

COUNTRIES WITH LOW DEVEPOMENT

Problem statement

To find countries that are in dire need of aid that can be provided by HELP international

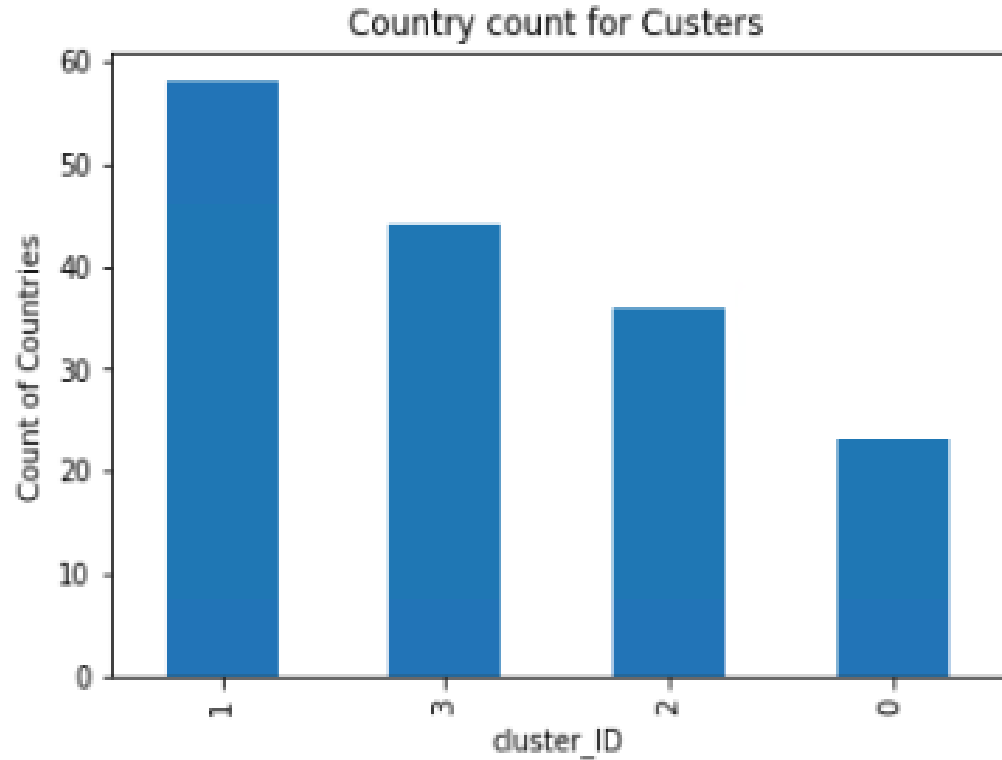
Approach

Categorize the countries in very high, high, medium, low GDDP clusters

For low GDDP countries, below factors were analyzed to see if they are in need of financial aid

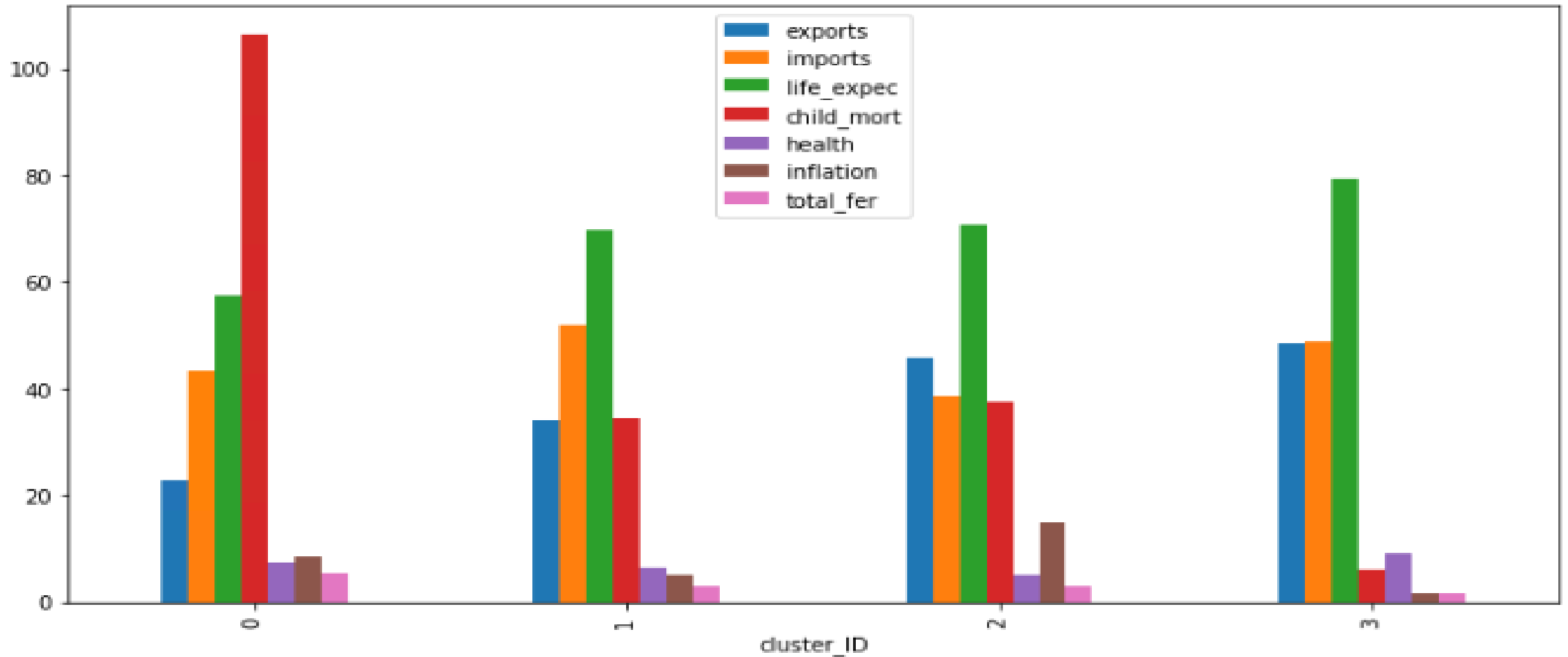
- Low GDDP
- Low income
- High inflation rate
- Low Export
- High Import
- Low Health spending
- High Child Mortality
- Low Life Expectancy

How the clusters have been categorized?



- They are classified mainly based on their GDDP
 - Cluster 3 is countries with very high GDDP
 - Cluster 2 is countries with high GDDP
 - Cluster 1 is countries with medium GDDP
 - Cluster 0 is countries with low GDDP
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- Cluster 0 is the list of countries of our interest
 - The exact count is 23 for this cluster
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- Maximum number of countries belong to medium GDP cluster or cluster 1
 - Next highest count cluster is very high GDDP countries
 - Next is high GDDP

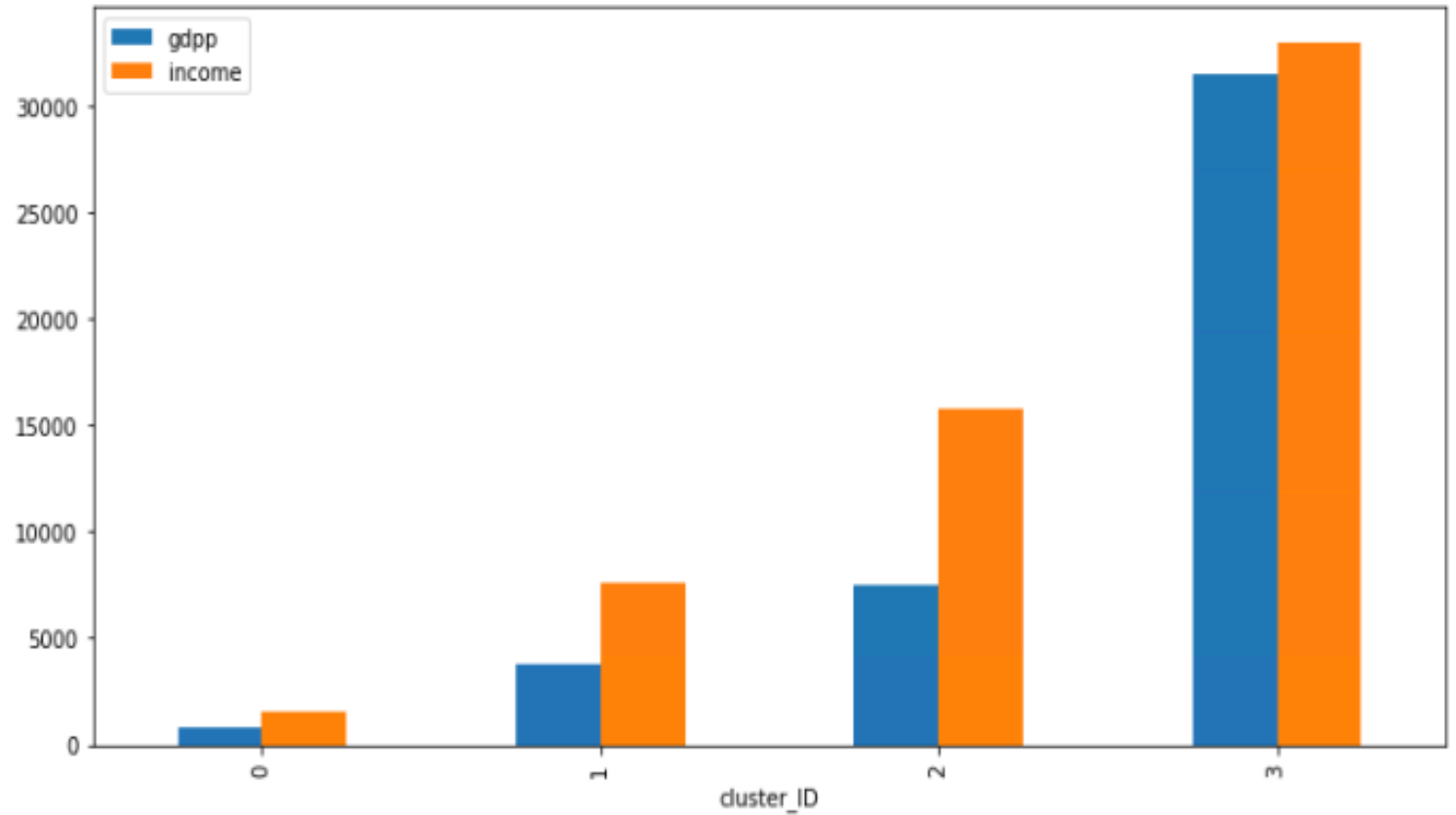
How do the variables vary across clusters?



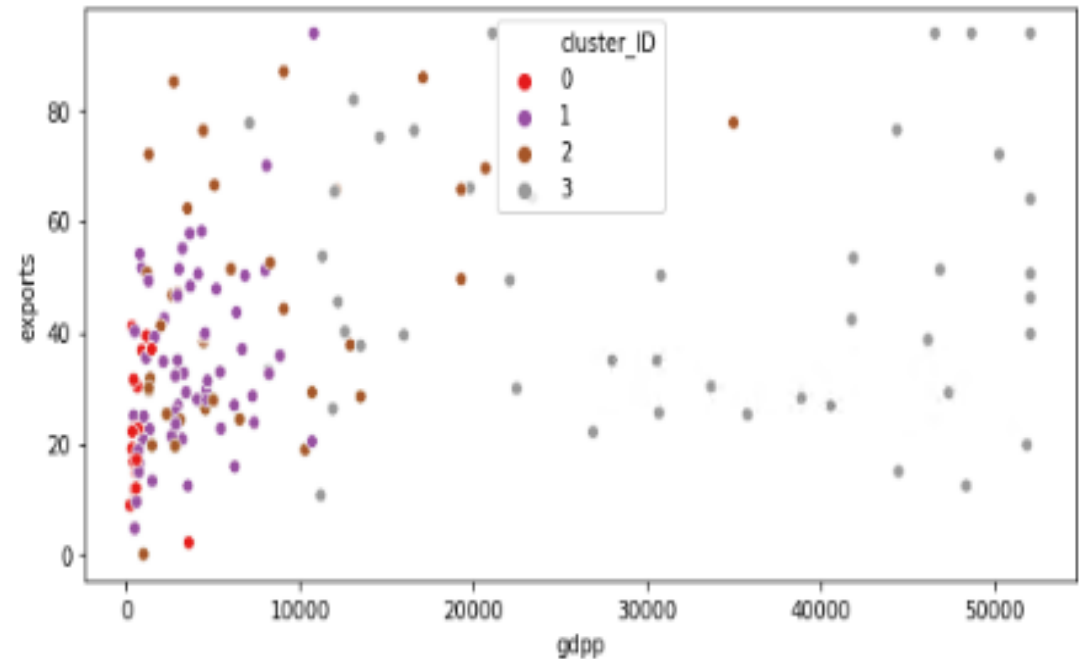
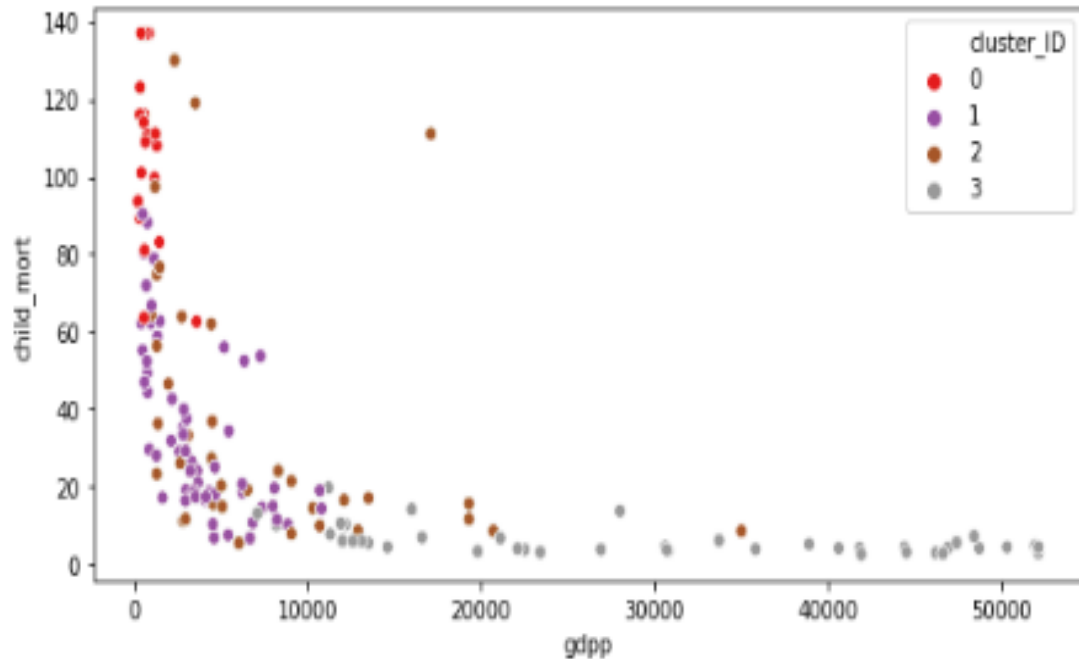
How do the variables vary across clusters?

Points to note for cluster 0

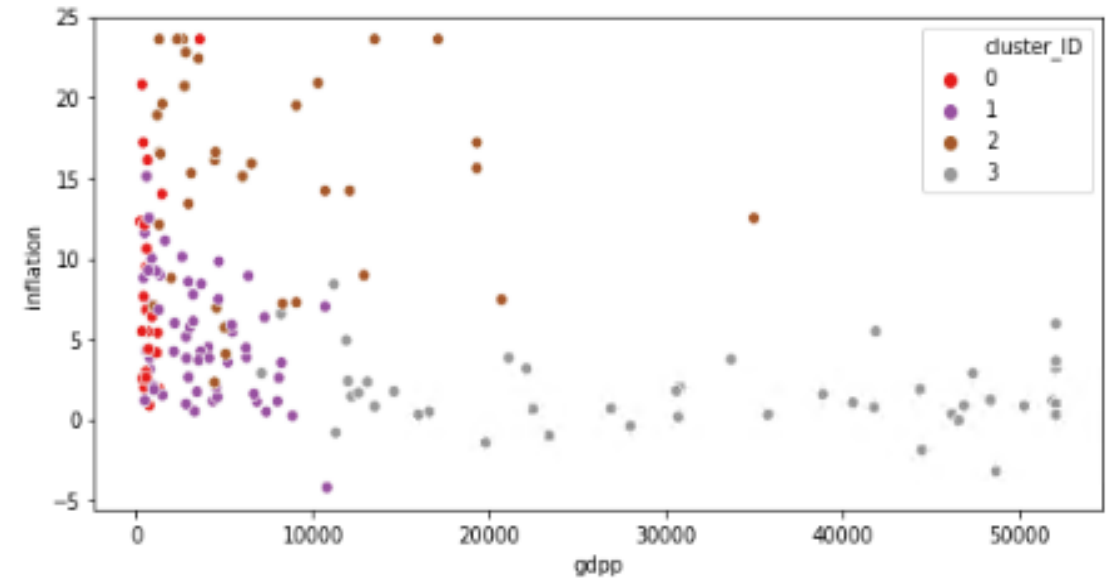
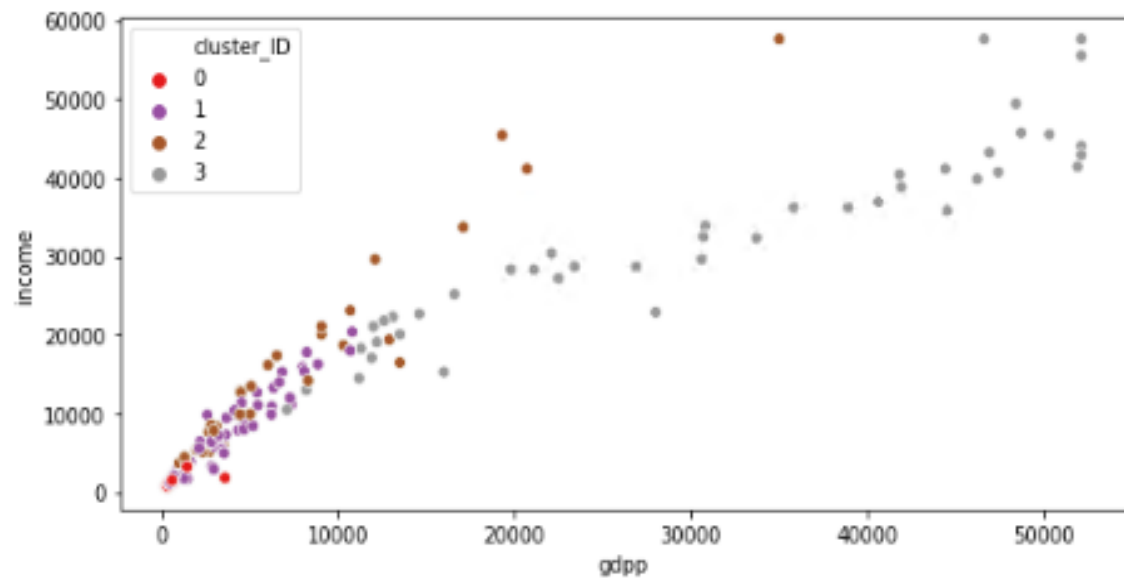
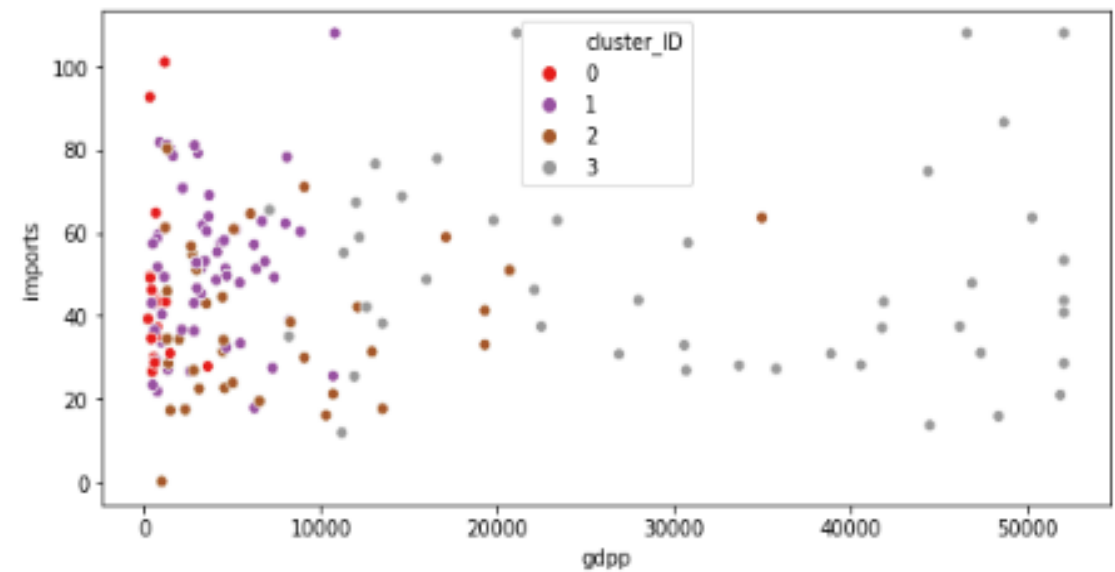
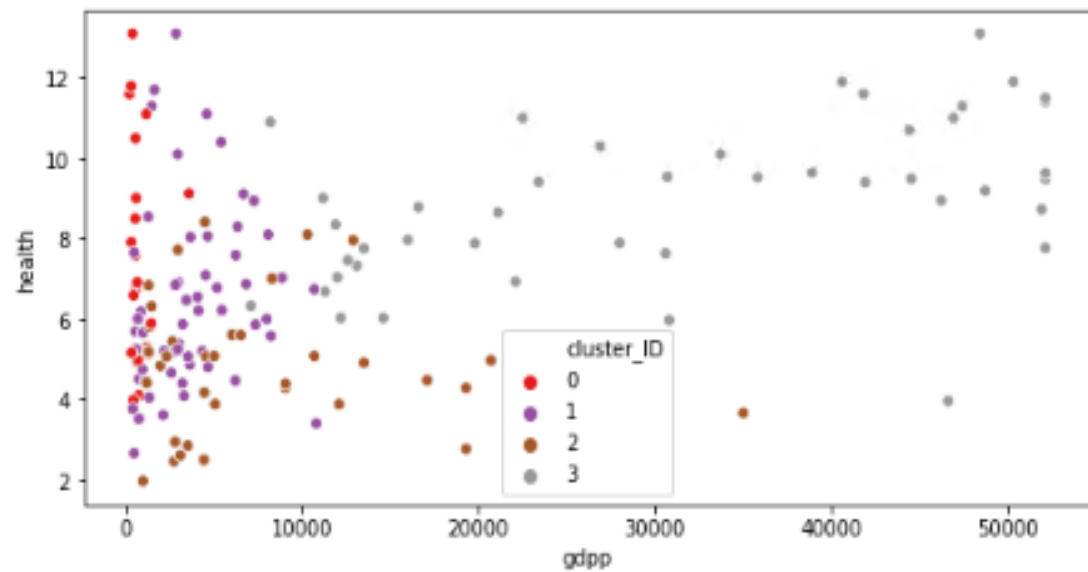
- GDP is low
- Income is low
- Exports is low
- Imports is medium
- Inflation is average
- Health spending is average
- Child mortality rate is very high
- Fertility rate is high
- Life Expectancy is low



How do variables vary v/s GDP for low GDP countries?

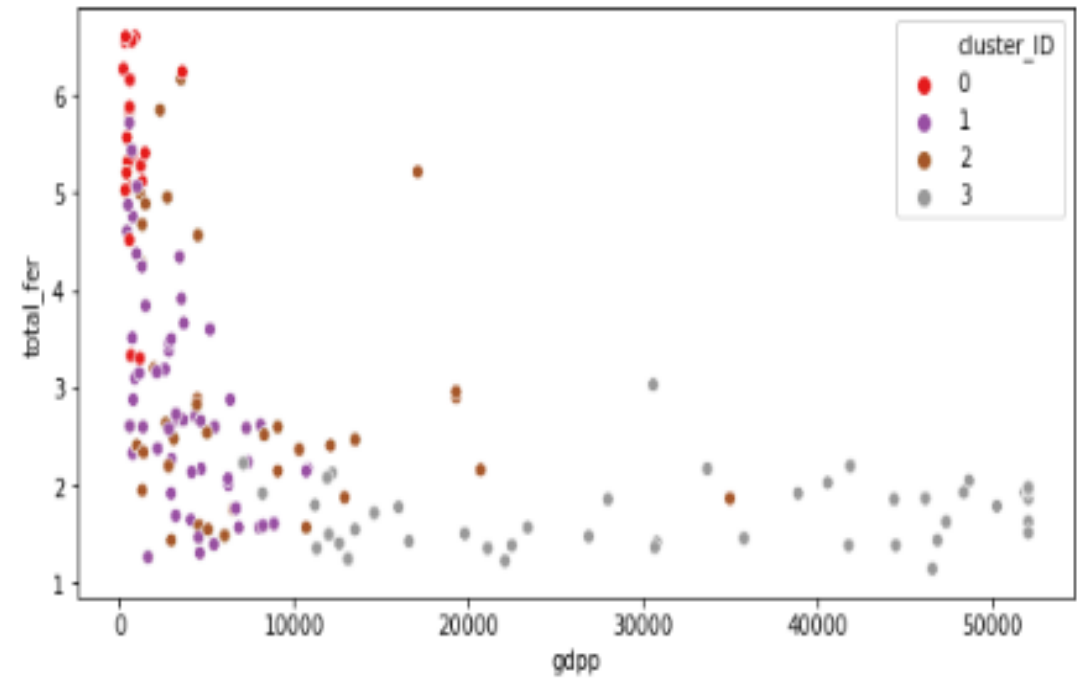
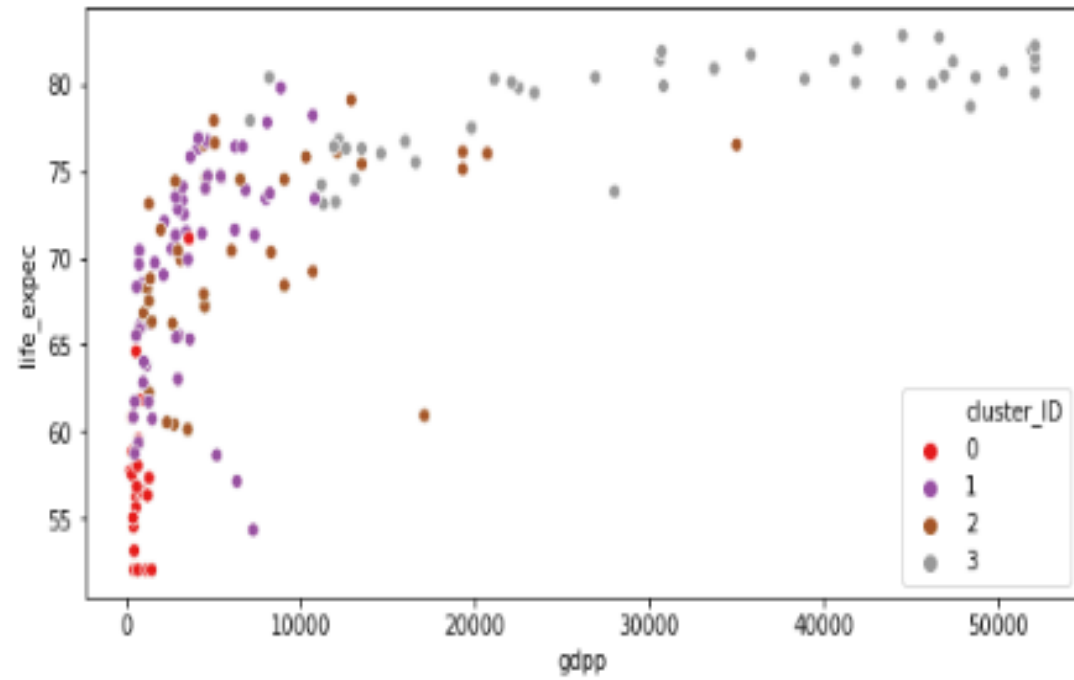


- Child Mortality rate is high
- Exports is low



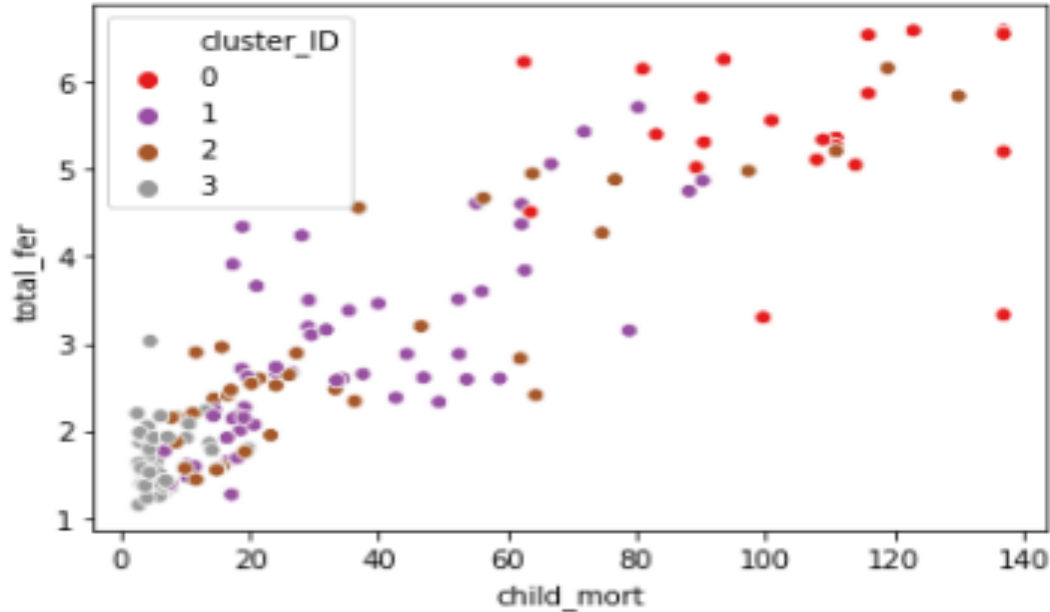
- Health spend has no pattern
- Imports is average

- Income is low
- Inflation rate has no pattern

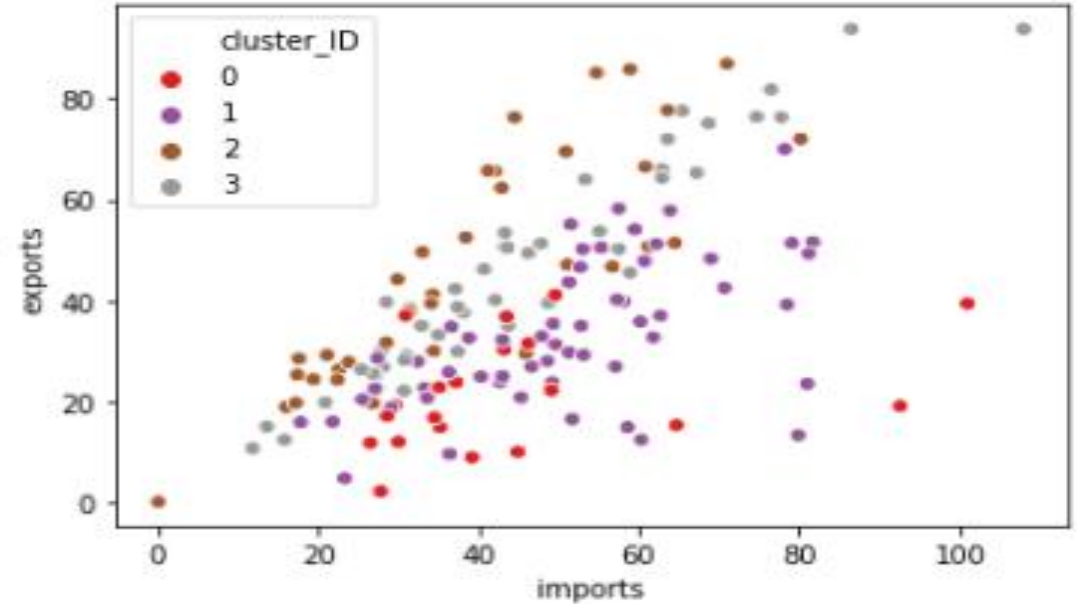


- Life expectancy is low
- Fertility rate is high

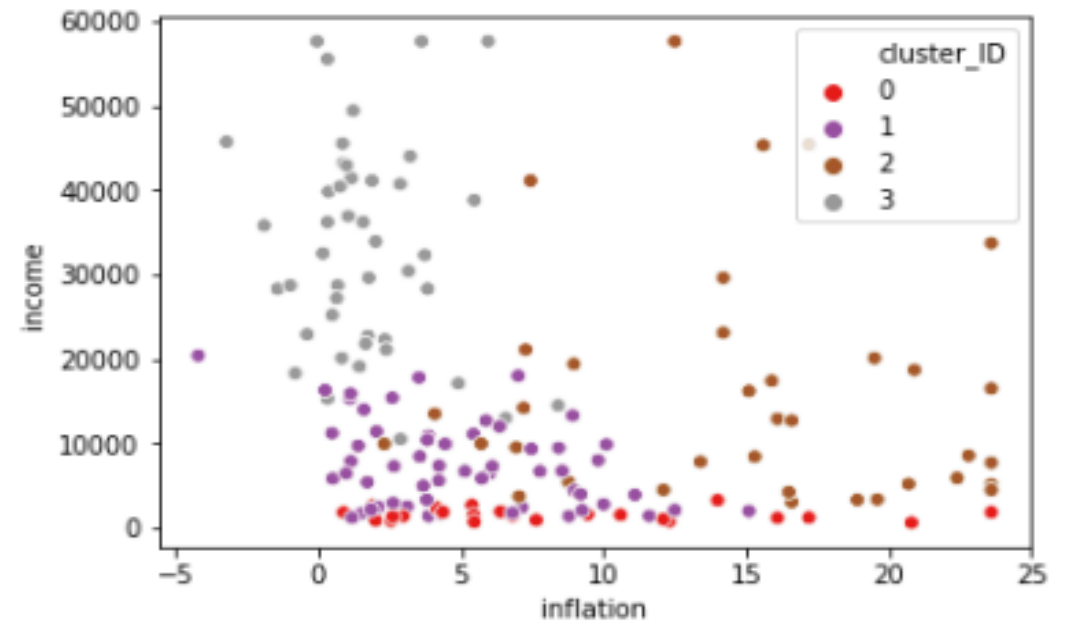
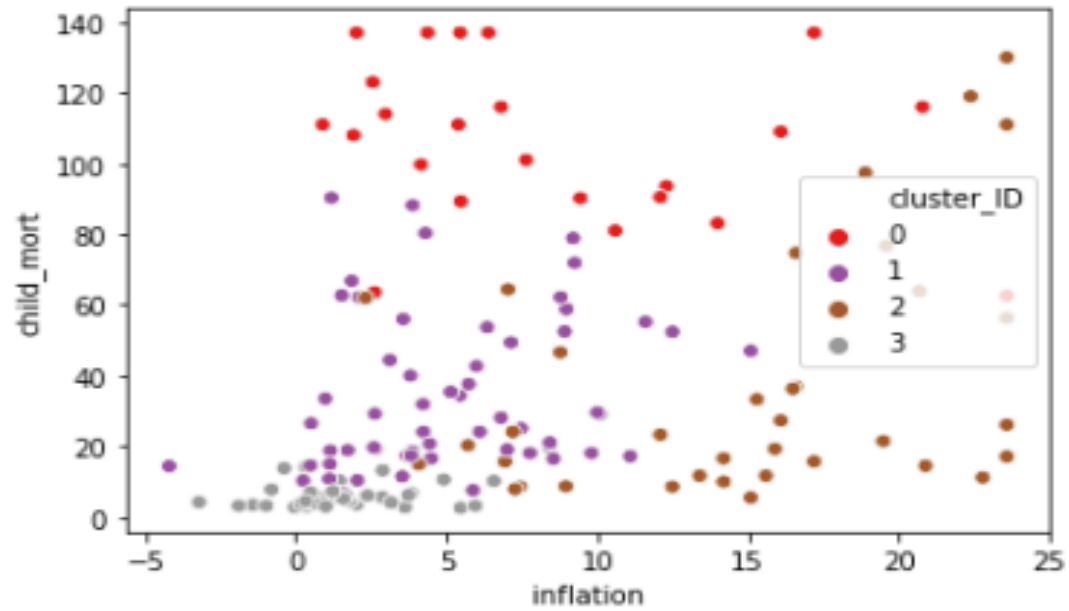
How variables vary with other variables?



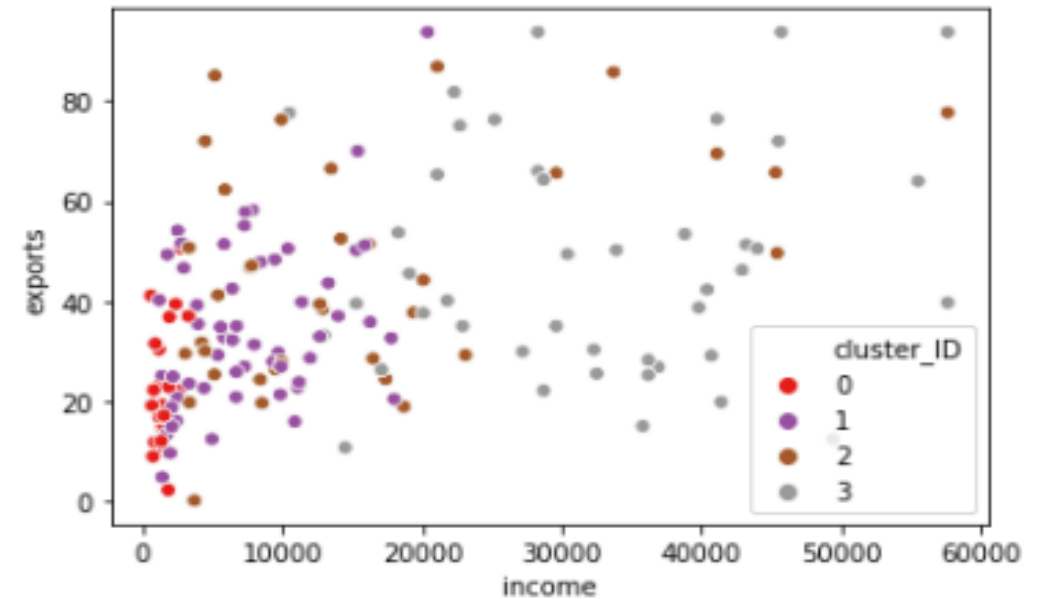
- Fertility rate is high , so is child mortality rate

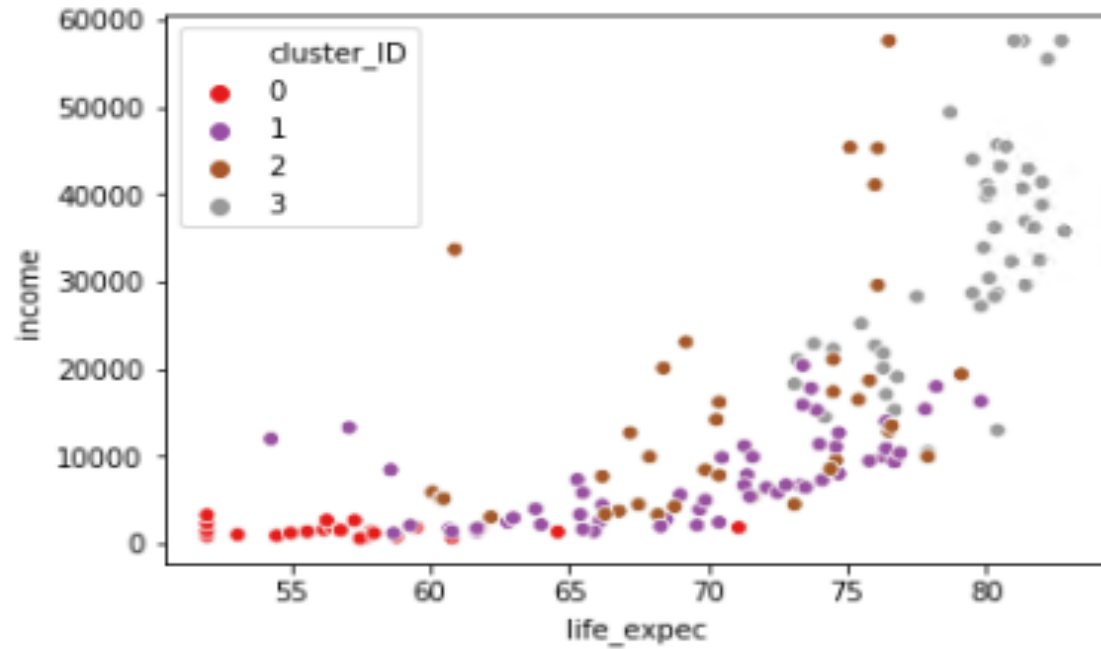


- Where export is less, import is also less

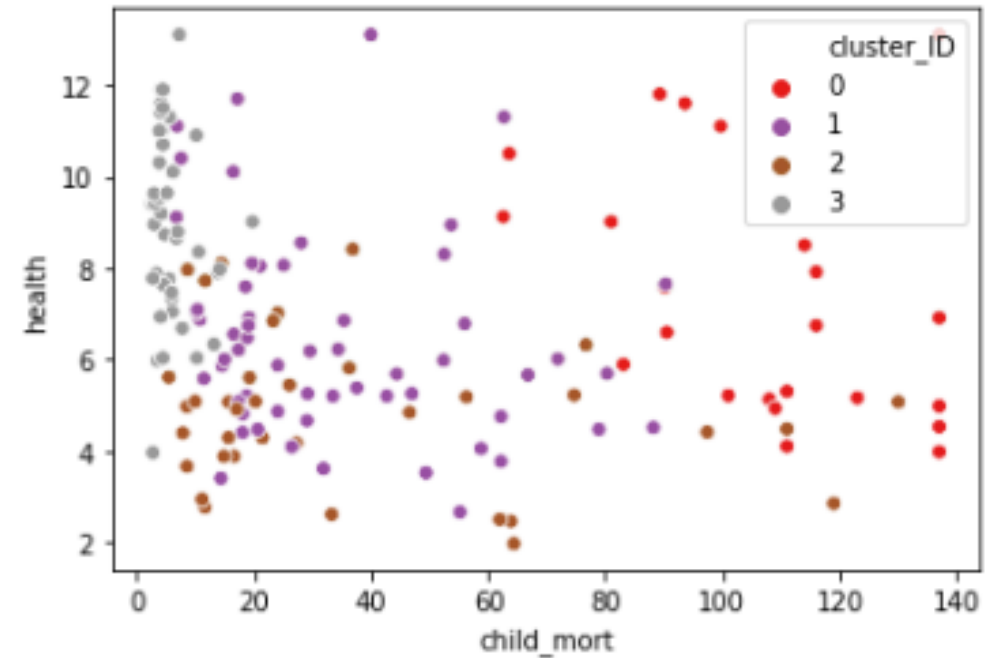
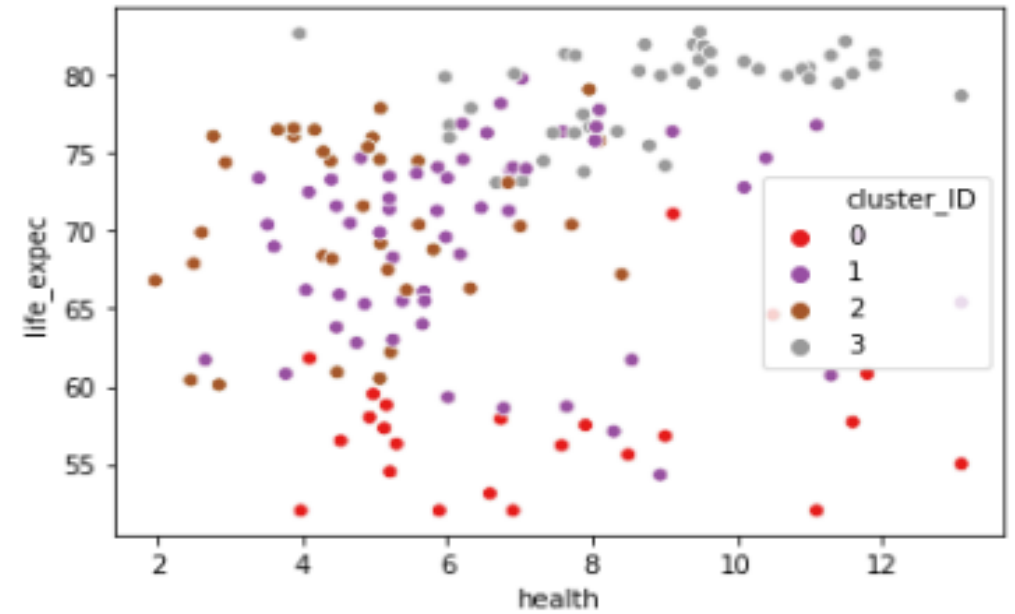


- For lower inflation also, child mortality is high possibly due to low income
- For countries with low inflation also income is very low. Therefore inflation is not a major contributor in less income.
- Where export is low, income is also low





- Life Expectancy is less than 60, income is very low
- Most of the cases wherever life expectancy is less, health spend <8%
- Even for higher health spending, there is high child mortality



Which countries?

country	expimp_ratio	gin_ratio	gdpp
Timor-Leste	0.08	0.51	3600
Liberia	0.21	2.14	327
Afghanistan	0.22	2.91	553
Burundi	0.23	3.31	231
Haiti	0.24	2.27	662
Lesotho	0.39	2.03	1170
Rwanda	0.40	2.40	563
Guinea-Bissau	0.42	2.54	547
Central African Republi	0.45	1.99	446
Niger	0.45	2.34	348
Sierra Leone	0.49	3.06	399
Uganda	0.60	2.59	595
Benin	0.64	2.40	758
Burkina Faso	0.65	2.49	575
Mali	0.65	2.64	708
Malawi	0.65	2.24	459
Mozambique	0.68	2.19	419
Guinea	0.70	1.84	648
Cameroon	0.82	2.03	1310
Congo, Dem. Rep.	0.83	1.82	334
Chad	0.85	2.15	897
Cote d'Ivoire	1.17	2.20	1220
Zambia	1.20	2.25	1460

Out of 23 low GDDP countries forming the cluster, we found that some have very good export import ratio and income to GDDP ratio.

So we filtered with condition export-import ratio <0.70 or income to GDDP ratio <2.7 where 0.7 and 2.7 are the 75% values in the cluster. This reduced to 11 values

The table on the left is the list of 23 countries part of the cluster.

Countries categorized as in dire need of Aid in order of preference

country	expimp_ratio	gin_ratio	gdpp	income	exports	imports	life_expec	inflation	health	child_mort	total_fer
Timor-Leste	0.08	0.51	3600	1850	2.2	27.8	71.1	23.600	9.12	62.6	6.23
Liberia	0.21	2.14	327	700	19.1	92.6	60.8	5.470	11.80	89.3	5.02
Haiti	0.24	2.27	662	1500	15.3	64.7	52.0	5.450	6.91	137.0	3.33
Lesotho	0.39	2.03	1170	2380	39.4	101.0	52.0	4.150	11.10	99.7	3.30
Rwanda	0.40	2.40	563	1350	12.0	30.0	64.6	2.610	10.50	63.6	4.51
Niger	0.45	2.34	348	814	22.2	49.1	58.8	2.550	5.16	123.0	6.59
Central African Republic	0.45	1.99	446	888	11.8	26.5	52.0	2.010	3.98	137.0	5.21
Benin	0.64	2.40	758	1820	23.8	37.2	61.8	0.885	4.10	111.0	5.36
Burkina Faso	0.65	2.49	575	1430	19.2	29.6	57.9	6.810	6.74	116.0	5.87
Malawi	0.65	2.24	459	1030	22.8	34.9	53.1	12.100	6.59	90.5	5.31
Mozambique	0.68	2.19	419	918	31.5	46.2	54.5	7.640	5.21	101.0	5.56

Top 5 countries that should be considered

- Timor-Leste
- Liberia
- Haiti
- Lesotho
- Rwanda

THANKYOU