PCA analytics

```
library(factoextra)
```

Loading required package: ggplot2

Welcome! Want to learn more? See two factoextra-related books at https://goo.gl/ve3WBa

```
rm(list=ls())
setwd("~/Documents/SUTD/Term 6/TAE/W2/Social Progress")
```

New York Times opinion column: https://www.nytimes.com/2020/09/09/opinion/united-states-social-progress.html

Social Progress Imperative https://www.socialprogress.org/

Quoting from their report: The Social Progress Index is a well-established measure, published since 2013, that is meant to catalyze improvement and drive action by presenting social outcome data in a useful and reliable way. Composed of multiple dimensions, the Social Progress Index can be used to benchmark success and provide a holistic, transparent, outcome-based measure of a country's well-being that is independent of economic indicators. Policymakers, businesses, and countries' citizens alike can use it to compare their country against others on different facets of social progress, allowing the identification of specific areas of strength or weakness.

We look at the most recent social progress data from 2011-2020 made available last week (10th September, 2020). Among the 192 countries listed in 2020, 163 are ranked according to Social Progress Index. We will consider this data set for our study.

Goal: How would we fair in creating an index of such nature if we did not have the Social Progress Index at hand.

```
# Read data
sp2011to2020 <- read.csv("socprog2020.csv")
# data check
head(sp2011to2020)
dim(sp2011to2020)</pre>
```

Note that there is a ranking of the countries and a social progress index mentioned here.

Data processing We select the relevant parts for use. First we take the country information and remove first few columns. Keep year 2020 and *Ranked* ones.

```
spi2020 <- subset(sp2011to2020,SPI.year =="2020" & Status=="Ranked")
head(spi2020)</pre>
```

```
Country SPI.country.code SPI.year Status Social.Progress.Index
     SPI.Rank
                                                                                42.29
## 2
          155 Afghanistan
                                         AFG
                                                  2020 Ranked
## 3
           54
                                                  2020 Ranked
                                                                                75.41
                   Albania
                                         ALB
## 4
           83
                                         DZA
                                                  2020 Ranked
                                                                                69.92
                   Algeria
## 5
          151
                    Angola
                                          AGO
                                                  2020 Ranked
                                                                                48.16
## 6
           41
                 Argentina
                                          ARG
                                                  2020 Ranked
                                                                                80.66
           50
                   Armenia
                                         ARM
                                                  2020 Ranked
                                                                                76.46
     Basic. Human. Needs Foundations. of. Wellbeing Opportunity
##
## 2
                  52.90
                                             39.50
## 3
                  86.92
                                             82.71
                                                          56.60
## 4
                  87.69
                                             66.05
                                                         56.02
## 5
                                             52.20
                                                          39.69
                  52.60
## 6
                                                          74.20
                  87.73
                                             80.05
## 7
                  87.91
                                             78.22
                                                         63.24
     Nutrition.and.Basic.Medical.Care Water.and.Sanitation Shelter Personal.Safety
## 2
                                  61.51
                                                        49.45
                                                                 56.63
                                                                                  44.02
## 3
                                  92.99
                                                        90.61
                                                                 90.54
                                                                                  73.55
## 4
                                  92.24
                                                        93.81
                                                                 93.51
                                                                                  71.21
## 5
                                  64.94
                                                        37.69
                                                                 57.31
                                                                                  50.46
## 6
                                  94.33
                                                        95.79
                                                                 95.49
                                                                                  65.33
## 7
                                  94.66
                                                        92.50
                                                                 90.66
                                                                                  73.83
     Access.to.Basic.Knowledge Access.to.Information.and.Communications
## 2
                          30.55
                                                                       41.07
## 3
                          92.32
                                                                       77.32
## 4
                          81.00
                                                                       51.41
## 5
                          57.07
                                                                       37.50
## 6
                          88.50
                                                                       85.67
## 7
                          93.42
                                                                       80.04
     Health.and.Wellness Environmental.Quality Personal.Rights
                    34.47
                                            51.93
                                                             40.88
## 3
                    74.47
                                            86.71
                                                             82.06
## 4
                    68.13
                                            63.63
                                                             50.32
## 5
                    44.64
                                            69.58
                                                             58.24
## 6
                    69.55
                                            76.50
                                                             88.36
## 7
                    67.84
                                            71.58
                                                             80.48
     Personal.Freedom.and.Choice Inclusiveness Access.to.Advanced.Education
## 2
                             39.82
                                            30.11
                                                                           27.05
## 3
                             47.09
                                            42.50
                                                                           54.75
## 4
                             69.00
                                            45.01
                                                                           59.75
## 5
                             42.43
                                            30.96
                                                                           27.13
## 6
                             69.77
                                            63.14
                                                                           75.53
## 7
                             60.86
                                            48.04
                                                                           63.59
     Under nour is hment.... of. pop... \ Deaths. from. in fectious. diseases.. deaths. 100.000.
## 2
                                                                               154.9591
                               29.9
## 3
                                3.6
                                                                                15.8144
## 4
                                2.8
                                                                                22.5509
## 5
                               18.6
                                                                               418.9029
## 6
                                3.8
                                                                                67.3925
                                2.6
                                                                                19.5087
##
     Child.stunting....of.children.
## 2
                               48.734
## 3
                               20.819
## 4
                               12.544
## 5
                               41.041
```

```
## 6
                               7.440
## 7
                               12.050
     Maternal.mortality.rate..deaths.100.000.live.births.
##
## 2
                                                     289.414
## 3
                                                       9.529
## 4
                                                      61.177
## 5
                                                     183.254
## 6
                                                      49.232
## 7
                                                      25.185
     Child.mortality.rate..deaths.1.000.live.births.
## 3
                                                8.8233
## 4
                                               23,4821
## 5
                                               77.1645
## 6
                                                9.9450
## 7
                                               12.3806
     Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                              16.200
## 3
                                                                               0.273
## 4
                                                                               1.028
## 5
                                                                             101.626
## 6
                                                                               1.466
                                                                               0.528
## 7
     Populations.using.unsafe.or.unimproved.water.sources....
## 2
                                                          82.506
## 3
                                                          17.556
## 4
                                                          11.641
## 5
                                                          76.625
## 6
                                                           7.812
## 7
                                                           2.950
##
     Populations.using.unsafe.or.unimproved.sanitation....
## 2
                                                       69.794
## 3
                                                       12.509
## 4
                                                        7.580
## 5
                                                       54.542
## 6
                                                        4.728
## 7
##
     Usage.of.clean.fuels.and.technology.for.cooking....of.pop..
## 2
## 3
                                                                 80
## 4
                                                                 95
## 5
                                                                 48
## 6
                                                                 95
## 7
                                                                 95
     Access.to.electricity....of.pop..
## 2
                                 98.7132
## 3
                               100.0000
## 4
                               100.0000
## 5
                                43.2593
## 6
                               100.0000
## 7
                               100.0000
     Household.air.pollution.attributable.deaths..deaths.100.000.\\
##
## 2
                                                             155.837
## 3
                                                              31.459
```

```
## 4
                                                              34.701
## 5
                                                              78.762
## 6
                                                              24.101
## 7
                                                              49.918
##
     Traffic.deaths..deaths.100.000.
                               32.777
## 2
## 3
                                7.707
## 4
                               17.138
## 5
                               28.970
## 6
                               13.124
## 7
                                7.313
##
     Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                  0.35
## 3
                                                                  0.95
## 4
                                                                  0.60
## 5
                                                                  0.58
## 6
                                                                  0.78
## 7
                                                                  0.90
     Perceived.criminality..1.low..5.high. Homicide.rate..deaths.100.000.
## 2
## 3
                                           4
                                                                       2.2895
                                           3
## 4
                                                                       1.3643
## 5
                                           5
                                                                           NA
## 6
                                           4
                                                                       5.3245
## 7
                                           4
                                                                       1.6939
     Access.to.quality.education..O.unequal..4.equal. Women.with.no.schooling
## 2
                                                  0.819
                                                                           0.7086
## 3
                                                  2.585
                                                                           0.0075
## 4
                                                  3.029
                                                                           0.1892
## 5
                                                  0.794
                                                                           0.1272
## 6
                                                  2.762
                                                                           0.0043
## 7
                                                  3.100
                                                                           0.0011
     Gender.parity.in.secondary.attainment..distance.from.parity.
## 2
                                                              0.6423
## 3
                                                              0.0075
## 4
                                                              0.0051
## 5
                                                              0.3937
## 6
                                                              0.0506
## 7
                                                              0.0072
     Primary.school.enrollment....of.children.
## 3
                                         97.4422
## 4
                                         99.6475
## 5
                                              NA
## 6
                                         99.5673
## 7
                                         93.0948
     Secondary.school.attainment....of.population.
## 2
## 3
                                                92.9
                                                38.9
## 4
## 5
                                                30.2
## 6
                                                64.8
## 7
                                                97.2
   Access.to.online.governance..0.low..1.high.
```

```
## 2
                                            0.4643
## 3
                                            0.8452
## 4
                                            0.1548
## 5
                                            0.4524
## 6
                                            0.8571
## 7
                                            0.7500
     Media.censorship..0.frequent..4.rare. Internet.users....of.pop..
## 2
                                       1.850
                                                                 13.5000
## 3
                                       1.724
                                                                 71.8470
## 4
                                       0.931
                                                                 49.0385
## 5
                                       2.180
                                                                 14.3391
## 6
                                       3.136
                                                                 74.2949
## 7
                                                                 64.7449
                                       3.096
##
     Mobile.telephone.subscriptions..subscriptions.100.people.
## 2
                                                          59.1208
## 3
                                                          94.1770
## 4
                                                         111.6648
## 5
                                                          43.1305
## 6
                                                         132.0932
## 7
                                                         121.2590
##
     Access.to.quality.healthcare..0.unequal..4.equal.
## 2
## 3
                                                    2.956
## 4
                                                    1.621
## 5
                                                    0.958
## 6
                                                    2.744
## 7
                                                    3.292
     Access.to.essential.services...0.none..100.full.coverage.
## 2
                                                           46.067
## 3
                                                           81.062
## 4
                                                           72.764
## 5
                                                           44.479
## 6
                                                           74.685
## 7
                                                           76.644
##
     Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## 2
                                                                 944.478
## 3
                                                                 276.036
## 4
                                                                 270.149
## 5
                                                                 430.054
## 6
                                                                 327.380
## 7
                                                                  413.570
##
     Life.expectancy.at.60..years.
## 2
                            15.2592
## 3
                            22.0736
## 4
                            22.7445
## 5
                            16.8830
## 6
                            21.3868
## 7
                            19.8741
     Greenhouse.gas.emissions..total.CO2.equivalents. Particulate.matter
## 2
                                                    34.0
                                                                      56.668
## 3
                                                    10.2
                                                                      17.942
## 4
                                                  229.0
                                                                      39.322
## 5
                                                  101.0
                                                                     32.532
## 6
                                                  348.0
                                                                      13.261
```

```
## 7
                                                    11.2
                                                                      32.354
     Biome.protection Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## 2
               0.1044
## 3
              17.0000
                                                                             20.8374
## 4
               7.3446
                                                                             41.9762
                                                                             29.7593
## 5
               5.7982
## 6
               7.0858
                                                                             27.3381
## 7
              16.9993
                                                                             50.0747
    Political.rights..0.no.rights..40.full.rights.
## 2
                                                    13
## 3
                                                    27
## 4
                                                    10
## 5
                                                    11
## 6
                                                    35
## 7
                                                    21
     Freedom.of.expression..0.no.freedom..1.full.freedom.
## 2
                                                       0.517
## 3
                                                       0.694
## 4
                                                       0.506
## 5
                                                       0.692
## 6
                                                       0.936
## 7
     Freedom.of.religion..O.no.freedom..4.full.freedom.
## 2
                                                     1.930
## 3
                                                     3.637
## 4
                                                     1.675
## 5
                                                     2.702
## 6
                                                     3.844
## 7
                                                     3.306
     Access.to.justice..O.non.existent..1.observed.
## 2
                                                 0.198
## 3
                                                0.936
## 4
                                                0.500
## 5
                                                0.487
## 6
                                                0.707
## 7
                                                0.812
     Property.rights.for.women..0.no.right..5.full.rights.
## 2
                                                        2.411
## 3
                                                        4.302
## 4
                                                        3.765
## 5
                                                        3.523
## 6
                                                        4.600
## 7
                                                        4.718
     Vulnerable.employment....of.employees. Corruption..0.high..100.low.
## 2
                                       79.726
## 3
                                       52.852
                                                                          35
## 4
                                       26.993
                                                                          35
## 5
                                       65.995
                                                                          26
## 6
                                       21.805
                                                                          45
## 7
                                       38.668
     Early.marriage....of.women. Satisfied.demand.for.contraception....of.women.
## 2
                          17.0939
                                                                                44.6
## 3
                           6.0183
                                                                                 8.6
## 4
                                                                                75.4
                           4.5245
```

```
## 5
                          17.3424
                                                                                 33.5
## 6
                          14.3056
                                                                                 83.4
## 7
                           4.1350
                                                                                 42.5
     Equality. of. political.power. by. socioeconomic.position.. 0. unequal.power.. 4. equal.power.\\
## 2
                                                                                            1.131
## 3
                                                                                            0.725
## 4
                                                                                            2.271
## 5
                                                                                            0.669
## 6
                                                                                            2.488
## 7
                                                                                            1.899
     Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## 2
                                                                                 2.268
## 3
                                                                                 2.568
## 4
                                                                                 2.573
## 5
                                                                                 0.950
## 6
                                                                                 2.795
## 7
                                                                                 3.594
     Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## 2
                                                                           1.284
## 3
                                                                           2.313
## 4
                                                                           1.879
## 5
                                                                           2.522
## 6
                                                                           2.317
## 7
                                                                           1.737
     Discrimination.and.violence.against.minorities..0.low..10.high.
## 2
                                                                  7.5000
## 3
                                                                  4.4000
## 4
                                                                  7.4724
## 5
                                                                  7.8000
## 6
                                                                  4.1000
## 7
                                                                  5.0000
     Acceptance.of.gays.and.lesbians..0.low..100.high.
## 2
                                                     0.03
## 3
                                                     0.08
## 4
                                                       NA
## 5
                                                     0.13
## 6
                                                     0.63
## 7
                                                     0.04
     Quality.weighted.universities..points. Citable.documents
## 2
                                          2.4
                                                           0.0083
## 3
                                          4.4
                                                           0.1717
## 4
                                         27.8
                                                           0.1884
## 5
                                          1.8
                                                           0.0040
## 6
                                          60.0
                                                           0.3061
## 7
                                          5.2
                                                           0.4446
     Women.with.advanced.education.... Years.of.tertiary.schooling
##
## 2
                                  0.1307
                                                                0.4843
## 3
                                  0.5269
                                                                2.7763
## 4
                                  0.5501
                                                                2.5683
## 5
                                                                0.5014
                                  0.2654
## 6
                                  0.7308
                                                                4.5005
## 7
                                  0.8350
                                                                2.7285
```

```
# name the rows by the countries
rownames(spi2020) <- spi2020[,2]
spirank <- spi2020[,1]
spi2020 <- spi2020[,-c(1:6)]
dim(spi2020)</pre>
```

[1] 163 65

head(spi2020)

##		Basic.Human.Needs	Foundations of	Wellbeing	Opportunity		
	Afghanistan	52.90	roundations.or	39.50	34.47		
	Albania	86.92		82.71	56.60		
	Algeria	87.69		66.05	56.02		
	Angola	52.60		52.20	39.69		
	Argentina	87.73		80.05	74.20		
	Armenia	87.91		78.22	63.24		
##		Nutrition.and.Basic.Medical.Care Water.and.Sanitation Shelter					
##	Afghanistan		61.51		49.45	56.63	
	Albania		92.99		90.61	90.54	
##	Algeria		92.24		93.81	93.51	
##	Angola		64.94		37.69	57.31	
##	Argentina		94.33		95.79	95.49	
##	Armenia		94.66		92.50	90.66	
##		Personal.Safety Access.to.Basic.Knowledge					
##	Afghanistan	44.02		30.55			
##	Albania	73.55		92.32			
##	Algeria	71.21		81.00			
##	Angola	50.46		57.07			
##	Argentina	65.33		88.50			
##	Armenia	73.83		93.42			
##		Access.to.Information.and.Communications Health.and.Wellness					
##	A C 1						
##	Afghanistan			41.07		34.47	
	Albania			41.07 77.32		34.47 74.47	
##	J						
## ##	Albania			77.32		74.47	
## ## ##	Albania Algeria			77.32 51.41		74.47 68.13	
## ## ## ##	Albania Algeria Angola			77.32 51.41 37.50 85.67 80.04		74.47 68.13 44.64 69.55 67.84	
## ## ## ##	Albania Algeria Angola Argentina	Environmental.Qual	=	77.32 51.41 37.50 85.67 80.04 ights Perso	onal.Freedom.	74.47 68.13 44.64 69.55 67.84	
## ## ## ## ##	Albania Algeria Angola Argentina	51	.93	77.32 51.41 37.50 85.67 80.04	onal.Freedom.	74.47 68.13 44.64 69.55 67.84	
## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania	51	.93	77.32 51.41 37.50 85.67 80.04 ights Perso	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice	
## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria	51 86	.93 .71 8	77.32 51.41 37.50 85.67 80.04 ights Perso	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82	
## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania	51 86 63	.93 .71 .63 .63	77.32 51.41 37.50 85.67 80.04 ights Perso	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09	
## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina	51 86 63 69 76	.93 .71 .63 .58 .50 .50	77.32 51.41 37.50 85.67 80.04 ights Perso 40.88 32.06 50.32 58.24 38.36	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	
## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola	51 86 63 69 76 71	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 10.88 32.06 50.32 58.24 38.36 30.48	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43	
## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina Armenia	51 86 63 69 76 71 Inclusiveness Acce	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 40.88 32.06 50.32 58.24 38.36 30.48 Education	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	
## ## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina Armenia Afghanistan	51 86 63 69 76 71 Inclusiveness Acce 30.11	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 40.88 32.06 50.32 58.24 38.36 30.48 Education 27.05	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	
## ## ## ## ## ## ## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina Armenia Afghanistan Albania	51 86 63 69 76 71 Inclusiveness Acce 30.11 42.50	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 40.88 32.06 50.32 58.24 38.36 30.48 Education 27.05 54.75	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	
## ## ## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria	51 86 63 69 76 71 Inclusiveness Acce 30.11 42.50 45.01	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 40.88 32.06 50.32 58.24 38.36 30.48 Education 27.05 54.75 59.75	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	
## ## ## ## ## ## ## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina Armenia Afghanistan Albania Angentina Armenia	51 86 63 69 76 71 Inclusiveness Acce 30.11 42.50 45.01 30.96	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 10.88 32.06 50.32 58.24 38.36 30.48 Education 27.05 54.75 59.75 27.13	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	
## ## ## ## ## ## ## ## ## ## ## ## ##	Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria Angola Argentina Armenia Afghanistan Albania Algeria	51 86 63 69 76 71 Inclusiveness Acce 30.11 42.50 45.01	.93	77.32 51.41 37.50 85.67 80.04 ights Perso 40.88 32.06 50.32 58.24 38.36 30.48 Education 27.05 54.75 59.75	onal.Freedom.	74.47 68.13 44.64 69.55 67.84 and.Choice 39.82 47.09 69.00 42.43 69.77	

```
##
               Undernourishment....of.pop..
## Afghanistan
                                         29.9
                                          3.6
## Albania
## Algeria
                                         2.8
## Angola
                                         18.6
## Argentina
                                         3.8
## Armenia
                                          2.6
               Deaths.from.infectious.diseases..deaths.100.000.
## Afghanistan
                                                         154.9591
## Albania
                                                           15.8144
## Algeria
                                                           22.5509
                                                         418.9029
## Angola
                                                           67.3925
## Argentina
                                                           19.5087
## Armenia
               Child.stunting....of.children.
## Afghanistan
                                         48.734
## Albania
                                         20.819
## Algeria
                                         12.544
## Angola
                                         41.041
## Argentina
                                         7.440
## Armenia
                                         12.050
##
               Maternal.mortality.rate..deaths.100.000.live.births.
## Afghanistan
                                                               289.414
## Albania
                                                                 9.529
## Algeria
                                                                61.177
## Angola
                                                               183.254
## Argentina
                                                                49.232
## Armenia
                                                                25.185
##
               Child.mortality.rate..deaths.1.000.live.births.
## Afghanistan
                                                         62.2764
## Albania
                                                           8.8233
## Algeria
                                                         23.4821
## Angola
                                                         77.1645
## Argentina
                                                          9.9450
## Armenia
                                                         12.3806
               Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Afghanistan
                                                                                        16.200
## Albania
                                                                                         0.273
## Algeria
                                                                                         1.028
## Angola
                                                                                       101.626
## Argentina
                                                                                         1.466
## Armenia
                                                                                         0.528
               Populations.using.unsafe.or.unimproved.water.sources....
## Afghanistan
                                                                    82.506
## Albania
                                                                    17.556
## Algeria
                                                                    11.641
## Angola
                                                                    76.625
## Argentina
                                                                     7.812
## Armenia
                                                                     2.950
               Populations.using.unsafe.or.unimproved.sanitation....
## Afghanistan
                                                                 69.794
## Albania
                                                                 12.509
## Algeria
                                                                  7.580
## Angola
                                                                 54.542
```

```
4.728
## Argentina
                                                                 21.700
## Armenia
               Usage.of.clean.fuels.and.technology.for.cooking....of.pop..
##
## Afghanistan
## Albania
                                                                            80
## Algeria
                                                                            95
## Angola
                                                                            48
## Argentina
                                                                            95
## Armenia
                                                                            95
##
               Access.to.electricity....of.pop..
## Afghanistan
                                           98.7132
                                          100.0000
## Albania
                                          100.0000
## Algeria
## Angola
                                           43.2593
## Argentina
                                          100.0000
## Armenia
                                          100.0000
##
               Household.air.pollution.attributable.deaths..deaths.100.000.
## Afghanistan
## Albania
                                                                        31.459
## Algeria
                                                                        34.701
## Angola
                                                                        78.762
## Argentina
                                                                        24.101
## Armenia
                                                                        49.918
               Traffic.deaths..deaths.100.000.
                                          32.777
## Afghanistan
## Albania
                                           7.707
## Algeria
                                          17.138
## Angola
                                          28.970
## Argentina
                                          13.124
## Armenia
                                           7.313
               Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Afghanistan
                                                                             0.35
                                                                             0.95
## Albania
## Algeria
                                                                             0.60
## Angola
                                                                             0.58
## Argentina
                                                                             0.78
## Armenia
                                                                             0.90
##
               Perceived.criminality..1.low..5.high.
## Afghanistan
## Albania
                                                     4
## Algeria
                                                     3
                                                     5
## Angola
## Argentina
                                                     4
## Armenia
                                                     4
               Homicide.rate..deaths.100.000.
                                         6.6556
## Afghanistan
## Albania
                                         2.2895
## Algeria
                                         1.3643
## Angola
                                             NA
                                         5.3245
## Argentina
## Armenia
                                         1.6939
               Access.to.quality.education..0.unequal..4.equal.
## Afghanistan
                                                             0.819
## Albania
                                                             2.585
```

```
## Algeria
                                                             3.029
## Angola
                                                             0.794
## Argentina
                                                             2.762
                                                             3.100
## Armenia
               Women.with.no.schooling
## Afghanistan
                                 0.7086
## Albania
                                 0.0075
## Algeria
                                 0.1892
## Angola
                                 0.1272
## Argentina
                                 0.0043
## Armenia
                                 0.0011
               Gender.parity.in.secondary.attainment..distance.from.parity.
## Afghanistan
                                                                        0.6423
## Albania
                                                                        0.0075
## Algeria
                                                                        0.0051
## Angola
                                                                        0.3937
                                                                        0.0506
## Argentina
## Armenia
                                                                        0.0072
##
               Primary.school.enrollment....of.children.
## Afghanistan
## Albania
                                                   97.4422
## Algeria
                                                   99.6475
## Angola
                                                        NA
## Argentina
                                                   99.5673
## Armenia
                                                   93.0948
               Secondary.school.attainment....of.population.
## Afghanistan
                                                           92.9
## Albania
                                                           38.9
## Algeria
                                                           30.2
## Angola
## Argentina
                                                           64.8
## Armenia
                                                           97.2
##
               Access.to.online.governance..0.low..1.high.
                                                      0.4643
## Afghanistan
## Albania
                                                      0.8452
## Algeria
                                                      0.1548
## Angola
                                                      0.4524
## Argentina
                                                      0.8571
## Armenia
                                                      0.7500
##
               Media.censorship..0.frequent..4.rare. Internet.users....of.pop..
                                                 1.850
                                                                           13.5000
## Afghanistan
                                                 1.724
## Albania
                                                                           71.8470
                                                 0.931
                                                                           49.0385
## Algeria
                                                 2.180
## Angola
                                                                            14.3391
## Argentina
                                                 3.136
                                                                           74.2949
                                                 3.096
                                                                            64.7449
## Armenia
               Mobile.telephone.subscriptions..subscriptions.100.people.
## Afghanistan
                                                                    59.1208
## Albania
                                                                    94.1770
## Algeria
                                                                   111.6648
                                                                    43.1305
## Angola
                                                                   132.0932
## Argentina
## Armenia
                                                                   121.2590
               Access.to.quality.healthcare..0.unequal..4.equal.
##
```

```
2.022
## Afghanistan
## Albania
                                                              2.956
                                                              1.621
## Algeria
## Angola
                                                              0.958
## Argentina
                                                              2.744
## Armenia
                                                              3.292
               Access.to.essential.services...0.none..100.full.coverage.
## Afghanistan
                                                                     46.067
## Albania
                                                                     81.062
## Algeria
                                                                     72.764
## Angola
                                                                     44.479
                                                                     74.685
## Argentina
## Armenia
                                                                     76.644
##
               Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Afghanistan
                                                                            944.478
## Albania
                                                                            276.036
## Algeria
                                                                            270.149
## Angola
                                                                            430.054
## Argentina
                                                                            327.380
## Armenia
                                                                            413.570
##
               Life.expectancy.at.60..years.
## Afghanistan
                                       15.2592
## Albania
                                       22.0736
## Algeria
                                       22.7445
## Angola
                                       16.8830
## Argentina
                                       21.3868
## Armenia
                                       19.8741
               Greenhouse.gas.emissions..total.CO2.equivalents. Particulate.matter
                                                              34.0
## Afghanistan
                                                                                56.668
## Albania
                                                              10.2
                                                                                17.942
## Algeria
                                                             229.0
                                                                                39.322
## Angola
                                                             101.0
                                                                                32.532
## Argentina
                                                             348.0
                                                                                13.261
## Armenia
                                                              11.2
                                                                                32.354
               Biome.protection
## Afghanistan
                          0.1044
## Albania
                         17.0000
## Algeria
                          7.3446
## Angola
                          5.7982
                          7.0858
## Argentina
## Armenia
                         16.9993
               {\tt Outdoor.air.pollution.attributable.deaths..deaths.100.000.}
## Afghanistan
                                                                     45.7377
## Albania
                                                                     20.8374
## Algeria
                                                                     41.9762
                                                                     29.7593
## Angola
## Argentina
                                                                     27.3381
## Armenia
                                                                     50.0747
               Political.rights..0.no.rights..40.full.rights.
## Afghanistan
                                                              27
## Albania
## Algeria
                                                              10
## Angola
                                                              11
## Argentina
                                                              35
```

```
## Armenia
##
               Freedom.of.expression..0.no.freedom..1.full.freedom.
## Afghanistan
                                                                  0.517
## Albania
                                                                  0.694
## Algeria
                                                                  0.506
## Angola
                                                                  0.692
## Argentina
                                                                  0.936
## Armenia
                                                                  0.846
               Freedom.of.religion..O.no.freedom..4.full.freedom.
## Afghanistan
                                                                1.930
## Albania
                                                                3.637
                                                                1.675
## Algeria
## Angola
                                                                2.702
## Argentina
                                                               3.844
## Armenia
                                                                3.306
##
                Access.to.justice..O.non.existent..1.observed.
## Afghanistan
                                                           0.198
                                                           0.936
## Albania
## Algeria
                                                           0.500
## Angola
                                                           0.487
## Argentina
                                                           0.707
## Armenia
                                                           0.812
##
               Property.rights.for.women..0.no.right..5.full.rights.
## Afghanistan
## Albania
                                                                   4.302
## Algeria
                                                                   3.765
## Angola
                                                                   3.523
## Argentina
                                                                   4.600
## Armenia
                                                                   4.718
                Vulnerable.employment....of.employees. Corruption..0.high..100.low.
## Afghanistan
                                                  79.726
## Albania
                                                  52.852
                                                                                     35
                                                  26.993
                                                                                     35
## Algeria
                                                  65.995
                                                                                     26
## Angola
## Argentina
                                                  21.805
                                                                                     45
## Armenia
                                                  38.668
                                                                                     42
##
               Early.marriage....of.women.
## Afghanistan
                                     17.0939
## Albania
                                      6.0183
## Algeria
                                      4.5245
## Angola
                                     17.3424
## Argentina
                                     14.3056
## Armenia
                                      4.1350
##
               {\tt Satisfied.demand.for.contraception...of.women.}
## Afghanistan
                                                             44.6
## Albania
                                                              8.6
                                                             75.4
## Algeria
                                                             33.5
## Angola
## Argentina
                                                             83.4
                                                             42.5
## Armenia
               {\tt Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.}
## Afghanistan
                                                                                                      1.131
## Albania
                                                                                                      0.725
## Algeria
                                                                                                      2.271
```

```
## Angola
## Argentina
## Armenia
##
               Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Afghanistan
## Albania
                                                                                           2.568
## Algeria
                                                                                           2.573
## Angola
                                                                                           0.950
## Argentina
                                                                                           2.795
## Armenia
                                                                                           3.594
##
                Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Afghanistan
                                                                                     1.284
## Albania
                                                                                     2.313
## Algeria
                                                                                     1.879
## Angola
                                                                                     2.522
## Argentina
                                                                                     2.317
## Armenia
                                                                                     1.737
##
                Discrimination.and.violence.against.minorities..0.low..10.high.
## Afghanistan
                                                                            7.5000
                                                                            4.4000
## Albania
## Algeria
                                                                            7.4724
## Angola
                                                                            7.8000
## Argentina
                                                                            4.1000
## Armenia
                                                                            5.0000
##
                Acceptance.of.gays.and.lesbians..0.low..100.high.
## Afghanistan
                                                               0.03
## Albania
                                                               0.08
                                                                  ΝA
## Algeria
## Angola
                                                               0.13
## Argentina
                                                               0.63
## Armenia
                                                               0.04
##
                Quality.weighted.universities..points. Citable.documents
## Afghanistan
                                                     2.4
                                                                     0.0083
## Albania
                                                     4.4
                                                                     0.1717
                                                    27.8
## Algeria
                                                                     0.1884
## Angola
                                                     1.8
                                                                     0.0040
## Argentina
                                                    60.0
                                                                     0.3061
## Armenia
                                                     5.2
                                                                     0.4446
##
                Women.with.advanced.education.... Years.of.tertiary.schooling
## Afghanistan
                                            0.1307
                                                                          0.4843
## Albania
                                            0.5269
                                                                          2.7763
## Algeria
                                            0.5501
                                                                          2.5683
## Angola
                                            0.2654
                                                                          0.5014
## Argentina
                                            0.7308
                                                                          4.5005
## Armenia
                                            0.8350
                                                                          2.7285
Then we remove columns which do not have available data (remove "NA").
NAobject <- colnames(spi2020)[apply(is.na(spi2020), 2, any)]
spi2020 <- spi2020[,!names(spi2020) %in% NAobject]</pre>
#check
dim(spi2020)
```

2.488

1.899

[1] 163 54

```
##
               Basic.Human.Needs Foundations.of.Wellbeing Opportunity
## Afghanistan
                            52.90
                                                       39.50
                                                                   34.47
## Albania
                            86.92
                                                      82.71
                                                                   56.60
                            87.69
                                                      66.05
                                                                   56.02
## Algeria
## Angola
                            52.60
                                                      52.20
                                                                   39.69
## Argentina
                            87.73
                                                      80.05
                                                                   74.20
## Armenia
                            87.91
                                                      78.22
                                                                   63.24
##
               Nutrition.and.Basic.Medical.Care Water.and.Sanitation Shelter
## Afghanistan
                                            61.51
                                                                  49.45
                                                                          56.63
## Albania
                                            92.99
                                                                  90.61
                                                                           90.54
## Algeria
                                            92.24
                                                                  93.81
                                                                           93.51
## Angola
                                            64.94
                                                                  37.69
                                                                           57.31
## Argentina
                                                                  95.79
                                            94.33
                                                                           95.49
## Armenia
                                            94.66
                                                                  92.50
                                                                           90.66
##
               Personal.Safety Access.to.Basic.Knowledge
## Afghanistan
                          44.02
                                                      30.55
## Albania
                          73.55
                                                      92.32
## Algeria
                          71.21
                                                      81.00
## Angola
                          50.46
                                                      57.07
## Argentina
                          65.33
                                                      88.50
## Armenia
                          73.83
                                                      93.42
##
               Access.to.Information.and.Communications Health.and.Wellness
## Afghanistan
                                                    41.07
                                                                          34.47
## Albania
                                                    77.32
                                                                          74.47
                                                                          68.13
## Algeria
                                                    51.41
## Angola
                                                    37.50
                                                                          44.64
## Argentina
                                                    85.67
                                                                          69.55
## Armenia
                                                    80.04
                                                                          67.84
##
               Environmental.Quality Personal.Rights Personal.Freedom.and.Choice
## Afghanistan
                                51.93
                                                 40.88
                                                                               39.82
## Albania
                                86.71
                                                 82.06
                                                                               47.09
                                                 50.32
## Algeria
                                63.63
                                                                               69.00
## Angola
                                69.58
                                                 58.24
                                                                               42.43
## Argentina
                                76.50
                                                 88.36
                                                                               69.77
## Armenia
                                71.58
                                                 80.48
                                                                               60.86
##
               Inclusiveness Access.to.Advanced.Education
## Afghanistan
                        30.11
                                                      27.05
## Albania
                        42.50
                                                      54.75
## Algeria
                        45.01
                                                      59.75
## Angola
                        30.96
                                                      27.13
## Argentina
                        63.14
                                                      75.53
## Armenia
                        48.04
                                                      63.59
##
               Deaths.from.infectious.diseases..deaths.100.000.
## Afghanistan
                                                          154.9591
## Albania
                                                           15.8144
## Algeria
                                                           22.5509
## Angola
                                                          418.9029
## Argentina
                                                           67.3925
## Armenia
                                                           19.5087
##
               Child.stunting....of.children.
                                         48.734
## Afghanistan
```

```
## Albania
                                         20.819
## Algeria
                                         12.544
## Angola
                                         41.041
## Argentina
                                         7.440
## Armenia
                                         12.050
##
               Maternal.mortality.rate..deaths.100.000.live.births.
## Afghanistan
                                                               289.414
## Albania
                                                                 9.529
## Algeria
                                                                61.177
## Angola
                                                               183.254
## Argentina
                                                                49.232
                                                                25.185
## Armenia
               Child.mortality.rate..deaths.1.000.live.births.
## Afghanistan
                                                         62.2764
## Albania
                                                          8.8233
## Algeria
                                                         23.4821
## Angola
                                                         77.1645
## Argentina
                                                          9.9450
## Armenia
                                                         12.3806
               Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
##
## Afghanistan
                                                                                        16.200
## Albania
                                                                                         0.273
## Algeria
                                                                                         1.028
## Angola
                                                                                       101.626
## Argentina
                                                                                         1.466
## Armenia
                                                                                         0.528
##
               Populations.using.unsafe.or.unimproved.water.sources....
## Afghanistan
                                                                    82.506
## Albania
                                                                    17.556
## Algeria
                                                                    11.641
## Angola
                                                                    76.625
## Argentina
                                                                     7.812
                                                                     2.950
## Armenia
##
               Populations.using.unsafe.or.unimproved.sanitation....
## Afghanistan
                                                                 69.794
                                                                 12.509
## Albania
## Algeria
                                                                  7.580
## Angola
                                                                 54.542
## Argentina
                                                                  4.728
## Armenia
                                                                 21.700
##
               Access.to.electricity....of.pop..
## Afghanistan
                                           98.7132
## Albania
                                          100.0000
## Algeria
                                          100.0000
## Angola
                                           43.2593
## Argentina
                                          100.0000
## Armenia
                                          100.0000
##
               Household.air.pollution.attributable.deaths..deaths.100.000.
## Afghanistan
                                                                       155.837
## Albania
                                                                        31.459
## Algeria
                                                                        34.701
## Angola
                                                                        78.762
## Argentina
                                                                        24.101
## Armenia
                                                                        49.918
```

```
##
               Traffic.deaths..deaths.100.000.
## Afghanistan
                                          32.777
                                          7.707
## Albania
## Algeria
                                          17.138
## Angola
                                          28.970
## Argentina
                                          13.124
## Armenia
                                          7.313
               Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Afghanistan
                                                                            0.35
## Albania
                                                                            0.95
## Algeria
                                                                            0.60
                                                                            0.58
## Angola
## Argentina
                                                                            0.78
## Armenia
                                                                            0.90
               Access.to.quality.education..0.unequal..4.equal.
## Afghanistan
                                                             0.819
## Albania
                                                             2.585
## Algeria
                                                             3.029
## Angola
                                                             0.794
## Argentina
                                                             2.762
## Armenia
                                                             3.100
##
               Women.with.no.schooling Access.to.online.governance..0.low..1.high.
## Afghanistan
                                 0.7086
                                                                               0.4643
## Albania
                                 0.0075
                                                                               0.8452
## Algeria
                                                                               0.1548
                                 0.1892
## Angola
                                 0.1272
                                                                               0.4524
## Argentina
                                 0.0043
                                                                               0.8571
## Armenia
                                 0.0011
                                                                               0.7500
##
               Media.censorship..0.frequent..4.rare. Internet.users....of.pop..
## Afghanistan
                                                 1.850
                                                                           13.5000
## Albania
                                                 1.724
                                                                           71.8470
## Algeria
                                                 0.931
                                                                           49.0385
## Angola
                                                 2.180
                                                                           14.3391
## Argentina
                                                 3.136
                                                                           74.2949
## Armenia
                                                 3.096
                                                                           64.7449
               Mobile.telephone.subscriptions..subscriptions.100.people.
## Afghanistan
                                                                    59.1208
## Albania
                                                                    94.1770
## Algeria
                                                                   111.6648
## Angola
                                                                    43.1305
## Argentina
                                                                   132.0932
## Armenia
                                                                   121.2590
               Access.to.quality.healthcare..0.unequal..4.equal.
## Afghanistan
                                                             2.022
## Albania
                                                             2.956
## Algeria
                                                             1.621
## Angola
                                                             0.958
## Argentina
                                                             2.744
## Armenia
                                                             3.292
               Access.to.essential.services...0.none..100.full.coverage.
## Afghanistan
                                                                     46.067
## Albania
                                                                     81.062
                                                                     72.764
## Algeria
## Angola
                                                                     44.479
```

```
74.685
## Argentina
## Armenia
                                                                     76.644
##
               Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Afghanistan
## Albania
                                                                           276.036
## Algeria
                                                                           270.149
## Angola
                                                                           430.054
## Argentina
                                                                           327.380
## Armenia
                                                                           413.570
##
               Life.expectancy.at.60..years.
## Afghanistan
                                      15.2592
                                      22.0736
## Albania
                                      22.7445
## Algeria
## Angola
                                      16.8830
## Argentina
                                      21.3868
## Armenia
                                      19.8741
##
               Greenhouse.gas.emissions..total.CO2.equivalents. Particulate.matter
## Afghanistan
                                                                               56.668
## Albania
                                                              10.2
                                                                               17.942
## Algeria
                                                             229.0
                                                                               39.322
## Angola
                                                             101.0
                                                                               32.532
## Argentina
                                                             348.0
                                                                               13.261
## Armenia
                                                              11.2
                                                                               32.354
               Biome.protection
## Afghanistan
                          0.1044
## Albania
                         17.0000
## Algeria
                          7.3446
## Angola
                          5.7982
## Argentina
                          7.0858
## Armenia
                         16.9993
               Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Afghanistan
                                                                     45.7377
## Albania
                                                                     20.8374
## Algeria
                                                                     41.9762
## Angola
                                                                     29.7593
## Argentina
                                                                     27.3381
## Armenia
                                                                     50.0747
##
               Political.rights..0.no.rights..40.full.rights.
## Afghanistan
## Albania
                                                              27
## Algeria
                                                              10
## Angola
                                                              11
## Argentina
                                                              35
## Armenia
               Freedom.of.expression..0.no.freedom..1.full.freedom.
## Afghanistan
                                                                 0.517
                                                                 0.694
## Albania
## Algeria
                                                                 0.506
## Angola
                                                                 0.692
## Argentina
                                                                 0.936
## Armenia
                                                                 0.846
               Freedom.of.religion..O.no.freedom..4.full.freedom.
## Afghanistan
                                                               1.930
## Albania
                                                               3.637
```

```
## Algeria
                                                               1.675
## Angola
                                                               2.702
## Argentina
                                                               3.844
                                                               3.306
## Armenia
               Access.to.justice..O.non.existent..1.observed.
## Afghanistan
                                                           0.198
## Albania
                                                           0.936
                                                           0.500
## Algeria
## Angola
                                                           0.487
                                                           0.707
## Argentina
## Armenia
                                                           0.812
               Property.rights.for.women..0.no.right..5.full.rights.
## Afghanistan
                                                                  4.302
## Albania
## Algeria
                                                                  3.765
## Angola
                                                                  3.523
                                                                  4.600
## Argentina
## Armenia
                                                                  4.718
               Vulnerable.employment....of.employees. Early.marriage....of.women.
## Afghanistan
                                                 79.726
                                                                              17.0939
## Albania
                                                 52.852
                                                                               6.0183
## Algeria
                                                 26.993
                                                                               4.5245
                                                 65.995
                                                                              17.3424
## Angola
## Argentina
                                                 21.805
                                                                              14.3056
## Armenia
                                                 38.668
                                                                               4.1350
               Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
## Afghanistan
                                                                                                     1.131
                                                                                                     0.725
## Albania
## Algeria
                                                                                                     2.271
## Angola
                                                                                                     0.669
## Argentina
                                                                                                     2.488
## Armenia
                                                                                                     1.899
               Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
##
## Afghanistan
                                                                                           2.268
## Albania
                                                                                           2.568
## Algeria
                                                                                           2.573
## Angola
                                                                                           0.950
## Argentina
                                                                                           2.795
## Armenia
                                                                                           3.594
##
               Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Afghanistan
## Albania
                                                                                    2.313
                                                                                    1.879
## Algeria
## Angola
                                                                                    2.522
## Argentina
                                                                                    2.317
## Armenia
                                                                                    1.737
               {\tt Discrimination.and.violence.against.minorities..0.low..10.high.}
                                                                            7.5000
## Afghanistan
                                                                            4.4000
## Albania
                                                                            7.4724
## Algeria
                                                                            7.8000
## Angola
                                                                            4.1000
## Argentina
## Armenia
                                                                            5.0000
               Quality.weighted.universities..points. Citable.documents
##
```

```
## Afghanistan
                                                   2.4
                                                                  0.0083
## Albania
                                                   4.4
                                                                  0.1717
## Algeria
                                                  27.8
                                                                  0.1884
## Angola
                                                   1.8
                                                                  0.0040
## Argentina
                                                  60.0
                                                                  0.3061
## Armenia
                                                                  0.4446
                                                   5.2
               Women.with.advanced.education....
## Afghanistan
                                          0.1307
                                          0.5269
## Albania
## Algeria
                                          0.5501
## Angola
                                          0.2654
## Argentina
                                          0.7308
## Armenia
                                          0.8350
```

How is Singapore fairing here? What about the US?

rownames(spi2020)

##	[1]	"Afghanistan"	"Albania"
##	[3]	"Algeria"	"Angola"
##	[5]	"Argentina"	"Armenia"
##	[7]	"Australia"	"Austria"
##	[9]	"Azerbaijan"	"Bahrain"
##	[11]	"Bangladesh"	"Barbados"
##	[13]	"Belarus"	"Belgium"
##	[15]	"Benin"	"Bhutan"
##	[17]	"Bolivia"	"Bosnia and Herzegovina"
##	[19]	"Botswana"	"Brazil"
##	[21]	"Bulgaria"	"Burkina Faso"
##	[23]	"Burundi"	"Cabo Verde"
##	[25]	"Cambodia"	"Cameroon"
##	[27]	"Canada"	"Central African Republic"
##	[29]	"Colombia"	"Congo, Democratic Republic of'
##	[31]	"Congo, Republic of"	"Costa Rica"
##	[33]	"Côte d'Ivoire"	"Croatia"
##	[35]	"Cuba"	"Cyprus"
##	[37]	"Czechia"	"Denmark"
##	[39]	"Djibouti"	"Dominican Republic"
##	[41]	"Ecuador"	"Egypt"
##	[43]	"El Salvador"	"Equatorial Guinea"
##	[45]	"Eritrea"	"Estonia"
##	[47]	"Eswatini"	"Ethiopia"
##	[49]	"Fiji"	"Finland"
##	[51]	"France"	"Gabon"
##	[53]	"Gambia, The"	"Georgia"
##		"Germany"	"Ghana"
##	[57]	"Greece"	"Guatemala"
##	[59]	"Guinea"	"Guinea-Bissau"
##	[61]	"Guyana"	"Haiti"
##	[63]	"Honduras"	"Hungary"
##	[65]	"Chad"	"Chile"
##	[67]	"China"	"Iceland"
##	[69]	"India"	"Indonesia"

```
[71] "Iran"
##
                                          "Iraq"
##
   [73] "Ireland"
                                          "Israel"
##
  [75] "Italy"
                                          "Jamaica"
## [77] "Japan"
                                          ".Jordan"
   [79] "Kazakhstan"
                                          "Kenya"
  [81] "Korea, Democratic Republic of" "Korea, Republic of"
##
## [83] "Kuwait"
                                          "Kyrgyzstan"
## [85] "Laos"
                                          "Latvia"
## [87] "Lebanon"
                                          "Lesotho"
##
  [89] "Liberia"
                                          "Lithuania"
  [91] "Luxembourg"
                                          "Madagascar"
## [93] "Malawi"
                                          "Malaysia"
## [95] "Maldives"
                                          "Mali"
## [97] "Malta"
                                          "Mauritania"
## [99] "Mauritius"
                                          "Mexico"
## [101] "Moldova"
                                          "Mongolia"
## [103] "Montenegro"
                                          "Morocco"
## [105] "Mozambique"
                                          "Myanmar"
## [107] "Namibia"
                                          "Nepal"
## [109] "Netherlands"
                                          "New Zealand"
## [111] "Nicaragua"
                                          "Niger"
## [113] "Nigeria"
                                          "Norway"
## [115] "Oman"
                                          "Pakistan"
## [117] "Panama"
                                          "Papua New Guinea"
## [119] "Paraguay"
                                          "Peru"
## [121] "Philippines"
                                          "Poland"
## [123] "Portugal"
                                          "Qatar"
## [125] "Republic of North Macedonia"
                                          "Romania"
## [127] "Russia"
                                          "Rwanda"
## [129] "Saudi Arabia"
                                          "Senegal"
## [131] "Serbia"
                                          "Sierra Leone"
## [133] "Singapore"
                                          "Slovakia"
## [135] "Slovenia"
                                          "Somalia"
## [137] "South Africa"
                                          "South Sudan"
## [139] "Spain"
                                          "Sri Lanka"
## [141] "Sudan"
                                          "Suriname"
## [143] "Sweden"
                                          "Switzerland"
## [145] "Tajikistan"
                                          "Tanzania"
## [147] "Thailand"
                                          "Timor-Leste"
## [149] "Togo"
                                          "Trinidad and Tobago"
## [151] "Tunisia"
                                          "Turkey"
## [153] "Turkmenistan"
                                          "Uganda"
## [155] "Ukraine"
                                          "United Arab Emirates"
                                          "United States"
## [157] "United Kingdom"
## [159] "Uruguay"
                                          "Uzbekistan"
## [161] "Vietnam"
                                          "Zambia"
## [163] "Zimbabwe"
spi2020["Singapore", ]
##
             Basic.Human.Needs Foundations.of.Wellbeing Opportunity
                         97.66
## Singapore
                                                   86.13
                                                                72.58
             Nutrition.and.Basic.Medical.Care Water.and.Sanitation Shelter
                                         98.03
                                                               98.96
                                                                       97.08
## Singapore
```

```
##
             Personal.Safety Access.to.Basic.Knowledge
## Singapore
                       96.57
                                                  92.66
             Access.to.Information.and.Communications Health.and.Wellness
##
                                                 84.52
## Singapore
##
             Environmental.Quality Personal.Rights Personal.Freedom.and.Choice
## Singapore
                              76.98
                                              70.78
             Inclusiveness Access.to.Advanced.Education
                     56.09
## Singapore
##
             Deaths.from.infectious.diseases..deaths.100.000.
                                                       43.9703
  Singapore
             Child.stunting....of.children.
                                       3.527
##
  Singapore
             Maternal.mortality.rate..deaths.100.000.live.births.
##
                                                              5.868
  Singapore
             Child.mortality.rate..deaths.1.000.live.births.
##
## Singapore
                                                       2.8087
##
             Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                     0.483
  Singapore
             Populations.using.unsafe.or.unimproved.water.sources....
##
## Singapore
##
             Populations.using.unsafe.or.unimproved.sanitation....
## Singapore
             Access.to.electricity....of.pop..
##
## Singapore
             Household.air.pollution.attributable.deaths..deaths.100.000.
##
## Singapore
                                                                     15.616
##
             Traffic.deaths..deaths.100.000.
                                        3.066
## Singapore
             Political.killings.and.torture..0.low.freedom..1.high.freedom.
##
## Singapore
                                                                         0.91
##
             Access.to.quality.education..0.unequal..4.equal.
## Singapore
                                                          3.677
             Women.with.no.schooling Access.to.online.governance..0.low..1.high.
##
                               0.0469
##
  Singapore
             Media.censorship..0.frequent..4.rare. Internet.users....of.pop...
                                              1.086
## Singapore
             Mobile.telephone.subscriptions..subscriptions.100.people.
## Singapore
##
             Access.to.quality.healthcare..0.unequal..4.equal.
## Singapore
             Access.to.essential.services...O.none..100.full.coverage.
## Singapore
             Premature.deaths.from.non.communicable.diseases..deaths.100.000.
##
                                                                        155.521
## Singapore
             Life.expectancy.at.60..years.
                                    26.7857
## Singapore
             Greenhouse.gas.emissions..total.CO2.equivalents. Particulate.matter
##
                                                           99.7
                                                                            19.146
  Singapore
             Biome.protection
## Singapore
                       4.9626
             Outdoor.air.pollution.attributable.deaths..deaths.100.000.
##
##
             Political.rights..0.no.rights..40.full.rights.
## Singapore
```

```
##
             Freedom.of.expression..O.no.freedom..1.full.freedom.
## Singapore
                                                              0.435
##
             Freedom.of.religion..O.no.freedom..4.full.freedom.
##
  Singapore
##
             Access.to.justice..O.non.existent..1.observed.
## Singapore
             Property.rights.for.women..0.no.right..5.full.rights.
##
## Singapore
##
             Vulnerable.employment....of.employees. Early.marriage....of.women.
##
  Singapore
                                                9.666
             {\tt Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.}
                                                                                                   2.33
##
  Singapore
##
             Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
  Singapore
             Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
##
                                                                                  2.54
  Singapore
             Discrimination.and.violence.against.minorities..0.low..10.high.
##
  Singapore
             Quality.weighted.universities..points. Citable.documents
##
## Singapore
             Women.with.advanced.education....
##
## Singapore
spi2020["United States", ]
                 Basic. Human. Needs Foundations. of. Wellbeing Opportunity
##
## United States
                                                        83.14
                 Nutrition.and.Basic.Medical.Care Water.and.Sanitation Shelter
##
                                             97.61
                                                                   98.97
  United States
##
                 Personal.Safety Access.to.Basic.Knowledge
  United States
                            73.82
                                                       92.42
##
                 Access.to.Information.and.Communications Health.and.Wellness
   United States
##
                                                       93.3
                                                                           74.66
                 Environmental.Quality Personal.Rights Personal.Freedom.and.Choice
##
##
                                  72 18
                                                   90 84
                                                                                84.96
  United States
##
                 Inclusiveness Access.to.Advanced.Education
                          61.24
##
  United States
                 Deaths.from.infectious.diseases..deaths.100.000.
  United States
##
##
                 Child.stunting....of.children.
  United States
                                           2.315
##
                 Maternal.mortality.rate..deaths.100.000.live.births.
  United States
##
                 Child.mortality.rate..deaths.1.000.live.births.
   United States
                                                            6.5328
                 Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
##
##
   United States
                                                                                          0.282
##
                 Populations.using.unsafe.or.unimproved.water.sources....
  United States
                 Populations.using.unsafe.or.unimproved.sanitation....
##
  United States
                                                                   2.912
##
                 Access.to.electricity....of.pop..
  United States
```

Household.air.pollution.attributable.deaths..deaths.100.000.

##

```
## United States
                                                                          11.08
                 Traffic.deaths..deaths.100.000.
##
  United States
                 Political.killings.and.torture..O.low.freedom..1.high.freedom.
##
## United States
                 Access.to.quality.education..0.unequal..4.equal.
##
  United States
##
                 Women.with.no.schooling
  United States
                                   0.0036
##
                 Access.to.online.governance..0.low..1.high.
   United States
                 Media.censorship..0.frequent..4.rare. Internet.users....of.pop..
  United States
                                                  3.204
                 Mobile.telephone.subscriptions..subscriptions.100.people.
  United States
##
                 Access.to.quality.healthcare..0.unequal..4.equal.
  United States
                 Access.to.essential.services...0.none..100.full.coverage.
  United States
##
                 Premature.deaths.from.non.communicable.diseases..deaths.100.000.
##
  United States
                                                                            282.187
                 Life.expectancy.at.60..years.
## United States
                                        23 2743
                 Greenhouse.gas.emissions..total.CO2.equivalents.
  United States
                 Particulate.matter Biome.protection
##
  United States
                              7,236
                                               9.1447
                 Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                      15.0439
  United States
                 Political.rights..0.no.rights..40.full.rights.
  United States
##
                 Freedom.of.expression..O.no.freedom..1.full.freedom.
  United States
                 Freedom.of.religion..O.no.freedom..4.full.freedom.
##
  United States
                 Access.to.justice..O.non.existent..1.observed.
  United States
##
                 Property.rights.for.women..O.no.right..5.full.rights.
  United States
##
                 Vulnerable.employment....of.employees.
  United States
                 Early.marriage....of.women.
  United States
                                       3.4027
                 Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
  United States
                                                                                                     2.195
                 Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
##
  United States
                                                                                          2.748
                 Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
  United States
                                                                                     2.43
                 Discrimination.and.violence.against.minorities..0.low..10.high.
  United States
                                                                               6.2
                 Quality.weighted.universities..points. Citable.documents
## United States
                                                  1072.6
                                                                     1.8456
##
                 Women.with.advanced.education....
```

summary(spi2020\$Access.to.Basic.Knowledge)

```
## Min. 1st Qu. Median Mean 3rd Qu. Max.
## 24.88 66.64 81.13 77.13 92.56 99.01
```

Country with highest value for access to basic knowledge spi2020[which.max(spi2020\$Access.to.Basic.Knowledge),]

```
##
           Basic. Human. Needs Foundations. of. Wellbeing Opportunity
## Czechia
                       95.45
                                                 86.79
           Nutrition.and.Basic.Medical.Care Water.and.Sanitation Shelter
##
                                       98.28
                                                             98.85
## Czechia
           Personal.Safety Access.to.Basic.Knowledge
                      88.8
## Czechia
##
           Access.to.Information.and.Communications Health.and.Wellness
                                               83.55
## Czechia
##
           Environmental.Quality Personal.Rights Personal.Freedom.and.Choice
                                            92.34
## Czechia
           Inclusiveness Access.to.Advanced.Education
## Czechia
           Deaths.from.infectious.diseases..deaths.100.000.
## Czechia
##
           Child.stunting....of.children.
## Czechia
                                     3.785
           {\tt Maternal.mortality.rate..deaths.100.000.live.births.}
##
## Czechia
           Child.mortality.rate..deaths.1.000.live.births.
## Czechia
                                                       3.373
           Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Czechia
                                                                                    0.388
           Populations.using.unsafe.or.unimproved.water.sources....
## Czechia
                                                                2.714
           Populations.using.unsafe.or.unimproved.sanitation....
## Czechia
           Access.to.electricity....of.pop..
## Czechia
           Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                   22.009
## Czechia
           Traffic.deaths..deaths.100.000.
## Czechia
                                      6.279
##
           Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Czechia
                                                                       0.95
##
           Access.to.quality.education..0.unequal..4.equal.
## Czechia
                                                        3.784
           Women.with.no.schooling Access.to.online.governance..O.low..1.high.
##
## Czechia
           Media.censorship..0.frequent..4.rare. Internet.users....of.pop..
##
                                                                      80.6882
## Czechia
##
           {\tt Mobile.telephone.subscriptions..subscriptions.100.people.}
## Czechia
           Access.to.quality.healthcare..0.unequal..4.equal.
##
```

```
## Czechia
                                                        3.857
##
           Access.to.essential.services...O.none..100.full.coverage.
## Czechia
           Premature.deaths.from.non.communicable.diseases..deaths.100.000.
##
## Czechia
                                                                      284.243
##
           Life.expectancy.at.60..years.
## Czechia
           Greenhouse.gas.emissions..total.CO2.equivalents. Particulate.matter
##
## Czechia
                                                         130
##
           Biome.protection
## Czechia
           Outdoor.air.pollution.attributable.deaths..deaths.100.000.
##
## Czechia
           Political.rights..0.no.rights..40.full.rights.
##
## Czechia
##
           Freedom.of.expression..0.no.freedom..1.full.freedom.
## Czechia
           Freedom.of.religion..O.no.freedom..4.full.freedom.
## Czechia
           Access.to.justice..0.non.existent..1.observed.
## Czechia
           Property.rights.for.women..0.no.right..5.full.rights.
## Czechia
           Vulnerable.employment....of.employees. Early.marriage....of.women.
## Czechia
                                                                        0.7661
           Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
## Czechia
                                                                                              2.555
           Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Czechia
           Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
##
## Czechia
                                                                              2.346
##
           Discrimination.and.violence.against.minorities..0.low..10.high.
## Czechia
##
           Quality.weighted.universities..points. Citable.documents
## Czechia
                                              51.4
                                                              2.2883
           Women.with.advanced.education....
## Czechia
                                       0.9246
```

We can also compute average over all countries for the different attributes.

names(spi2020)

```
## [1] "Basic.Human.Needs"
## [2] "Foundations.of.Wellbeing"
## [3] "Opportunity"
## [4] "Nutrition.and.Basic.Medical.Care"
## [5] "Water.and.Sanitation"
## [6] "Shelter"
## [7] "Personal.Safety"
## [8] "Access.to.Basic.Knowledge"
## [9] "Access.to.Information.and.Communications"
## [10] "Health.and.Wellness"
## [11] "Environmental.Quality"
```

```
## [12] "Personal.Rights"
## [13] "Personal.Freedom.and.Choice"
## [14] "Inclusiveness"
## [15] "Access.to.Advanced.Education"
## [16] "Deaths.from.infectious.diseases..deaths.100.000."
## [17] "Child.stunting....of.children."
## [18] "Maternal.mortality.rate..deaths.100.000.live.births."
## [19] "Child.mortality.rate..deaths.1.000.live.births."
## [20] "Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop.."
## [21] "Populations.using.unsafe.or.unimproved.water.sources...."
## [22] "Populations.using.unsafe.or.unimproved.sanitation...."
## [23] "Access.to.electricity....of.pop.."
## [24] "Household.air.pollution.attributable.deaths..deaths.100.000."
## [25] "Traffic.deaths..deaths.100.000."
## [26] "Political.killings.and.torture..0.low.freedom..1.high.freedom."
## [27] "Access.to.quality.education..0.unequal..4.equal."
## [28] "Women.with.no.schooling"
## [29] "Access.to.online.governance..0.low..1.high."
## [30] "Media.censorship..0.frequent..4.rare."
## [31] "Internet.users....of.pop.."
## [32] "Mobile.telephone.subscriptions..subscriptions.100.people."
## [33] "Access.to.quality.healthcare..0.unequal..4.equal."
## [34] "Access.to.essential.services...0.none..100.full.coverage."
## [35] "Premature.deaths.from.non.communicable.diseases..deaths.100.000."
## [36] "Life.expectancy.at.60..years."
## [37] "Greenhouse.gas.emissions..total.CO2.equivalents."
## [38] "Particulate.matter"
## [39] "Biome.protection"
## [40] "Outdoor.air.pollution.attributable.deaths..deaths.100.000."
## [41] "Political.rights..0.no.rights..40.full.rights."
## [42] "Freedom.of.expression..0.no.freedom..1.full.freedom."
## [43] "Freedom.of.religion..0.no.freedom..4.full.freedom."
## [44] "Access.to.justice..O.non.existent..1.observed."
## [45] "Property.rights.for.women..0.no.right..5.full.rights."
## [46] "Vulnerable.employment....of.employees."
## [47] "Early.marriage....of.women."
## [48] "Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power."
## [49] "Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power."
## [50] "Equality.of.political.power.by.gender..0.unequal.power..4.equal.power."
## [51] "Discrimination.and.violence.against.minorities..0.low..10.high."
## [52] "Quality.weighted.universities..points."
## [53] "Citable.documents"
## [54] "Women.with.advanced.education..."
Stats <- cbind(apply(spi2020, 2, mean), apply(spi2020, 2, "median"), apply(spi2020, 2, "sd"))
colnames(Stats) <- c("mean", "median", "std.dev")</pre>
#Stats
head(Stats)
                                        mean median std.dev
## Basic.Human.Needs
                                    76.00644 82.69 18.09972
## Foundations.of.Wellbeing
                                    70.32638 71.29 14.30272
                                    58.26454 56.63 16.01980
## Opportunity
## Nutrition.and.Basic.Medical.Care 84.30129 91.16 14.81386
```

```
## Water.and.Sanitation 74.89374 85.77 25.30609
## Shelter 76.99515 88.41 22.75562
```

Let us do some basic principal component analysis for social progress.

scale = F: not standardising the data

```
pr.out.ns = prcomp(spi2020, scale = F)
pr.out.ns
## Standard deviations (1, .., p=54):
## [1] 1.176261e+03 2.637660e+02 1.352146e+02 7.055259e+01 6.134022e+01
## [6] 3.864635e+01 2.927161e+01 2.321920e+01 1.833060e+01 1.398163e+01
## [11] 1.247542e+01 1.215534e+01 1.134848e+01 1.036263e+01 1.027223e+01
## [16] 9.387232e+00 8.415249e+00 8.145575e+00 7.310270e+00 7.206854e+00
## [21] 6.492088e+00 5.926442e+00 5.651720e+00 5.214274e+00 5.078764e+00
## [26] 4.422520e+00 3.725961e+00 3.231300e+00 2.868780e+00 2.326951e+00
## [31] 2.056754e+00 1.682711e+00 1.341662e+00 6.986071e-01 6.714108e-01
## [36] 5.140150e-01 4.604594e-01 4.260253e-01 3.827176e-01 3.648334e-01
## [41] 3.541551e-01 2.606318e-01 1.638886e-01 9.433518e-02 8.352819e-02
## [46] 7.192134e-02 5.904375e-02 4.701062e-02 2.542876e-03 2.499256e-03
## [51] 2.361820e-03 2.124904e-03 1.852494e-03 4.989810e-04
##
## Rotation (n x k) = (54 \times 54):
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
```

PC1

1.747063e-03

4.658978e-04

8.669503e-04

1.770978e-03

2.734690e-03

2.214817e-03

2.661273e-04

1.498006e-03

2.170040e-03

1.136088e-03

-2.939970e-03

-1.627246e-03

-6.659868e-04

3.928029e-03

-2.012766e-02

-1.267630e-03

-1.409314e-02

-3.288142e-03

-3.571672e-03

-3.154120e-03

-3.256401e-03

2.955186e-03

-3.362983e-03

-5.271145e-04

-1.225284e-05

-2.888916e-05

-1.466478e-05

5.447513e-05

1.832221e-03

```
## Media.censorship..0.frequent..4.rare.
                                                                                           -1.172818e-04
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -3.233504e-05
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -1.104244e-02
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
                                                                                           -7.020862e-04
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -7.575374e-04
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -2.982984e-05
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -1.752825e-04
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -6.321639e-07
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
                                                                                           -1.776938e-03
## Early.marriage....of.women.
                                                                                           -9.263074e-04
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -3.577828e-05
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -6.137255e-05
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -2.192478e-05
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -0.6591870982
## Child.stunting....of.children.
                                                                                           -0.0422143610
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -0.4401628492
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -0.1013615801
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.1353689553
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -0.0958181043
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -0.1006644139
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.1501265929
## Traffic.deaths..deaths.100.000.
                                                                                           -0.0325528033
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
```

2.476401e-03

2.327204e-03

2.030326e-03

2.688352e-04

9.972187e-01

1.251411e-03

1.242532e-03

3.409267e-05

1.717868e-04

6.841654e-02

3.322410e-05

3.233593e-05

0.0651617714

0.0470772570

0.0445006147

0.0527691827

0.0893139025

0.0798005034

0.0387623203

0.0550217158

0.0634045107

0.0551183316

0.0147637053

0.0389200643

0.0506569450

0.0291160095

0.0593151972

0.0822178612

0.0005291892

0.0025827821

-0.0004129367

Women.with.no.schooling

```
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0009577966
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
```

0.0012994287

0.0937209453

0.0798744475

0.0028698558

0.0577740593

-0.4596797322

0.0107798353

-0.0335562395

-0.0298930697

0.0032966237

-0.0089962161

0.0244033199

0.0003088287

0.0004849529

0.0005231920

0.0021196714

-0.0871675855

-0.0247648144

0.0011411957

0.0008641730

-0.0026366820

0.0704969962

0.0025326659

0.0008077171

1.606643e-02

-1.095259e-02

-1.158188e-02

1.777206e-02

3.341928e-02

1.910714e-02

-6.028062e-03

2.248048e-02

-5.399534e-03

-3.172250e-02

-2.916799e-02

-2.809049e-02

4.382408e-03

-2.673534e-02

4.117534e-03

-4.833112e-01

-4.936047e-03

-1.138214e-01

-4.934790e-02

-9.128108e-02

-3.170445e-02

-1.303520e-02

6.367495e-02

4.731635e-02

1.963204e-03

-8.966134e-05

-5.146104e-04

PC3

```
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -1.338326e-03
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
```

-2.057927e-04

-5.384906e-05

-1.836772e-03

4.328075e-03

1.891921e-02

-2.808773e-04

-1.241868e-03

8.478190e-01

-6.615621e-03

1.620660e-03

-1.112221e-02

-1.428241e-02

5.975135e-02

-1.392479e-02

-4.258394e-04

-1.458301e-03

-2.920850e-04

-1.699158e-04

-2.231512e-02

-1.489403e-02

-5.822548e-04

-9.887844e-04

9.600631e-04

-6.975819e-02

-1.748265e-03

3.255156e-04

-0.0143743818

-0.0289705699

-0.0574566702

-0.0049984045

-0.0186283022

-0.0137592727

-0.0201261518

-0.0225081670

-0.0425519505

-0.0131223894

-0.0377092999

-0.0780031741

-0.0358260936

-0.0575431483

-0.0584497368

-0.0530743063

0.0182523115

-0.0617562749

0.0114709033

-0.0106347543

0.0353467015

0.0322950403

-0.0035231780

0.0233219387

0.0038434066

-0.0005682664

Political.killings.and.torture..O.low.freedom..1.high.freedom.

Traffic.deaths..deaths.100.000.

```
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0020098278
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
```

-0.0008909022

-0.0005286927

-0.0036253392

-0.0484642216

-0.0022338839

-0.0014231902

-0.0235574762

-0.1245778522

-0.0024965153

0.0636804013

0.0687739920

0.0447868776

-0.0485882656

-0.0009556092

-0.0033395753

-0.0006904515

-0.0018184541

0.0490360693

0.0082429223

-0.0031758727

-0.0016982887

0.0024668248

-0.9655905997

-0.0028170515

-0.0004855495

2.538574e-02

3.907392e-02

3.548544e-02

3.555334e-02

2.745026e-02

2.424879e-02

1.431728e-02

8.608817e-02

4.729371e-02

6.752879e-03

1.613358e-02

1.730700e-02

5.058886e-02

2.417108e-02

4.987491e-02

5.196079e-01

-2.799162e-02

-8.018167e-01

-3.691663e-02

8.693017e-06

-5.849889e-02

-2.945826e-02

1.496976e-03

-4.342073e-02

3.118211e-04

PC5

-0.0109385333

0.0001061246

Household.air.pollution.attributable.deaths..deaths.100.000.

Traffic.deaths..deaths.100.000.

```
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 1.365581e-03
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
```

-2.249847e-05

-7.939866e-04

9.374022e-04

-1.606785e-03

6.428061e-02

9.624628e-02

2.747480e-03

2.525234e-02

1.739862e-01

-4.512730e-03

1.484799e-03

1.512942e-02

2.417783e-02

4.860330e-03

1.954914e-03

5.847079e-04

-4.724395e-05

-9.079400e-02

-1.814656e-02

1.620003e-04

4.592696e-04

-7.335832e-03

-3.343540e-02

1.433918e-03

1.069901e-03

-0.0872921051

-0.1368080794

-0.2074679646

-0.0389083931

-0.0942621922

-0.0988349748

-0.1171898446

-0.1194107382

-0.2235280626

-0.0698616103

-0.1344414483

-0.3234456232

-0.1488719603

-0.2338281982

-0.1237032631

-0.1149226585

-0.3237987022

0.0941671114

0.0490413455

0.1165204573

0.1568396817

-0.1017598040

0.1511235916

0.0967284960

PC6

-2.829565e-04

-4.132576e-02

3.306255e-03

Household.air.pollution.attributable.deaths..deaths.100.000.

```
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0098644145
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
```

-0.0035874002

-0.0090184560

-0.0017170015

-0.0148420044

-0.2094662455

-0.3969060909

-0.0091229102

-0.0905573362

-0.0856729797

-0.0070527950

-0.0166375679

0.2264568317

-0.0267369168

0.1005346730

-0.1816429754

-0.0039466682

-0.0103790152

-0.0033182860

-0.0110826032

0.2099628860

0.0520088950

-0.0109076910

-0.0073055450

0.0264415162

0.2038304670

-0.0105665927

-0.0015794972

0.0185577570

-0.0672168252 -0.1282665415

0.0169901110

0.0549507899

0.0918560776

-0.0895694484

-0.0331362424

0.0519430538

-0.0147898300

-0.2728882428

-0.2465830137

-0.0185059560

-0.2318894841

-0.0161118686

0.0634947536

-0.0093142234

0.0959923140

0.0335369048

-0.0742577235

-0.0144175643

-0.1163817929

0.1752598617

0.0007990003

Access.to.electricity....of.pop..

```
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..O.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0095294617
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
```

0.1114407005

-0.0026191482

-0.0007379974

0.0004643469

-0.0002078170

-0.0127505395

0.1303024345

0.5969951183

-0.0006034978

-0.0231697644

-0.0432091973

-0.0044460107

-0.0087863030

0.3507826160

-0.0334545615

0.3473478907

-0.1634449286

-0.0034148384

-0.0105935431

-0.0017196732

-0.0048854520

-0.1734746444

0.0111383458

-0.0100602872

-0.0085954117

0.0193024705

0.0805734942

-0.0084930586

-0.0003248420

-0.0694823595

0.0088208273

-0.0283011286

-0.0384623819

-0.1701161807

-0.1132508937

0.0439535183

-0.0735940695

0.0403804133

-0.0648984822

0.1333148419

0.1527461893

-0.1002677151

0.0409306934

-0.2065510263

-0.0992664395

0.0953175183

-0.1253418539

0.1018628445

0.0000474894

0.2447078539

0.3093927781

Populations.using.unsafe.or.unimproved.sanitation....

```
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
```

-0.0784925581

-0.0598504204

0.0017258904

-0.0062483298

0.0011158103

-0.0001145531

0.0104763475

-0.2899011713

0.6219994162

-0.0071940547

-0.0977176084

-0.0152288604

-0.0062075117

-0.0014818143

-0.1294129139

0.0249617978

-0.1924496868

0.0883606616

0.0025133811

0.0055511992

0.0004195987

0.0061842160

0.2737996502

0.0466744326

0.0005941993

0.0034927803

0.0028723874

-0.0021222085

0.0505652630

-0.0116774233

-0.0036522716

0.0014763283

-0.0289015558

0.1798198043

0.0036955200

-0.0936286235

-0.0903505689

0.1862230256

-0.0840114330

0.1704127150

0.0358982064

-0.2378745487

0.4290762128

0.0235616671

0.1879592817

0.0786190480

-0.0762393616

0.0334532615

-0.0790744899

0.0547762796

0.2936995477

0.0492429185

PC9

0.0941673156

Populations.using.unsafe.or.unimproved.water.sources....

```
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
```

-0.0642765847

0.3121211172

0.0036989708

0.0077473468

0.0027475693

0.0017582363

0.0207610040

0.1066269100

-0.0817992139

0.0073307055

0.0408259469

-0.0048085734

-0.0026512788

-0.0002018594

0.5079457524

0.0099588188

0.2061082229

0.2391937277

0.0045222707

0.0096274236

0.0054987561

0.0178519922

0.0500534907

0.0432630531

0.0096085017

0.0135465801

0.0064203231

-0.0068440252

-0.0098303048

0.0093586516

-0.0001208556

0.0148505479

0.0310911835

0.0019170872

0.0526059806

0.2382596810

-0.2334665094

-0.1206632328

0.0743164099

-0.1049516697

-0.0484539928

0.2886736308

-0.1851488341

0.0816266691

-0.0609177569

0.0790197124

0.0194573137

-0.0202111496

0.2227475545

-0.3506394066

-0.0499246237

PC10

-0.0491926450

Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..

```
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
```

0.4136867346

-0.3031789031

0.0342217726

0.0001610015

-0.0167525374

-0.0007091260

0.0001952902

0.0151905295

-0.1029661270

-0.1550443919

-0.0135176781

-0.1629641943

0.0162279664

-0.0037851542

0.0003565403

0.0544063515

0.0460519699

0.1696027918

0.1717691117

0.0042464991

0.0108116917

0.0004262022

0.0145335409

0.2363960834

0.1413488906

0.0038725219

0.0105881264

0.0047731174

0.0192527857

0.0060331029

-0.0218288122

-0.0012495583

-0.0344649828

-0.0441109351

0.0193849277

-0.0022030558

-0.2547743576

0.1268273040 -0.0077836699

0.0055025015

-0.0130406309

-0.0193521740

-0.1495624537

0.0578607030

0.1429905812

0.0056159110

-0.1289390803

-0.0353065116

0.0025527116

0.0084628418

0.0555223071

PC11

-0.1620423005

Child.mortality.rate..deaths.1.000.live.births.

```
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -0.0621234221
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.4418014406
## Traffic.deaths..deaths.100.000.
                                                                                           -0.0448203700
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -0.0018396842
## Women.with.no.schooling
                                                                                           -0.0010524331
## Access.to.online.governance..0.low..1.high.
                                                                                           -0.0019688245
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -0.0812665746
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -0.0036059488
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                           -0.0176407657
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
                                                                                           -0.0117419559
## Biome.protection
                                                                                           -0.1529504725
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -0.0006488718
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -0.0026263162
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
                                                                                           -0.5371719723
## Early.marriage....of.women.
                                                                                           -0.0167897547
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0010335034
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.0129611978
## Quality.weighted.universities..points.
## Citable.documents
                                                                                           -0.0042661896
## Women.with.advanced.education....
                                                                                           -0.0001541097
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
                                                                                           -0.2053501842
## Health.and.Wellness
## Environmental.Quality
                                                                                           -0.1354232203
## Personal.Rights
                                                                                           -0.0119586140
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
                                                                                           -0.0317995315
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
```

0.3109483043

0.4590560823

0.0012727993

0.0092221712

0.0184571439

0.0227138582

0.0000486491

0.0007186914

0.1032007883

0.0018280173

0.0008913317

0.0038527241

0.0014007187

0.0016159331

0.0002872864

0.0668100164

0.0014669149

0.0756574824

0.0166297715

0.0403778891

0.0255776331

0.1846617995

0.3272548420

0.0194167444

0.1425008900

0.2038298691

0.0791784933

0.0299742224 0.0690470874

PC12

Maternal.mortality.rate..deaths.100.000.live.births.

```
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -0.4486602516
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.2379006619
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -0.1434694696
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.0445127054
## Traffic.deaths..deaths.100.000.
                                                                                           -0.0927033923
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
                                                                                           -0.0035906796
## Access.to.online.governance..0.low..1.high.
                                                                                           -0.0022127616
## Media.censorship..0.frequent..4.rare.
                                                                                           -0.0032388463
## Internet.users....of.pop..
                                                                                           -0.4931624310
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.0272424130
## Life.expectancy.at.60..years.
                                                                                           -0.0130209045
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -0.0020585259
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -0.0009899136
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -0.0072861718
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
                                                                                           -0.1211520512
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0141140028
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.0160291481
## Quality.weighted.universities..points.
## Citable.documents
                                                                                           -0.0059534848
## Women.with.advanced.education....
##
## Basic.Human.Needs
                                                                                           -0.0438617804
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                           -0.0684305479
## Water.and.Sanitation
## Shelter
                                                                                           -0.2229981453
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
                                                                                           -0.0100860124
## Environmental.Quality
                                                                                           -0.0269937355
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
                                                                                           -0.1009405744
## Access.to.Advanced.Education
                                                                                           -0.0309243109
## Deaths.from.infectious.diseases..deaths.100.000.
```

0.1016302522

0.0004133649

0.0123863773

0.0045025041

0.0066651427

0.0458202185

0.1132159130

0.0049887146

0.2875799980

0.0179286608

0.0014952902

0.0015036405

0.1302519333

0.0089670349

0.0063752854

0.0225900186

0.0012660113

0.0454093294

0.0226585527

0.0719538728

0.0440513605

0.0792681799

0.1393809445

0.0865459599

0.1360544054

0.0451947926

0.0466618372

PC13

Child.stunting....of.children.

```
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.7432608391
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -0.2904030118
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
                                                                                           -0.0055109795
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                           -0.0004882103
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
                                                                                           -0.0004587408
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -0.0880776900
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -0.0005566317
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.0296701862
## Life.expectancy.at.60..years.
                                                                                           -0.0077141124
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
                                                                                           -0.0346565743
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
                                                                                           -0.0860977691
## Early.marriage....of.women.
                                                                                           -0.2182174367
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0087284279
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -0.0022944789
## Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
                                                                                           -0.0062557210
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.0132959049
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
                                                                                           -3.740024e-02
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
                                                                                           -2.285735e-02
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
                                                                                           -5.598911e-02
## Personal.Freedom.and.Choice
                                                                                           -1.236887e-01
## Inclusiveness
                                                                                           -9.675751e-02
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
```

0.1480987441

0.1735942630

0.1030380900

0.2467268704

0.0080228018

0.0004900586

0.0104068009

0.1948021529

0.0110297806

0.0002284084 0.0426954899

0.0042825691

0.0005957305

0.0007630066

0.0051400836

0.0017598243

0.0026699918

0.0034981737

0.0026158791

0.0006586004

7.533845e-02

7.378612e-02

3.292199e-02

9.747714e-02

1.936514e-01

7.957457e-02

2.033946e-01

2.107662e-03

1.010382e-02

1.267639e-01

1.699155e-02

```
## Child.stunting....of.children.
                                                                                           -9.487604e-02
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -3.784425e-02
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -4.136459e-01
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -1.602938e-01
## Traffic.deaths..deaths.100.000.
                                                                                           -1.534702e-01
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
                                                                                           -5.057510e-03
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -2.983225e-02
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
                                                                                           -1.676647e-02
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -3.879583e-04
## Particulate.matter
                                                                                           -5.427749e-03
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -1.424096e-01
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -5.274520e-03
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 1.416216e-05
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -2.870949e-03
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
                                                                                           -1.638710e-03
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
                                                                                           -0.0600494057
## Foundations.of.Wellbeing
## Opportunity
                                                                                           -0.0450163629
## Nutrition.and.Basic.Medical.Care
                                                                                           -0.0040573374
## Water.and.Sanitation
                                                                                           -0.1434107379
## Shelter
## Personal.Safety
                                                                                           -0.1239262283
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
                                                                                           -0.0024971990
## Environmental.Quality
## Personal.Rights
                                                                                           -0.0147023107
## Personal.Freedom.and.Choice
                                                                                           -0.0229622174
## Inclusiveness
                                                                                           -0.1259231227
```

3.630650e-02

2.614702e-01

5.497873e-01

1.184743e-01

1.695345e-03

1.060348e-02 9.175947e-04

3.172683e-03

2.834012e-01

5.701402e-03

2.162917e-02

1.151269e-02

5.300067e-02

9.643181e-02

2.256024e-04

1.307434e-03

3.881491e-04

3.392083e-01

1.396337e-02

3.017874e-03

9.157502e-03

7.139304e-03

2.714277e-03

0.0837945970

0.0312417520

0.0280615646

0.2379301360

0.0717363993

-0.0164489300

PC15

Access.to.Advanced.Education

```
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0050729960
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
```

0.1893569075

0.0098861160

-0.6532656128

-0.0023777532

0.2651626479

0.1991726198

0.2900438099

0.1142776662

0.1456658283

-0.0014498950

-0.0136414353

-0.0007722013

0.0049550415

0.0024461842

0.3517933491

-0.0836614128

0.0005697211

-0.0272304811

-0.0128688165

0.0018741761

-0.0005499982

0.0340839608

0.0519547123

-0.1354283562

-0.0351252251

-0.0010218286

0.0090988318

0.0004020889

0.1384722076

0.0614426167

-0.0114462652

-0.0036332110

0.0156151546

0.0044885731

-0.0074256408

-0.0031554346

1.370888e-01

-2.054661e-02

-3.666276e-03

4.592967e-02

-9.330200e-02

3.805322e-02

5.575754e-01

-7.672935e-02

-9.553916e-02

9.004547e-02

-6.722008e-05

-2.708165e-01

9.316283e-02

1.592357e-01

PC16

-0.0014762675

Inclusiveness

```
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 6.311486e-03
## Equality.of.political.power.by.social.group..O.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
```

3.534965e-03

2.331229e-02

-4.162444e-02

-7.360968e-03

1.099046e-01

4.440903e-03

4.810197e-01

-2.070559e-01

-1.629021e-02

-2.727168e-01

6.984304e-04

1.565163e-02

2.738598e-03

-1.606168e-03

-2.223258e-02

-1.265699e-02

1.279154e-02

9.927912e-02

2.158792e-02

8.400791e-03

-8.064576e-04

-2.314259e-02

-2.044296e-02

-2.240658e-02

-1.556103e-01

-4.602025e-03

-1.514351e-02

1.105721e-03

-1.216748e-02

-1.286152e-01

2.648251e-03

2.813861e-03

-3.730447e-02

9.185864e-03

1.931061e-02

4.363978e-04

-0.0606248811

0.0434821148 0.1351741801

0.0531163584

-0.0707381119

-0.0037225882

-0.2214868492

0.1657319721

-0.0532586564

0.1145707796

-0.0532274762

-0.2041920923

-0.0292560897

PC17

1.642230e-01

1.556276e-01

2.379332e-01

Environmental.Quality

Personal.Freedom.and.Choice

Personal.Rights

```
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
```

0.2378429127

-0.0406226891

-0.2274795241

-0.0067845498

0.0872979288

-0.0618222598

0.1752120864

0.0937687907

-0.1763466785

-0.0636464345

0.4534852477

-0.0029883450

0.0228159350

-0.0004154377

0.0008403990

0.0823716102

0.0612658094

0.0146641955

0.0849392859

0.0144335737

0.0222741779

-0.0007544961

0.1126132058

-0.0469382004

-0.0550881455

-0.2038811257

-0.0022327573

-0.0033010378

-0.0035782288

0.0022951689

0.1781574931

0.1588845192

0.0197238810

0.0199084428

0.0199213714

-0.0639642801

-0.0039208231

0.0146258580

0.0031986354

3.875979e-02

-7.041828e-02 4.561635e-03

-3.394329e-02

4.935626e-02

7.930311e-02

6.014042e-02

-3.537326e-01

-4.096032e-02

4.217703e-02

7.082163e-02

-1.105159e-01

PC18

-0.0048299811

Health.and.Wellness

Personal.Rights

Environmental.Quality

```
## Inclusiveness
                                                                                            3.522753e-01
## Access.to.Advanced.Education
                                                                                           -3.835334e-01
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            1.824755e-02
## Child.stunting....of.children.
                                                                                            3.985453e-02
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -3.323031e-02
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                            1.066862e-01
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -1.126103e-01
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -2.700893e-01
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            2.053185e-01
## Access.to.electricity....of.pop..
                                                                                            3.813603e-01
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            3.361146e-01
## Traffic.deaths..deaths.100.000.
                                                                                            2.164228e-01
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                            2.314549e-03
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            1.105096e-03
## Women.with.no.schooling
                                                                                            5.130668e-03
## Access.to.online.governance..0.low..1.high.
                                                                                           -2.225583e-03
## Media.censorship..0.frequent..4.rare.
                                                                                            2.297002e-03
## Internet.users....of.pop..
                                                                                           -7.947907e-03
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -6.505044e-02
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            7.287498e-05
## Access.to.essential.services...O.none..100.full.coverage.
                                                                                            2.492759e-02
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -3.222302e-02
## Life.expectancy.at.60..years.
                                                                                            2.211107e-02
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            8.318796e-04
## Particulate.matter
                                                                                           -2.223226e-02
## Biome.protection
                                                                                           -1.003319e-02
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -1.263133e-01
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -1.404783e-02
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -3.761367e-04
                                                                                           -9.069079e-03
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -3.499228e-04
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -9.388749e-03
## Vulnerable.employment....of.employees.
                                                                                           -2.416274e-01
## Early.marriage....of.women.
                                                                                            5.054112e-02
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 1.151909e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            9.866485e-03
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -1.487212e-03
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -7.181718e-02
## Quality.weighted.universities..points.
                                                                                            4.387384e-03
## Citable.documents
                                                                                            1.278421e-02
## Women.with.advanced.education....
                                                                                           -8.001337e-03
                                                                                                     PC19
## Basic.Human.Needs
                                                                                           -0.0778965881
## Foundations.of.Wellbeing
                                                                                            0.1082140841
## Opportunity
                                                                                            0.0840563841
## Nutrition.and.Basic.Medical.Care
                                                                                           -0.1424174492
## Water.and.Sanitation
                                                                                           -0.0742443534
## Shelter
                                                                                            0.0618379180
## Personal.Safety
                                                                                           -0.1565457734
## Access.to.Basic.Knowledge
                                                                                            0.3901133014
## Access.to.Information.and.Communications
                                                                                            0.1158300219
## Health.and.Wellness
                                                                                           -0.0363581990
## Environmental.Quality
                                                                                           -0.0367068106
```

Personal.Freedom.and.Choice

1.599854e-01

```
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0112573652
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
```

-0.0865826480

-0.0540769724

0.2530489279

-0.0527651904

0.3346385108

-0.0179975129

0.3417635023

0.1942733046 0.0798925725

0.0250322915

0.3311105389

0.2336368916

0.1359175684

-0.0037991676

0.0019743015

-0.0033402516

0.0039852568

0.0017230390

-0.1400141234

-0.0378079277

-0.0103216854

-0.0164487128

-0.0476993982

0.0044573504

-0.0005552923

-0.1865471884

-0.0671581195

0.0531659264

0.0526846850

-0.0013923124

-0.0037638235

-0.0018929685

-0.0054644613

-0.0063050008

-0.3141268157

-0.0125803881

0.0064249239

0.0264412168

-0.0091684420

0.0180895123

0.0036459014

0.0306846297

-0.0756527957 0.0019743091

-0.0227313423

0.0047116715

0.0160598238

0.1248763468

-0.1091002567

-0.0261087049

-0.1726858390

PC20

0.2237891710

Access.to.Information.and.Communications

Health.and.Wellness

```
0.0052909012
## Environmental.Quality
## Personal.Rights
                                                                                            0.0834457840
## Personal.Freedom.and.Choice
                                                                                            0.1698055565
## Inclusiveness
                                                                                            0.0570189379
## Access.to.Advanced.Education
                                                                                           -0.3020290105
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -0.0331156444
## Child.stunting....of.children.
                                                                                            0.0482210150
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -0.0151987369
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -0.0589974001
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            0.1546489835
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -0.0386097504
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -0.0849919605
## Access.to.electricity....of.pop..
                                                                                           -0.2233389660
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.1417036513
## Traffic.deaths..deaths.100.000.
                                                                                            0.4065383068
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                            0.0073210541
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -0.0046246774
## Women.with.no.schooling
                                                                                            0.0004692273
## Access.to.online.governance..0.low..1.high.
                                                                                           -0.0003747691
## Media.censorship..0.frequent..4.rare.
                                                                                           -0.0053084278
## Internet.users....of.pop..
                                                                                            0.2224245621
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            0.0031325408
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -0.0061231059
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                           -0.2503829131
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.0156971866
## Life.expectancy.at.60..years.
                                                                                           -0.0504488389
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -0.0000388538
## Particulate.matter
                                                                                           -0.2380424013
## Biome.protection
                                                                                            0.0812511254
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.3832053313
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -0.0344390912
## Freedom.of.expression..0.no.freedom..1.full.freedom.
                                                                                            0.0007526331
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            0.0013642016
## Access.to.justice..O.non.existent..1.observed.
                                                                                            0.0042568490
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -0.0010030177
## Vulnerable.employment....of.employees.
                                                                                            0.2542368942
## Early.marriage....of.women.
                                                                                           -0.3681808280
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0034898482
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -0.0033680904
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            0.0022828517
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.0454117556
## Quality.weighted.universities..points.
                                                                                            0.0110788154
## Citable.documents
                                                                                           -0.0196561402
## Women.with.advanced.education....
                                                                                           -0.0044287821
## Basic.Human.Needs
                                                                                           -0.0196404082
## Foundations.of.Wellbeing
                                                                                           -0.1118048851
## Opportunity
                                                                                            0.1138015757
## Nutrition.and.Basic.Medical.Care
                                                                                           -0.0842759928
## Water.and.Sanitation
                                                                                            0.0259753241
## Shelter
                                                                                            0.0086376884
## Personal.Safety
                                                                                           -0.0288868775
## Access.to.Basic.Knowledge
                                                                                           -0.5454018807
## Access.to.Information.and.Communications
                                                                                            0.0756647854
```

```
## Health.and.Wellness
## Environmental.Quality
                                                                                           -0.0485190823
                                                                                           -0.1526495215
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
                                                                                           -0.0568826183
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -0.0062690970
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -0.0735143832
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.0722774747
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -0.0866790025
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -0.0653061994
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.2921246714
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                           -0.0044993600
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -0.0201111864
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
                                                                                           -0.1398251923
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -0.0007466842
## Particulate.matter
## Biome.protection
                                                                                           -0.0423195711
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.2101725847
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -0.0005391896
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -0.0189687769
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -0.0004056445
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -0.0199535999
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
                                                                                           -0.2601439919
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0029915465
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -0.0020455439
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
                                                                                           -0.0140024782
## Citable.documents
## Women.with.advanced.education....
                                                                                           -0.0008939302
##
## Basic.Human.Needs
                                                                                           -0.0304924948
## Foundations.of.Wellbeing
                                                                                           -0.0916691366
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
                                                                                           -0.0482737743
## Shelter
```

0.2795252100

0.3850072475

0.0290272949

0.2367574648

0.0575122587

0.0758677078

0.0037328010

0.0040262153

0.0036351733

0.0599760464

0.0035251941

0.0914304414

0.0470518851

0.0209988303

0.1838494876

0.1405535509

0.1530374893

0.0013811143

0.0396329395

0.0211565244

0.0168802081

0.1949594165

0.0141652492

-0.2825780849 -0.1466672802

PC22

Personal.Safety

Access.to.Basic.Knowledge

```
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0010100619
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
```

-0.0422270899

0.0179142149

-0.1954875441

0.0688482451

0.0334682802

-0.0679361778

0.0331309357

0.0157672852

-0.6149909595

-0.0103473843

-0.0917905968

0.0426057766

0.0419666751

0.0867141080

0.1402365559

0.2074532868

-0.1528156096

-0.0002991716

-0.0095256063

0.0016416772

-0.0029089686

-0.0029795410

0.0068902444

0.0078634449

-0.0008506738

0.0030409863

-0.0312926669

-0.0012582094

-0.1774991066

-0.3364963751

-0.0225134156

0.0936975671

0.0005060936

0.0063100709

0.0043506203

0.1227595507

-0.3761665829

0.0044783600

-0.0081812785

0.0142530672

0.0026360639

-0.0104638755

0.0019913319

0.0597221552

0.0998431152

-0.0184574598

0.1547716927

-0.0646432232

-0.0034812307

0.1521826830

PC23

-0.0019051870

0.0127573894

Shelter

Personal.Safety

```
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0075657057
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
```

0.0364855432

0.0162770938

0.3417033625

0.0722881365

0.0900817940

-0.3028350226

0.0668306270

-0.0126419748

-0.4082342381

0.0054974895

0.0700622338

0.0168917129

0.1260537599

0.0696697816

0.1192355262

0.0018431766

0.3458170318

0.0023106980

0.0014332608

0.0002348926

0.0005241448

0.0070430067

-0.2467673879

-0.0586957821

-0.0010131363

0.0569347982

0.0075638409

0.0025820787

0.0007368737

0.2284257955

0.4739524660

-0.0258744356

-0.0047651643

0.0011024413

0.0058694390

0.0009273400

0.0007789809

-0.1145628253

-0.1440130246

-0.0147002519

-0.0065732229

0.0294884321

-0.0015588765

0.0056024491

0.0008388582

9.098307e-02 -3.786655e-02

3.806989e-02

1.193619e-01

-2.637895e-02

5.911425e-02

PC24

Water.and.Sanitation

Shelter

```
## Personal.Safety
## Access.to.Basic.Knowledge
                                                                                           -2.637212e-01
## Access.to.Information.and.Communications
## Health.and.Wellness
                                                                                           -1.755801e-01
## Environmental.Quality
                                                                                           -5.066226e-02
## Personal.Rights
                                                                                           -8.582143e-02
## Personal.Freedom.and.Choice
                                                                                           -1.087503e-01
## Inclusiveness
                                                                                           -1.376062e-02
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -2.621423e-03
## Child.stunting....of.children.
                                                                                           -2.752468e-02
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -1.228676e-03
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -9.119141e-02
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -6.120162e-02
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -9.530010e-02
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -4.415662e-02
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
                                                                                           -2.404080e-01
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -5.445373e-02
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -3.197953e-02
## Access.to.essential.services...O.none..100.full.coverage.
                                                                                           -2.422891e-02
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -4.939681e-02
## Life.expectancy.at.60..years.
                                                                                           -3.074072e-02
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -4.722178e-04
## Particulate.matter
                                                                                           -4.121546e-01
## Biome.protection
                                                                                           -6.881785e-02
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -5.194418e-02
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -6.247397e-03
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -4.016872e-03
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
                                                                                           -1.296915e-01
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 9.558879e-03
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -3.619925e-03
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
                                                                                           -7.613083e-03
## Citable.documents
                                                                                           -1.281320e-03
## Women.with.advanced.education....
```

2.116317e-01

3.386167e-01

3.605485e-01

8.566123e-02

4.039889e-02

2.226860e-01

1.155906e-01

3.334611e-04

2.672663e-03

7.856122e-03

5.121374e-03

3.312446e-01

5.666985e-05

8.988009e-03

3.036065e-01

7.216032e-03

2.493871e-02

1.119542e-03

-0.1066324399

-0.0016570107

0.0833977861

0.0130771164

-0.0383970516

PC25

Basic.Human.Needs

Water.and.Sanitation

Opportunity

Foundations.of.Wellbeing

Nutrition.and.Basic.Medical.Care

```
-0.0190774913
## Shelter
## Personal.Safety
                                                                                           -0.3821668784
                                                                                           -0.1406101849
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
                                                                                           -0.0185391479
## Health.and.Wellness
                                                                                           -0.1170437643
## Environmental.Quality
## Personal.Rights
                                                                                           -0.1762651080
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -0.0250019650
## Child.stunting....of.children.
                                                                                           -0.0045745925
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -0.0195341862
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -0.0548226098
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
                                                                                           -0.4708120934
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                           -0.0078122434
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -0.0156411014
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
                                                                                           -0.0012005802
## Media.censorship..0.frequent..4.rare.
                                                                                           -0.0101271114
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -0.0168471074
## Access.to.essential.services...O.none..100.full.coverage.
                                                                                           -0.0526944313
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.0159741735
## Life.expectancy.at.60..years.
                                                                                           -0.0245828255
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
                                                                                           -0.0092400297
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -0.0219798342
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -0.0029226112
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -0.0050102482
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -0.0191994029
## Vulnerable.employment....of.employees.
                                                                                           -0.0535322706
                                                                                           -0.0469199765
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0061813299
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
                                                                                           -0.0022890409
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
```

0.1686961588

0.2575140713

0.0836259945

0.0074511516

0.0218908020

0.0518655056

0.0577520217

0.0878302833

0.0014721861

0.1023343175

0.0342128112

0.0004985356

0.4810130556

0.3165193187

0.0147371749

0.0165539454

0.0064228702

0.0086650301

0.0074720228

0.0012147196

0.0200945343

0.1552415014

-0.1079807306

0.0319456188

PC26

Opportunity

Nutrition.and.Basic.Medical.Care

```
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                           -0.0046455433
## Access.to.quality.education..O.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -0.0007886712
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0075740518
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
```

0.0585598504

-0.0328360659

0.1319183470

0.5840663329

-0.0259249044

-0.0691426738

-0.3889215998

0.2476779748

0.0527071887

-0.3430963148

-0.0027231934

-0.1655262362

0.0133167106

0.0242153289

0.0586817575

-0.0030102331

-0.1138683736

-0.1432315749

-0.0873065242

-0.0743625689

-0.0048255526

-0.0002199672

0.0115365859

0.0267986544 -0.1441238063

-0.0781089201

-0.0082773243

-0.0414037236

0.0222932993

0.0118754869

0.1112557059

-0.0519623265

-0.0631083703

0.3256376813

-0.0014098783

-0.0279228935

-0.0090057328

-0.0384640546

0.1134816868

0.1059167114

-0.0140442597

-0.0017129756

-0.0094455506

0.0062454771

0.0168078323

-0.0084587786

0.0044760003

0.1158269748

-0.0959313711

PC27

Basic.Human.Needs

Opportunity

Foundations.of.Wellbeing

```
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0170696311
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
```

-0.0243392595

-0.0218223365

0.2056128284 -0.1413659345

-0.1093950470

0.1131417530

0.4332434116

0.0265804397

0.0672791581

-0.2156692954

-0.0295035205

-0.2055599360

0.0075184368

0.1345012852

-0.0009859424

0.0150878519

0.0207129646

0.0632811872

-0.0097459888

-0.1244711474

0.0244947520

0.0275434770

0.0014359144

0.0270291266

0.0023594086

0.0042373119

0.0044430358

-0.0740049236

-0.0180836588

0.0400735743

0.6671056965

0.0212660595

0.0572754499

0.0002160123

-0.1319469055

0.0549005848

0.2444300852

-0.0249392400

0.0007148609

0.0004786188

0.0001341570

0.0123674512

0.0633714017

-0.1555377458

0.0220524087

0.0057850737

0.0043092273

0.0016992014

-0.0008381554

0.0138148963

-0.0297114791

PC28

-0.0007608026

Basic.Human.Needs

Foundations.of.Wellbeing

```
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                           -0.1016956405
## Water.and.Sanitation
                                                                                           -0.0241845288
## Shelter
## Personal.Safety
                                                                                           -0.0138129198
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
                                                                                           -0.3405676315
## Health.and.Wellness
## Environmental.Quality
                                                                                           -0.0033889964
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
                                                                                           -0.2841689141
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -0.0030055123
## Child.stunting....of.children.
                                                                                           -0.0816079311
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -0.0056397325
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.0398684540
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -0.0528575125
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -0.0027713042
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
                                                                                           -0.0092600215
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.0044496645
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
                                                                                           -0.1421567031
## Biome.protection
                                                                                           -0.0030072941
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -0.0015681448
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -0.0145084399
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0062020279
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -0.0422039715
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -0.0091109204
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
                                                                                           -0.0027762882
## Citable.documents
## Women.with.advanced.education....
```

0.1956678792

0.0178245997

0.2072055728

0.0290429455

0.5220573679

0.0117065523

0.0483844350

0.0481464062

0.0584675004

0.1048073315

0.0447095599

0.0001409367

0.0027469700

0.0061244836

0.1405748485

0.0389484594

0.0158229662

0.0673572328

0.0827085835

0.0002619794

0.1210677419

0.2456751157

0.0008905028

0.0011588530

0.2001710881

0.4766358555

0.0299504238

0.0206466631

0.0001031359

-0.0480634935

PC29

Basic.Human.Needs

```
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0091017885
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
```

0.1209255701

0.0688354735

0.0274745961

-0.1808822478

-0.1078099834

-0.0658112968

0.2362001317

0.0783400226

-0.0355407332

0.2843820116

0.3949994457

-0.0591780507

-0.1360338221

-0.0027802274

0.0006530572

0.0016075723

0.0232419153

0.0547842872

-0.0243705030

-0.1056522183

0.0666005466

-0.0734732776

-0.0978311230

-0.0029951992

0.0314649569

0.0009346842

0.0069934766

0.0012816983

-0.1621819747

-0.0318296613

0.0246281064

0.0103658276

0.0133329252

-0.0121004959

-0.0006915668

0.0077638596

-0.0891763443

-0.0211604544

-0.6909927100

-0.0001251075

0.0383477278

0.0074047741

0.0510427892

0.0989150520

0.1431503315

-0.0267026127

0.0214827432

0.1350095570

0.0022260776

0.0038337499

-0.0019397388

PC30

Citable.documents

##

Women.with.advanced.education....

```
0.1791426914
## Basic.Human.Needs
## Foundations.of.Wellbeing
                                                                                            0.0564030121
## Opportunity
                                                                                            0.0241165836
## Nutrition.and.Basic.Medical.Care
                                                                                            0.0014198253
## Water.and.Sanitation
                                                                                            -0.0021836194
## Shelter
                                                                                            0.7289829671
## Personal.Safety
                                                                                            -0.0119614715
                                                                                            0.0050963972
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
                                                                                            0.0282835067
## Health.and.Wellness
                                                                                            0.1544334570
## Environmental.Quality
                                                                                            0.0376220313
## Personal.Rights
                                                                                            0.0744248845
## Personal.Freedom.and.Choice
                                                                                            -0.0221693101
## Inclusiveness
                                                                                            0.0062728457
## Access.to.Advanced.Education
                                                                                            0.0374429027
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            0.0047257149
## Child.stunting....of.children.
                                                                                            0.0491891699
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                            0.0027054064
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                            -0.0281162249
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            -0.0208675922
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            0.0219344523
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            -0.0010751437
## Access.to.electricity....of.pop..
                                                                                            -0.2710578384
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.2122277037
## Traffic.deaths..deaths.100.000.
                                                                                           -0.0948058523
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                            0.0075970467
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            0.0219585660
## Women.with.no.schooling
                                                                                            0.0054243726
## Access.to.online.governance..0.low..1.high.
                                                                                            0.0018062792
## Media.censorship..0.frequent..4.rare.
                                                                                            0.0156889115
## Internet.users....of.pop..
                                                                                            -0.0715784622
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            -0.0076805267
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            0.0345815722
## Access.to.essential.services...O.none..100.full.coverage.
                                                                                           -0.3783564164
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                            0.0080642337
## Life.expectancy.at.60..years.
                                                                                            0.0853485045
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            0.0003309408
## Particulate.matter
                                                                                            0.1196810555
## Biome.protection
                                                                                            0.0075244520
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            -0.1711468117
## Political.rights..0.no.rights..40.full.rights.
                                                                                            -0.2158407825
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                            0.0062301648
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            -0.0155617899
## Access.to.justice..O.non.existent..1.observed.
                                                                                            0.0094461850
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            -0.0120983902
## Vulnerable.employment....of.employees.
                                                                                            -0.0162162594
## Early.marriage....of.women.
                                                                                            -0.1281299991
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0032522541
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            0.0176392003
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            0.0024002344
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            -0.0315499229
## Quality.weighted.universities..points.
                                                                                            -0.0008508850
## Citable.documents
                                                                                            -0.0295619146
```

-0.0020767922

Women.with.advanced.education....

```
PC31
##
## Basic.Human.Needs
                                                                                            0.0734883510
## Foundations.of.Wellbeing
                                                                                            -0.1629849371
                                                                                            0.0261708063
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                            0.0281079356
## Water.and.Sanitation
                                                                                            0.0014871715
## Shelter
                                                                                            0.2901238528
## Personal.Safety
                                                                                            -0.0256153560
## Access.to.Basic.Knowledge
                                                                                            0.0820592376
## Access.to.Information.and.Communications
                                                                                            -0.0385106394
## Health.and.Wellness
                                                                                            -0.6900149334
## Environmental.Quality
                                                                                            -0.0064283773
## Personal.Rights
                                                                                            0.0670942105
## Personal.Freedom.and.Choice
                                                                                            0.1043232760
## Inclusiveness
                                                                                            -0.0110381866
## Access.to.Advanced.Education
                                                                                            -0.0550668701
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            0.0038775956
## Child.stunting....of.children.
                                                                                            0.0086996110
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                            0.0056410581
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                            0.0073341832
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.0004124785
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            0.0094656492
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            -0.0148617238
## Access.to.electricity....of.pop..
                                                                                            -0.0863681112
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.0510573297
## Traffic.deaths..deaths.100.000.
                                                                                            -0.0037642362
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                            -0.0040066219
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            -0.1617295315
## Women.with.no.schooling
                                                                                            -0.0075766872
## Access.to.online.governance..0.low..1.high.
                                                                                            -0.0069711026
## Media.censorship..0.frequent..4.rare.
                                                                                            -0.0060136166
## Internet.users....of.pop..
                                                                                            0.0339142486
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            0.0148764521
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            -0.2147389648
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                            0.4873537633
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                            -0.0172760715
## Life.expectancy.at.60..years.
                                                                                            -0.0051648036
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            -0.0004448142
## Particulate.matter
                                                                                            0.0861728018
## Biome.protection
                                                                                            -0.0115226299
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            -0.1625856987
## Political.rights..0.no.rights..40.full.rights.
                                                                                            -0.0930907088
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                            0.0018454129
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            0.0125404554
## Access.to.justice..O.non.existent..1.observed.
                                                                                            -0.0113421932
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            0.0461447080
## Vulnerable.employment....of.employees.
                                                                                            0.0706064230
## Early.marriage....of.women.
                                                                                            0.0079939608
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0391536162
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            -0.0180793286
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            -0.0078711798
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            -0.0346802607
## Quality.weighted.universities..points.
                                                                                            -0.0004356838
## Citable.documents
                                                                                            0.0576607377
```

```
-0.0055709461
## Women.with.advanced.education....
##
                                                                                                     PC32
## Basic.Human.Needs
                                                                                            -0.1762122076
                                                                                             0.0085379767
## Foundations.of.Wellbeing
## Opportunity
                                                                                             0.0050475733
## Nutrition.and.Basic.Medical.Care
                                                                                            -0.8004914642
## Water.and.Sanitation
                                                                                             0.0056587594
## Shelter
                                                                                             0.0273497826
## Personal.Safety
                                                                                             0.0626621595
## Access.to.Basic.Knowledge
                                                                                            -0.0430671526
## Access.to.Information.and.Communications
                                                                                             0.1039513383
## Health.and.Wellness
                                                                                            -0.0252063919
## Environmental.Quality
                                                                                            -0.0018978277
## Personal.Rights
                                                                                             0.0380746342
## Personal.Freedom.and.Choice
                                                                                            -0.0436431874
## Inclusiveness
                                                                                            -0.0256183521
## Access.to.Advanced.Education
                                                                                             0.0513702032
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            -0.0129105353
## Child.stunting....of.children.
                                                                                            -0.2828495985
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                            -0.0286172415
                                                                                            -0.0772062801
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            0.0213906810
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                             0.0009607014
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            -0.0351832260
## Access.to.electricity....of.pop..
                                                                                             0.0467084486
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            -0.0216868849
## Traffic.deaths..deaths.100.000.
                                                                                            -0.0376168919
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                            -0.0070448025
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            -0.0261650693
## Women.with.no.schooling
                                                                                            -0.0080500654
## Access.to.online.governance..O.low..1.high.
                                                                                             0.0039203531
## Media.censorship..0.frequent..4.rare.
                                                                                            -0.0080425982
## Internet.users....of.pop..
                                                                                            -0.0605175649
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            -0.0043814699
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            -0.0294149886
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                            0.0058014006
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.0001529221
## Life.expectancy.at.60..years.
                                                                                             0.0558961514
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            -0.0001327549
## Particulate.matter
                                                                                            -0.0052980619
## Biome.protection
                                                                                             0.0160372673
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                             0.0394065390
## Political.rights..0.no.rights..40.full.rights.
                                                                                            -0.1180833655
## Freedom.of.expression..0.no.freedom..1.full.freedom.
                                                                                           -0.0002177394
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                             0.0299884982
## Access.to.justice..O.non.existent..1.observed.
                                                                                            -0.0097051797
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                             0.0261018539
## Vulnerable.employment....of.employees.
                                                                                            -0.0122281862
## Early.marriage....of.women.
                                                                                             0.0038783595
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.0399390442
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -0.0581398468
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -0.0361763866
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.4219752119
```

Quality.weighted.universities..points.

```
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..O.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.1317504577
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
```

-0.0108948196

-0.0608246473

-0.0091848240

-0.0053626494

-0.4039206904

0.0004123546

0.0817022561

0.0783917796

0.0042828056

-0.0023832109

-0.0531627627

0.0141288559

-0.0289943248

-0.0657053751

0.0971867073

-0.0252742882

-0.0040203125

-0.1496046135

-0.0168505161

-0.0366308428

-0.0084487043

0.0054393917

-0.0006260402

-0.0135195075

0.0190489114

0.0268849442

-0.0086212081

0.0389989132 0.0082163290

-0.0078923766

0.0346987122

0.0279750002

0.0048026026

0.0116752934

0.0222945164

-0.0018779041

-0.0679337459

0.0002383584

0.0002380662

-0.0014807304

-0.0016891964

0.0111255326

0.0142158735

-0.0571531988

-0.0026693635

0.0053498033

-0.0303827695

-0.0311984504

0.0698716340

0.0849111982

0.8557684438

0.0047820999

PC33

Discrimination.and.violence.against.minorities..0.low..10.high.

```
## Quality.weighted.universities..points.
                                                                                           -0.0020455236
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
                                                                                           -1.199235e-01
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
                                                                                           -1.380071e-04
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
                                                                                           -5.869893e-01
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
                                                                                           -1.552265e-03
## Access.to.Advanced.Education
                                                                                           -2.062384e-02
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
                                                                                           -1.629867e-02
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -8.006250e-03
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -1.046417e-03
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -2.579054e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                           -1.009465e-03
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
                                                                                           -2.939189e-01
## Internet.users....of.pop..
                                                                                           -3.058670e-03
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -6.679269e-03
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -4.410519e-04
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -4.656990e-04
                                                                                           -2.040166e-01
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -2.342433e-01
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -3.744794e-04
                                                                                           -3.192484e-02
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -7.057919e-02
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -1.587756e-02
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
                                                                                           -9.260955e-03
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -3.746768e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           1.562864e-01
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -2.704277e-02
```

0.0030125245

1.075789e-03

3.332927e-05

4.803322e-05

1.188372e-04

4.884931e-03 2.961005e-02

3.515656e-02

4.226344e-02

1.812225e-03

1.993438e-02

2.020562e-04

1.391911e-03

5.819933e-03

7.288297e-03

9.345341e-03

4.398193e-03

7.852247e-02

8.159248e-03

3.368180e-02

7.815804e-03

1.142425e-02

6.344636e-03

5.142941e-01

2.699074e-01

5.611040e-03

```
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
                                                                                           -6.243918e-03
                                                                                           -2.721031e-01
## Citable.documents
## Women.with.advanced.education....
                                                                                           -2.700649e-02
## Basic.Human.Needs
## Foundations.of.Wellbeing
                                                                                           -9.711473e-03
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                           -3.040483e-02
## Water.and.Sanitation
                                                                                           -3.179808e-03
## Shelter
## Personal.Safety
                                                                                           -2.885448e-02
## Access.to.Basic.Knowledge
                                                                                           -1.171026e-02
## Access.to.Information.and.Communications
                                                                                           -1.456634e-02
## Health.and.Wellness
                                                                                           -5.328407e-02
## Environmental.Quality
## Personal.Rights
                                                                                           -2.719817e-03
## Personal.Freedom.and.Choice
## Inclusiveness
                                                                                           -3.742931e-02
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -4.101709e-03
## Child.stunting....of.children.
                                                                                           -9.759607e-03
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -4.116614e-04
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -2.009167e-03
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            1.565080e-02
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -5.395547e-03
## Access.to.electricity....of.pop..
                                                                                           -9.645805e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
                                                                                           -2.069246e-03
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
                                                                                           -8.360717e-03
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
                                                                                           -8.358094e-03
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -9.289471e-03
## Life.expectancy.at.60..years.
                                                                                           -8.415776e-01
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -6.873151e-05
## Particulate.matter
## Biome.protection
                                                                                           -4.716594e-02
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -3.381454e-02
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -1.307780e-02
## Access.to.justice..0.non.existent..1.observed.
                                                                                           -1.533803e-02
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 1.018984e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
```

1.240073e-02

9.149066e-03

3.103190e-03

1.004381e-01

4.246287e-02

4.289135e-02

1.034019e-02

1.635695e-03

2.686911e-02

2.634327e-02

3.539973e-01

2.393514e-02

9.022115e-03

3.077644e-04

3.179252e-01

7.280618e-02

2.426306e-02

1.848471e-02

7.033430e-03

4.452333e-02

1.069722e-02

3.331068e-02

1.164373e-01

```
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..O.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..0.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.1371838205
```

-1.474512e-02

-1.188864e-01

1.735264e-03

1.817109e-02

2.394781e-02

0.0030650150

-0.0520427579

-0.0092488017

0.0082803318

0.0011686390

0.0109212693

-0.0043108066

-0.0002814297

0.0025125259

0.0489611562

-0.2612464358

0.0173156238

0.0126167018

-0.0163656077

0.0014173169

-0.0087095769

-0.0006238468

-0.0134302572

-0.0129938131

0.0008378796

0.0059473176

0.0019413036

-0.0006001056

-0.0149269012

0.0240674946

-0.0047231732

0.0145966450

0.1025650689

-0.0070522881

0.0023338454

0.0395799406

-0.0426065795

0.0003518782

-0.0584155983

-0.0001638364

-0.0970683455

0.2210614459

-0.0834299645

-0.0088266884

0.0034616152

0.0445138212

-0.0080239349

-0.0261101340

-0.0111654367

-0.0171393452

-0.0057459952

-0.0509279936

```
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
```

-0.4130102241

0.2220199400

0.0156147030

-0.0014373447

0.7722277225

0.0186970859

9.943647e-03

3.283835e-02

2.058518e-03

-2.992466e-03

-7.454579e-04

3.362716e-02

7.202149e-03

-9.189628e-03

1.087804e-02

2.243154e-02

1.092860e-01

-9.344188e-03

-1.029587e-02

2.545364e-02

9.917122e-06

-1.414608e-03

4.184236e-03

1.804273e-03

1.030755e-02

-6.087927e-03

-4.316920e-04

8.104798e-03

-1.721016e-02

5.737787e-03

5.612883e-03

1.576583e-02

-1.496525e-01

-4.852027e-03

-7.156120e-01

-5.152301e-03

-1.800230e-03

5.272612e-02

-4.096188e-03

7.028997e-04

-1.163995e-01

1.287405e-04 5.113217e-02

-1.031603e-01

2.966493e-02

4.186341e-02

-7.308621e-02

4.356983e-01

-4.144340e-02

-5.995581e-03

-8.130294e-03

-5.253553e-03

7.054735e-02

```
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 1.982671e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
```

-4.084322e-01

1.649317e-01

6.420163e-02

6.917600e-04

-1.263081e-01

-4.735293e-03

3.359696e-03

-4.924521e-02

3.660169e-03

-2.551243e-03

-4.466963e-04

7.475180e-03

4.854045e-03

1.307444e-02

6.804541e-03

8.920667e-03

1.689757e-02

-5.318636e-03

5.411467e-03

-2.400503e-03

-2.034986e-03

-6.255012e-03

-1.713279e-04

1.388310e-02

7.344443e-04

1.506634e-03

-1.716344e-03

1.373056e-03

6.101692e-03

3.609058e-03

5.982441e-02

-1.159635e-01

-3.984132e-02

3.356482e-01

3.383310e-03

-7.598527e-05

4.397950e-02

4.790781e-02

-8.200055e-04

-1.130318e-01

-9.520347e-05

-7.504188e-02

1.830571e-01

-9.473082e-02

-3.613410e-02

7.207202e-02

3.347654e-01

6.649405e-03

-6.689839e-01

-3.120556e-03

1.999178e-03

-2.282246e-01

PC38

Vulnerable.employment....of.employees.

```
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 2.165466e-01
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -2.165763e-03
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -1.227802e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
                                                                                           -1.357115e-02
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
                                                                                           -2.108200e-02
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -4.644046e-04
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -7.820379e-04
## Life.expectancy.at.60..years.
                                                                                           -1.542439e-02
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -8.965425e-05
## Particulate.matter
## Biome.protection
                                                                                           -1.205735e-02
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
```

-2.906434e-04

-2.020015e-01

-4.082397e-02

-5.947676e-04

-2.976005e-03

-3.023099e-01

3.319704e-02

6.388469e-03

-2.071276e-03 1.571045e-03

2.740795e-02

5.979467e-04

3.434168e-03

-7.954441e-03

-8.705978e-03

-1.027939e-02

-2.225088e-02

3.326446e-02

-1.742969e-02

-4.328527e-03

1.235138e-02

1.247650e-02

1.716867e-03

1.035796e-02

1.479737e-03

2.520417e-03

-2.401095e-03

4.427659e-03

7.331617e-03

-1.690026e-02

-2.203406e-02

2.527953e-01

8.145745e-03

-1.781862e-03

2.872386e-02

1.046733e-02

7.743861e-03

1.574968e-02

2.064112e-02

-3.720126e-01

-2.512350e-03

3.165442e-01

1.096887e-01

PC39

Access.to.justice..O.non.existent..1.observed.

Property.rights.for.women..0.no.right..5.full.rights.

```
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 2.101488e-01
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -6.234737e-01
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -4.033371e-02
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
                                                                                           -1.561102e-02
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -1.061720e-02
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -2.367963e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -2.865332e-03
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -1.589542e-01
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -2.199382e-03
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -1.720258e-02
```

-8.910639e-04

-1.038430e-02

3.209457e-01

8.339723e-04

-3.746277e-01

2.187493e-02

1.601437e-03 -2.848777e-02

-5.261112e-03

1.289723e-02

-6.140484e-04

5.659105e-03

-6.962254e-03

1.510381e-02

-1.327288e-01

1.922524e-02

2.251201e-03

-6.050408e-03

-2.386167e-02

7.614640e-03

3.192617e-04

1.042500e-02

3.109697e-04

9.618558e-04

3.227426e-03

7.418796e-04

1.881218e-03

-2.259916e-02

8.357725e-01

5.002644e-02

2.530315e-02

-1.180687e-01

-2.612654e-03 -2.940849e-05

3.693239e-02

3.029570e-01

6.335653e-06

-1.963760e-03

-1.605553e-02

9.766380e-03

1.539307e-02

1.828662e-01

-1.544363e-03

PC40

Freedom.of.religion..O.no.freedom..4.full.freedom.

Access.to.justice..O.non.existent..1.observed.

```
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -1.189563e-01
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 2.969569e-01
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -2.547036e-02
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -2.324868e-02
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -3.634676e-02
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
                                                                                           -2.198670e-02
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
                                                                                           -7.474449e-03
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                           -9.869541e-03
## Water.and.Sanitation
## Shelter
                                                                                           -2.270616e-03
## Personal.Safety
## Access.to.Basic.Knowledge
                                                                                           -1.455038e-02
## Access.to.Information.and.Communications
                                                                                           -6.740644e-03
## Health.and.Wellness
                                                                                           -3.671981e-02
## Environmental.Quality
## Personal.Rights
                                                                                           -1.875283e-02
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
                                                                                           -9.403209e-03
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -5.625185e-04
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -6.441048e-03
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -2.558095e-04
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -6.492334e-03
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            2.402065e-03
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
                                                                                           -1.831791e-02
## Access.to.online.governance..0.low..1.high.
                                                                                           -2.219162e-02
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -3.689512e-02
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -1.033369e-03
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
                                                                                           -2.450456e-02
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
```

2.008612e-03

2.312867e-03

3.273726e-04

7.299698e-02

1.927786e-03

3.639788e-03

4.755054e-05

1.941080e-02

2.390861e-02

5.388168e-03

1.324499e-02

1.285932e-02

1.340281e-03

4.361942e-03

1.490360e-03

4.024446e-03

2.574864e-03

2.306993e-01

1.601934e-01

5.005028e-03

1.374263e-04

4.233535e-03

6.772491e-02

7.587832e-05

6.353539e-03

7.908000e-03

8.883855e-03

7.304007e-03

2.108990e-01

PC41

Freedom.of.religion..O.no.freedom..4.full.freedom.

```
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -7.339906e-01
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -5.229892e-03
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -2.095271e-03
```

-4.758177e-02

-7.245354e-02

-9.876300e-04

7.480433e-03

9.787213e-02

4.994738e-01

5.032399e-02

-7.033402e-04

-2.391942e-01

1.394224e-02

1.048871e-02

1.349732e-03

-1.565436e-02

1.268215e-02

1.294549e-03

9.768244e-03

1.600042e-02

-5.945209e-04

-1.353379e-02

3.102756e-02

-3.422686e-03

-6.866452e-02

-9.400970e-04

6.155500e-03

1.859090e-03

8.868860e-04

1.263233e-02

2.372977e-04

5.089944e-03

1.910271e-03

1.203225e-03

-6.028285e-03

-2.135175e-03

5.432042e-04

2.829988e-03

-4.629915e-02

-2.503571e-02

-3.369676e-02

3.769591e-01

5.624737e-03

1.373494e-03

6.315964e-03

-2.439930e-02

1.806913e-03

9.336036e-03

8.251297e-05

2.644835e-03

2.601372e-03

2.990372e-02

-1.607256e-02

PC42

Political.rights..0.no.rights..40.full.rights.

Freedom.of.expression..O.no.freedom..1.full.freedom.

```
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 1.185864e-01
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
```

6.380454e-01

-3.014971e-01

5.554480e-01

-6.319290e-04

-1.622054e-02

1.136459e-02

-1.524938e-01

2.688702e-02

-2.572252e-04

-2.225669e-03

7.047181e-03

4.855180e-03

-5.353041e-04

1.390117e-02

-2.758371e-03

-5.759382e-04

1.042491e-02

6.147364e-03

-4.816935e-03

-5.039329e-03

-8.294357e-03

1.149271e-02

3.715547e-03

-1.760895e-02

6.856617e-02

6.813282e-03

3.926332e-05

6.348848e-05

-2.214651e-03

8.296039e-05

1.783486e-03

4.464782e-03

-6.540012e-03

-1.341744e-03

3.403840e-03

-1.606002e-01

1.597246e-01

-1.731883e-02

4.539921e-02

3.025928e-02

3.207745e-04

6.888384e-04

3.943715e-03

3.180631e-03

1.628865e-04

-1.462801e-02

4.061764e-05

1.789890e-03

-5.814684e-03

5.793800e-03

-5.792689e-04

-1.158486e-03

Outdoor.air.pollution.attributable.deaths..deaths.100.000.

Political.rights..0.no.rights..40.full.rights.

```
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -4.619134e-01
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                           -4.634410e-04
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
```

-4.350506e-02

-5.270175e-02

6.152719e-02

-7.151505e-03

-1.762678e-03

-5.908927e-03

-4.040754e-01

-7.145306e-01

1.509490e-01

-5.709719e-04

-9.936705e-02

-1.045470e-01

6.141368e-03

-1.032425e-03 -2.353320e-03

4.305382e-03

1.088740e-03

7.713761e-03

5.779231e-03

7.594191e-04

-1.512724e-03

4.862975e-03

-1.166159e-02

-1.499872e-04

1.907760e-05

-1.088173e-02

-6.238562e-03

-5.650786e-04

2.268992e-04

4.362599e-04

2.293232e-03

1.601755e-03

-1.000981e-03

-2.147305e-03

2.255668e-03

4.378259e-03

-8.823176e-01

-4.912663e-02

4.568699e-02

-8.468622e-03

5.357427e-02

1.384799e-03

1.455172e-05

1.496447e-02

-1.917717e-04

-3.359522e-02

1.946226e-05

-4.531781e-03

7.445132e-03

-7.691797e-03

1.112821e-03

PC44

Outdoor.air.pollution.attributable.deaths..deaths.100.000.

Biome.protection

```
4.674784e-03
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -2.904132e-01
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            9.708483e-02
## Access.to.justice..O.non.existent..1.observed.
                                                                                            2.767755e-01
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            5.050749e-03
## Vulnerable.employment....of.employees.
                                                                                           -2.335127e-04
## Early.marriage....of.women.
                                                                                           -7.257332e-04
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 8.208523e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            6.858243e-02
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            1.071210e-01
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -2.659321e-02
## Quality.weighted.universities..points.
                                                                                           -1.586276e-04
## Citable.documents
                                                                                           -1.688988e-02
## Women.with.advanced.education....
                                                                                            1.331916e-01
## Basic.Human.Needs
                                                                                            2.037487e-03
## Foundations.of.Wellbeing
                                                                                           -5.333562e-03
## Opportunity
                                                                                            7.371540e-04
## Nutrition.and.Basic.Medical.Care
                                                                                            3.611890e-03
## Water.and.Sanitation
                                                                                           -2.574826e-03
## Shelter
                                                                                            1.671482e-03
## Personal.Safety
                                                                                            1.717947e-04
## Access.to.Basic.Knowledge
                                                                                           -5.578068e-03
## Access.to.Information.and.Communications
                                                                                            1.967460e-04
## Health.and.Wellness
                                                                                           -6.804397e-03
## Environmental.Quality
                                                                                            3.927669e-04
## Personal.Rights
                                                                                           -1.143522e-03
## Personal.Freedom.and.Choice
                                                                                            3.264779e-03
## Inclusiveness
                                                                                            6.916869e-03
## Access.to.Advanced.Education
                                                                                           -1.113378e-02
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            7.663261e-05
## Child.stunting....of.children.
                                                                                            2.837292e-03
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                            2.177418e-04
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -1.359863e-03
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -4.013843e-04
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -5.834953e-04
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -1.569197e-04
## Access.to.electricity....of.pop..
                                                                                           -7.698619e-04
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            1.393079e-03
## Traffic.deaths..deaths.100.000.
                                                                                            1.699828e-03
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                            9.928571e-02
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            3.489757e-02
## Women.with.no.schooling
                                                                                           -2.287835e-01
## Access.to.online.governance..0.low..1.high.
                                                                                            2.739757e-01
## Media.censorship..0.frequent..4.rare.
                                                                                           -1.432661e-02
## Internet.users....of.pop..
                                                                                            4.657764e-04
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            6.973067e-04
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -1.332850e-02
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                           -2.128154e-04
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -1.826814e-04
## Life.expectancy.at.60..years.
                                                                                            2.801534e-02
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -1.007998e-05
## Particulate.matter
                                                                                            8.352791e-04
## Biome.protection
                                                                                            1.906257e-03
```

```
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -2.442417e-03
## Political.rights..0.no.rights..40.full.rights.
                                                                                            2.159642e-03
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                            5.067681e-03
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -2.047826e-02
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -5.296864e-03
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            9.701959e-03
## Vulnerable.employment....of.employees.
                                                                                            1.161897e-03
## Early.marriage....of.women.
                                                                                            1.736581e-03
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -3.854206e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -9.698205e-03
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                           -9.076753e-02
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            1.895484e-02
## Quality.weighted.universities..points.
                                                                                            1.232930e-04
## Citable.documents
                                                                                           -8.843701e-03
## Women.with.advanced.education....
                                                                                            9.215075e-01
##
## Basic.Human.Needs
                                                                                            2.834836e-03
## Foundations.of.Wellbeing
                                                                                            6.100585e-03
## Opportunity
                                                                                            2.040181e-03
## Nutrition.and.Basic.Medical.Care
                                                                                            6.799251e-03
## Water.and.Sanitation
                                                                                            3.086195e-03
## Shelter
                                                                                           -9.274952e-04
## Personal.Safety
                                                                                            5.096017e-04
## Access.to.Basic.Knowledge
                                                                                           -4.818602e-03
## Access.to.Information.and.Communications
                                                                                            1.898695e-02
## Health.and.Wellness
                                                                                            5.606720e-03
## Environmental.Quality
                                                                                           -6.511302e-03
## Personal.Rights
                                                                                            9.033871e-03
## Personal.Freedom.and.Choice
                                                                                           -8.525972e-05
## Inclusiveness
                                                                                            2.730869e-03
## Access.to.Advanced.Education
                                                                                           -2.560495e-03
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -3.001489e-05
## Child.stunting....of.children.
                                                                                            5.257108e-03
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -1.025513e-04
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -1.406043e-03
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            1.825942e-03
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            1.205615e-03
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            1.195161e-03
## Access.to.electricity....of.pop..
                                                                                           -2.027938e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            1.905365e-04
## Traffic.deaths..deaths.100.000.
                                                                                            2.920409e-03
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                           -1.916623e-01
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            3.037372e-02
## Women.with.no.schooling
                                                                                           -2.284192e-01
## Access.to.online.governance..O.low..1.high.
                                                                                           -8.172805e-01
## Media.censorship..0.frequent..4.rare.
                                                                                           -1.468322e-01
## Internet.users....of.pop..
                                                                                           -4.195994e-03
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -1.849555e-03
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -3.082689e-03
## Access.to.essential.services...O.none..100.full.coverage.
                                                                                           -5.275988e-03
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                            3.974391e-04
## Life.expectancy.at.60..years.
                                                                                            1.280650e-02
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            3.558523e-06
## Particulate.matter
                                                                                           -2.123916e-03
```

```
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -1.163087e-03
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -4.035705e-03
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -6.065105e-02
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -2.838906e-01
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -4.189137e-02
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -2.008458e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                           -2.211185e-02
## Equality.of.political.power.by.gender..O.unequal.power..4.equal.power.
                                                                                           -4.574110e-02
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
                                                                                           -4.733947e-03
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                           -8.705821e-03
## Water.and.Sanitation
                                                                                           -3.248404e-03
## Shelter
## Personal.Safety
                                                                                           -3.416191e-03
## Access.to.Basic.Knowledge
                                                                                           -1.739323e-03
## Access.to.Information.and.Communications
## Health.and.Wellness
                                                                                           -5.568746e-03
## Environmental.Quality
                                                                                           -7.527891e-03
## Personal.Rights
                                                                                           -1.552944e-02
## Personal.Freedom.and.Choice
                                                                                           -2.911823e-03
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
                                                                                           -1.160046e-03
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -2.261107e-04
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -1.470967e-03
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -4.732695e-04
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -9.505829e-04
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -9.302130e-04
## Access.to.electricity....of.pop..
                                                                                           -1.083727e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -1.749804e-03
## Traffic.deaths..deaths.100.000.
                                                                                           -1.179302e-04
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
                                                                                           -4.903412e-01
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
                                                                                           -3.735482e-03
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -1.005597e-03
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -6.221223e-03
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -7.553605e-06
```

4.716579e-03

3.050014e-01

1.464839e-03

1.734665e-04

2.211905e-03

4.770116e-05

1.620986e-02

1.933340e-01

1.113732e-03

5.689212e-03

8.614114e-04

1.189613e-02

7.211542e-03

2.036667e-03

2.207064e-05

3.758504e-01

8.504675e-03

1.499065e-01

4.428656e-02

7.489948e-04

1.942858e-04

1.016942e-02

```
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -1.881897e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
                                                                                           -2.101585e-03
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -5.028654e-04
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
                                                                                           -1.131552e-03
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
```

-1.497074e-03

-3.575520e-03

7.313413e-03

-5.425856e-01

9.237682e-02

5.080650e-01

9.029952e-02

-2.295457e-04

-1.461685e-03

-2.993117e-02

-3.515733e-02

1.530094e-02

-3.324882e-05

7.970512e-04

1.445484e-01

1.602102e-03

-2.744150e-03

-6.001362e-03

-1.192201e-03

-1.421975e-03

5.440750e-03 -3.021252e-04

-7.131992e-03

-9.710065e-04

-1.639642e-04

-3.546562e-03

2.242085e-03

-3.039878e-03

3.599020e-03

-2.258028e-03

-1.520579e-04

1.992938e-03

8.326357e-05

4.371549e-04

5.685715e-04

4.121073e-03

-9.506779e-04

4.278437e-02

3.107498e-02 -9.303900e-01

5.573789e-02

2.525306e-02

1.250775e-03

4.620121e-04

6.856185e-03

1.950079e-03

-3.543630e-04

-1.538881e-02

PC48

5.800252e-03

```
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 4.917183e-02
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
## Access.to.essential.services...O.none..100.full.coverage.
```

-7.421409e-06

-1.714094e-03

3.020441e-03

2.255792e-03

-2.561060e-03

-1.761346e-01

3.446272e-02

1.756574e-01

-2.659036e-03

2.330543e-04

1.598133e-03

3.463123e-02

3.026074e-02

-1.637513e-03

6.939183e-07

1.090115e-02

PC49

-2.441015e-01

5.568093e-01

4.365147e-01

5.185008e-01

-1.390783e-01

-1.731743e-01

-1.392824e-01

-1.393012e-01

-1.091434e-01

-1.092510e-01

-1.146628e-01

-1.089781e-01

-1.350692e-01

-1.295415e-01

-1.298680e-01

-1.296760e-01

-5.970747e-06

2.500037e-05

7.137708e-09

-2.345355e-05

-7.177344e-03

-1.085660e-02

-1.009565e-02

1.522446e-05

2.345010e-05

-3.296943e-06

1.239015e-03

7.127315e-04

-2.347363e-03

3.332561e-03

3.836614e-06

2.108301e-05

1.585789e-05

2.105615e-02

1.628343e-03

-1.403487e-04

Premature.deaths.from.non.communicable.diseases..deaths.100.000.

```
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 7.747203e-04
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
## Access.to.quality.healthcare..0.unequal..4.equal.
```

8.413505e-03

-1.805767e-07

-3.404277e-05 -9.211211e-05

1.321266e-04

2.375288e-03

1.098194e-01

2.801854e-02

1.023215e-01

2.695705e-02

3.203489e-05

8.892850e-04

-2.972148e-04

-3.225851e-04

5.680204e-06

1.161773e-03

3.439609e-01

-7.270466e-01

3.398577e-01

-8.609732e-02

1.142660e-01

-8.602796e-02

-8.603945e-02

1.817523e-01

1.818156e-01

1.842327e-01

1.813964e-01

-7.847972e-02

-8.491985e-02

-8.498573e-02

-8.498042e-02

9.003133e-07

-2.218500e-05

-1.485867e-05

-3.192639e-05

4.257412e-02

6.405904e-02

5.941475e-02

-1.612812e-05

-2.088102e-05

1.940472e-05

1.308352e-03

7.016712e-04

-1.413423e-03

-3.806661e-03

-2.051027e-05

-2.248871e-05

1.564948e-05

-1.069776e-02

-6.273688e-04

PC50

-1.866204e-03

-1.795115e-05

Access.to.essential.services...O.none..100.full.coverage.

```
6.087738e-05
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
                                                                                           -4.003006e-03
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -9.582898e-07
## Particulate.matter
                                                                                           -1.350264e-04
## Biome.protection
                                                                                            2.484013e-04
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -1.317088e-04
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -2.789938e-03
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -1.264788e-01
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -3.300801e-02
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -1.177756e-01
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -3.160817e-02
## Vulnerable.employment....of.employees.
                                                                                            4.846008e-05
## Early.marriage....of.women.
                                                                                            4.749414e-05
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -1.111753e-03
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            2.036701e-04
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            5.959004e-05
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -4.510335e-05
## Quality.weighted.universities..points.
                                                                                           -1.257162e-07
## Citable.documents
                                                                                            5.586436e-04
## Women.with.advanced.education....
                                                                                           -2.012207e-03
## Basic.Human.Needs
                                                                                            6.268041e-01
## Foundations.of.Wellbeing
                                                                                           -3.657933e-02
## Opportunity
                                                                                           -6.444265e-01
## Nutrition.and.Basic.Medical.Care
                                                                                           -1.567769e-01
## Water.and.Sanitation
                                                                                           -1.048724e-01
## Shelter
                                                                                           -1.566951e-01
## Personal.Safety
                                                                                           -1.567082e-01
## Access.to.Basic.Knowledge
                                                                                            9.147665e-03
## Access.to.Information.and.Communications
                                                                                            8.956527e-03
## Health.and.Wellness
                                                                                            6.277093e-03
## Environmental.Quality
                                                                                            9.030331e-03
## Personal.Rights
                                                                                            1.599462e-01
## Personal.Freedom.and.Choice
                                                                                            1.611242e-01
## Inclusiveness
                                                                                            1.609311e-01
## Access.to.Advanced.Education
                                                                                            1.611567e-01
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            9.686317e-06
## Child.stunting....of.children.
                                                                                           -3.085067e-06
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -6.572286e-06
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -3.697298e-05
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            1.100697e-02
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            1.659162e-02
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            1.539555e-02
## Access.to.electricity....of.pop..
                                                                                            5.125583e-05
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            3.539396e-05
## Traffic.deaths..deaths.100.000.
                                                                                           -2.584394e-05
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                           -1.506776e-03
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            1.967167e-04
## Women.with.no.schooling
                                                                                            3.871203e-03
## Access.to.online.governance..0.low..1.high.
                                                                                            2.238399e-03
## Media.censorship..0.frequent..4.rare.
                                                                                           -5.564359e-04
## Internet.users....of.pop..
                                                                                            4.573974e-05
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            2.689555e-05
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            1.095151e-02
```

```
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -6.197579e-06
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..O.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 4.434669e-04
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
                                                                                           -4.330322e-02
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -1.517410e-05
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
                                                                                           -4.388695e-04
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
## Internet.users....of.pop..
## Mobile.telephone.subscriptions..subscriptions.100.people.
```

7.733562e-04

-7.174687e-05

4.587889e-03

-1.987573e-07

-6.883374e-05

5.425126e-05

6.027783e-04

2.774087e-02

5.657996e-03

2.159992e-02

5.885858e-03

4.897599e-06

7.236073e-06

6.312165e-04

1.909360e-03

-2.144966e-04

2.000835e-07

6.724673e-04

7.523671e-04

9.451388e-02

1.741501e-01

-1.918729e-02

-2.356367e-02

8.699360e-01 -2.372818e-02

-2.368756e-02

-4.359626e-02

-4.360193e-02

-4.348315e-02

1.914520e-03

4.832263e-03

4.710363e-03

4.781514e-03

5.529591e-06

-4.566681e-05

1.531435e-06

1.900182e-01

2.857592e-01

2.652577e-01

4.965226e-05

-1.760724e-05

-5.770774e-06

3.828010e-03

-4.571820e-06

3.403595e-03

8.578920e-04

-3.519208e-05

5.189644e-06

```
## Access.to.guality.healthcare..0.unegual..4.egual.
## Access.to.essential.services...0.none..100.full.coverage.
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
## Greenhouse.gas.emissions..total.CO2.equivalents.
## Particulate.matter
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
## Political.rights..0.no.rights..40.full.rights.
## Freedom.of.expression..0.no.freedom..1.full.freedom.
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Access.to.justice..O.non.existent..1.observed.
## Property.rights.for.women..0.no.right..5.full.rights.
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -4.939146e-04
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
## Quality.weighted.universities..points.
## Citable.documents
## Women.with.advanced.education....
##
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
## Shelter
## Personal.Safety
## Access.to.Basic.Knowledge
## Access.to.Information.and.Communications
## Health.and.Wellness
## Environmental.Quality
## Personal.Rights
## Personal.Freedom.and.Choice
## Inclusiveness
## Access.to.Advanced.Education
## Deaths.from.infectious.diseases..deaths.100.000.
## Child.stunting....of.children.
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
## Populations.using.unsafe.or.unimproved.water.sources....
## Populations.using.unsafe.or.unimproved.sanitation....
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
```

-1.441964e-05

6.882506e-05

1.383944e-07

1.028986e-07

8.668764e-05

-1.792608e-04

7.264812e-05

1.194573e-03

5.234969e-02

1.480463e-02

5.440177e-02

1.344803e-02

-4.569192e-06

-1.506295e-05

1.271864e-03

1.033325e-03

-1.497326e-04

5.547347e-06

-1.914156e-04

2.061326e-03

5.684751e-02

2.181051e-01

2.212126e-03

-1.416206e-02

1.737637e-02

-1.425721e-02

-1.419597e-02

-5.450181e-02

-5.449524e-02

-5.206417e-02

-5.462727e-02

3.391834e-02

-4.624860e-04

-6.895650e-04

-5.551883e-04

2.382157e-06

7.651017e-05

8.202780e-06

7.608833e-06

6.680328e-03

1.009637e-02

9.353488e-03

-3.568044e-07

-2.545895e-05

3.716908e-05

-4.049711e-03

-8.012602e-05

-1.953081e-03

3.365094e-04

-7.856383e-04

-3.461138e-05

PC53

-2.284851e-04

Internet.users....of.pop..

```
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                           -5.736428e-06
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                           -8.848329e-03
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                           -6.064283e-04
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
## Life.expectancy.at.60..years.
                                                                                           -4.034346e-03
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -1.596249e-06
## Particulate.matter
                                                                                           -2.010093e-05
## Biome.protection
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -1.915969e-05
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -1.457207e-02
## Freedom.of.expression..0.no.freedom..1.full.freedom.
                                                                                           -6.712512e-01
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -1.758585e-01
## Access.to.justice..O.non.existent..1.observed.
                                                                                           -6.527247e-01
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -1.654693e-01
## Vulnerable.employment....of.employees.
## Early.marriage....of.women.
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 7.098251e-04
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -3.910009e-04
## Quality.weighted.universities..points.
## Citable.documents
                                                                                           -7.005208e-05
## Women.with.advanced.education....
                                                                                           -1.632361e-03
## Basic.Human.Needs
## Foundations.of.Wellbeing
## Opportunity
## Nutrition.and.Basic.Medical.Care
                                                                                           -4.006506e-03
## Water.and.Sanitation
                                                                                           -6.925930e-03
## Shelter
                                                                                           -4.020259e-03
## Personal.Safety
                                                                                           -4.018953e-03
## Access.to.Basic.Knowledge
                                                                                           -1.578110e-02
## Access.to.Information.and.Communications
                                                                                           -1.578853e-02
## Health.and.Wellness
## Environmental.Quality
                                                                                           -1.589258e-02
## Personal.Rights
                                                                                           -6.101956e-04
## Personal.Freedom.and.Choice
                                                                                           -6.133174e-05
## Inclusiveness
                                                                                           -6.728090e-05
## Access.to.Advanced.Education
                                                                                           -6.560579e-05
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -1.559767e-06
## Child.stunting....of.children.
                                                                                           -8.768513e-06
## Maternal.mortality.rate..deaths.100.000.live.births.
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -5.936457e-07
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -6.107363e-04
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -9.285890e-04
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -8.660836e-04
## Access.to.electricity....of.pop..
## Household.air.pollution.attributable.deaths..deaths.100.000.
## Traffic.deaths..deaths.100.000.
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                           -4.724471e-04
## Access.to.quality.education..0.unequal..4.equal.
## Women.with.no.schooling
                                                                                           -8.057070e-04
## Access.to.online.governance..0.low..1.high.
## Media.censorship..0.frequent..4.rare.
```

5.846029e-05

3.002086e-06

4.520625e-05

7.698090e-05

3.540521e-04

4.229863e-04

8.195394e-06

1.607703e-02

6.308542e-02

2.493768e-04

2.193436e-01

8.333316e-07

1.180984e-05

1.642139e-05

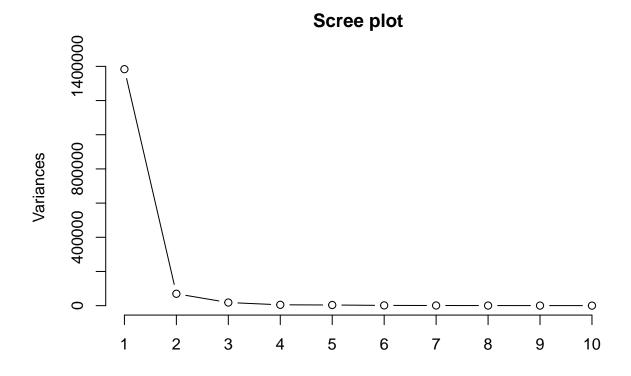
8.251193e-06

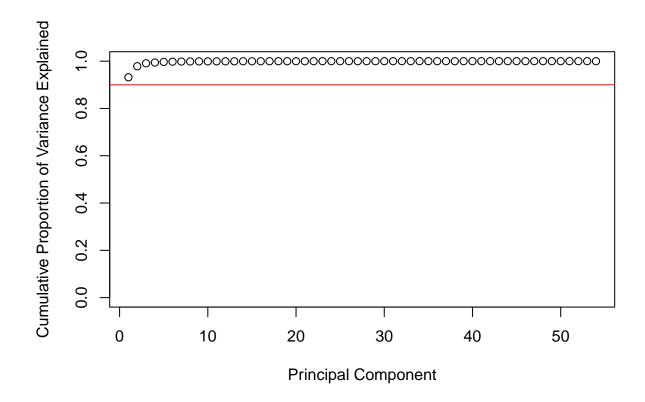
7.364208e-05

5.461797e-04

8.697694e-05

```
## Internet.users....of.pop..
                                                                                          -8.726517e-06
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                          -3.161575e-06
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                          -9.008203e-01
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                          -6.774316e-02
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           5.579172e-03
## Life.expectancy.at.60..years.
                                                                                          -3.611785e-01
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           1.359178e-08
## Particulate.matter
                                                                                          -4.779523e-05
## Biome.protection
                                                                                           9.016613e-05
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                          -4.956183e-05
## Political.rights..0.no.rights..40.full.rights.
                                                                                           2.276688e-04
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           1.139794e-02
## Freedom.of.religion..0.no.freedom..4.full.freedom.
                                                                                           2.884233e-03
## Access.to.justice..O.non.existent..1.observed.
                                                                                           1.025052e-02
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           2.854762e-03
## Vulnerable.employment....of.employees.
                                                                                          -9.080317e-06
## Early.marriage....of.women.
                                                                                          -4.087127e-06
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -1.842446e-04
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                          -4.853865e-05
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                          -1.365502e-04
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           4.438714e-05
## Quality.weighted.universities..points.
                                                                                          -1.801514e-06
## Citable.documents
                                                                                           6.100030e-05
## Women.with.advanced.education....
                                                                                          -5.026626e-04
# sdev gives the square root of eigenvalues
# rotation: coefficients of phi
# show the first 5 principal components for the first 10 countries
# the values returned are the score based on the respective principal component direction (ie. z values
pr.out.ns$x[1:10, 1:5]
##
                     PC1
                                 PC2
                                            PC3
                                                       PC4
                                                                     PC5
## Afghanistan -265.25384 -390.83750 456.670250 -33.741841 -83.09195344
              -272.86418 214.22197 -10.055515 37.258952 -4.30853920
## Albania
## Algeria
               -53.69968 179.80131 -21.476454 32.903306 -44.20467980
              -196.90725 -283.54366 -112.124839 18.211527 57.41501223
## Angola
## Argentina
                66.03079 144.74208
                                       2.404084 -13.798759
                                                            9.63937171
## Armenia
              -273.43432 142.44688 107.236025 19.600836 13.68966614
## Australia
               283.24767 279.32925 -92.232486 -59.981411
                                                            -3.28515969
## Austria
              -194.70256 283.79781 -69.389567 -9.650574 -0.08005692
                          25.33709 232.316746 10.137781 49.82921490
## Azerbaijan -216.51431
              -248.52206 223.70665 -37.469766 50.431355 -8.25605998
## Bahrain
# instead of having the exact x1 x2 values up to x54, we obtain the z values, where z = phi * x
# plot scree
# shows how much of the variation is explained by each principal component
# type = "l" -line plot
plot(pr.out.ns, type = "l", main = "Scree plot")
```





integer(0)

```
# first PC explanation
pve.ns[1]
```

[1] 0.9318276

From the 'Scree plot' and the 'Cumulative Proportion plot': The first PC actually explains 93% of the variablity.

Let us look at the loadings for each and the PCA scores for the countries. We look at the coefficients of the top and bottom 5. Also we also look at the top and bottom scoring countries for each PC.

- loadings: important characteristics of principal component
- positive and negative sign indicates direction
- large absolute values suggests that it is important (values are relative)

```
#pr.out.ns$x
#pr.out.ns$rotation

# observe the first two principal component
sp.pc <- data.frame(pr.out.ns$x[, 1:2])</pre>
```

best and worst performing country based on each principal component # -ve sign to rank from the best to worst (decreasing order) sp.pc[order(- sp.pc\$PC1),]

шш	DOI	Dao
## ## China	PC1	PC2 -224.084837
## United States	6282.20386	
## India		-210.921427
## Russia	1900.77590	
	1031.41589	
## Japan ## Brazil		112.938222
	648.23490	
## Germany ## Iran		172.996609
## Iran ## Indonesia		-77.625476
==================================		275.320488
<pre>## Korea, Republic of ## Mexico</pre>		174.753139
## Canada		259.120589
## Saudi Arabia		164.209391
## Australia	283.24767	
	255.40737	
## Turkey ## South Africa		-153.646441
	222.11240	
## United Kingdom ## France	205.94631	
## Thailand	192.36828	
## Pakistan		-238.522599
## Italy	161.23905	
## Poland	138.12070	
## Malaysia		
## Vietnam	77.43072	77.651743 99.160115
	70.86372	
## Spain ## Kazakhstan	70.75644	
## Argentina	66.03079	
## Ukraine	39.47413	
## Nigeria		-243.319176
## Egypt	24.38173	
## Iraq	-20.43164	
## United Arab Emirates		55.240391
## Uzbekistan		-3.137003
## Algeria	-53.69968	
## Philippines		-73.798376
## Qatar	-76.52867	
## Netherlands	-83.26209	268.190471
## Colombia	-113.12425	226.639576
## Bangladesh	-130.87205	-32.446159
## Czechia	-149.70140	230.929311
## Kuwait	-152.97193	257.944200
## Myanmar		-105.173530
## Belgium	-163.28108	262.653469
## Ethiopia		-158.290061
## Chile	-168.36487	239.899707
## Romania	-168.39334	139.703844
## Morocco	-171.89152	45.540860
## Peru	-172.38936	189.361537
"" I OI U	112.00000	100.001007

шш	Turning on i at an		100 21010	0 540557
	Turkmenistan		-180.31018 -181.43681	
	Singapore			275.495238 -62.184580
	Sudan			128.460145
	Belarus			243.313733
	Greece			175.894008
	Oman			
	Israel			280.659382
	Austria			283.797814
	Bolivia			45.085541
	Trinidad and Tobago		-196.34760	
	Angola			-283.543655
	New Zealand		-198.61549	
	Tanzania			-202.147784
	Portugal			257.386215
	Serbia			143.790587
##	Korea, Democratic Republic o	f		-29.925455
##	Azerbaijan		-216.51431	
##	Ireland		-217.69445	
##	Hungary			161.293399
##	Ecuador		-219.22183	174.308090
##	Sweden		-222.41506	297.838507
##	Finland		-222.92749	290.196502
##	Bulgaria		-223.32967	116.955729
	Kenya		-225.40628	-260.682963
	Norway		-226.15896	288.449675
	Chad			-509.077056
##	Mali		-228.84355	-326.876399
##	Paraguay		-229.97204	134.006578
	Switzerland			310.311615
##	Denmark			266.337126
	Cuba			157.724590
##	Slovakia			198.793809
	Mongolia			-27.642220
	Tunisia			203.534059
	Sri Lanka			183.739864
	Uganda			-196.681974
	Congo, Democratic Republic o	f		-418.928499
	Uruguay	_	-246.80450	182.216815
	South Sudan			-520.590178
	Bahrain		-248.52206	
	Nepal			-96.488631
	Guatemala		-253.13632	
	Jordan		-253.80581	
	Cambodia			-41.470013
				174.256448
	Bosnia and Herzegovina		-255.49646	
	Dominican Republic			
	Croatia			223.828459
	Cameroon			-353.379415
	Zambia			-270.298557
	Lebanon		-259.83607	
	Estonia		-260.29401	
	Ghana			-193.759993
	Lithuania		-262.40386	
##	Mozambique		-262.45109	-510.345339

## Q3	062 67014 065 012271
## Slovenia	-263.67014 265.913371 -264.32451 242.548418
## Costa Rica	
## Burkina Faso	-264.69783 -344.153855
## Afghanistan	-265.25384 -390.837505
## Nicaragua	-265.38496 195.080738
## Madagascar	-265.86487 -364.013893
## Honduras	-266.46515 98.762145
## Kyrgyzstan	-266.95508 84.745065
## Panama	-268.14810 201.878639
## Georgia	-268.27120 78.370961
## Côte d'Ivoire	-269.15662 -337.679632
## Senegal	-269.83728 -204.285818
## Moldova	-270.54982 96.454035
## Republic of North Macedonia	-271.03120 161.789286
## Luxembourg	-271.29064 278.184286
## El Salvador	-271.95929 154.277037
## Cyprus	-271.98025 272.597112
## Latvia	-272.22742 150.395572
## Albania	-272.86418 214.221970
## Botswana	-273.07291 -79.429941
## Niger	-273.32012 -390.986311
## Armenia	-273.43432 142.446876
## Zimbabwe	-275.82299 -410.728204
## Iceland	-276.03257 293.674492
## Jamaica	-276.27521 97.814527
## Tajikistan	-276.48473 11.105778
## Somalia	-276.53401 -536.833110
## Mauritius	-276.82227 135.981090
## Guinea	-277.41592 -523.123267
## Namibia	-278.89563 -134.056369
## Laos	-279.23050 -134.374846
## Montenegro	-279.41419 169.737398
## Malta	-279.79999 263.507544
## Benin	-280.87983 -273.977658
## Haiti	-280.97434 -280.778963
## Maldives	-282.35059 207.311776
	-282.54931 -203.422718
## Equatorial Guinea ## Gabon	-283.28314 -132.438235
## Barbados	
## Suriname	-284.28563 55.791400
## Mauritania	-284.34434 -187.534654
## Cabo Verde	-284.93899 123.807986
## Togo	-285.20558 -302.086971
## Rwanda	-285.31668 -122.507941
## Bhutan	-285.71580 48.867752
## Malawi	-286.06753 -298.271133
## Guyana	-286.35826 -49.137802
## Timor-Leste	-288.83289 -93.389114
## Congo, Republic of	-288.94466 -433.429982
## Fiji	-289.22263 -135.707429
## Papua New Guinea	-293.23348 -729.021983
## Djibouti	-294.83677 -251.142178
## Burundi	-295.34303 -424.935155
## Gambia, The	-297.11327 -343.797171

```
## Eswatini -297.35006 -385.102179
## Sierra Leone -297.62373 -512.828794
## Liberia -297.71492 -396.234721
## Eritrea -298.49814 -547.004346
## Guinea-Bissau -300.05774 -468.330833
## Lesotho -303.46737 -661.278723
## Central African Republic -307.96607 -996.013717
```

sp.pc[order(- sp.pc\$PC2),]

##	PC1	PC2
## Switzerland	-230.61371	310.311615
## Sweden	-222.41506	
## Iceland		293.674492
## Finland	-222.92749	
## Norway	-226.15896	
## Italy		288.268268
## Austria	-194.70256	283.797814
## Spain		282.589981
## Israel	-192.81018	280.659382
## Australia	283.24767	279.329249
## Japan	1031.41589	279.281716
## Ireland	-217.69445	278.606083
## Luxembourg	-271.29064	278.184286
## Singapore	-181.43681	275.495238
## Korea, Republic of	471.82937	275.320488
## France	205.94631	275.111887
## New Zealand	-198.61549	274.921715
## Cyprus	-271.98025	272.597112
## Netherlands	-83.26209	268.190471
## United Kingdom	222.11240	267.076098
## Denmark	-230.80497	266.337126
## Slovenia	-263.67014	265.913371
## Malta	-279.79999	
## Belgium	-163.28108	262.653469
## Canada	446.13532	259.120589
## Kuwait	-152.97193	257.944200
## Portugal	-208.13790	257.386215
## Germany	648.23490	250.068165
## Greece	-184.78213	
## Costa Rica	-264.32451	
## Chile	-168.36487	
## Czechia	-149.70140	
## Qatar	-76.52867	230.829506
## Colombia	-113.12425	
## Estonia	-260.29401	
## Croatia	-256.22490	
## Bahrain	-248.52206	223.706653
## Jordan	-253.80581	218.424139
## Albania	-272.86418	214.221970
## Maldives	-282.35059	207.311776
## Tunisia	-244.78074	203.534059
## Panama	-268.14810	201.878639
## Slovakia	-239.12546	198.793809

		005 00400	405 000700
	Nicaragua	-265.38496 -20.43164	
	Iraq	138.12070	
	Poland	-172.38936	
	Peru		189.361537
	Turkey		
	Sri Lanka 	-245.31394	
	Uruguay	-246.80450	
	Algeria		179.801307
	Oman	-186.81313	
	Mexico		174.753139
	Ecuador	-219.22183	
	Bosnia and Herzegovina	-255.49848	
	Iran		172.996609
##]	Montenegro	-279.41419	
##	Lebanon	-259.83607	
##	Lithuania	-262.40386	
##	Saudi Arabia		164.209391
##]	Republic of North Macedonia	-271.03120	
##]	Hungary	-218.74167	
##	Cuba	-234.89518	
## '	Thailand	192.36828	
##]	El Salvador	-271.95929	
##]	Barbados	-283.56765	153.951829
##	Latvia	-272.22742	150.395572
## .	Argentina	66.03079	144.742080
##	Serbia	-208.24812	143.790587
## .	Armenia	-273.43432	142.446876
##]	Romania	-168.39334	139.703844
##]	Mauritius	-276.82227	135.981090
##]	Paraguay	-229.97204	134.006578
	Belarus	-184.28182	128.460145
##	Cabo Verde	-284.93899	123.807986
##]	Bulgaria	-223.32967	116.955729
	Brazil	841.14835	112.938222
## '	Trinidad and Tobago	-196.34760	104.469076
	Vietnam	77.43072	99.160115
##]	Honduras	-266.46515	98.762145
##	Jamaica	-276.27521	97.814527
##]	Moldova	-270.54982	
##]	Kyrgyzstan	-266.95508	
	United States	6282.20386	80.926516
	Georgia	-268.27120	78.370961
	Malaysia	89.11037	
	Kazakhstan	70.75644	
	Guatemala	-253.13632	
	Dominican Republic	-255.94304	
	Suriname	-284.28563	
	United Arab Emirates	-25.50791	
	Bhutan	-285.71580	
	Morocco	-171.89152	
	Molocco Bolivia	-195.74038	
	BOIIVIA Russia	1900.77590	
		-216.51431	
	Azerbaijan		
##	Ukraine	39.47413	22.023408

	m			070	40470		405770
	Tajikistan			-276.4			105778
	Turkmenistan			-180.3	31018	8.	549557
	Uzbekistan				31308		137003
	Egypt						128752
	Mongolia						642220
##	Korea, Democratic	Republic	of				925455
##	Bangladesh						446159
##	Cambodia			-254.6	66191	-41.	470013
##	Guyana			-286.3	35826	-49.	137802
	Sudan			-181.6	68687	-62.	184580
##	Philippines						798376
	Indonesia						625476
	Botswana						429941
	Timor-Leste						389114
							488631
	Nepal						173530
	Myanmar						
	Rwanda						507941
	Gabon						438235
##	Namibia						056369
	Laos						374846
	Fiji			-289.2	22263	-135.	707429
##	South Africa			240.0	05133	-153.	646441
##	Ethiopia			-165.2	21678	-158.	290061
##	Mauritania			-284.3	34434	-187.	534654
##	Ghana			-261.6	63529	-193.	759993
##	Uganda			-246.0	07607	-196.	681974
	Tanzania			-201.7	76679	-202.	147784
##	Equatorial Guinea			-282.5	54931	-203.	422718
	Senegal			-269.8	83728	-204.	285818
	India						921427
	China						084837
	Pakistan						522599
	Nigeria						319176
	_						142178
	Djibouti						
	Kenya						682963
	Zambia						298557
	Benin						977658
	Haiti						778963
	Angola						543655
	Malawi						271133
##	Togo						086971
##	Mali			-228.8	84355	-326.	876399
##	Côte d'Ivoire			-269.3	15662	-337.	679632
##	Gambia, The			-297.3	11327	-343.	797171
##	Burkina Faso			-264.6	69783	-344.	153855
##	Cameroon			-256.2	28320	-353.	379415
##	Madagascar			-265.8	86487	-364.	013893
	Eswatini						102179
	Afghanistan						837505
	Niger						986311
	Liberia						234721
	Zimbabwe						728204
		Popublic	۰÷				
	Congo, Democratic	wehmptic	OI				928499
##	Burundi			-∠95.3	54303	-424.	930155

```
## Congo, Republic of
                                  -288.94466 -433.429982
## Guinea-Bissau
                                  -300.05774 -468.330833
                                  -228.17485 -509.077056
## Chad
## Mozambique
                                  -262.45109 -510.345339
## Sierra Leone
                                  -297.62373 -512.828794
## South Sudan
                                  -246.85230 -520.590178
## Guinea
                                  -277.41592 -523.123267
## Somalia
                                  -276.53401 -536.833110
## Eritrea
                                  -298.49814 -547.004346
## Lesotho
                                  -303.46737 -661.278723
## Papua New Guinea
                                  -293.23348 -729.021983
## Central African Republic
                                  -307.96607 -996.013717
dim(spi2020)
## [1] 163 54
# weights of the variables in each principal component
co.sp.pc <- data.frame(pr.out.ns$rotation[, 1:2])</pre>
# highest and lowest weights for principal component 1 and 2 respectively
# look at the top 5 and bottom 5 (we are looking at absolute values)
co.sp.pc[order(- co.sp.pc[, 1]), ][c(1:5, 50:54), ]
##
                                                                                          PC1
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                 0.997218658
## Quality.weighted.universities..points.
                                                                                 0.068416538
## Access.to.Advanced.Education
                                                                                 0.003928029
## Access.to.electricity....of.pop..
                                                                                 0.002955186
## Water.and.Sanitation
                                                                                 0.002734690
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                -0.003362983
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop.. -0.003571672
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                -0.011042437
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                -0.014093138
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                -0.020127661
                                                                                        PC2
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                -0.03355624
## Quality.weighted.universities..points.
                                                                                 0.07049700
## Access.to.Advanced.Education
                                                                                 0.05931520
## Access.to.electricity....of.pop..
                                                                                 0.08221786
## Water.and.Sanitation
                                                                                 0.08931390
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                -0.15012659
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop.. -0.13536896
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                -0.45967973
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                -0.44016285
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                -0.65918710
co.sp.pc[order(- co.sp.pc[, 2]), ][c(1:5, 50:54), ]
##
                                                                                         PC1
## Internet.users....of.pop..
                                                                                 0.002476401
```

Water.and.Sanitation

```
## Access.to.electricity....of.pop..
                                                                                 0.002955186
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                 0.002327204
                                                                                 0.002214817
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop.. -0.003571672
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                -0.003362983
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                -0.014093138
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                -0.011042437
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                -0.020127661
##
                                                                                        PC2
## Internet.users....of.pop..
                                                                                 0.09372095
## Water.and.Sanitation
                                                                                 0.08931390
## Access.to.electricity....of.pop..
                                                                                 0.08221786
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                 0.07987445
## Shelter
                                                                                 0.07980050
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop.. -0.13536896
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                -0.15012659
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                -0.44016285
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                -0.45967973
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                -0.65918710
```

We observe that PC1 explains 93% of the variation and moreover PC1 is dominated by Green house gas emission. So countries like China, US, India, Brazil are clustered and dominate together. On the other hand PC2 seems dominated by mortality rates from infectious disease, child birth and other premature deaths.

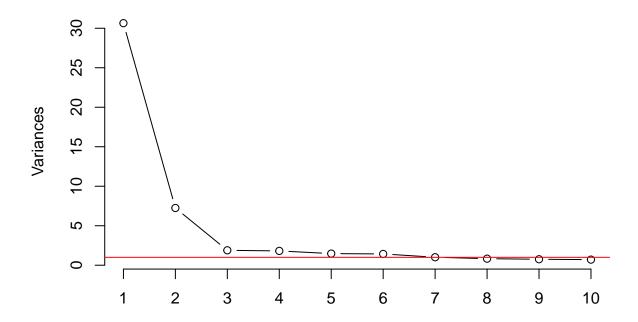
Stats[1:5,]

```
## Basic.Human.Needs 76.00644 82.69 18.09972
## Foundations.of.Wellbeing 70.32638 71.29 14.30272
## Opportunity 58.26454 56.63 16.01980
## Nutrition.and.Basic.Medical.Care 84.30129 91.16 14.81386
## Water.and.Sanitation 74.89374 85.77 25.30609
```

Clearly, these are the components with very high variance anyway. Hence what is often suggested here is to standardize or scale the data.

```
pr.out = prcomp(spi2020, scale = TRUE)
plot(pr.out, type = "l", main = "Scree plot") # as evident, pc1 does not explain as much of the variabi
plot(pr.out, type = "l", main = "Scree plot") + abline(h = 1, col = "red")
```

Scree plot



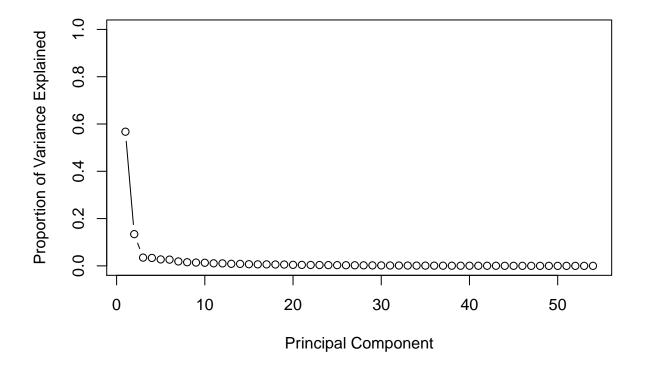
integer(0)

```
pr.var = pr.out$sdev^2
pr.var
    [1] 3.064199e+01 7.246006e+00 1.887270e+00 1.811675e+00 1.472157e+00
   [6] 1.428174e+00 1.013164e+00 8.289534e-01 7.564639e-01 7.098310e-01
## [11] 5.829749e-01 5.682025e-01 4.646361e-01 4.514001e-01 3.751002e-01
  [16] 3.442655e-01 3.403630e-01 3.162698e-01 2.998050e-01 2.346440e-01
  [21] 2.209638e-01 2.045375e-01 1.930314e-01 1.723867e-01 1.652674e-01
  [26] 1.452101e-01 1.362906e-01 1.248117e-01 1.090357e-01 1.036598e-01
  [31] 8.486582e-02 7.971039e-02 7.001801e-02 6.006664e-02 5.535986e-02
  [36] 5.284567e-02 4.271578e-02 3.954332e-02 3.270342e-02 3.084396e-02
  [41] 2.662021e-02 2.120447e-02 2.034110e-02 1.038257e-02 9.045395e-03
## [46] 7.189263e-03 5.690668e-03 2.303976e-03 5.081724e-06 2.669179e-08
## [51] 2.215541e-08 1.798875e-08 1.367893e-08 6.414484e-09
pve = pr.var/sum(pr.var)
pve
    [1] 5.674443e-01 1.341853e-01 3.494944e-02 3.354953e-02 2.726217e-02
   [6] 2.644768e-02 1.876229e-02 1.535099e-02 1.400859e-02 1.314502e-02
## [11] 1.079583e-02 1.052227e-02 8.604371e-03 8.359260e-03 6.946299e-03
```

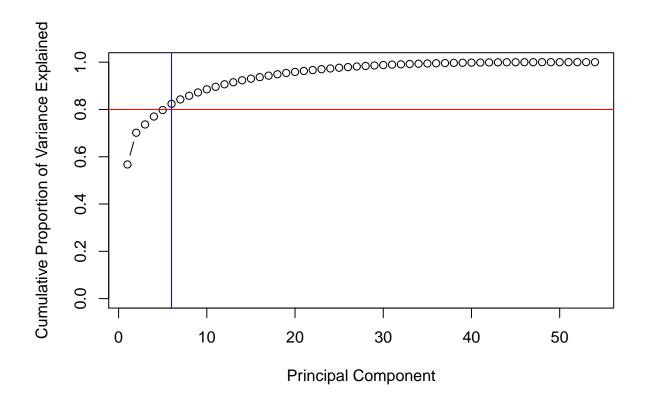
[16] 6.375287e-03 6.303018e-03 5.856848e-03 5.551945e-03 4.345260e-03

```
## [21] 4.091923e-03 3.787731e-03 3.574655e-03 3.192346e-03 3.060508e-03 ## [26] 2.689077e-03 2.523900e-03 2.311329e-03 2.019180e-03 1.919627e-03 ## [31] 1.571589e-03 1.476118e-03 1.296630e-03 1.112345e-03 1.025183e-03 ## [36] 9.786235e-04 7.910329e-04 7.322836e-04 6.056189e-04 5.711844e-04 ## [41] 4.929669e-04 3.926753e-04 3.766871e-04 1.922698e-04 1.675073e-04 ## [46] 1.331345e-04 1.053827e-04 4.266621e-05 9.410600e-08 4.942924e-10 ## [51] 4.102854e-10 3.331250e-10 2.533134e-10 1.187867e-10
```

plot(pve, xlab = "Principal Component", ylab = "Proportion of Variance Explained", ylim = c(0,1), type



plot(cumsum(pve), xlab ="Principal Component", ylab = "Cumulative Proportion of Variance Explained", yl



integer(0)

```
# with just the first 6 PCs, able to explain 80% of the variability in data

# Which components and which country?
# determine which countries are ranked well in PC1 and PC2 respectively
# which indicators have the most loadings in PC1 and PC2 respectively
sp4 <- data.frame(pr.out$x[, 1:4])
sp4[order(- sp4$PC1), ]</pre>
```

```
PC1
##
                                                        PC2
                                                                     PC3
## Norway
                                   8.645218370 -2.54976925 -0.382451638
                                   8.532802087 -1.97772651 -0.017725472
## Switzerland
## Denmark
                                   8.512089543 -2.54123727 0.077977589
                                   8.360127703 -2.45000470 -0.238627096
## Sweden
## Finland
                                   8.274310193 -2.57454808 -0.225952872
## Iceland
                                   8.134080264 -1.56394636 -1.077423591
## Canada
                                   8.014893145 -1.99819471 0.441784246
## Japan
                                   7.929151555 -0.94698561
                                                            1.769709919
## New Zealand
                                   7.912629077 -2.38248071 -0.333850417
## Netherlands
                                   7.906187368 -1.71866001 -0.060190653
## Luxembourg
                                   7.891970429 -2.23641621 -0.830656770
## Germany
                                   7.886672549 -1.86432448 1.443125945
## Australia
                                   7.886454988 -1.60891066 0.439158883
```

```
## Ireland
                                  7.690507529 -2.05038573 -0.592468496
## Belgium
                                  7.470027182 -2.12934826 -0.212746999
                                  7.401218491 -0.89853499 -0.468665487
## Austria
## Korea, Republic of
                                  7.334786186 -0.79034416 0.857239441
## France
                                  7.236351494 -1.17304175 0.758251827
## United Kingdom
                                 7.194872524 -1.08104348 1.552359061
                                  7.170274538 -1.65229956 0.373037545
## Spain
                                  7.167845821 -1.69541259 0.562025474
## Italy
## Cyprus
                                  7.014563273 -1.09734158 -0.335655649
## Estonia
                                  6.959095678 -1.52188315 -0.463835196
## Slovenia
                                  6.937131521 -1.33209309 -0.698292563
## Portugal
                                  6.894115406 -2.13128000 -0.663906609
## United States
                                  6.552405115 0.68278275 8.544873528
## Czechia
                                  6.551461951 -0.85877072 -0.275729536
## Greece
                                  6.443426655 -1.56841317 -0.132427543
## Singapore
                                  6.303479317 1.58895878 -1.062120115
## Malta
                                  6.146187326 -0.77626930 -1.039044061
## Lithuania
                                  5.817886469 -1.19711608 -0.416700127
## Poland
                                  5.728917887 -0.19216201 0.147860163
## Israel
                                  ## Costa Rica
                                  5.391038377 -2.00463803 -0.539613800
## Uruguay
                                  5.313471677 -1.86067546 0.026778016
## Slovakia
                                  5.304913651 -0.41935569 -0.274050114
## Latvia
                                  5.227353899 -1.00479208 -0.328113704
## Croatia
                                  5.078721382 0.21513192 -0.834525545
## Chile
                                  4.963798715 -0.39262112 0.087824517
## Barbados
                                  4.530583839 -0.46776931 0.057887492
                                  4.386785837 0.20004096 -0.936006058
## Hungary
## Argentina
                                  4.168263821 -0.63865900 0.423411977
## Bulgaria
                                  4.094877239 -0.29876280 -0.250463261
                                  4.080382693 2.82915540 -0.201981499
## Kuwait
## Mauritius
                                  4.076043650 -0.99309224 0.106371941
## Romania
                                  3.475273171 -0.26012218 -0.277649169
                                  3.471891862 -0.74625326 -0.161562536
## Trinidad and Tobago
                                  3.240403566 2.79693150 -0.810918044
## Belarus
## Armenia
                                  ## Panama
                                  3.062783038 -0.96295091 -0.980802379
## Jamaica
                                  2.954530353 -2.41997657 -0.546047283
## Montenegro
                                  2.917740539 2.34693164 -0.922780747
## Malaysia
                                  2.862831253 1.32755245 -0.171306924
## Serbia
                                  2.851834253 1.79390110 -0.417488069
## Albania
                                  2.825829422 -0.04882621 -1.222886234
## Tunisia
                                  2.672682249 0.26292277 1.290278351
## Republic of North Macedonia
                                  2.415305086 1.86193679 -0.535188615
## Georgia
                                  2.410188362 -0.01831454 -0.051205126
                                  2.266474422 1.64823421 -0.376990927
## Bosnia and Herzegovina
## Ecuador
                                  2.187932489 -0.88617638 -0.437489354
## Sri Lanka
                                  2.166492090 0.09637914 -1.209563867
## Peru
                                  2.041589309 -0.89401463 -0.150150112
                                  1.907861696 2.07392047 0.517620250
## Ukraine
## Moldova
                                  1.839556040 0.75099145 -0.072628683
## Russia
                                 1.811459793 4.45793874 1.281561686
## Colombia
                                 1.764535656 1.16008975 -0.643704597
## Cabo Verde
                                  1.744053955 -1.72455834 0.241583076
```

```
## Mexico
                                 1.647536749 0.42556088 0.728055676
                                 1.610839922 1.18320800 0.747107373
## Brazil
## Kazakhstan
                                 1.607796177 3.48173241 -0.331262647
## Maldives
                                 ## Qatar
                                 1.420141496 6.10950180 -0.037071488
## Jordan
                                 1.382296847 3.45024724 -0.550334723
                                1.299756462 -0.37570266 -0.904743864
## Paraguay
                                 1.292721836 4.23483606 -0.305320365
## Oman
## Suriname
                                 1.158644991 -0.69958868 -0.219940711
## Cuba
                                 1.145863849 2.12691096 -2.240072992
## Mongolia
                                 1.108628432 -1.26326046 0.242201282
                                 0.827018075 2.98177482 -0.256175354
## Lebanon
## United Arab Emirates
                                 0.813797218 5.20094359 -0.551387506
## Thailand
                                 0.790358965 2.45276863 -0.671670875
## Dominican Republic
                                 0.662062925 -1.10191075 -0.527534897
## South Africa
                                 0.496576246 -0.48903846 1.075002962
                                 0.403246394 2.95996190 -0.352548027
## Algeria
## Botswana
                                 0.254610415 -1.84923202 -0.582102883
                                 0.199777979 1.97623435 -0.438262219
## Kyrgyzstan
## Bhutan
                                 0.113148473 -1.18596121 0.600542229
## Vietnam
                                 0.107142915 2.90875707 -0.737985261
## El Salvador
                                 ## Fiji
                                 0.001718601 -0.73707074 -0.595438682
## Bolivia
## Turkey
                                -0.010617107 5.80129735 0.491605241
## Indonesia
                                -0.118031031 -0.27671010 0.710139336
## Bahrain
                                -0.129200393 7.55865101 -0.054101232
## Guyana
                                -0.228400926 -0.73252661 -0.022663386
## China
                                -0.254876972 7.95373216 8.848783869
## Iran
                                -0.529326546 5.06386427 0.627414769
## Namibia
                                -0.698808685 -2.53284091 -0.113347316
## Morocco
                                -0.818235751 2.32820691 0.233800697
## Saudi Arabia
                                -0.996098560 8.52544703 0.632150491
                                -1.006498311 4.27831738 -0.209510508
## Uzbekistan
## Philippines
                                ## Ghana
                                -1.147557217 -3.13111013 0.740689412
## Iraq
                                -1.166386420 3.82666653 0.466763427
## Nicaragua
                                -1.457419641 2.17074509 -2.403588773
## Gabon
                                -1.519272738 0.22138595 -0.076640201
## Azerbaijan
                                -1.729857179 4.61082609 -1.297318220
## Honduras
                                -1.942144887 0.41834940 -1.530554111
## Guatemala
                                -2.290118535 0.41894711 -0.815183442
## Timor-Leste
                                -2.548334828 -2.73157429 -0.557326996
## Senegal
                                -2.935267488 -3.83789453 0.743146742
## Turkmenistan
                                -3.289757032 6.45805467 -2.248820248
                                -3.410333748 6.06866850 1.836763625
## Egypt
## Nepal
                                -4.037394879 -0.60536707 2.638277031
## India
                                -4.049742443 2.37365010 5.301389342
## Tanzania
                                -4.122364782 -3.08047252 -0.529161987
## Kenya
                                -4.138824446 -1.54553517 -0.236274844
                               -4.332862979 0.72632665 0.003973548
## Myanmar
## Tajikistan
                               -4.422430009 5.17539889 -1.576322447
## Cambodia
                               -4.422443422 1.96160099 -1.688397200
## Gambia, The
                                -4.436241746 -3.59627744 0.617771694
```

```
## Benin
                                  -4.742695036 -5.19571620 0.765968997
## Rwanda
                                  -4.856562073 -0.41874540 -0.164982418
## Zambia
                                  -4.950985023 -2.39153040 -0.850917347
## Bangladesh
                                  -5.022568935 2.01911305 0.775183751
## Togo
                                  -5.236617609 -2.80829126 -0.279955459
## Malawi
                                  -5.236758541 -3.77789254 -0.805373871
## Lesotho
                                  -5.321664177 -3.02816228 0.686032821
## Côte d'Ivoire
                                  -5.404518496 -2.45305237 -0.206179875
                                  -5.635889977 -1.27594457 -0.093170113
## Uganda
## Liberia
                                  -5.776531855 -4.99398728 0.480751138
## Korea, Democratic Republic of -5.805543576 5.07542773 -2.881817641
## Nigeria
                                  -5.943751309 -0.98909808 1.652624363
## Equatorial Guinea
                                  -5.987056040 2.34163207 -1.405441026
## Eswatini
                                  -6.072730245 2.64587807 -1.631805094
## Cameroon
                                  -6.262186389 0.02342560 1.009081142
## Zimbabwe
                                  -6.360771873 -0.06885501 -1.647080456
## Laos
                                  -6.396352398 1.71577109 -1.981452494
## Djibouti
                                  -6.462670426 0.96681155 0.244747870
## Mauritania
                                  -6.501553418 0.24438561 0.468611594
## Sierra Leone
                                  -6.596298435 -5.40778108 0.761853984
## Sudan
                                  -6.600311542 2.51962486 0.434034340
## Burkina Faso
                                  -6.746623832 -4.62787127 1.117877623
## Ethiopia
                                  -6.867539360 -1.86030695 -0.397249438
## Haiti
                                  -6.871818799 -1.24335956 -1.017701242
## Mali
                                  -6.991182807 -3.65935562 1.053411832
## Angola
                                  -7.004291958 -1.04766763 0.058922822
## Mozambique
                                  -7.142394816 -4.00627727 -0.409648183
## Pakistan
                                  -7.160203390 2.19563144 1.356608021
## Madagascar
                                  -7.365771269 -4.14685183 0.044097524
## Congo, Republic of
                                  -7.420820485 1.38750179 -0.994504397
## Guinea-Bissau
                                  -7.994075982 -3.35801470 -0.302026267
## Papua New Guinea
                                  -8.631088427 -3.39984579 0.390526865
## Niger
                                  -8.991353344 -5.10896292 2.541776244
                                  -9.063128256 1.04849539 1.114380243
## Afghanistan
## Congo, Democratic Republic of -9.192439789 -0.84479059 -0.899359836
## Guinea
                                  -9.433989844 -2.48651546 -0.168673207
## Burundi
                                  -9.859937829 -0.53320211 -1.102385999
## Eritrea
                                 -11.440563225 1.84015506 -0.904896098
## Somalia
                                 -11.853298430 0.06819242 0.143447095
## Chad
                                 -12.915595039 -0.91979235 0.578674906
## South Sudan
                                 -12.952719780 -0.25598587 -0.699341272
## Central African Republic
                                 -13.763600871 -4.54011595 1.626499507
                                 -0.92591449
## Norway
## Switzerland
                                 -0.69921795
## Denmark
                                 -0.27887617
## Sweden
                                 -0.68693418
## Finland
                                 -0.66823147
## Iceland
                                 -0.93540471
## Canada
                                 -1.00585604
## Japan
                                 -1.81245706
## New Zealand
                                 -0.88953097
## Netherlands
                                 -0.74162022
## Luxembourg
                                 -0.24267979
```

	Germany	-0.72443447
	Australia	-1.40772150
	Ireland	-0.55441450
	Belgium	-0.42966410
	Austria	-0.89780984
##	Korea, Republic of	-0.35270599
	France	-1.61900060
	United Kingdom	-1.73764694
##	1	-1.27079402
	Italy	-0.86816037
	Cyprus	-0.18167301
	Estonia	-0.36315926
	Slovenia	-0.36366465
	Portugal	-0.67020429
	United States	-4.09073006
##	Czechia	0.27566190
	Greece	-0.10821900
	Singapore	-1.23896944
	Malta	-0.24521037
##	Lithuania	1.33117104
	Poland	0.23479362
##	Israel	-0.93501526
##	Costa Rica	0.35571141
	Uruguay	1.40456136
##	Slovakia	0.61283130
##	Latvia	0.86459695
	Croatia	-0.06668950
##	Chile	-0.10726039
	Barbados	1.90169834
	Hungary	0.29012346
	Argentina	0.68919939
	Bulgaria	1.16925190
	Kuwait	0.16085274
	Mauritius	2.57061790
	Romania	0.42067355
	Trinidad and Tobago	2.15740503
	Belarus	1.19399150
##	Armenia	1.82144350
##	Panama	-0.80908101
	Jamaica	1.29665295
##	Montenegro	0.73070654
##	Malaysia	0.40617286
	Serbia	0.74877109
	Albania	-0.59845756
	Tunisia	2.03112438
	Republic of North Macedonia	0.67277568
	Georgia	1.74565183
	Bosnia and Herzegovina	1.14605039
	Ecuador	-0.64588518
	Sri Lanka	-1.10068375
	Peru	-1.16717951
	Ukraine	2.35824386
	Moldova	1.63685263
##	Russia	-0.41418482

	~	
	Colombia	-2.18240857
	Cabo Verde	1.52961111
	Mexico	-0.97632365
	Brazil	-1.50159623
	Kazakhstan	0.74218129
	Maldives	-0.35082035
##	Qatar	1.00793123
	Jordan	0.04219600
	Paraguay	-0.81934541
	Oman	1.45906024
##	Suriname	1.64721647
	Cuba	-1.32885031
##	Mongolia	3.15149468
	Lebanon	0.60688955
##	United Arab Emirates	2.15091399
##	Thailand	-1.93435948
##	Dominican Republic	-0.25387823
##	South Africa	1.38579521
##	Algeria	0.14072843
##	Botswana	0.78663144
##	Kyrgyzstan	1.01286541
##	Bhutan	0.98901219
##	Vietnam	0.01123652
##	El Salvador	0.16906034
##	Fiji	2.51543712
##	Bolivia	-0.05561703
##	Turkey	-1.16345958
##	Indonesia	0.16563678
##	Bahrain	0.28639652
##	Guyana	2.11940360
##	China	-3.96520476
##	Iran	-1.20970027
##	Namibia	0.52782703
##	Morocco	1.17832158
##	Saudi Arabia	0.34195180
##	Uzbekistan	2.29436299
##	Philippines	0.12634894
##	Ghana	1.98919018
##	Iraq	-0.22561929
##	-	-3.28331778
##	•	2.04197719
##	Azerbaijan	0.21820106
##	Honduras	-1.44318543
##	Guatemala	-1.28242604
##	Timor-Leste	0.13408103
##		0.73064112
##	Turkmenistan	0.64012523
##	Egypt	3.10110398
##	671	3.06097189
##	-	1.68235526
##		-1.04686578
##		-0.85644072
##	Myanmar	0.53933115
##	Tajikistan	-0.26407574
	J	0.20101014

```
## Cambodia
                                  -1.55707376
## Gambia, The
                                   2.16361673
## Benin
                                   0.61157137
## Rwanda
                                  -0.78436401
## Zambia
                                  -0.94240904
## Bangladesh
                                  0.13195402
## Togo
                                  -0.47500916
## Malawi
                                  -1.37690779
## Lesotho
                                   2.98858852
## Côte d'Ivoire
                                  -0.49146904
## Uganda
                                  -1.36323686
## Liberia
                                  -0.11101504
## Korea, Democratic Republic of -1.70517684
## Nigeria
                                  -0.33733807
## Equatorial Guinea
                                  -1.54425662
## Eswatini
                                  -0.40172943
## Cameroon
                                  1.08581063
## Zimbabwe
                                  -1.51067710
## Laos
                                  -1.74926039
## Djibouti
                                   0.75467225
## Mauritania
                                  0.30898278
## Sierra Leone
                                  0.20574275
## Sudan
                                  0.07661059
## Burkina Faso
                                  -0.11297675
## Ethiopia
                                 -2.08089236
## Haiti
                                  -0.31159862
## Mali
                                 -0.38710328
## Angola
                                  -0.64149634
## Mozambique
                                 -1.02828428
## Pakistan
                                  0.43863360
## Madagascar
                                  0.04269696
## Congo, Republic of
                                 -0.49063424
## Guinea-Bissau
                                   0.06815870
## Papua New Guinea
                                   3.06903521
## Niger
                                   0.35285505
## Afghanistan
                                   2.25700104
## Congo, Democratic Republic of -1.53486314
## Guinea
                                  -1.10487583
## Burundi
                                  -1.82118262
## Eritrea
                                 -1.27577347
## Somalia
                                  -0.83617957
## Chad
                                  -1.76735401
## South Sudan
                                  -2.36031272
## Central African Republic
                                   0.79228168
cosp4 <- data.frame(pr.out$rotation[, 1:4])</pre>
cosp4[order(- cosp4[, 1]), ]
```

```
## PC1
## Foundations.of.Wellbeing 0.17588076
## Basic.Human.Needs 0.17195776
## Access.to.essential.services...0.none..100.full.coverage. 0.17177645
## Opportunity 0.16934968
## Health.and.Wellness 0.16637512
```

```
## Access.to.Information.and.Communications
                                                                                            0.16633731
## Personal Freedom and Choice
                                                                                            0.16623175
                                                                                            0.16538529
## Nutrition.and.Basic.Medical.Care
## Water.and.Sanitation
                                                                                            0.16427357
## Shelter
                                                                                            0.16287627
## Access.to.Advanced.Education
                                                                                            0.16226536
## Internet.users....of.pop..
                                                                                            0.16206190
## Access.to.Basic.Knowledge
                                                                                            0.15745950
## Life.expectancy.at.60..years.
                                                                                            0.15431712
## Women.with.advanced.education....
                                                                                            0.14811438
## Personal.Safety
                                                                                            0.14671615
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            0.14592976
## Access.to.online.governance..0.low..1.high.
                                                                                            0.14314397
## Access.to.electricity....of.pop..
                                                                                            0.14166033
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            0.13321164
## Access.to.justice..O.non.existent..1.observed.
                                                                                            0.13200031
## Citable.documents
                                                                                            0.13034271
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                            0.12892541
## Personal.Rights
                                                                                            0.12844478
## Inclusiveness
                                                                                            0.12802533
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            0.12737664
## Political.rights..0.no.rights..40.full.rights.
                                                                                            0.12719184
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            0.11593612
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            0.10317451
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.09987346
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            0.09955379
## Freedom.of.expression..0.no.freedom..1.full.freedom.
                                                                                            0.09680554
## Media.censorship..0.frequent..4.rare.
                                                                                            0.09118232
## Environmental.Quality
                                                                                            0.07943496
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            0.06870666
## Quality.weighted.universities..points.
                                                                                            0.05052880
## Biome.protection
                                                                                            0.04542126
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            0.01390375
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.04680620
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.08832687
## Particulate.matter
                                                                                           -0.10303015
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                           -0.11683304
## Women.with.no.schooling
                                                                                           -0.12183372
## Early.marriage....of.women.
                                                                                           -0.12812255
## Traffic.deaths..deaths.100.000.
                                                                                           -0.12987327
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                           -0.14441608
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                           -0.14708766
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -0.15029963
## Vulnerable.employment....of.employees.
                                                                                           -0.15522020
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                           -0.15696584
## Child.stunting....of.children.
                                                                                           -0.15792847
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                           -0.15855270
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                           -0.16061712
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.16522771
## Foundations.of.Wellbeing
                                                                                           -0.0231531079
## Basic.Human.Needs
                                                                                            0.0988352411
## Access.to.essential.services...O.none..100.full.coverage.
                                                                                            0.0655314772
```

-0.1056049514

Opportunity

```
## Health.and.Wellness
                                                                                            0.0274896556
## Access.to.Information.and.Communications
                                                                                            -0.0003931468
                                                                                            0.0377355915
## Personal.Freedom.and.Choice
## Nutrition.and.Basic.Medical.Care
                                                                                            0.1224542099
## Water.and.Sanitation
                                                                                            0.1313893633
## Shelter
                                                                                            0.1207507845
## Access.to.Advanced.Education
                                                                                            0.0671293763
## Internet.users....of.pop..
                                                                                            0.0811904852
## Access.to.Basic.Knowledge
                                                                                            0.0763475574
## Life.expectancy.at.60..years.
                                                                                            0.0358345417
## Women.with.advanced.education....
                                                                                            0.0919715430
## Personal.Safety
                                                                                            -0.0502524129
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            -0.0010834461
## Access.to.online.governance..0.low..1.high.
                                                                                            0.0289817437
## Access.to.electricity....of.pop..
                                                                                            0.1571865974
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            -0.0118233183
## Access.to.justice..O.non.existent..1.observed.
                                                                                            -0.1463737186
## Citable.documents
                                                                                            -0.0639087020
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                           -0.1685819023
## Personal.Rights
                                                                                            -0.2318129797
## Inclusiveness
                                                                                           -0.2186172745
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                           -0.1096088588
## Political.rights..0.no.rights..40.full.rights.
                                                                                            -0.2133912903
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            0.0629768811
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            -0.2071318172
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.2090695769
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            -0.2038183793
## Freedom.of.expression..0.no.freedom..1.full.freedom.
                                                                                            -0.2728751546
## Media.censorship..0.frequent..4.rare.
                                                                                            -0.2522783256
## Environmental.Quality
                                                                                            -0.2318057112
                                                                                            -0.2637851787
## Freedom.of.religion..O.no.freedom..4.full.freedom.
## Quality.weighted.universities..points.
                                                                                            0.0452934333
## Biome.protection
                                                                                           -0.1544598830
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            0.1037130004
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.2395103712
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            0.1255081779
## Particulate.matter
                                                                                            0.1242317347
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                            0.0118434127
## Women.with.no.schooling
                                                                                            -0.0935887493
## Early.marriage....of.women.
                                                                                            -0.0927251877
## Traffic.deaths..deaths.100.000.
                                                                                            -0.0037403054
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            -0.1510799151
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            -0.1530530602
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                           -0.1345334481
## Vulnerable.employment....of.employees.
                                                                                            -0.1029584947
                                                                                            -0.1173181976
## Child.mortality.rate..deaths.1.000.live.births.
## Child.stunting....of.children.
                                                                                            -0.0653838967
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            -0.1095303941
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            -0.1127725356
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            -0.0579776337
                                                                                                     PC3
## Foundations.of.Wellbeing
                                                                                            -0.064215820
## Basic.Human.Needs
                                                                                            -0.023902741
```

Access.to.essential.services...0.none..100.full.coverage.

```
## Opportunity
                                                                                            0.079998428
## Health.and.Wellness
                                                                                            -0.012896378
                                                                                            0.103700719
## Access.to.Information.and.Communications
## Personal.Freedom.and.Choice
                                                                                            0.007584147
## Nutrition.and.Basic.Medical.Care
                                                                                            -0.020612833
## Water.and.Sanitation
                                                                                            -0.037749294
## Shelter
                                                                                            -0.015526038
## Access.to.Advanced.Education
                                                                                            0.115261203
## Internet.users....of.pop..
                                                                                            0.024283359
## Access.to.Basic.Knowledge
                                                                                            -0.086564150
## Life.expectancy.at.60..years.
                                                                                            -0.006044957
## Women.with.advanced.education....
                                                                                            -0.011334593
## Personal.Safety
                                                                                            -0.008070470
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            -0.054644789
## Access.to.online.governance..0.low..1.high.
                                                                                            0.151147103
## Access.to.electricity....of.pop..
                                                                                            0.001204227
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            -0.061474482
## Access.to.justice..O.non.existent..1.observed.
                                                                                            0.117211400
## Citable.documents
                                                                                            0.007870334
## Political.killings.and.torture..O.low.freedom..1.high.freedom.
                                                                                            0.027541397
## Personal.Rights
                                                                                            0.098949216
## Inclusiveness
                                                                                            0.035628184
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            0.154140454
## Political.rights..0.no.rights..40.full.rights.
                                                                                            0.091142613
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            0.026168850
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            0.048507252
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
                                                                                            0.063750649
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            0.095635346
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                            0.097575397
## Media.censorship..0.frequent..4.rare.
                                                                                            0.110526185
## Environmental.Quality
                                                                                            -0.295049401
## Freedom.of.religion..0.no.freedom..4.full.freedom.
                                                                                            -0.048757064
## Quality.weighted.universities..points.
                                                                                            0.532213482
## Biome.protection
                                                                                            -0.117749646
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            0.554468544
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.130055154
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            0.128644122
## Particulate.matter
                                                                                            0.234519200
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                            -0.006692260
## Women.with.no.schooling
                                                                                            0.140209838
## Early.marriage....of.women.
                                                                                            0.070381637
## Traffic.deaths..deaths.100.000.
                                                                                            0.057814143
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            0.033052900
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            0.076771497
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                            0.063501497
## Vulnerable.employment....of.employees.
                                                                                            0.017056449
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                            0.054756941
## Child.stunting....of.children.
                                                                                            0.020156542
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            0.002861018
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            0.030170152
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.053380265
## Foundations.of.Wellbeing
                                                                                            -0.0812707693
```

Basic.Human.Needs

```
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                            -0.0680726476
## Opportunity
                                                                                            0.0343222872
## Health.and.Wellness
                                                                                            -0.1535854398
## Access.to.Information.and.Communications
                                                                                            0.0496290834
## Personal.Freedom.and.Choice
                                                                                            0.0113613616
## Nutrition.and.Basic.Medical.Care
                                                                                            0.0221813189
## Water.and.Sanitation
                                                                                            0.0144075955
## Shelter
                                                                                            0.0293548458
## Access.to.Advanced.Education
                                                                                            -0.0592419165
## Internet.users....of.pop..
                                                                                            0.0248020021
## Access.to.Basic.Knowledge
                                                                                            0.0454278100
## Life.expectancy.at.60..years.
                                                                                            -0.2254273822
## Women.with.advanced.education....
                                                                                            0.0352236686
## Personal.Safety
                                                                                            0.0315726087
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                                            0.0770437145
## Access.to.online.governance..0.low..1.high.
                                                                                            -0.0701761530
## Access.to.electricity....of.pop..
                                                                                            0.1288102178
## Access.to.quality.education..0.unequal..4.equal.
                                                                                            0.0926492824
## Access.to.justice..O.non.existent..1.observed.
                                                                                            0.1513983798
## Citable.documents
                                                                                            -0.1536884537
## Political.killings.and.torture..0.low.freedom..1.high.freedom.
                                                                                            0.1666365870
## Personal.Rights
                                                                                            0.1331390003
## Inclusiveness
                                                                                            0.0163020707
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                            0.1739168957
## Political.rights..0.no.rights..40.full.rights.
                                                                                            0.0810378154
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                                            0.1675220006
## Equality.of.political.power.by.gender..0.unequal.power..4.equal.power.
                                                                                            -0.0149278730
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. 0.0487770190
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power.
                                                                                            0.1542213980
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                            0.1126330003
## Media.censorship..0.frequent..4.rare.
                                                                                            0.0952851659
## Environmental.Quality
                                                                                            -0.2977081459
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            0.0608779977
## Quality.weighted.universities..points.
                                                                                            -0.2912061866
## Biome.protection
                                                                                            -0.2000072657
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            -0.2391842424
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.4393757028
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.0840100275
## Particulate.matter
                                                                                            0.1534259375
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                            0.3382329345
## Women.with.no.schooling
                                                                                            0.0145751757
## Early.marriage....of.women.
                                                                                            -0.0615872541
## Traffic.deaths..deaths.100.000.
                                                                                            0.1019644852
## Deaths.from.infectious.diseases..deaths.100.000.
                                                                                            -0.0472601592
## Unsafe.water..sanitation.and.hygiene.attributable.deaths..per.100.000.pop..
                                                                                            -0.0602165071
## Maternal.mortality.rate..deaths.100.000.live.births.
                                                                                            0.0328189679
## Vulnerable.employment....of.employees.
                                                                                            -0.0820859253
## Child.mortality.rate..deaths.1.000.live.births.
                                                                                            -0.0174518302
## Child.stunting....of.children.
                                                                                            -0.0103075644
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                                            0.0155000508
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                                            0.0007476995
```

Household.air.pollution.attributable.deaths..deaths.100.000.

```
## Correlation plot of all the variables
## Check Stats earlier
library(corrplot)
```

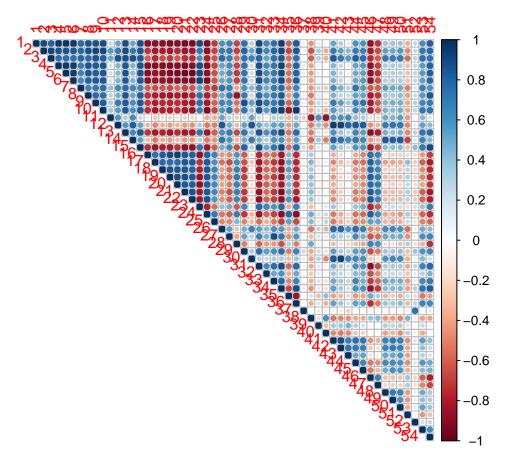
corrplot 0.84 loaded

corspi \leftarrow cor(spi2020) # gives a n x n matrix for correlation values, where n = number of x variables dim(corspi)

[1] 54 54

```
rownames(corspi) <- colnames(corspi) <-1:54

# corrplot(corr = correlation_matrix, type = "upper"/ "lower" / "full)
# type = "upper" - to display the upper triangular matrix
corrplot(corspi, type = "upper")</pre>
```



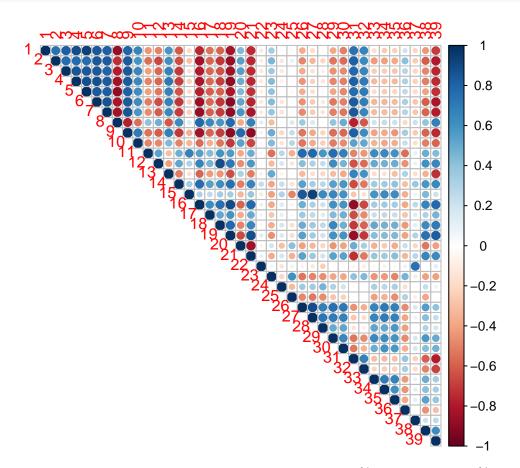
Now, we can go back to the documentation of the data and see that the primary components here are not the core metrics computed. There are three big dimensions: 1. Basic Human Needs 2. Foundations of Well-being 3. Opportunity

The SPI is an average of these three quantities which are again averages of four different quantities each. We remove this to have the core data to study.

```
bigdim <- c("Basic.Human.Needs", "Foundations.of.Wellbeing", "Opportunity")
medcomp <- c("Nutrition.and.Basic.Medical.Care", "Water.and.Sanitation", "Shelter", "Personal.Safety",
spi2020core <- spi2020[, !names(spi2020) %in% c(bigdim, medcomp)]
dim(spi2020core)</pre>
```

[1] 163 39

```
corspicore <- cor(spi2020core)
rownames(corspicore) <- colnames(corspicore) <- 1:dim(corspicore)[1]
corrplot(corspicore, type = "upper")</pre>
```

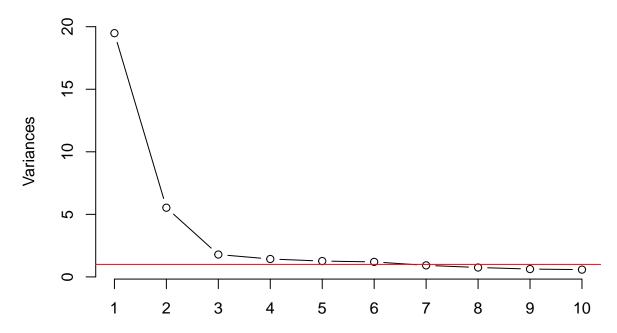


Now we conduct a PCA. What we observe is that the PC1 explains 50.0% PC2 explains 14.2% PC3 explains 4.6%

PC4 explains 3.7%

```
pr.out.core <- prcomp(spi2020core, scale = TRUE)
# pr.out.core
#
plot(pr.out.core, type = "l", main = "Scree plot for core indicators") + abline(h = 1, col = "red")</pre>
```

Scree plot for core indicators

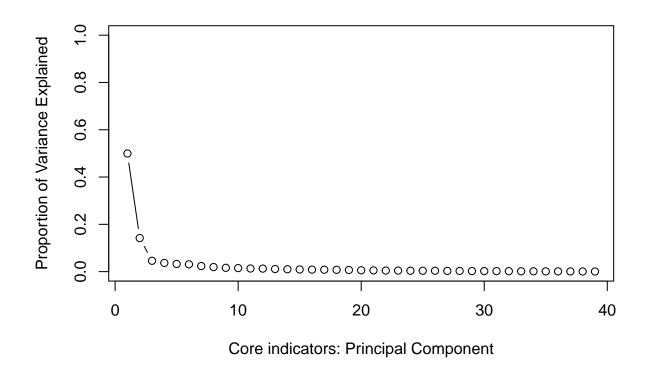


integer(0)

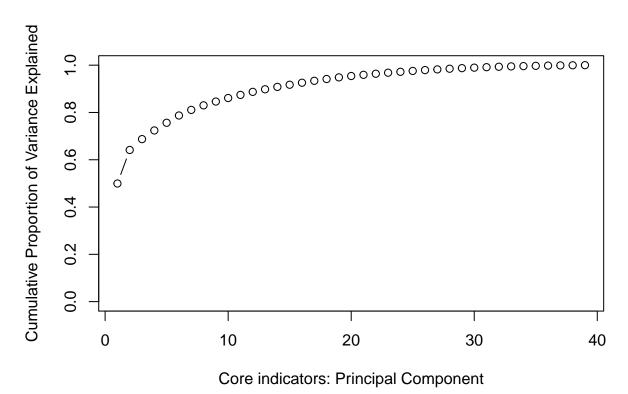
```
pr.var.core = pr.out.core$sdev^2
#pr.var.core
pve.core = pr.var.core / sum(pr.var.core)
pve.core
```

```
## [1] 0.4995375309 0.1418431236 0.0458570024 0.0367125851 0.0324533884
## [6] 0.0307786779 0.0236679525 0.0192697154 0.0160904297 0.0149292014
## [11] 0.0132099724 0.0127548837 0.0109588234 0.0100919687 0.0091445464
## [16] 0.0084845289 0.0080622265 0.0076195313 0.0069743322 0.0057231996
## [21] 0.0051095331 0.0045197027 0.0043852010 0.0037644713 0.0036404605
## [26] 0.0035837786 0.0029618049 0.0028930647 0.0023884956 0.0021216353
## [31] 0.0019817646 0.0018434924 0.0014749256 0.0012593072 0.0011036603
## [36] 0.0009343887 0.0007930752 0.0006008931 0.0004767247
```

plot(pve.core, xlab = "Core indicators: Principal Component", ylab = "Proportion of Variance Explained"



plot(cumsum(pve.core), xlab = "Core indicators: Principal Component", ylab = "Cumulative Proportion of"



```
n <- dim(spi2020core)[1]
k <- dim(spi2020core)[2]

nup <- 5
kup <- 5

sp4.core <- data.frame(pr.out.core$x[, 1:4])
cosp4.core <- data.frame(pr.out.core$rotation[, 1:4])
# sp4.core
# cosp4.core

cosp4.core
# cosp4.core</pre>
```

```
##
                                                                        PC1
                                                                  0.2149302
## Access.to.essential.services...O.none..100.full.coverage.
## Internet.users....of.pop..
                                                                  0.2026778
## Life.expectancy.at.60..years.
                                                                  0.1935808
## Women.with.advanced.education....
                                                                  0.1854162
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                  0.1837150
## Child.mortality.rate..deaths.1.000.live.births.
                                                                 -0.1962882
## Child.stunting....of.children.
                                                                 -0.1981282
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                 -0.1983278
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                 -0.2008027
```

```
## Household.air.pollution.attributable.deaths..deaths.100.000. -0.2072695
##
                                                                           PC2
## Access.to.essential.services...0.none..100.full.coverage.
                                                                  0.0789205849
## Internet.users....of.pop..
                                                                  0.0942708493
## Life.expectancy.at.60..years.
                                                                  0.0445171494
## Women.with.advanced.education....
                                                                  0.1071345527
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                 -0.0006333655
## Child.mortality.rate..deaths.1.000.live.births.
                                                                 -0.1380039959
## Child.stunting....of.children.
                                                                 -0.0767280502
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                -0.1271563875
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                 -0.1313111425
## Household.air.pollution.attributable.deaths..deaths.100.000. -0.0695212094
                                                                           PC3
## Access.to.essential.services...0.none..100.full.coverage.
                                                                 -0.0351548442
## Internet.users....of.pop..
                                                                  0.0129074396
## Life.expectancy.at.60..years.
                                                                 -0.1114615030
## Women.with.advanced.education....
                                                                  0.0347238173
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                  0.1204774834
## Child.mortality.rate..deaths.1.000.live.births.
                                                                 -0.0413368295
## Child.stunting....of.children.
                                                                 -0.0252755209
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                 -0.0006977791
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                 -0.0227135819
## Household.air.pollution.attributable.deaths..deaths.100.000.
                                                                 0.0359118895
## Access.to.essential.services...0.none..100.full.coverage.
                                                                  0.081550988
## Internet.users....of.pop..
                                                                 -0.002207984
## Life.expectancy.at.60..years.
                                                                  0.281577792
## Women.with.advanced.education....
                                                                 -0.047297262
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                  0.028172676
## Child.mortality.rate..deaths.1.000.live.births.
                                                                  0.019968049
## Child.stunting....of.children.
                                                                 0.001509685
## Populations.using.unsafe.or.unimproved.sanitation....
                                                                -0.030489615
## Populations.using.unsafe.or.unimproved.water.sources....
                                                                 -0.004984459
## Household.air.pollution.attributable.deaths..deaths.100.000. -0.170344099
topbotPC1 <- row.names(cosp4.core[order(-cosp4.core[,1]),])[c(1:kup, (k-kup+1):k)]
sp4.core[order(-sp4.core$PC1),][c(1:nup,(n-nup+1):n),]
##
                                   PC1
                                               PC2
                                                            PC3
                                                                         PC4
                              6.858366 -1.70862573 -0.181245574 1.07287463
## Switzerland
## Norway
                              6.808964 -2.13930120 -0.042996718 1.28852001
## Denmark
                              6.758297 -2.14512579 -0.005562355 0.64672492
## Sweden
                              6.648665 -2.02548438 -0.075061402 0.90513260
## Finland
                              6.511241 -2.13670917 -0.097179583 0.82755250
## Eritrea
                             -9.027385 1.67786767 0.158041054 1.33590317
## Somalia
                             -9.472981 0.02828376 -0.518160082 0.09536742
## Chad
                            -10.126543 -0.76132793 -1.039901256 1.95672787
## South Sudan
                            -10.183150 -0.13902911 -0.692942442
                                                                 2.20041152
## Central African Republic -11.074523 -4.25179065 -0.485218239 -1.14463568
topbotind1 <- row.names(sp4.core[order(-sp4.core$PC1),])[c(1:nup,(n-nup+1):n)]
cosp4.core[order(-cosp4.core[,2]),][c(1:kup,(k-kup+1):k),]
```

```
PC1
##
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.05986364
## Access.to.electricity....of.pop..
                                                                                            0.17698543
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.11092479
## Particulate.matter
                                                                                           -0.12937206
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            0.01691540
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power.
                                                                                            0.12553303
## Political.rights..0.no.rights..40.full.rights.
                                                                                            0.16055804
## Media.censorship..0.frequent..4.rare.
                                                                                            0.11601363
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            0.08742914
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                            0.12345018
##
                                                                                                  PC2
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.2616713
## Access.to.electricity....of.pop..
                                                                                            0.1797031
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            0.1354798
## Particulate.matter
                                                                                            0.1283185
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                            0.1224128
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.2391419
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -0.2446720
## Media.censorship..0.frequent..4.rare.
                                                                                           -0.2934144
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -0.3011012
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -0.3159830
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                            0.17223387
## Access.to.electricity....of.pop..
                                                                                            0.06452193
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                           -0.14778932
## Particulate.matter
                                                                                           -0.04123667
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -0.62115159
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.01651400
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -0.03773278
## Media.censorship..0.frequent..4.rare.
                                                                                           -0.03988198
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                            0.06082850
## Freedom.of.expression..0.no.freedom..1.full.freedom.
                                                                                           -0.02599916
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                           -0.42794367
## Access.to.electricity....of.pop..
                                                                                           -0.14609109
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                                            0.03164456
## Particulate.matter
                                                                                           -0.07265399
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                           -0.22763944
## Equality.of.political.power.by.socioeconomic.position..0.unequal.power..4.equal.power. -0.04260580
## Political.rights..0.no.rights..40.full.rights.
                                                                                           -0.11490293
## Media.censorship..0.frequent..4.rare.
                                                                                           -0.11661593
## Freedom.of.religion..O.no.freedom..4.full.freedom.
                                                                                           -0.03415892
## Freedom.of.expression..O.no.freedom..1.full.freedom.
                                                                                           -0.14618712
topbotPC2<-row.names(cosp4.core[order(-cosp4.core[,2]),])[c(1:kup,(k-kup+1):k)]
sp4.core[order(-sp4.core$PC2),][c(1:nup,(n-nup+1):n),]
```

```
## PC1 PC2 PC3 PC4
## China -0.2580826 7.231041 -9.65683845 -2.7758740
## Saudi Arabia -1.0323350 7.196281 0.31618898 0.5731411
```

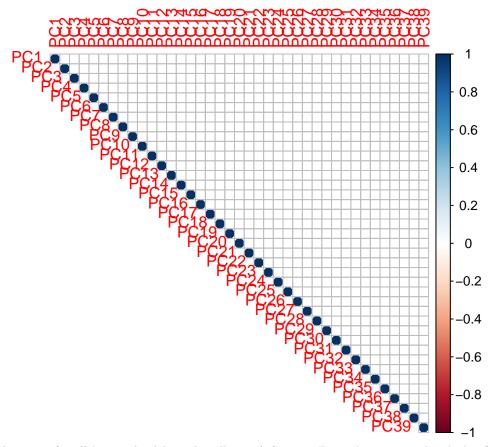
```
## Bahrain
                             -0.1508929 6.497134 0.63331398 0.8078687
## Turkmenistan
                             -2.6981986 5.712816 1.68801283 -0.1190820
## Qatar
                             1.0982687 5.145732 1.11903836 0.6400036
                             -4.3505646 -4.243035 -0.47472718 -0.2592933
## Liberia
## Central African Republic -11.0745233 -4.251791 -0.48521824 -1.1446357
## Benin
                             -3.7818475 -4.607834 -0.08266105 -0.4002749
## Sierra Leone
                             -5.4948161 -4.737386 -0.47767221 -0.5239970
                             -6.9299027 -4.913103 -1.25498456 0.4834563
## Niger
topbotind2<-row.names(sp4.core[order(-sp4.core$PC2),])[c(1:nup,(n-nup+1):n)]
cosp4.core[order(-cosp4.core[,3]),][c(1:kup,(k-kup+1):k),]
                                                                             PC1
## Premature.deaths.from.non.communicable.diseases..deaths.100.000. -0.14672278
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                     -0.05986364
## Access.to.quality.education..0.unequal..4.equal.
                                                                     0.16781792
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                     0.18371498
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                     0.14495767
## Life.expectancy.at.60..years.
                                                                     0.19358077
## Discrimination.and.violence.against.minorities..0.low..10.high. -0.11092479
## Access.to.online.governance..0.low..1.high.
                                                                     0.17802385
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                     0.01691540
## Quality.weighted.universities..points.
                                                                     0.06268489
##
                                                                               PC2
## Premature.deaths.from.non.communicable.diseases..deaths.100.000. 0.0115124410
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                     0.2616713345
## Access.to.quality.education..0.unequal..4.equal.
                                                                     -0.0127899656
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                    -0.0006333655
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                     0.0725287950
## Life.expectancy.at.60..years.
                                                                     0.0445171494
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                     0.1354798221
## Access.to.online.governance..0.low..1.high.
                                                                     0.0362676586
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                     0.1224127934
## Quality.weighted.universities..points.
                                                                     0.0561096542
##
                                                                             PC3
## Premature.deaths.from.non.communicable.diseases..deaths.100.000. 0.17395939
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                     0.17223387
## Access.to.quality.education..0.unequal..4.equal.
                                                                     0.13313612
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                     0.12047748
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                     0.07463085
## Life.expectancy.at.60..years.
                                                                     -0.11146150
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                    -0.14778932
## Access.to.online.governance..0.low..1.high.
                                                                     -0.16094428
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                     -0.62115159
## Quality.weighted.universities..points.
                                                                     -0.63111559
                                                                             PC4
## Premature.deaths.from.non.communicable.diseases..deaths.100.000. -0.44791089
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                    -0.42794367
## Access.to.quality.education..0.unequal..4.equal.
                                                                     0.02527391
## Access.to.quality.healthcare..0.unequal..4.equal.
                                                                     0.02817268
## Mobile.telephone.subscriptions..subscriptions.100.people.
                                                                    -0.18073104
## Life.expectancy.at.60..years.
                                                                     0.28157779
```

```
## Discrimination.and.violence.against.minorities..0.low..10.high.
                                                                     0.03164456
## Access.to.online.governance..0.low..1.high.
                                                                     -0.03271470
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                     -0.22763944
## Quality.weighted.universities..points.
                                                                     -0.16127101
topbotPC3<-row.names(cosp4.core[order(-cosp4.core[,3]),])[c(1:kup,(k-kup+1):k)]
sp4.core[order(sp4.core$PC3),][c(1:nup,(n-nup+1):n),]
##
                                PC1
                                           PC2
                                                     PC3
                                                                PC4
## China
                        -0.25808256 7.2310407 -9.656838 -2.7758740
## United States
                         5.34018817  0.7826096  -9.624529  -2.7315010
## India
                        -3.30701055 1.7166981 -2.938443 -2.7010374
                         6.30046231 -0.7044957 -2.501123 0.2053205
## Japan
## United Kingdom
                         5.69008401 -0.8682411 -2.244446 0.3859411
## Belarus
                         2.50876555 2.5175728 1.394053 -0.7689914
## Mongolia
                         0.95328680 -1.2298099 1.439344 -2.6404469
## Turkmenistan
                        -2.69819856 5.7128160 1.688013 -0.1190820
                        -0.01347958 0.9156490 1.699632 -2.3418239
## United Arab Emirates 0.46348321 4.5309573 1.922758 -1.4240985
topbotind3<-row.names(sp4.core[order(-sp4.core$PC3),])[c(1:nup,(n-nup+1):n)]
cosp4.core[order(-cosp4.core[,4]),][c(1:kup,(k-kup+1):k),]
##
                                                                                         PC1
## Life.expectancy.at.60..years.
                                                                                  0.19358077
## Biome.protection
                                                                                  0.05604062
## Citable.documents
                                                                                  0.16242717
## Early.marriage....of.women.
                                                                                 -0.16053942
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                  0.21493024
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power. 0.12621503
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                  0.01691540
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                 0.16123368
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                 -0.05986364
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                 -0.14672278
                                                                                         PC2
## Life.expectancy.at.60..years.
                                                                                  0.04451715
## Biome.protection
                                                                                 -0.17290179
## Citable.documents
                                                                                 -0.06769484
## Early.marriage....of.women.
                                                                                 -0.11296172
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                  0.07892058
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power. -0.23496953
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                  0.12241279
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                 -0.12712207
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                  0.26167133
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                  0.01151244
##
                                                                                         PC3
## Life.expectancy.at.60..years.
                                                                                 -0.11146150
## Biome.protection
                                                                                 -0.02282135
## Citable.documents
                                                                                 -0.06766643
## Early.marriage....of.women.
                                                                                 -0.08002594
```

-0.03515484

Access.to.essential.services...O.none..100.full.coverage.

```
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power. 0.01220399
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                -0.62115159
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                -0.03039760
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                 0.17223387
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                 0.17395939
##
                                                                                        PC4
## Life.expectancy.at.60..years.
                                                                                 0.28157779
## Biome.protection
                                                                                 0.27983593
## Citable.documents
                                                                                 0.20733351
## Early.marriage....of.women.
                                                                                 0.08244389
## Access.to.essential.services...0.none..100.full.coverage.
                                                                                 0.08155099
## Equality.of.political.power.by.social.group..0.unequal.power..4.equal.power. -0.18565355
## Greenhouse.gas.emissions..total.CO2.equivalents.
                                                                                -0.22763944
## Property.rights.for.women..0.no.right..5.full.rights.
                                                                                -0.23542362
## Outdoor.air.pollution.attributable.deaths..deaths.100.000.
                                                                                -0.42794367
## Premature.deaths.from.non.communicable.diseases..deaths.100.000.
                                                                                -0.44791089
topbotPC4<-row.names(cosp4.core[order(-cosp4.core[,3]),])[c(1:kup,(k-kup+1):k)]
sp4.core[order(-sp4.core$PC4),][c(1:nup,(n-nup+1):n),]
                             PC1
                                                   PC3
##
                                        PC2
                                                             PC4
## Nicaragua
                     -1.1726535 2.2695806 -0.2521986 3.172631
                     -5.4336289 -1.7461726 -0.7769574 2.229207
## Ethiopia
## South Sudan
                     -10.1831495 -0.1390291 -0.6929424 2.200412
## Equatorial Guinea -4.5227472 2.0999084 0.4116400 2.112474
## Singapore
                      4.9140678 1.5828576 0.3827098 1.974843
## Lesotho
                     -4.2726931 -2.6792715 1.3440481 -2.700107
## India
                     -3.3070106 1.7166981 -2.9384433 -2.701037
## United States
                     5.3401882 0.7826096 -9.6245291 -2.731501
## China
                     -0.2580826 7.2310407 -9.6568384 -2.775874
## Papua New Guinea -6.7983417 -2.8806752 1.0543052 -3.976078
topbotind4<-row.names(sp4.core[order(-sp4.core$PC4),])[c(1:nup,(n-nup+1):n)]
# Check that there is no correlation.
corspipc <- cor(pr.out.core$x)</pre>
corrplot(corspipc, type = "upper")
```

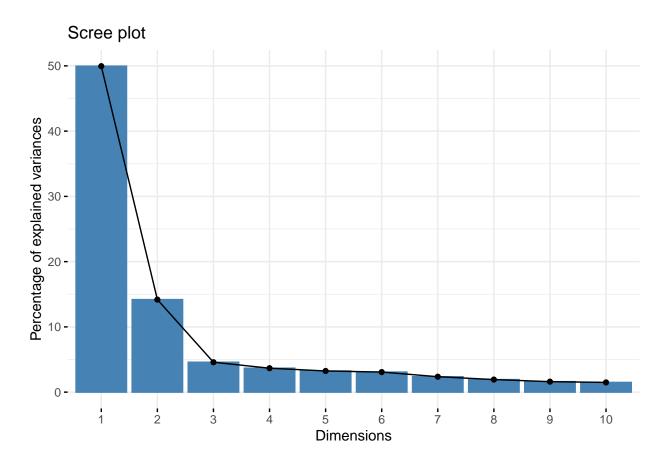


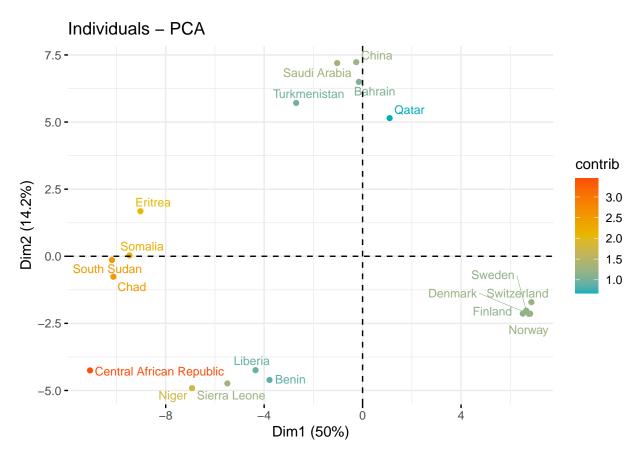
PC1: Foundations of well-being, health and wellness (+), ... Basic human needs: lack of water and sanitation/shelter (-) PC2: Opportunity, lack of personal rights (-), ... Foundations of well-being, environment quality (+) PC3: ...

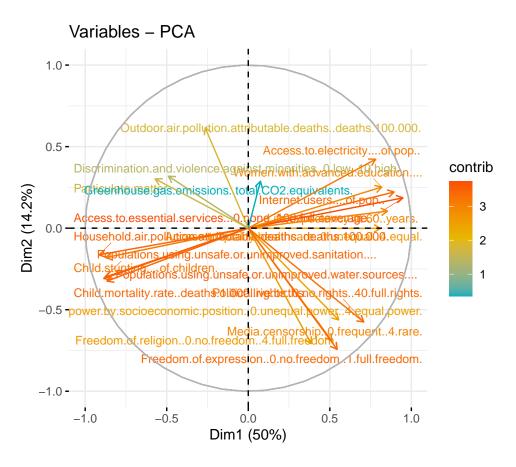
Now we do some plotting

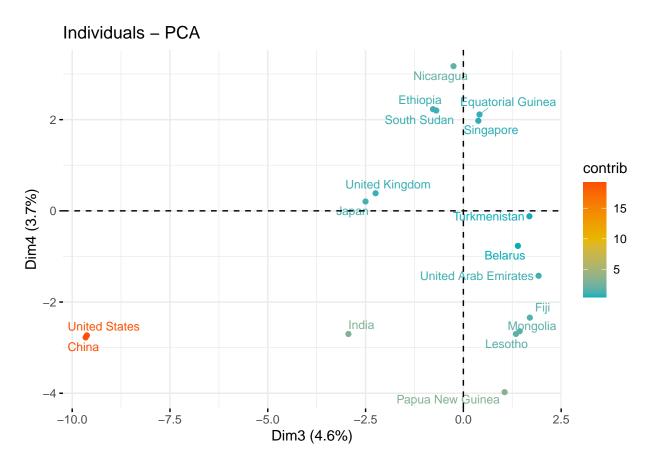
```
library(factoextra)

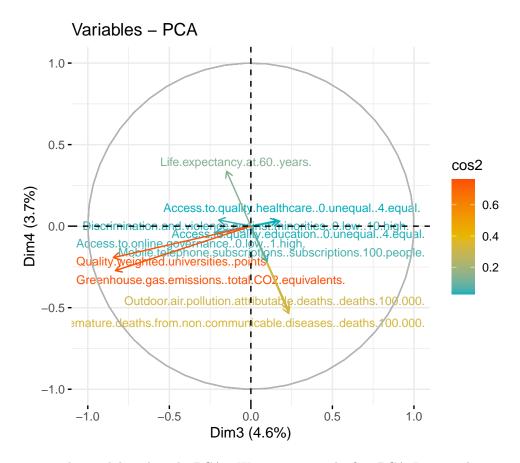
# scree plot
fviz_eig(pr.out.core)
```











Can we come up with a rank based on the PCAs. We can just use the first PCA. In general it is not suggested that we add scores from different PCAs . . . but if we still go ahead and do that for one more.

```
# compare PC1 between the social progress index and our own PCA
spi_ae <- data.frame(sp4.core[,1]) # -sp4.core[,2]) #-sp4.core[,3]+sp4.core[,4])
rownames(spi_ae) <- rownames(sp4.core)
# the rank is based on the z_i score
spi_ae$rank <- rank(-spi_ae)
spi_ae$spirank <- spirank
colnames(spi_ae) <- c("Score", "Rank AE", "Rank SPI")
spi_ae[order(spi_ae[,2]),]</pre>
```

##		Score	$\mathtt{Rank}\ \mathtt{AE}$	Rank SPI
##	Switzerland	6.858366016	1	6
##	Norway	6.808963943	2	1
##	Denmark	6.758296779	3	2
##	Sweden	6.648665147	4	5
##	Finland	6.511241009	5	3
##	Iceland	6.417116916	6	9
##	Luxembourg	6.400102729	7	14
##	Japan	6.300462310	8	13
##	Canada	6.227915882	9	7
##	Germany	6.215779083	10	11
##	Netherlands	6.156763114	11	10
##	New Zealand	6.091512885	12	4
##	Australia	6.091251944	13	8

##	Ireland	6.018024302	14	12
	Belgium	5.903223390	15	16
##	Italy	5.879754369	16	23
##	Cyprus	5.779926793	17	26
##	Austria	5.752147745	18	15
##	Korea, Republic of	5.727791781	19	17
##	France	5.693032256	20	18
	United Kingdom	5.690084012	21	20
##	Spain	5.647994673	22	19
##	Estonia	5.631085988	23	24
##	Slovenia	5.514211425	24	22
##	Portugal	5.467520664	25	21
##	United States	5.340188173	26	28
##	Greece	5.236126051	27	27
##	Czechia	5.176712659	28	25
##	Malta	4.986349222	29	30
##	Singapore	4.914067780	30	29
##	Lithuania	4.763810417	31	32
##	Poland	4.527890501	32	31
##	Israel	4.466583351	33	33
##	Costa Rica	4.423160779	34	37
##	Uruguay	4.336103738	35	38
##	Slovakia	4.223591568	36	36
##	Latvia	4.146459494	37	35
##	Croatia	4.134634131	38	39
##	Chile	3.779431537	39	34
##	Barbados	3.668463455	40	42
##	Kuwait	3.478355305	41	46
##	Hungary	3.424153642	42	40
##	Mauritius	3.407142720	43	44
##	Bulgaria	3.268886721	44	43
##	Argentina	3.267324364	45	41
##	Trinidad and Tobago	3.092317741	46	51
##	Romania	2.747807663	47	45
##	Jamaica	2.736418655	48	57
##	Armenia	2.700793774	49	50
	Montenegro	2.604828060	50	58
	Panama	2.564567171	51	49
	Belarus	2.508765554	52	47
	Albania	2.435364096	53	54
	Serbia	2.363414790	54	52
##	Tunisia	2.247367538	55	55
	Republic of North Macedonia	2.194596311	56 57	65
	Malaysia	2.135678187	57	48
	Bosnia and Herzegovina	2.069035697	58 50	66 56
	Georgia Sri Lanka	1.970882265 1.866707990	59 60	56 64
	Ecuador		61	53
	Peru	1.665390522	62	59
	Moldova	1.635711839 1.606516109	63	68
	Cabo Verde	1.573803157	63 64	71
	Ukraine	1.534377134	65	63
	Russia	1.467954616	66	69
	Maldives	1.376333710	67	78
		1.0.0000110	01	, 5

##	Colombia	1.309940549	68	60
	Mexico	1.282293773	69	62
	Kazakhstan	1.201324853	70	67
	Brazil	1.150498865	71	61
##	Jordan	1.111173472	72	73
	Qatar	1.098268681	73	81
	•	1.033962422	73	75
	Suriname	1.035962422	74 75	70
	Paraguay	0.959648627	75 76	70 74
	Oman	0.953286795	77	74 76
	Mongolia Lebanon	0.806520127	77 78	7 6 85
	Cuba	0.741215514	79	72
##	Thailand	0.510542149	80	79
	United Arab Emirates	0.463483210	81	80
	Dominican Republic	0.457007423	82	77
	South Africa	0.355862699	83	82
	El Salvador	0.294579103	84	94
	Bhutan	0.151888979	85	91
	Algeria	0.150069301	86	83
	Botswana	0.146957483	87	86
	Kyrgyzstan	0.113600242	88	89
	Guyana	-0.009909926	89	96
	Fiji	-0.013479582	90	90
	Bolivia	-0.038118878	91	87
	Vietnam	-0.077200514	92	88
	Bahrain	-0.150892872	93	99
##	Turkey	-0.196704351	94	92
	China	-0.258082562	95	100
##	Indonesia	-0.309085306	96	84
##	Iran	-0.655581199	97	93
	Namibia	-0.661047011	98	95
##	Iraq	-0.703170541	99	107
	Morocco	-0.825531952	100	97
	Ghana	-0.871282756	101	103
	Uzbekistan	-0.874431635	102	102
	Philippines	-0.965494212	103	98
	Saudi Arabia	-1.032335009	104	101
	Gabon	-1.168972642	105	106
	Nicaragua	-1.172653484	106	105
	Honduras	-1.386884756	107	108
	Azerbaijan	-1.548059871	108	104
	Guatemala	-1.738918913	109	109
	Timor-Leste	-1.900980186	110	110
	Senegal	-2.291673326	111	111
	Turkmenistan	-2.698198558	112	113
	Egypt	-3.066911109	113	112
	Tanzania	-3.157194994	114	119
	India	-3.307010555	115	117
	Gambia, The	-3.324075431	116	124
	Nepal	-3.358205399	117	114
	Kenya	-3.370772786	118	115
	Myanmar	-3.468892053	119	120
	Cambodia	-3.578618937	120	118
##	Benin	-3.781847459	121	121

	m	0.044464500	400	440
	Tajikistan	-3.844464500	122	116
	Rwanda	-3.857561949	123	125
	Togo	-4.024608466	124	129
##	Zambia	-4.074317642	125	122
	Malawi	-4.226881253	126	126
	Lesotho	-4.272693139	127	127
	Côte d'Ivoire	-4.277015257	128	128
	Bangladesh	-4.282099598	129	123
	Liberia	-4.350564571	130	135
	Korea, Democratic Republic of	-4.438184664	131	139
	Equatorial Guinea	-4.522747195	132	138
##	Uganda	-4.569256758	133	130
##	Nigeria	-4.597118599	134	136
##	Djibouti	-4.911736226	135	146
##	Mauritania	-5.008774963	136	143
##	Sudan	-5.091111107	137	147
##	Cameroon	-5.129854050	138	137
##	Eswatini	-5.219484494	139	131
##	Haiti	-5.323312569	140	144
##	Zimbabwe	-5.360065124	141	132
##	Laos	-5.362861894	142	133
##	Burkina Faso	-5.423518485	143	140
##	Ethiopia	-5.433628915	144	145
##	Angola	-5.445748459	145	151
##	Mali	-5.456532336	146	150
##	Sierra Leone	-5.494816102	147	134
##	Mozambique	-5.671098530	148	142
##	Pakistan	-5.883831725	149	141
##	Madagascar	-5.926532663	150	148
##	Congo, Republic of	-6.101033603	151	149
##	Guinea-Bissau	-6.462991642	152	152
##	Papua New Guinea	-6.798341728	153	153
##	Niger	-6.929902726	154	157
	Afghanistan	-7.049627694	155	155
##	Congo, Democratic Republic of	-7.261323692	156	156
	Guinea	-7.646872169	157	154
##	Burundi	-8.000736393	158	158
##	Eritrea	-9.027384755	159	160
##	Somalia	-9.472981196	160	159
##	Chad	-10.126542704	161	162
##	South Sudan	-10.183149538	162	163
##	Central African Republic	-11.074523258	163	161
	-			

End of PCA Analysis for Social Progress data.