

FIRST QUARTER COMMODITY PRICES: AN ANALYSIS OF Q1 PRICE TRENDS FROM 2015 -2019

Background

Planting for Food and Jobs (PFJ) is one of the flagship programs in the agricultural sector of the President Akuffo-Addo led government. The program commenced in the first year of his administration thus 2017. The goal of the program is to contribute to modernization of the agriculture sector that will lead to structural transformation of the national economy through food security, employment opportunities and reduced poverty.

The objectives of the PFJ program are

1. to ensure immediate and adequate availability of the selected crops in Ghana through improved productivity and intensification of food crops, and extended support to private sector service providers
2. to provide job opportunities for the teeming unemployed youth in the agriculture and allied sectors, and
3. to create general awareness for all formal workers to either have farms and grow some cereals or vegetables or establish backyard gardens, when enough land is not available and accessible.

The PFJ program is in its third year running, and for that matter three planting cycles or seasons.

Esoko is an ICT company which as part of its services, collects market price data from 46 markets across the country and publishes monthly a commodity index. Esoko employs robust methodology to undertake price collection from various markets, and rigorously validates them before it becomes a public good. To better inform readers on price trends pre and post PFJ interventions, Esoko conducted a study to analyze quarterly price trends from 2015-2019. The study has some underlying assumptions on which the analysis was made.

Assumptions

The following analysis covers four of the crops under the PFJ program, namely tomato, maize, rice and soya. These crops are cultivated in both the northern sector and the southern sector of the country except for soya which is mainly done in the northern sector. The crop selection also considers some of the staples that are cultivated and consumed in the country.

Three markets out of the 46 markets that Esoko covers was selected to represent the country. The markets are Agbogbloshie (Accra), Kumasi Central Market (Kumasi) and Tamale Aboabo market (Tamale). These markets are major markets that operates daily,

and prices are collected also on daily basis. These markets were used as proxies to represent markets in the southern, middle and northern parts of Ghana respectively.

Data sets used were from Esoko which have been validated and used in the commodity index publications from 2015 to 2019. These had been aggregated into quarters for this publication.

In the analysis of the data, Accra market data for 2016 was selected as the base year. Year 2016 was selected because, Ghana's GDP had been rebased using 2016 as the reference year. Again, Accra market is one of the important markets within the country where all commodities in the country are traded. It is a fair representation of the markets in the country.

The publication will start from the first quarter of the year and would be published every quarter till the end of the last quarter of 2019.

Analysis

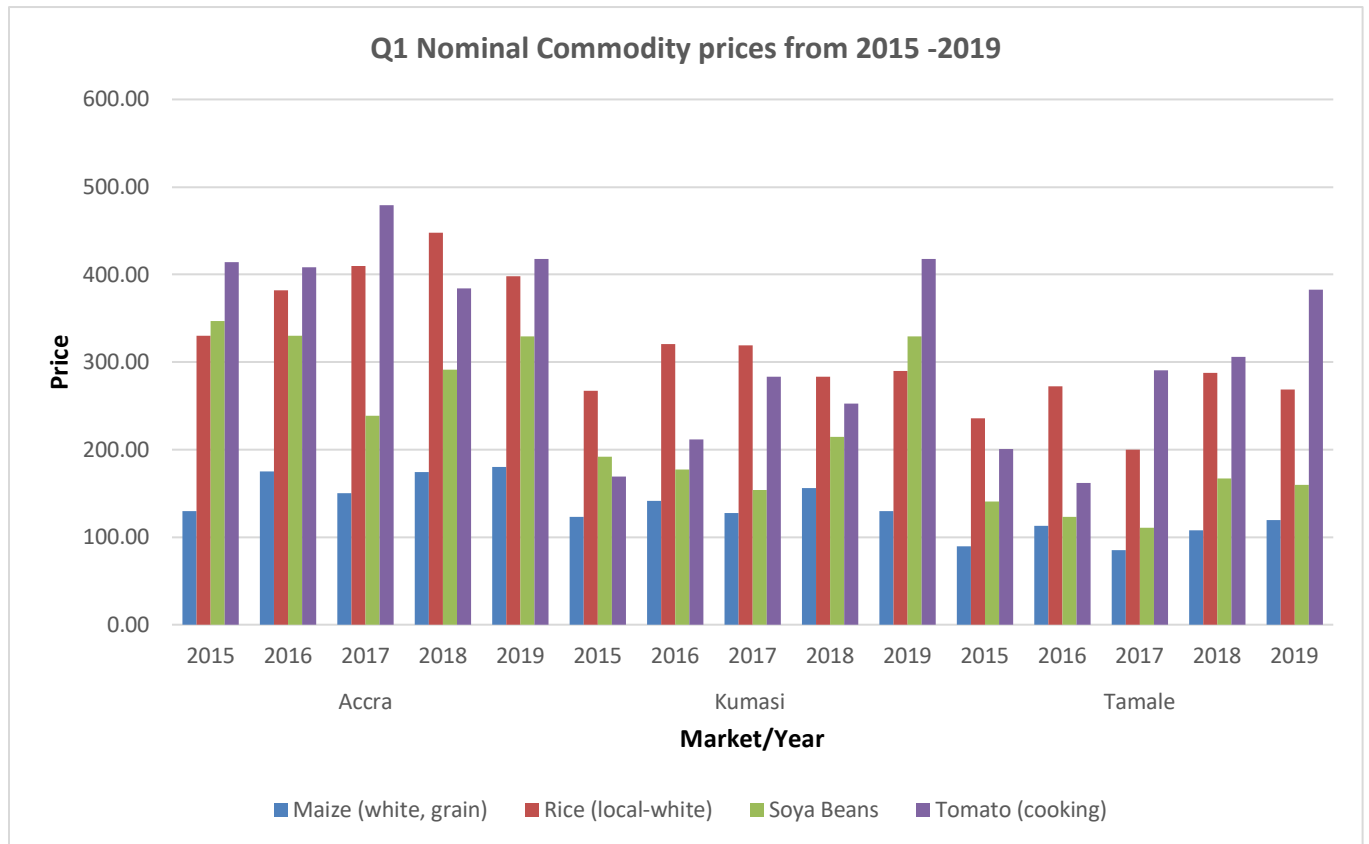


Fig 1. Analysis of Q1 Nominal commodity prices from 2015-2019 Source: Esoko Data

From Fig. 1 it can be inferred that, prices of all four commodities generally increased for first quarter of 2015 through to 2016. It then decreased the first quarter of 2017. However, in the first quarters of 2018 and 2019, prices increased again compared to the previous quarter.

It is also observed that prices in Accra are more expensive than Kumasi and Tamale. This can be attributed to other transactional cost since most of these commodities are not produced in the region. A ranking of markets with higher prices reveals that Accra has the highest, which is closely followed Kumasi, whereas Tamale has the least commodity prices. One important factor is the life style of people living in these cities, which are referred to as urban centers where people are more willing to spend. Traders are aware of this and may takes advantage of it.

Table 1. First Quarter Prices of Commodities

| | | | Accra | | | | | | | | | | | | | | | | | | | |
|--------------------------|------------|--------|--------|---------|----------|-------------|--------|--------|----------|-------------|--------|---------|----------|-------------|--------|--------|----------|-------------|--------|--------|----------|-------------|
| Commodity | Unit | Weight | 2015 | Change | % Change | Real Change | 2016 | Change | % Change | Real Change | 2017 | Change | % Change | Real Change | 2018 | Change | % Change | Real Change | 2019 | Change | % Change | Real Change |
| Cassava(Fresh Tubers) | Bag | 91kg | 43.33 | -63.75 | -59.53 | 40.47 | 107.08 | 0.00 | 0.00 | 100.00 | 57.38 | -49.70 | -46.41 | 53.59 | 57.33 | -49.75 | -46.46 | 53.54 | 40.62 | -66.47 | -62.07 | 37.93 |
| Cassava (Gari) | Bag | 68kg | 101.67 | -45.00 | -30.68 | 69.32 | 146.67 | 0.00 | 0.00 | 100.00 | 181.50 | 34.83 | 23.75 | 123.75 | 158.33 | 11.67 | 7.95 | 107.95 | 161.43 | 14.76 | 10.07 | 110.07 |
| Cowpea (White) | Bag | 109kg | 371.25 | 5.08 | 1.39 | 101.39 | 366.17 | 0.00 | 0.00 | 100.00 | 420.33 | 54.17 | 14.79 | 114.79 | 492.67 | 126.50 | 34.55 | 134.55 | 483.69 | 117.53 | 32.10 | 132.10 |
| Groundnut (shelled) | Bag | 82kg | 410.00 | -111.08 | -21.32 | 78.68 | 521.08 | 0.00 | 0.00 | 100.00 | 385.83 | -135.25 | -25.96 | 74.04 | 437.67 | -83.42 | -16.01 | 83.99 | 557.14 | 36.06 | 6.92 | 106.92 |
| Maize (white, grain) | Bag | 100kg | 130.00 | -45.00 | -25.71 | 74.29 | 175.00 | 0.00 | 0.00 | 100.00 | 150.00 | -25.00 | -14.29 | 85.71 | 174.67 | -0.33 | -0.19 | 99.81 | 180.00 | 5.00 | 2.86 | 102.86 |
| Millet (grain) | Bag | 93kg | 170.00 | -40.00 | -19.05 | 80.95 | 210.00 | 0.00 | 0.00 | 100.00 | 215.50 | 5.50 | 2.62 | 102.62 | 269.33 | 59.33 | 28.25 | 128.25 | 280.33 | 70.33 | 33.49 | 133.49 |
| Rice (imported-unclesam) | Bag | 50kg | 200.00 | -44.17 | -18.09 | 81.91 | 244.17 | 0.00 | 0.00 | 100.00 | 280.00 | 35.83 | 14.68 | 114.68 | 285.67 | 41.50 | 17.00 | 117.00 | 350.00 | 105.83 | 43.34 | 143.34 |
| Rice (local-white) | Bag | 100kg | 330.00 | -51.67 | -13.54 | 86.46 | 381.67 | 0.00 | 0.00 | 100.00 | 410.00 | 28.33 | 7.42 | 107.42 | 447.67 | 66.00 | 17.29 | 117.29 | 398.00 | 16.33 | 4.28 | 104.28 |
| Soya Beans | Bag | 109kg | 346.67 | 16.50 | 5.00 | 105.00 | 330.17 | 0.00 | 0.00 | 100.00 | 238.97 | -91.20 | -27.62 | 72.38 | 291.33 | -38.83 | -11.76 | 88.24 | 329.33 | -0.83 | -0.25 | 99.75 |
| Tomato (cooking) | Crate | 72kg | 413.92 | 5.58 | 1.37 | 101.37 | 408.33 | 0.00 | 0.00 | 100.00 | 479.50 | 71.17 | 17.43 | 117.43 | 384.33 | -24.00 | -5.88 | 94.12 | 417.88 | 9.54 | 2.34 | 102.34 |
| Wheat (Grain) | Bag | 50kg | 150.00 | -15.00 | -9.09 | 90.91 | 165.00 | 0.00 | 0.00 | 100.00 | 177.50 | 12.50 | 7.58 | 107.58 | 130.00 | -35.00 | -21.21 | 78.79 | 217.67 | 52.67 | 31.92 | 131.92 |
| Yam (pona-medium) | 100 tubers | 250kg | 313.33 | -173.33 | -35.62 | 64.38 | 486.67 | 0.00 | 0.00 | 100.00 | 695.00 | 208.33 | 42.81 | 142.81 | 580.33 | 93.67 | 19.25 | 119.25 | 768.14 | 281.47 | 57.84 | 157.84 |

| | | | Kumasi | | | | | | | | | | | | | | | | | | | |
|--------------------------|------------|--------|--------|---------|----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------------|
| Commodity | Unit | Weight | 2015 | Change | % Change | Real Change | 2016 | Change | % Change | Real Change | 2017 | Change | % Change | Real Change | 2018 | Change | % Change | Real Change | 2019 | Change | % Change | Real Change |
| Cassava(Fresh Tubers) | Bag | 91kg | 28.67 | -78.42 | -73.23 | 26.77 | 83.67 | -23.42 | -21.87 | 78.13 | 104.63 | -2.45 | -2.29 | 97.71 | 75.00 | -32.08 | -29.96 | 70.04 | 70.00 | -37.08 | -34.63 | 65.37 |
| Cassava (Gari) | Bag | 68kg | 167.42 | 20.75 | 14.15 | 114.15 | 203.42 | 56.75 | 38.69 | 138.69 | 239.87 | 93.20 | 63.55 | 163.55 | 111.67 | -35.00 | -23.86 | 76.14 | 109.11 | -37.56 | -25.61 | 74.39 |
| Cowpea (White) | Bag | 109kg | 203.00 | -163.17 | -44.56 | 55.44 | 226.75 | -139.42 | -38.07 | 61.93 | 246.83 | -119.33 | -32.59 | 67.41 | 343.33 | -22.83 | -6.24 | 93.76 | 315.67 | -50.50 | -13.79 | 86.21 |
| Groundnut (shelled) | Bag | 82kg | 356.75 | -164.33 | -31.54 | 68.46 | 502.25 | -18.83 | -3.61 | 96.39 | 342.25 | -178.83 | -34.32 | 65.68 | 353.33 | -167.75 | -32.19 | 67.81 | 490.00 | -31.08 | -5.97 | 94.03 |
| Maize (white, grain) | Bag | 100kg | 123.50 | -51.50 | -29.43 | 70.57 | 141.25 | -33.75 | -19.29 | 80.71 | 127.40 | -47.60 | -27.20 | 72.80 | 156.33 | -18.67 | -10.67 | 89.33 | 129.78 | -45.22 | -25.84 | 74.16 |
| Millet (grain) | Bag | 93kg | 166.33 | -43.67 | -20.79 | 79.21 | 172.58 | -37.42 | -17.82 | 82.18 | 170.00 | -40.00 | -19.05 | 80.95 | 255.67 | 45.67 | 21.75 | 121.75 | 199.00 | -11.00 | -5.24 | 94.76 |
| Rice (imported-unclesam) | Bag | 50kg | 259.00 | 14.83 | 6.08 | 106.08 | 231.50 | -12.67 | -5.19 | 94.81 | 250.00 | 5.83 | 2.39 | 102.39 | 274.00 | 29.83 | 12.22 | 112.22 | 349.00 | 104.83 | 42.94 | 142.94 |
| Rice (local-white) | Bag | 100kg | 267.25 | -114.42 | -29.98 | 70.02 | 320.83 | -60.83 | -15.94 | 84.06 | 318.75 | -62.92 | -16.48 | 83.52 | 283.33 | -98.33 | -25.76 | 74.24 | 290.00 | -91.67 | -24.02 | 75.98 |
| Soya Beans | Bag | 109kg | 191.92 | -138.25 | -41.87 | 58.13 | 177.42 | -152.75 | -46.26 | 53.74 | 154.17 | -176.00 | -53.31 | 46.69 | 214.33 | -115.83 | -35.08 | 64.92 | 200.00 | -130.17 | -39.42 | 60.58 |
| Tomato (cooking) | Crate | 72kg | 169.33 | -239.00 | -58.53 | 41.47 | 211.75 | -196.58 | -48.14 | 51.86 | 283.63 | -124.70 | -30.54 | 69.46 | 252.67 | -155.67 | -38.12 | 61.88 | 420.00 | 11.67 | 2.86 | 102.86 |
| Wheat (Grain) | Bag | 50kg | 313.75 | 148.75 | 90.15 | 190.15 | 296.33 | 131.33 | 79.60 | 179.60 | 307.37 | 142.37 | 86.28 | 186.28 | 259.67 | 94.67 | 57.37 | 157.37 | 340.00 | 175.00 | 106.06 | 206.06 |
| Yam (pona-medium) | 100 tubers | 250kg | 198.00 | -288.67 | -59.32 | 40.68 | 343.83 | -142.83 | -29.35 | 70.65 | 591.00 | 104.33 | 21.44 | 121.44 | 431.00 | -55.67 | -11.44 | 88.56 | 522.00 | 35.33 | 7.26 | 107.26 |

| | | | Tamale | | | | | | | | | | | | | | | | | | | |
|--------------------------|------------|--------|--------|---------|----------|-------------|--------|--------|----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------------|
| Commodity | Unit | Weight | 2015 | Change | % Change | Real Change | 2016 | Change | % Change | Real Change | 2017 | Change | % Change | Real Change | 2018 | Change | % Change | Real Change | 2019 | Change | % Change | Real Change |
| Cassava(Fresh Tubers) | Bag | 91kg | 73.33 | -33.75 | -31.52 | 68.48 | 75.25 | 0.70 | 0.66 | 70.27 | 80.00 | -27.08 | -25.29 | 74.71 | 80.00 | -27.08 | -25.29 | 74.71 | 108.33 | 1.25 | 1.17 | 101.17 |
| Cassava (Gari) | Bag | 68kg | 117.33 | -29.33 | -20.00 | 80.00 | 145.50 | 0.99 | 0.68 | 99.20 | 308.83 | 162.17 | 110.57 | 210.57 | 300.00 | 153.33 | 104.55 | 204.55 | 323.67 | 177.00 | 120.68 | 220.68 |
| Cowpea (White) | Bag | 109kg | 225.67 | -140.50 | -38.37 | 61.63 | 232.00 | 0.63 | 0.17 | 63.36 | 361.42 | -4.75 | -1.30 | 98.70 | 305.67 | -60.50 | -16.52 | 83.48 | 287.00 | -79.17 | -21.62 | 78.38 |
| Groundnut (shelled) | Bag | 82kg | 257.50 | -263.58 | -50.58 | 49.42 | 396.67 | 0.76 | 0.15 | 76.12 | 261.67 | -259.42 | -49.78 | 50.22 | 275.33 | -245.75 | -47.16 | 52.84 | 128.33 | -392.75 | -75.37 | 24.63 |
| Maize (white, grain) | Bag | 100kg | 89.58 | -85.42 | -48.81 | 51.19 | 113.00 | 0.65 | 0.37 | 64.57 | 85.17 | -89.83 | -51.33 | 48.67 | 107.67 | -67.33 | -38.48 | 61.52 | 119.33 | -55.67 | -31.81 | 68.19 |
| Millet (grain) | Bag | 93kg | 127.33 | -82.67 | -39.37 | 60.63 | 148.83 | 0.71 | 0.34 | 70.87 | 167.50 | -42.50 | -20.24 | 79.76 | 213.00 | 3.00 | 1.43 | 101.43 | 161.67 | -48.33 | -23.02 | 76.98 |
| Rice (imported-unclesam) | Bag | 50kg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Rice (local-white) | Bag | 100kg | 236.00 | -145.67 | -38.17 | 61.83 | 272.67 | 0.71 | 0.19 | 71.44 | 200.00 | -181.67 | -47.60 | 52.40 | 287.67 | -94.00 | -24.63 | 75.37 | 269.00 | -112.67 | -29.52 | 70.48 |
| Soya Beans | Bag | 109kg | 140.50 | -189.67 | -57.45 | 42.55 | 123.42 | 0.37 | 0.11 | 37.38 | 110.67 | -219.50 | -66.48 | 33.52 | 166.67 | -163.50 | -49.52 | 50.48 | 160.00 | -170.17 | -51.54 | 48.46 |
| Tomato (cooking) | Crate | 72kg | 200.67 | -207.67 | -50.86 | 49.14 | 161.67 | 0.40 | 0.10 | 39.59 | 290.92 | -117.42 | -28.76 | 71.24 | 305.67 | -102.67 | -25.14 | 74.86 | 382.97 | -25.37 | -6.21 | 93.79 |
| Wheat (Grain) | Bag | 50kg | 180.00 | 15.00 | 9.09 | 109.09 | 198.67 | 1.20 | 0.73 | 120.40 | 260.00 | 95.00 | 57.58 | 157.58 | 234.67 | 69.67 | 42.22 | 142.22 | 220.00 | 55.00 | 33.33 | 133.33 |
| Yam (pona-medium) | 100 tubers | 250kg | 180.00 | -306.67 | -63.01 | 36.99 | 320.83 | 0.66 | 0.14 | 65.92 | 370.83 | -115.83 | -23.80 | 76.20 | 400.00 | -86.67 | -17.81 | 82.19 | 492.33 | 5.67 | 1.16 | 101.16 |

Table 1 above indicates that generally commodity prices were high in 2015 and 2016 but decreased in 2017, 2018 and 2019.

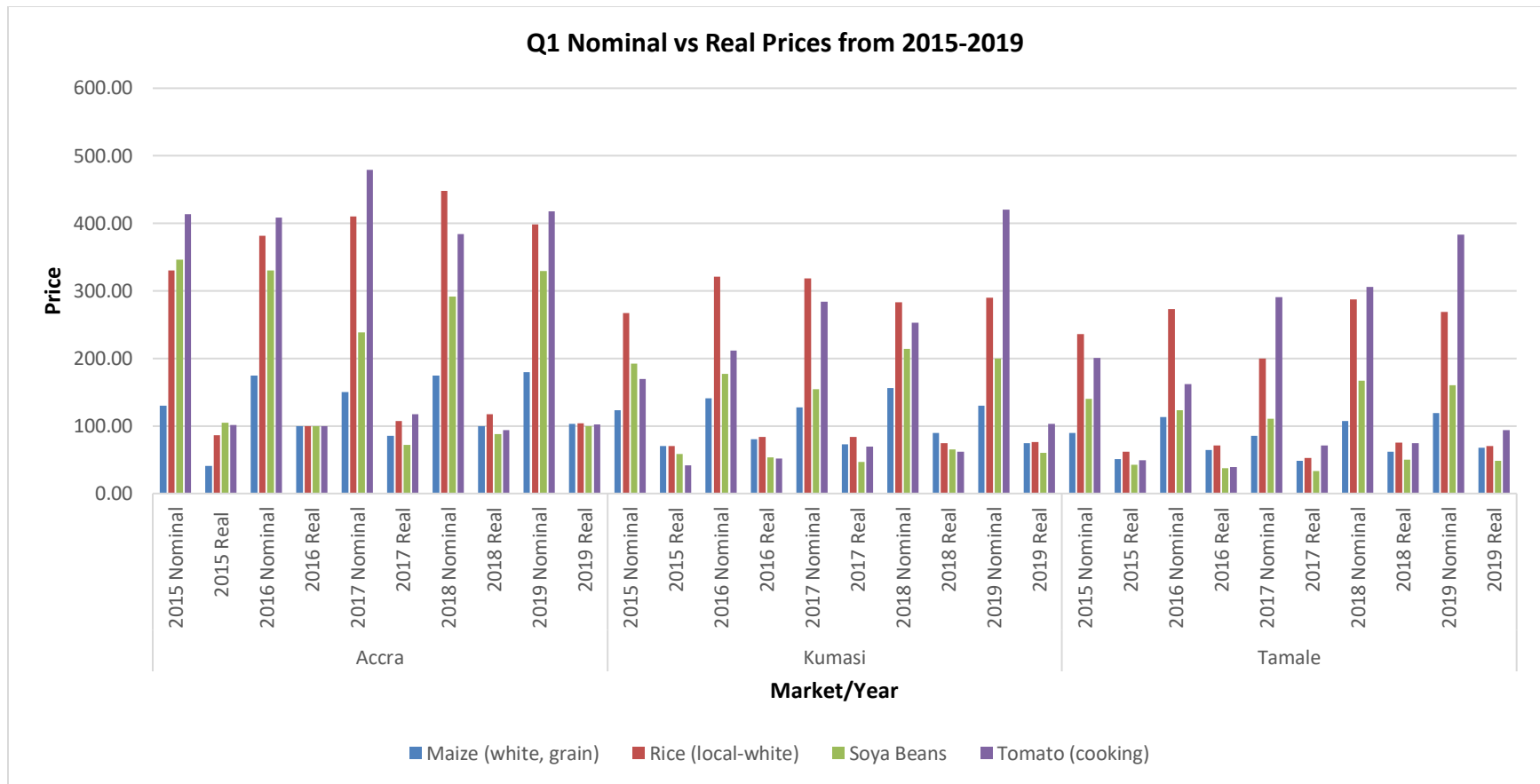


Fig. 2 Nominal and Real Prices of commodities for Quarter one from 2015 to 2019

The graph above depicts the nominal and real prices (adjusted for inflation) for first quarters of the year 2015 to 2019. It is observed that nominal commodity prices for the last two years (2018 and 2019) had been on a steady rise from its low prices in 2017. The rise in prices for the first quarter of 2018 and 2019 could be due to scarcity of the commodity due to irregular supply to the markets as well as transactional cost which may include transportation and the activities of middlemen. Generally, it is also observed that even though nominal prices are rising, once adjusted for inflation they are still lower than 2015 and 2016 prices.

The figure 3 below gives the percentage change (adjusted for inflation) in prices over the period.

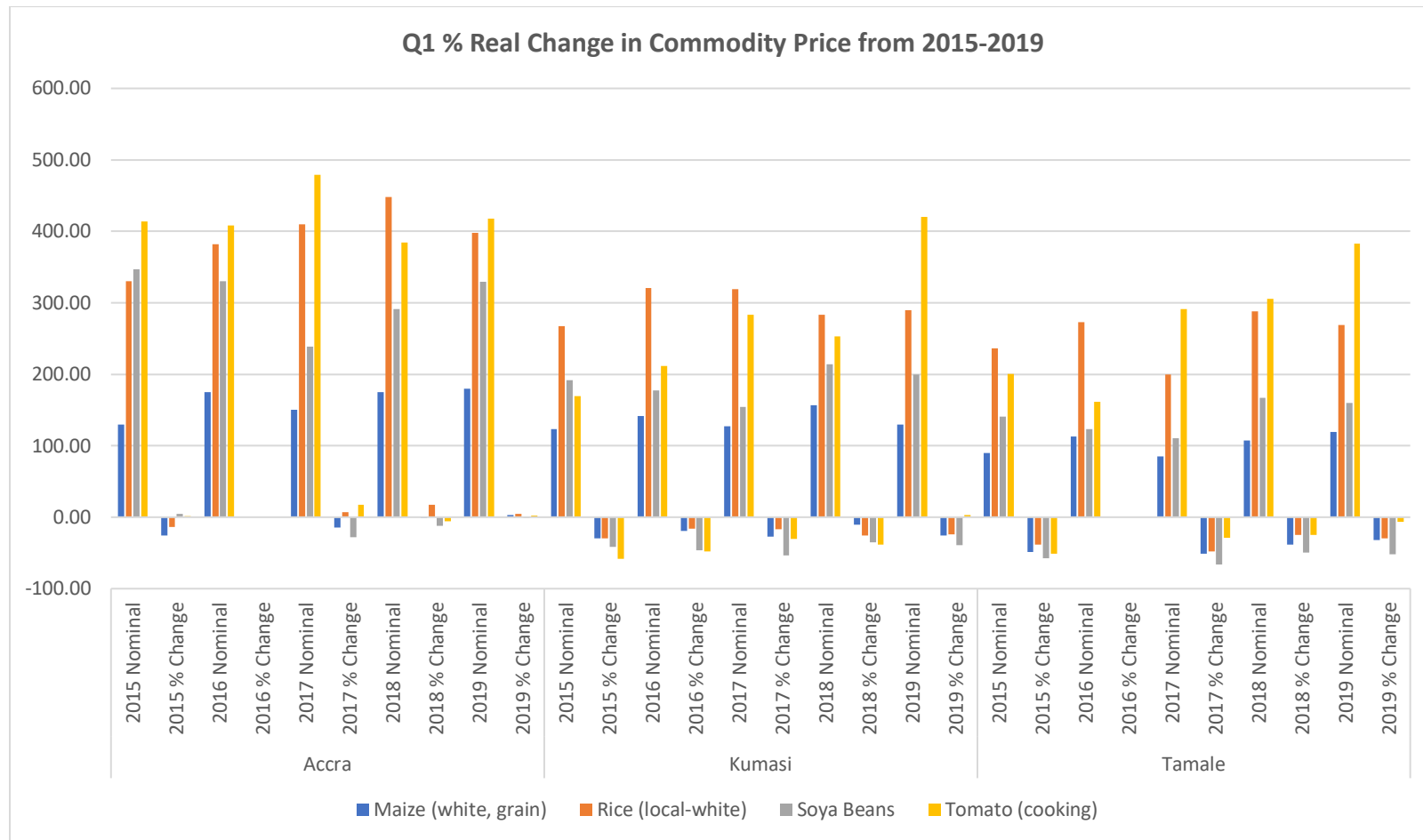


Fig 3 Percentage real change in nominal prices

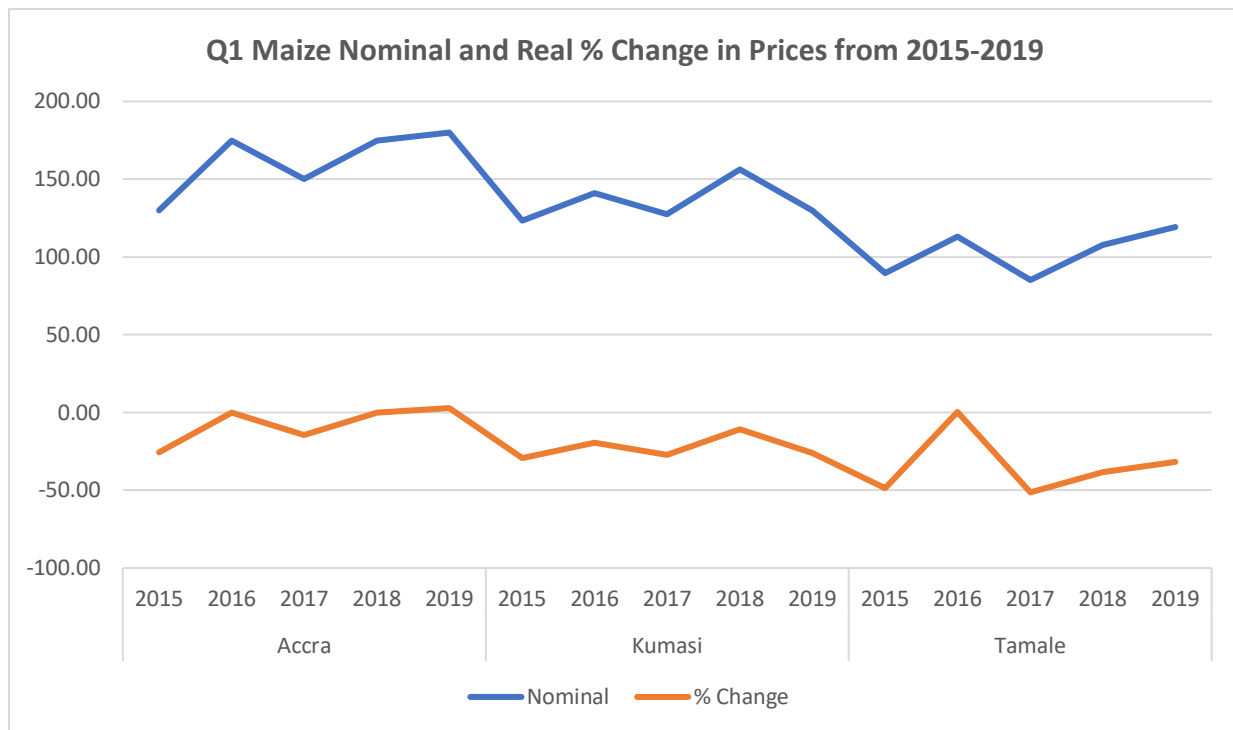


Fig. 4 Quarter 1 Nominal and Percentage change (adjusted for inflation) in Maize Prices

Figure 4 above gives an analysis of maize prices and the real percentage change in prices in the first quarters of 2015 to 2019. The graph depicts the price trends over the period. It is observed that for the nominal prices, 2017 showed a dip while there was a steady rise from 2018 through 2019 for all the markets. The real change in prices for the period, when adjusted for inflation, are all negative, indicating that prices were lower compared to the base year of 2016.

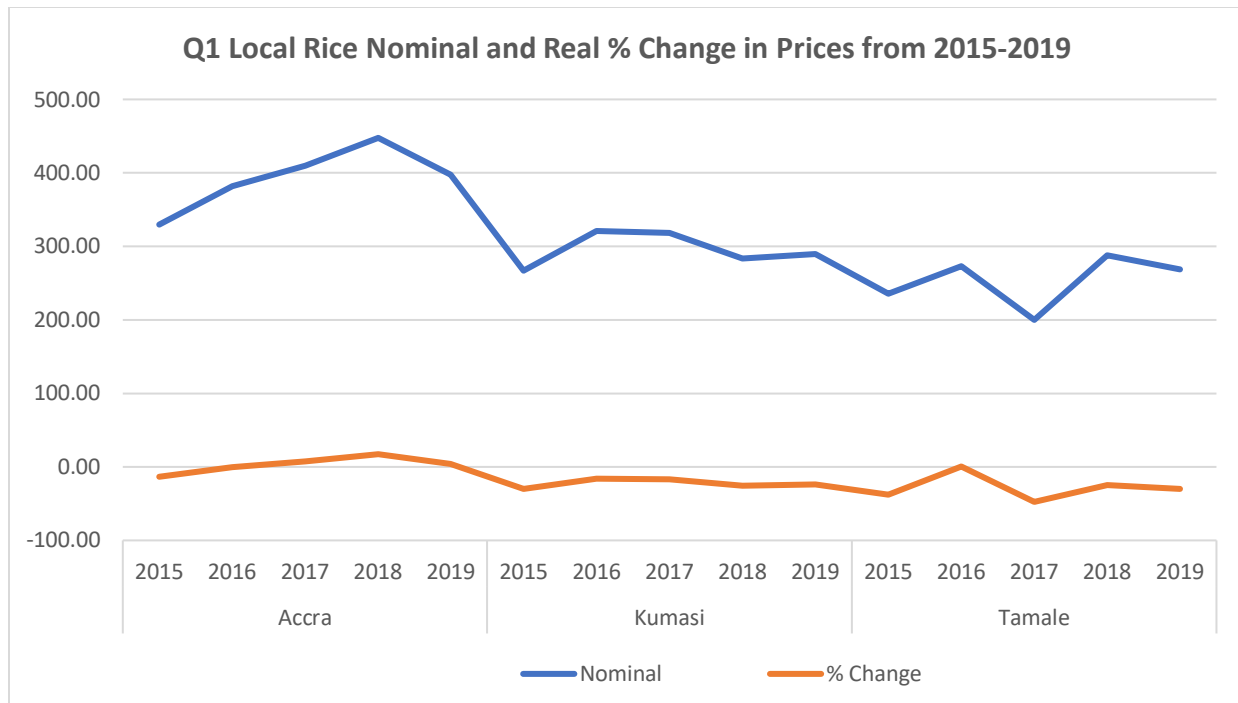


Fig 5. Quarter 1 Nominal and Percentage change (adjusted for inflation) in Local Rice Prices

Figure 5 above depicts a steady rise of the price of local rice in Accra from 2015, 2016 and 2017. It peaked in 2018 before its decline in 2019. One could argue that not much of the commodity is grown in Accra and its immediate environs and so the transactional cost could have an adverse effect of the price. Kumasi showed a steady increase in price till 2018 which dropped marginally and rose again in 2019. Prices in Tamale experienced a lot of fluctuations over the period. The price dipped in 2017 from its 2016 high price and increased sharply in 2018. The price decreased again in 2019. The real percentage changes also followed the same trend as that of the nominal prices. Price changes were again mostly in the negative for 2017 to 2019 indicating a general decrease in prices compared with the base year of 2016.

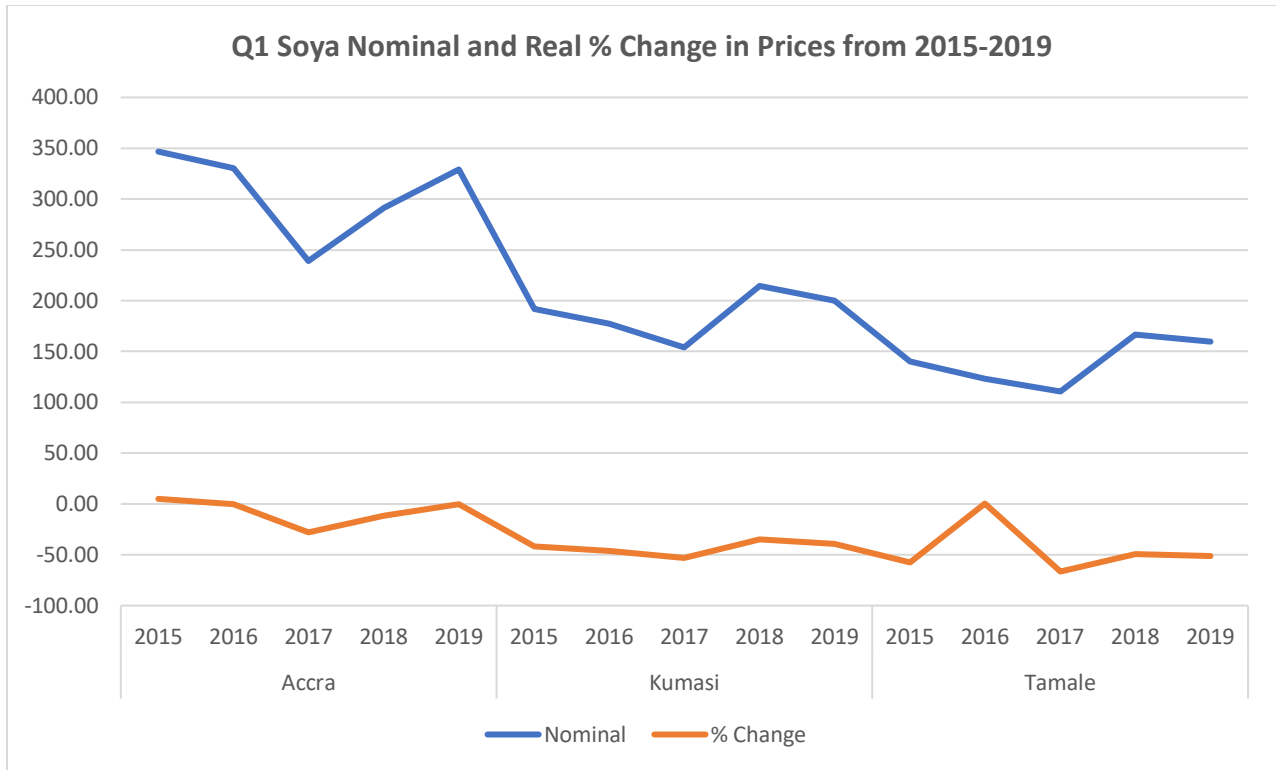


Fig 6. Quarter 1 Nominal and Percentage change (adjusted for inflation) in Soya Beans Prices

Figure 6 above gives an analysis of soya prices and the percentage change in prices from first quarter 2015 to 2019. The graph depicts the price movement over the period. It is observed that for the nominal prices, 2017 shows a dip while there was a steady rise from 2018 through 2019 for all the markets. The real change in prices for the period, after adjusting for inflation are all negative, representing a price drop compared to the base year of 2016.

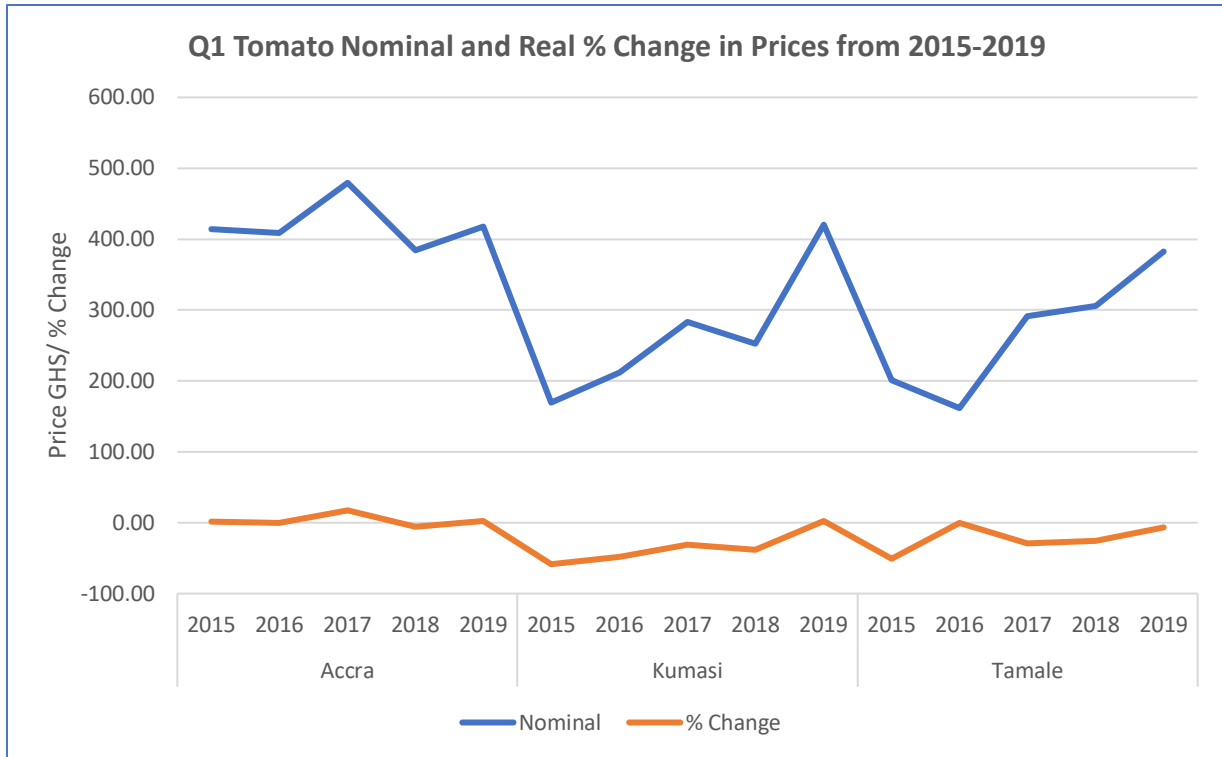


Fig. 7. Quarter 1 Nominal and Percentage change (adjusted for inflation) in Tomato Prices

Figure 7 above gives an analysis of tomato prices and the real percentage change in prices from first quarter 2015 to 2019. The commodity price in Accra showed an upward movement in the price peaking in 2017 and then dropping sharply in 2018. The price has picked up again in 2019 closing the first quarter at GHS 417.88 per crate. It follows a similar trend in Kumasi, but the case of Tamale is different. The commodity price dropped in 2016, then picked up again in 2017 almost levelling in 2018 and making a gain in 2019. Compared to Accra and Kumasi, Tamale is generally not a tomato growing area, with most of its supplies coming from neighboring communities (navrongo, bawku etc).

Conclusion

The price trend analysis conducted has shown that, there have been price increases in the period under review. On the surface nominal prices from 2017 for most commodities look to be going up, however once adjusted for inflation real prices, although on the upward trend are lower compared to prices in 2016. This is reflected more in the data for Kumasi and Tamale market than for Accra market.

The analysis for Q2 will be release at the end of the quarter.