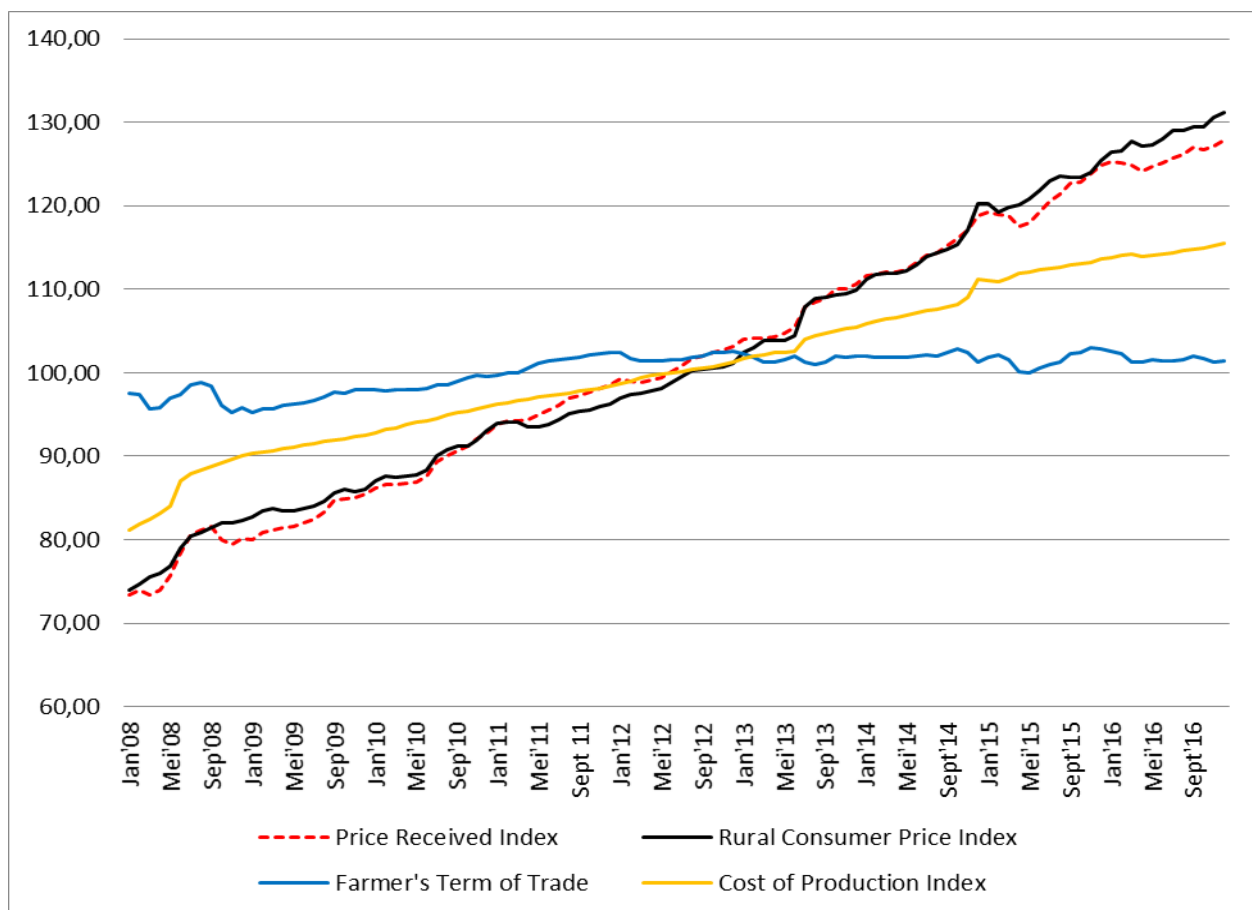
The importance of rural inflation is still in under little consideration in Indonesian economy. In fact, there is a linkage relationship between rural inflation and urban inflation. It is hypothesized that there is a causal relationship between rural and urban markets in terms of prices of commodities where urban inflation in Indonesia is largely affected by the prices of volatile food such as rice, red chili, red onion, etc. which are generally produced by farmers in rural areas. In this context, the rural price is one of the pull factors the price changes in urban areas especially for food prices because some food comes from producers in rural areas. It is also important to note that rural areas in Indonesia generally have poor infrastructure. This condition creates distribution problems in an attempt to supply food shortages. The Central Bank of Indonesia has limited ability to overcome the supply side constrain but the government has a bigger role to address this problem. The urban inflation differentials across regions could be explained by the rural inflation faced by farmers.

There are two types of costs that farmers will face namely cost or input prices to increase production and at the same time, cost of living to consume various goods and services for daily life. Usually, the Indonesian government takes policy actions to increase productivity of farmers by giving subsidy, technical assistances, tools, etc. But, they put little attention to price stabilization of goods and services in rural areas in comparison with that in urban areas. If the income of farmers is not large enough to cover cost of production and cost of living of daily life then farmers are less incentive to produce. In turn, there will be a scarcity of agricultural products. The consumers of agricultural products in urban areas can have the negative effects in this situation. Prices of agricultural products will increase and lead to the higher inflation in urban areas. The evidence, based on the BPS-Statistics Indonesia data, shows that farmers are more suffered from the increase of consumer price of services rather than the increase of cost of production for the Indonesian case. Recently, the CPI move faster than cost of production index rural areas tends to

<sup>1</sup> The author works in BPS-Statistics Indonesia.

increase from time to time. A notable feature is that cost of production index is higher than rural CPI in the early stages, but lower than rural price index in the later years. (Figure 1). We also observe that price received index by farmers become divergent in relation to CPI in rural areas. Thus, the higher inflation facing by farmers in rural areas could give impact to the inflation in urban areas.

Generally, urban inflation is higher than rural inflation. But, recent data shows that inflation in rural areas has accelerated faster than that in urban areas. Over the period of 2000 until 2016, from which time separate indices for rural and urban areas have been available, on average, the rural inflation is higher than urban inflation. The notable feature occurs recently when the rural and urban inflation become more divergent (Figure 2). Even, for the most part of the recent years, consumer price inflation in rural areas has outpaced consumer price inflation in urban areas. Rural inflation was lower than urban inflation only for a brief period in year of 2011. Why has the rural inflation been higher than urban inflation in Indonesia? In the view of construction CPI, the differences of rural and urban inflation could occur for two reasons namely first, the basket of goods on which inflation is calculated in rural areas might be different from the corresponding urban basket. The other possibility is that prices of the same commodities have changed at different rates in rural and urban areas.



Source: BPS-Statistics Indonesia, figured by the author.

**Figure 1. Price Received Index, Consumer Price Index, Cost of Production Index, and Farmer's Terms of Trade in Rural Areas**

## 2. Methodology

BPS-Statistics Indonesia has defined what is meant by rural and urban areas. Criteria for urban areas are determined by certain requirements in terms of population density, percentage of agricultural households, and presence /access to urban facilities, owned by a village /*kelurahan*. Urban facilities are kindergarten school, junior high school, senior high school, market, shops; cinema; hospital, hotel/billiard/discotheque/massage/ salon, percentage of households using phone, and percentage of households using

electricity. It is an urban area, if the population density, percentage of agricultural households, and the presence /access to urban facilities owned have a total score of 10 (ten) or more; and it is a rural area, if the population density, percentage of agricultural households, and the presence /access to urban facilities owned have a total score of less than 10 (ten). Some scholar thoughts have already pointed out that there is a linkage between rural and urban areas. Tacoli (2015) mentioned that basically, rural-urban linkage consists of flows of goods, people, information, finance, etc. across space. It is also about the functional links between sectors (agriculture, industry, and services) where infrastructure becomes the crucial role of rural-urban linkage (Figure 2).

		<b>Seller</b>	
		<b>Rural</b>	<b>Urban</b>
<b>Buyer</b>	<b>Rural</b>	<b>I</b> <b>Rural Buyer-Rural Seller</b> <b>(Intra Rural)</b> <b>All Products</b> <i>All rural produce is consumed within the system.</i>	<b>II</b> <b>Rural Buyer-Urban Seller</b> <b>Consumer Goods/Services</b> <b>Farm Input</b> <i>Urban Products are sold in rural markets</i>
	<b>Urban</b>	<b>III</b> <b>Urban Buyer-Rural Seller</b> <b>Farm and Non Farm</b> <i>Rural Products are sold in urban markets</i>	<b>IV</b> <b>Urban Buyer-Urban Seller</b> <b>(Intra Urban)</b> <b>All Products</b> <i>All urban produce is consumed within the system.</i>

**Figure 2. Rural-Urban Matrix (Buyer and Seller)**

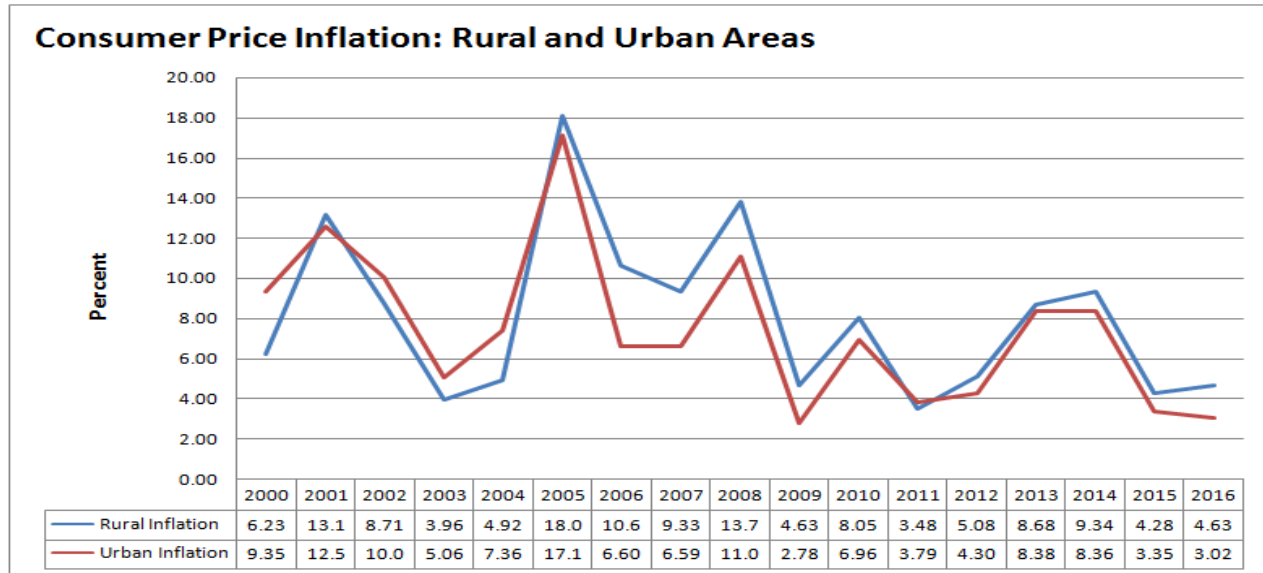
BPS-Statistics Indonesia releases monthly retail inflation data based on CPI for both rural and urban areas. The calculation of CPI in rural area covers 33 provinces by utilizing a total sample of 391 regencies (*kabupaten*), and 3,110 *kecamatan* (with retail traders as respondents). Nationally, commodity basket consists of 543 goods and services. Together with the results of the rural producer price survey, where farmers are the respondents, the results of the rural consumer price survey are used to derive the farmers' terms of trade (the ratio of the index of prices received by farmers to the index of prices paid by farmers).

The study of rural inflation in Indonesia is still limited while the importance of rural inflation for Indonesian case has been emphasized by Azra (1999). He said that it is essential to have appropriate inflation rate for both rural and urban areas. Rural areas tend to have lack infrastructure in Indonesia. To have no agricultural goods is more costly for people in rural areas due to the higher trade costs. Also, they tend to have asymmetric information about prices in comparison with those in urban areas since they are less knowledge and telecommunication infrastructure is also limited. Xuechun (2010) mentioned that for China case, regional differences in urban-rural CPI gap can be explained by the provincial level per capita of Gross Domestic Product (GDP). Sawant (1994) argued that the high inflation has a larger impact on rural poor than on urban poor. This result gives insight that it is important to have rural and urban for the Indonesian case regarding that Indonesia is an archipelago country and the Indonesian economy can be seen as segregated markets of rural and urban markets and price movements in urban areas are felt to be different from movements in rural areas.

### 3. Discussion and Results

We provide preliminary results in this study since we utilize proxy rural inflation which is derived from development of prices of goods and services that consumed by farmers only in rural areas. Generally,

urban inflation is higher than rural inflation. But, recent data shows that inflation in rural areas has accelerated faster than that in urban areas. Over the period of 2000 until 2016, from which time separate indices for rural and urban areas have been available, on average, the rural inflation is higher than urban inflation. The notable feature occurs recently when the rural and urban inflation become more divergent (Figure 3).



Source: BPS-Statistics Indonesia, figured by the author

**Figure 3. Consumer Price Inflation: Rural and Urban Areas**

Even, for the most part of the recent years, consumer price inflation in rural areas has outpaced consumer price inflation in urban areas. Rural inflation was lower than urban inflation only for a brief period in year of 2011. Why has the rural inflation been higher than urban inflation in Indonesia? In the view of construction CPI, the differences of rural and urban inflation could occur for two reasons namely first, the basket of goods on which inflation is calculated in rural areas might be different from the corresponding urban basket. The other possibility is that prices of the same commodities have changed at different rates in rural and urban areas.

Although overall inflation of rural and urban inflation show similar pattern but it is not in terms of disaggregation inflation by expenditure group. Digging into more detail data, there is indeed a difference in rural and urban inflation at the commodity group level especially for non-food items (see Figure 4). Overall inflation show similar pattern in urban and urban areas. The detailed exploration of trend in foodstuff inflation shows that the movement of food inflation is also relatively similar with that in overall inflation. It indicates that foodstuff become dominantly affect the overall inflation. With foodstuff being compound categories, it is possible that differences in basket composition in rural and urban areas might have contributed to the difference in inflation. Inflation in rural and urban areas is different at the individual commodity level as well. In other words, the reason rural inflation is higher than urban inflation is because prices of individual commodities are rising faster in rural areas than in urban areas. For years, inflation for prepared food, beverage, and cigarette has been higher in urban area but the recent data shows that it was lower inflation in rural area. The inflation of education, recreation, and sports in urban area is higher than that in rural area. The inflation differential is relatively big for education, recreation, and sports. In recent years, health inflation in urban area becomes larger than that in rural area while clothing inflation is relatively higher in rural area. Urban inflation in Indonesia is largely affected by the prices of volatile food such as rice, red chili, red onion, etc which are generally produced by farmers in rural areas. Regardless of their income, the evidence shows that the typical farmers are more suffered from the increase of consumer price of services rather than the increase of cost of production for the Indonesian case. Recently, the consumer price index move faster than cost of production index in rural areas tends to increase from time

to time. But, price stabilization has got little attention in rural areas, not as much as in urban areas. Thus, the higher inflation facing by farmers in rural areas could give impact to the inflation in urban areas.

Structural problems are considered as one of the causes why prices of change at different rate in urban and rural areas in Indonesia. It is widely known that for the Indonesian case, rural areas suffer from lack of infrastructure. Even people in rural areas are easily to produce food crop due to the fertile soil but it is difficult for them to sell their agricultural products. Thus, they will obtain relatively low income and their income may not fulfill the cost of living of daily life especially for non-food items such as health, education, transportation, and communication. On the other side, this situation will lead to supply side constrain to the urban areas since people in urban areas cannot receive the imported food items from rural areas. In turn, the shortage of food items lead to the higher inflation rate in urban areas.

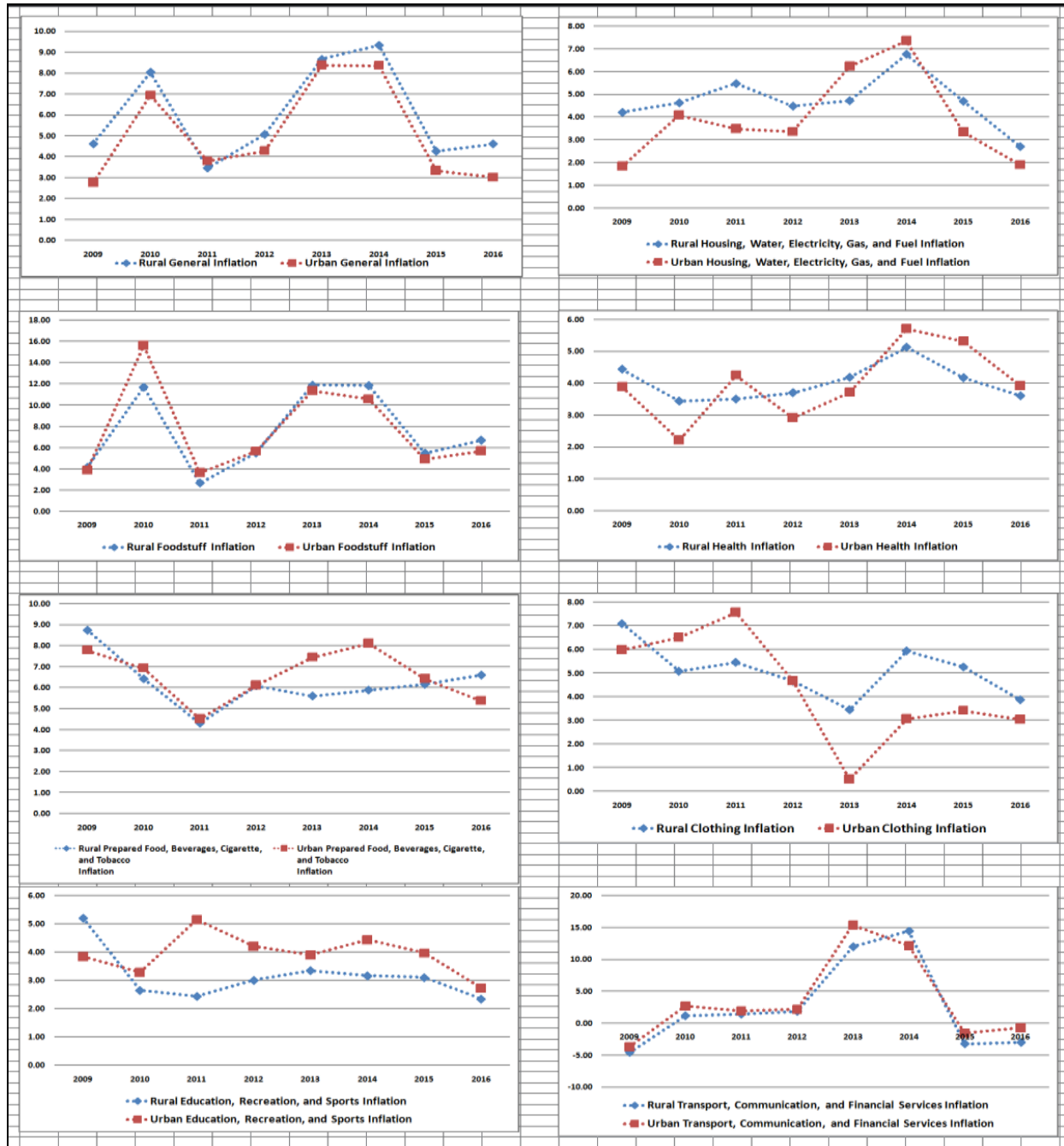


Figure 4. Urban and Rural Inflation by Expenditure Group

#### 4. Conclusion and Policy Implication

The preliminary results show that rural inflation can affect urban inflation. The development of rural and urban inflation is not always in parallel direction. Structural factors are considered as one of the causes why prices of change at different rate in urban and rural areas in Indonesia. In the future, the calculated national inflation should cover both urban and rural areas in Indonesia. Rural inflation and urban inflation would be more appropriate if they were built on the same objectives, concepts and methodologies as well as the same type of household expenditure survey.

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