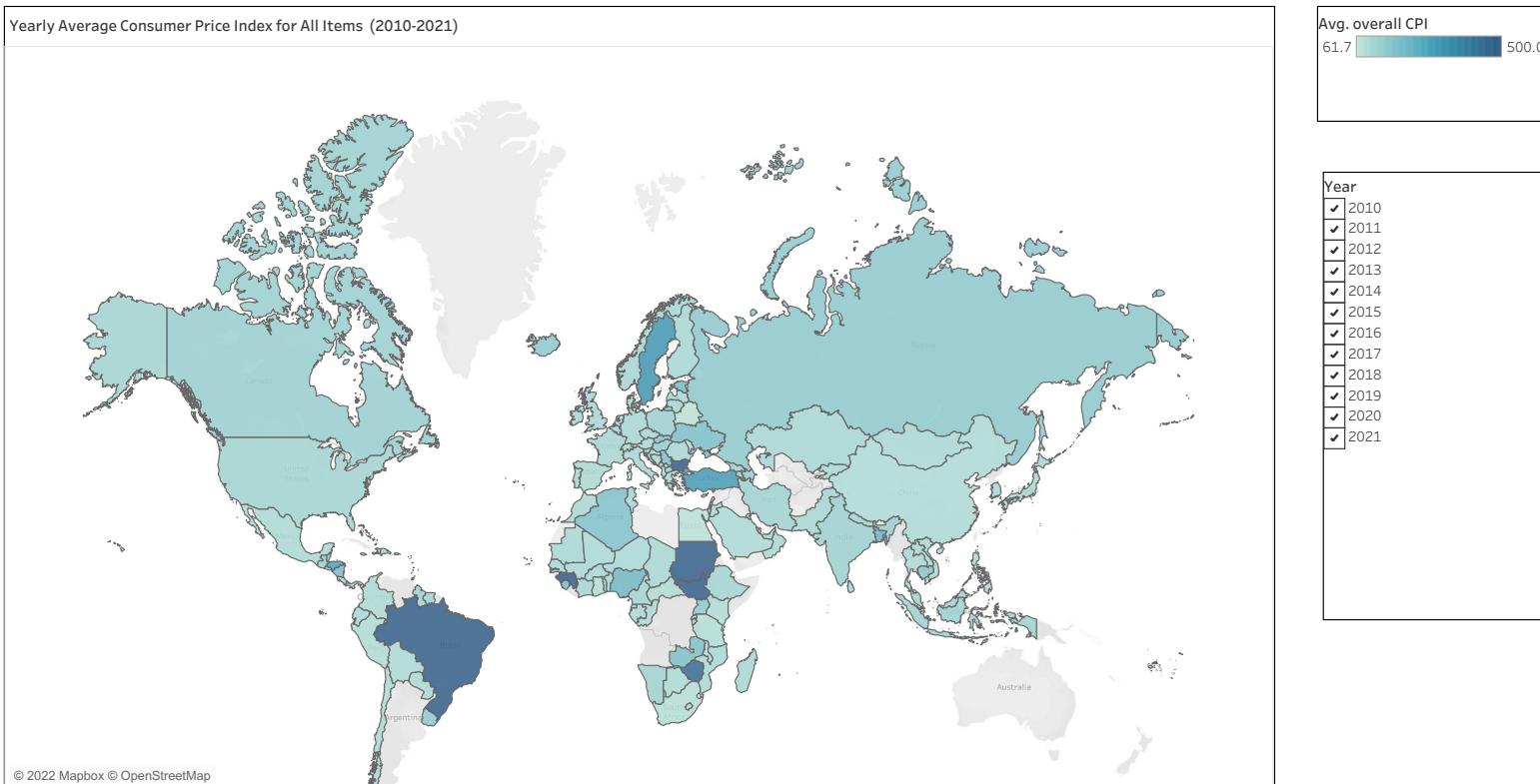


Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies accross countries	CPI varies accross time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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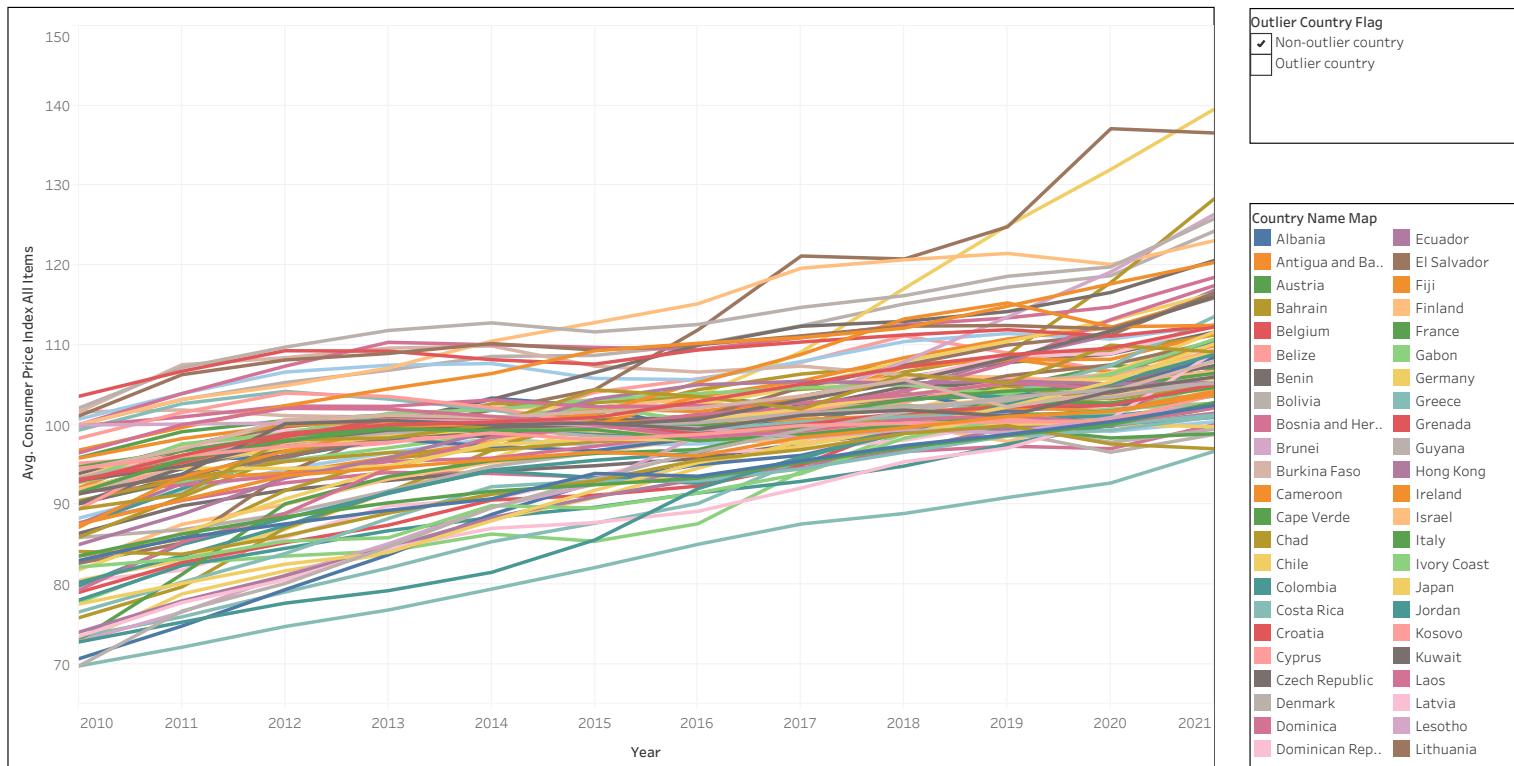
Overall CPI (Consumer Price Index) varies accross the countries over the years



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies across countries	CPI varies across time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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Country wise overall CPI (Consumer Price Index) varying year to year (2010-2021)



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies accross countries	CPI varies accross time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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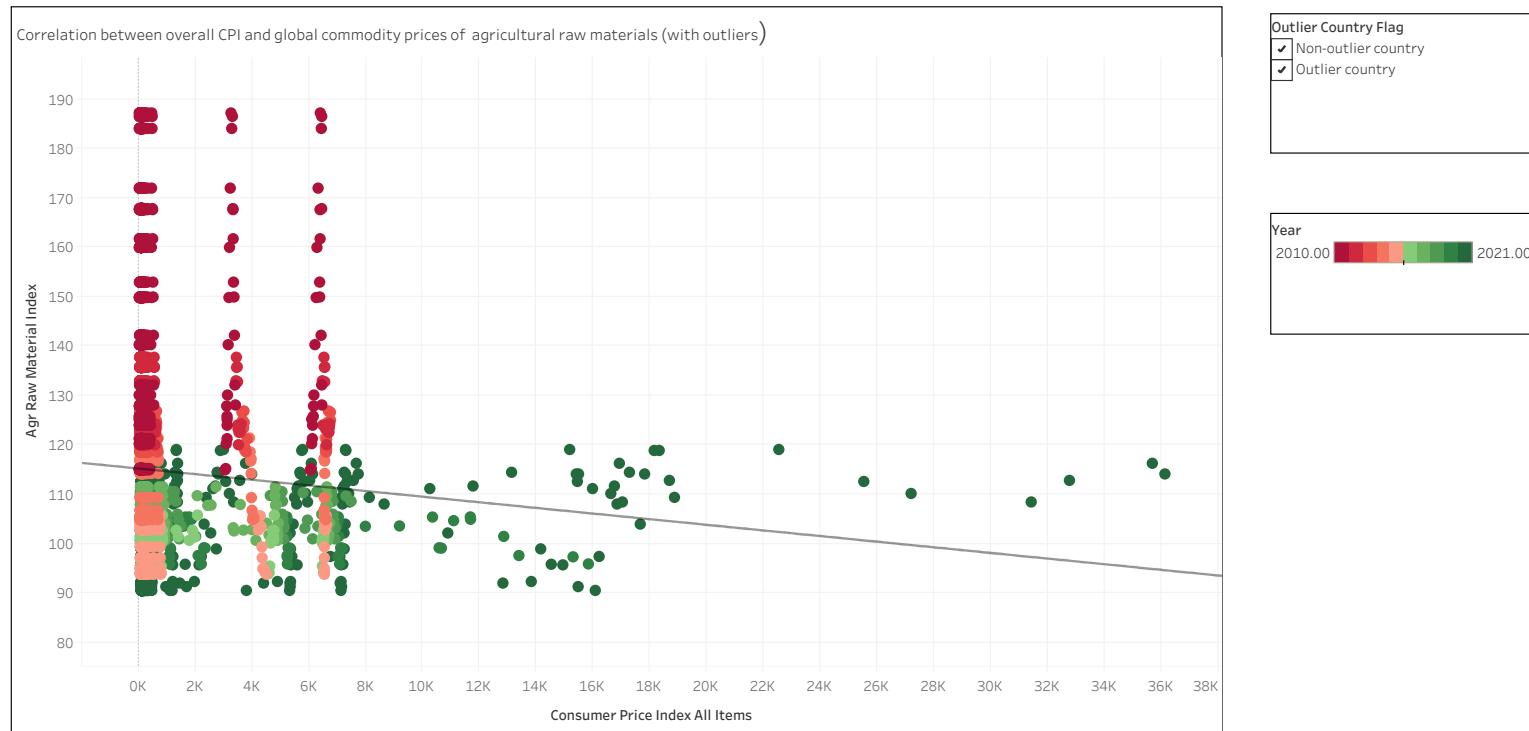
Global commodity prices also fluctuate time to time.



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies accross countries	CPI varies accross time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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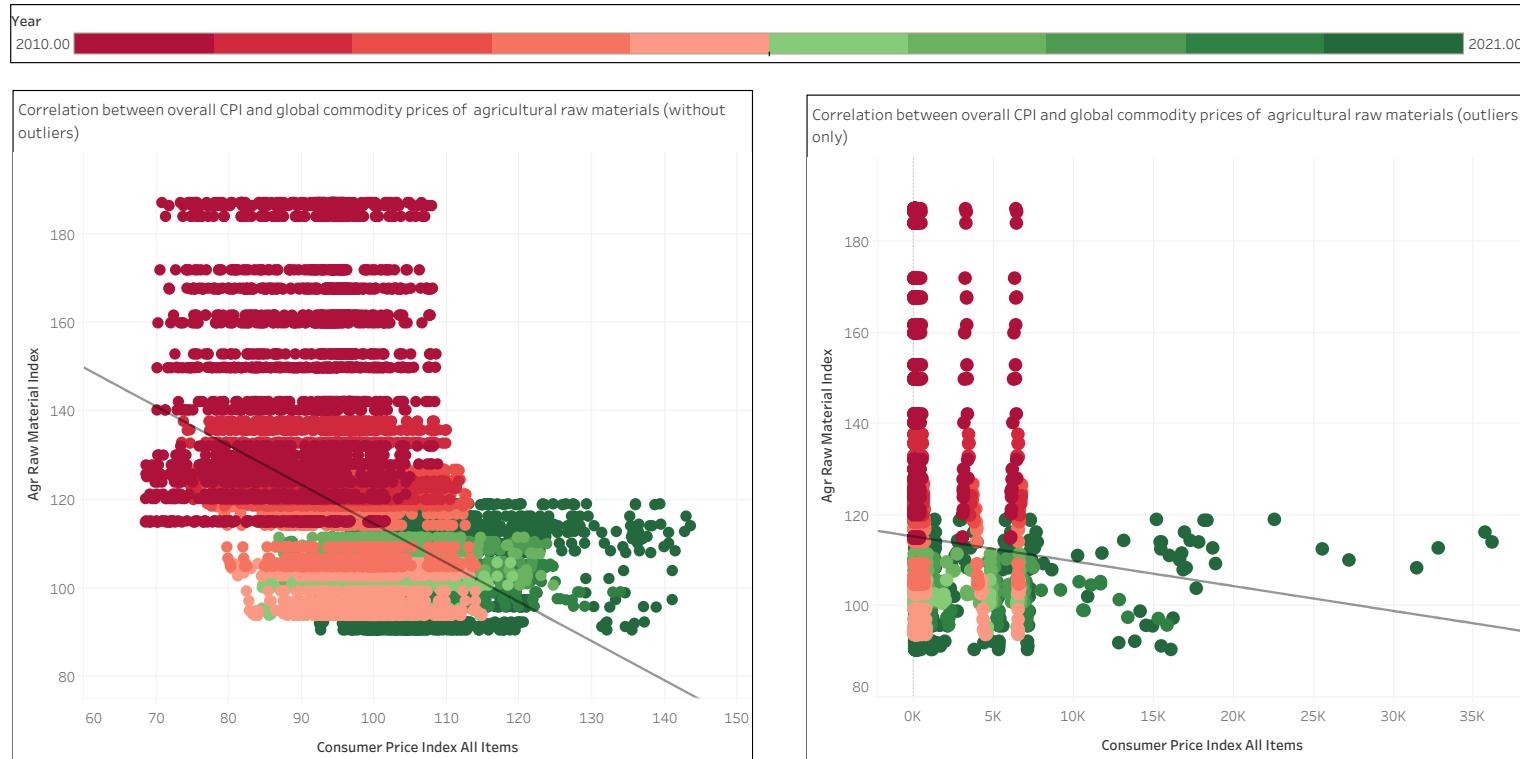
Exploring correlation between Overall CPI (Consumer price index) and global commodity prices



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies across countries	CPI varies across time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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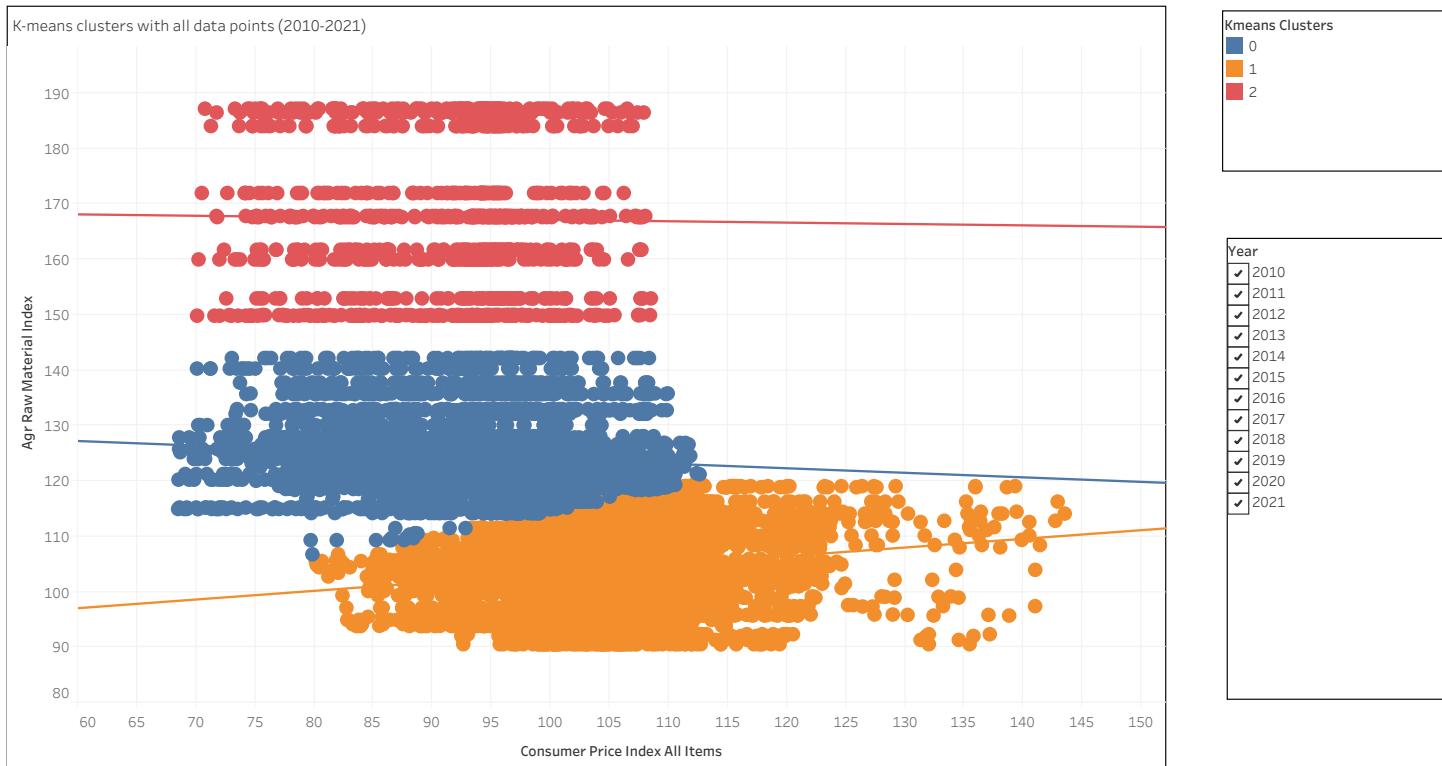
Correlation between the two variables become stronger as outliers are excluded.



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies accross countries	CPI varies accross time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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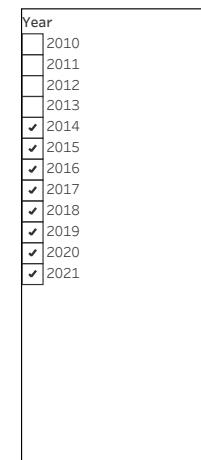
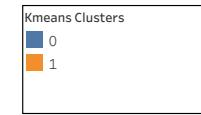
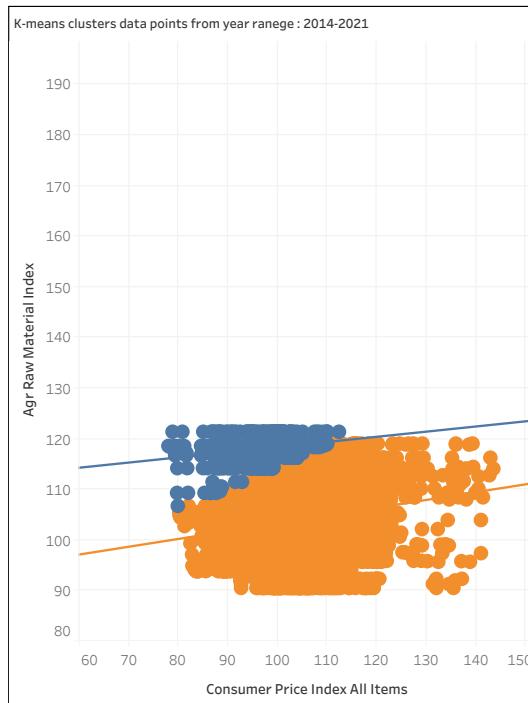
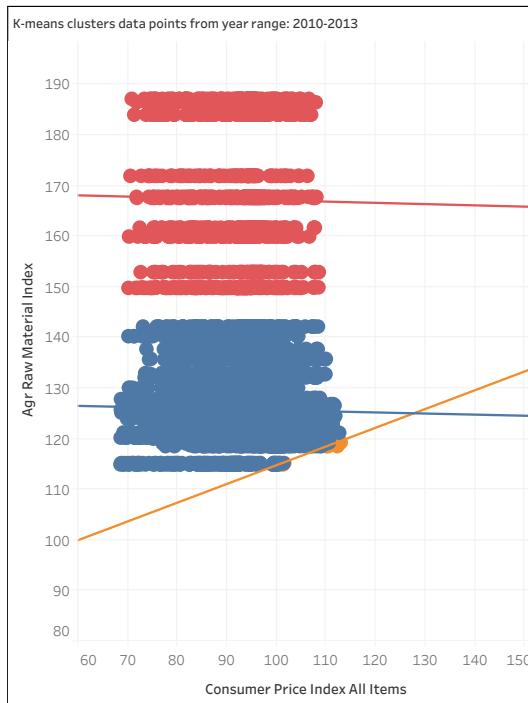
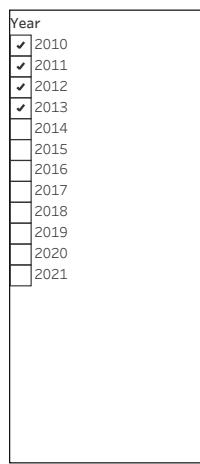
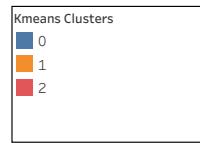
K-means clustering divided the dataset in 3 clusters each with unique characteristics



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

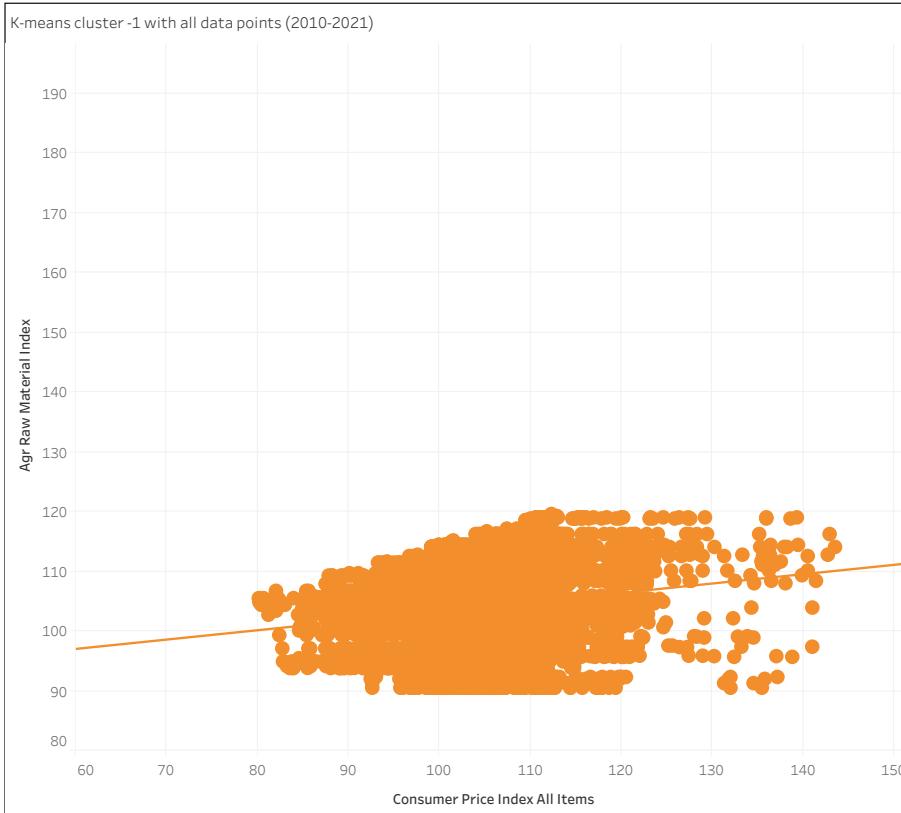
CPI varies across countries	CPI varies across time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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K-means cluster - 1 represents the recent datapoints (2014-2021) and exhibit a positive correlation between the chosen variables



Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

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The K-means cluster - 1 exhibits a very weak positive correlation between Overall CPI and Price of agricultural raw materials. This correlation is valid at a 95% confidence margin. Which means that the revised hypothesis 'Overall CPI rises if Price of agricultural raw materials increase' has been proven.

Kmeans Clusters
0
1
2

Kmeans Clusters
0
1
2

Exploring relationships between Consumer Price Index (CPI) and Global commodity prices

CPI varies across countries	CPI varies across time periods	Global commodity prices also fluctuate ..	Exploring correlations between overall CPI a..	Negative correlations become stronger whe..	K-means clustering	Correlations change from negative to posi..	Hypothesis Proven	Findings, Limitations and next steps
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Findings, Limitations and Next steps

Findings:

Although there is a positive correlation between the Overall CPI and Price of Agricultural Raw materials, the relationship is very weak. Therefore, the price of agricultural raw materials cannot be used to predict the future changes in Overall CPI variable.

Limitations:

- 1) We do not have country wise monthly commodity prices therefore we had to use global commodity prices which are estimates based on the largest markets of each commodity.
- 2) The CPI elements have a lot of missing data which limited us to working only with the 'Overall CPI' variable

Next steps:

Based on the K-means clustering, the following can be the next steps:

- 1) Looking into the relationships between Overall CPI and prices of other commodities
- 2) Looking into the time lagged variables extracted from the price of agricultural raw materials to see if there is any stronger relationship with the Overall CPI variable.