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Revisiting Employment Vulnerability Index Using Principal Component Analysis

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ABSTRACT

The share of workers in vulnerable employment is directly linked to the share of people living in poverty. The statement recalls why understanding the employment vulnerability index (EVI) of a nation based on the present situations is very relevant. In view of that, The International Labor Organization (ILO) designed a parameter to predict the possible increase or decrease of the employment vulnerability index. However, the said formula does not capture the general issue of employment vulnerability, specifically in terms of the principal component. Hence this study was purposely conducted to develop a unique formula in computing EVI as a form of resolution in the development of vulnerability indices using the Principal Component Analysis. The principal component analysis develops indicators of vulnerability in employment using the

United Nations Development Program (UNDP) data. The results identified two principal components that determine 82.60% of the variance of Employment Vulnerability. The generated formula concludes that the Employment vulnerability index is a function of types of employment and unemployment rate. Types of employment included the employment in agriculture and employment in services, and unemployment rate comprised of employment to population ratio, unemployment labor force, unemployment youth, and labor force participation. Further, types of employment should be given more emphasis when it comes to EVI Plan than unemployment rate hence, type of employment shows greater influence to EVI with 66.30% compared to unemployment rate with only 33.70%.

Keywords **—** Social Science, Types of Employment Unemployment rate, EVI ranking, Philippines

INTRODUCTION

The concept of vulnerability was used for the analysis of environmental risks and hazards as well as for demographic and economic conditions. The United Nations Development Programme of the Economic Commission for Latin America and the Caribbean (UNDP-ECLAC) considers that vulnerability and poverty are converging phenomena, describing, among other things, that "the current social scenario simultaneously records an increasing uncertainty regarding work as the main way of building the future of persons and their families (Mac Donald & Simioni, 2000)

Concerning on vulnerability, the International Labor Organization (ILO) designed a parameter to predict the possible increase or decrease of the employment vulnerability index (EVI). In the said model, the share of vulnerable employment is calculated as the sum of contributing family workers and own-account workers as a percentage of total employment. Generally, based on this formula, EVI was considered as a function of Employment.

Employment, as defined by the Parliament of Australia (2003) and Azpitarte (2012), is an effective barrier against abject poverty, so being excluded from employment brings with it significant financial concerns for individuals and their families. In terms of the growth of poverty and social exclusion, welfare agencies are quick to point to the problems imposed by unemployment and labor market disadvantage.

In relation to this, Dutiro (2010) reported that unemployment is a growing problem over the past decade, the narrow and broad unemployment rates have increased from 22.5% to 29.0% and from 29.7% to 38.5%, respectively. However, the latest edition of the World Employment and Social Outlook compiled by the International Labour Organization (2018) recounted that global unemployment in 2018 remains at a similar level to 2917. Peaking at 5.9% in 2009, the world unemployment rate started slowly decreasing. After 2014, it has essentially stabilized around the 5.5% mark, with the total number of estimated unemployed persons exceeding 192 million. Going back to the ILO concept on EVI, these reports indicate concerns on employment vulnerability.

Similarly, Garzon-Duque et al. (2017) identified the following conditions as evidence of employment vulnerability: accentuation of productive heterogeneity that affects the occupation, the segmentation of the work and greater precariousness, employment deregulation (or flexibilization) without unemployment insurance, the reduction of the quantitative weight of unions, and the sustained growth of labor informality, especially for city workers.

Finally, the share of workers in vulnerable employment is directly linked to the share of people living in poverty (Human, 2009). The statement recalls why understanding the employment vulnerability index (EVI) of a nation based on the present situations is very relevant. Moreover, the ILO formula for calculating EVI does not capture the general issue of employment vulnerability, specifically in terms of the principal component. Hence this study was proposed to develop a unique formula in computing EVI as a form of resolution in the development of vulnerability indices.

FRAMEWORK

The concept of this study was anchored on the theoretical reduction. In the twentieth century, most philosophers considered the question of the reduction of theories to be prior to the question of the reduction of entities or phenomena. The reduction was primarily understood to be a way to unify the sciences. The general goal of a theoretical reduction is to promote the *unity of science*. All of these models provide some sense in which science may become more unified. For sciences may become unified by being expressed in the same language. This allows one to see that there is only one language that is required to express all truths in the theories. Sciences may also become unified when the laws of one theory are shown to be derivable from those of another theory. This allows one to

see that there is only one basic set of principles that are required to account for the other truths in the theories. Finally, sciences may become unified when the observations explained by one theory are shown to be also explainable by another theory (Ney, 2008).

Similarly, the original EVI was a weighted composite index constructed using spatial statistical analysis of 2006 Census data. The index was developed from an initial theoretical and empirical conceptualization of the drivers and indicators of employment vulnerability. The summary indicator measured a suburb's potential for increasing joblessness or employment vulnerability rather than the actual level of joblessness or vulnerability (Mitchel, 2015). From this, the ILO developed another formula in calculating EVI in which the share of vulnerable employment is calculated as the sum of contributing family workers and own-account workers as a percentage of total employment.

From the cited scenario, a formula/model which will be considered as a general reference in measuring the employment vulnerability index of a country was developed. The general concept was to revisit the existing EVI formula and identify variables that were considered in the calculation of EVI to form new formulas in the simplest form. Only identified variables with available data common to all countries from UNDP data banks were included in the data analysis. The developed model was considered unique due to its composition of parameters in which principal components were derived from the selected variables using Principal Component Analysis. The PCA provides the related factor loadings for the identified indicators in which results were used to develop a simple weighted index.

OBJECTIVES OF THE STUDY

This study was purposely conducted to develop a unique formula in computing Employment Vulnerability Index (EVI) as a form of resolution in the development of vulnerability indices using principal component analysis since the International Labor Organization (ILO) designed a parameter to predict the possible increase or decrease of the employment vulnerability that does not capture the general issue of employment vulnerability in terms of principal components; thus, this study is conducted.

METHODOLOGY

Research Design

This study utilized descriptive design to describe the generated data and to generate an index using six (6) indicators of employment vulnerability. The utilization of secondary data from the United Nations Development Program (UNDP) for the discovery of useful information was applied; hence, it should be cleaned and free from error to ensure the validity of the results.

The variables include Employment in Services consists of wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services, Employment in Agriculture consists of activities in agriculture, hunting, forestry and fishing, Employment to Population Ratio which is calculated by dividing the number of people employed by the total number of people of working age, Unemployment Labor Force defined as the share of the labor force that is jobless, Unemployment Youth defined as the share of the youth that is jobless and Labor Force Participation Rate which is a measure of an economy's active workforce.

Instrumentation

The Scree Plot and the Eigen analysis of the Principal Component Analysis were used to reduce the variables into few components without losing any valuable information. Thus, a new indicator was determined that was used as a new component for the ranking.

Data Analysis

After the generated PC, the employment vulnerability index was derived by computing the sum of the product of the factor loading, and the scores are computed for each component. And lastly, the computed sum of each component and ranked the country according to scores.

RESULTS AND DISCUSSION

The Scree plot of the Components of Employment Vulnerability

The figure below showed that there are two (2) Principal Components that will determine the variability of the components. Thus, it is supported by the Eigen analysis result in table 1 that 82.60% of the variance will be explained by the two components identified.

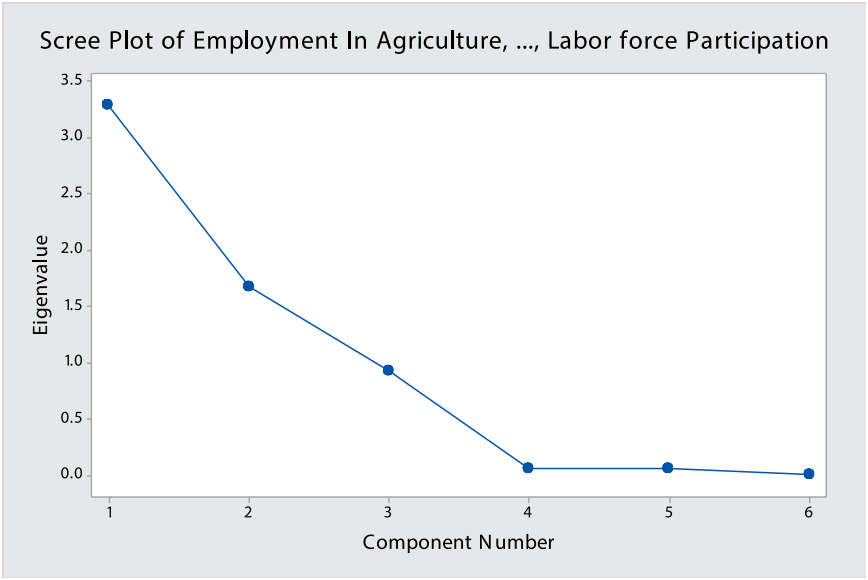

Figure 1. Scree Plot of the Components of Employment Vulnerability

Table 1. Eigen analysis of the Correlation Matrix

Eigenvalue	3.2834	1.6709	0.9289	0.0598	0.0554	0.0016
Proportion	0.547	0.278	0.155	0.010	0.009	0.000
Cumulative	0.547	0.826	0.981	0.990	1.000	1.000

Factor Loading of the Principal Components

Based on Table 2, which is the result of the PCA, there are two components of employment Vulnerability, which will determine 82.60% of the variance. The two components were identified as Type of Employment, which includes employment in services and agriculture, and another is the unemployment rate, which is comprised of employment to population ratio, Unemployment of Labor force, and Youth and Labor force Participation.

Table 2. Factor Loading of the Principal Components

Variable	PC1	PC2
Employment in Services	-0.321	-0.605
Employment in Agriculture	0.305	0.617
Employment to Population Ratio	-0.497	0.150
Unemployment (Labor force)	0.413	-0.374
Unemployment (Youth)	0.445	-0.298
Labor Force Participation	-0.434	0.046

Principal Component Model

The generated formula concludes that the Employment vulnerability index is a function of types of employment and unemployment rate.

PC 1 (Type of Employment)

PC1 = (-0.605*Employment in Services) + (0.617*Employment in Agriculture)

The results show that the Types of Employment is a function of Employment in Services and Agriculture. It implies that the decrease of Employment in Services determines an increase in the Type of Employment, and the increase in employment in agriculture determines an increase in the Type of Employment and vice versa.

PC 2 (Unemployment Rate)

PC2 = (-0.497*Employment to Population ratio) + (0.413*Unemployment (Labor Force)) + (0.445*Unemployment (Youth)) – (0.434*Labor Force Participation)

Unemployment Rate is a function of Employment to Population Ratio, Unemployment Labor force, and youth and Labor Force Participation. The equation implies that the increase of Employment to population Ratio and Labor Force participation determines decreases in Unemployment Rate. Otherwise, an increase in Unemployment on both the Labor Force and the youth determines an increase in the Unemployment Rate.

Scores According to Identified Components

Table 3 showed the indicators of employment vulnerability of different countries. On the first indicator, which is the Type of Employment, Hong Kong scored the highest among the countries while Bosnia and Herzegovina Qatar scored highest in the unemployment rate.

Table 3. Country's Scores According to Identified Components

Country	Type of Employment	Unemployment Rate
Afghanistan	-1.49102	0.80622
Albania	-0.66191	1.57884
Algeria	-0.02624	2.16260
Angola	-0.91920	-1.08279
Argentina	1.35183	0.59749
Armenia	-0.26061	2.00046
Australia	1.36751	-0.52768
Austria	1.07948	-0.25982
Azerbaijan	-0.36907	-0.66363
Bahamas	1.51454	-0.24877
Bahrain	0.97221	-1.82220
Bangladesh	-0.66915	-0.01608
Barbados	1.34822	0.36514
Belarus	0.61008	-1.38389
Belgium	1.37172	0.80446
Belize	0.79387	-0.38399
Benin	-0.81617	-1.61178
Bhutan	-1.28857	-1.10334
Bolivia (Plurinational State of)	-0.05514	-1.21252
Bosnia and Herzegovina	0.07802	4.28512
Botswana	0.25639	0.97376
Brazil	0.89570	0.90539
Brunei Darussalam	1.52357	-0.01532
Bulgaria	0.86255	0.51961
Burkina Faso	-0.41186	-0.75064
Burundi	-2.95042	-2.45535

Country	Type of Employment	Unemployment Rate
Cabo Verde	-1.79532	0.45845
Cambodia	-0.17746	-3.16938
Cameroon	-1.55851	-1.73792
Canada	1.38498	-0.50154
Central African Republic	-2.79918	-1.11562
Chad	-2.79255	-1.11557
Chile	0.87642	-0.04994
China	0.33351	-1.02834
Colombia	0.62636	-0.44696
Comoros	-1.35425	1.02668
Congo	-0.71374	-0.04492
Congo (Democratic Republic of the)	-2.69193	-1.54394
Costa Rica	0.87582	0.53237
Côte d'Ivoire	0.86075	1.51886
Croatia	0.57816	-0.22081
Cuba	1.37896	0.50796
Cyprus	0.78783	-0.53423
Czechia	-0.72818	-0.52891
Denmark	1.37654	-0.41394
Djibouti	-0.42693	-0.07859
Dominican Republic	0.88727	-0.71691
Ecuador	0.06477	-0.95173
Egypt	-0.03225	2.20536
El Salvador	0.42570	-0.46174
Equatorial Guinea	-1.33556	0.10154
Eritrea	-2.67686	-1.85556
Estonia	0.97161	-0.21011
Eswatini (Kingdom of)	-2.03695	3.77580
Ethiopia	-1.89775	-2.21078
Fiji	-0.45885	0.28313
Finland	1.20059	0.55094
France	1.31508	1.02293

Country	Type of Employment	Unemployment Rate
Gabon	-0.56490	2.70534
Gambia	0.15335	0.29306
Georgia	-0.51067	0.42636
Germany	1.19396	-0.58935
Ghana	-0.54803	-2.13366
Greece	0.96681	2.98325
Guatemala	-0.14311	-0.83277
Guinea	-1.79230	-0.85071
Guinea-Bissau	-2.65215	-1.08111
Guyana	0.55886	1.12143
Haiti	-0.52332	0.86616
Honduras	-0.10033	-1.07711
Hong Kong, China (SAR)	1.67843	-0.53261
Hungary	0.90292	0.04464
Iceland	1.38860	-2.06836
India	-0.94874	0.08961
Indonesia	-0.26182	-0.67843
Iran (Islamic Republic of)	0.18045	2.44744
Iraq	0.47632	1.38322
Ireland	1.21566	-0.03515
Israel	1.50308	-0.79001
Italy	1.08008	2.17579
Jamaica	0.61130	0.55887
Japan	1.12286	-0.71763
Jordan	1.07586	3.34322
Kazakhstan	0.47873	-1.40124
Kenya	-0.40462	0.47997
Korea (Democratic People's Rep. of)	-2.08214	-1.93353
Korea (Republic of)	1.07104	-0.60435
Kuwait	1.08972	-1.12745
Kyrgyzstan	-0.03285	-0.00532
Lao People's Democratic Republic	-1.53260	-2.54117

Country	Type of Employment	Unemployment Rate
Latvia	0.95414	0.29876
Lebanon	1.29881	1.10304
Lesotho	0.29975	2.39172
Liberia	-0.60647	-0.42716
Libya	0.60707	2.78661
Lithuania	0.90775	-0.01862
Luxembourg	1.67120	0.19287
Madagascar	-2.22796	-3.05909
Malawi	-2.76242	-1.65391
Malaysia	0.66190	-0.78912
Maldives	0.93004	-0.63913
Mali	-1.29580	-0.66089
Malta	1.42897	0.09037
Mauritania	-2.24904	1.35280
Mauritius	0.90473	0.49568
Mexico	0.59622	-0.66121
Moldova (Republic of)	-0.23711	1.19166
Mongolia	-0.13708	0.26894
Montenegro	1.12648	2.47994
Morocco	-0.53718	1.28462
Mozambique	-2.02067	1.42103
Myanmar	-1.12227	-1.42514
Namibia	0.39799	2.60717
Nepal	-2.04839	-2.72603
Netherlands	1.46753	-0.63676
New Zealand	1.11443	-0.95911
Nicaragua	-0.04067	-0.95161
Niger	-2.24483	-2.67129
Nigeria	-0.25036	0.40729
Norway	1.38558	-0.71871
Oman	0.58054	1.34104
Pakistan	-0.90776	-0.01344

Country	Type of Employment	Unemployment Rate
Palestine, State of	0.68058	4.15228
Panama	0.71674	-0.65366
Papua New Guinea	0.73784	-1.52093
Paraguay	0.34677	-0.96680
Peru	0.06478	-1.83127
Philippines	0.14070	-0.77555
Poland	0.56609	0.14896
Portugal	0.96499	0.70029
Qatar	0.35336	-3.35903
Romania	-0.03466	0.57722
Russian Federation	0.91016	-0.34209
Rwanda	-1.76639	-3.11842
Saint Lucia	0.73301	1.86926
Saint Vincent and the Grenadines	1.36209	1.31248
Samoa	1.32051	2.59191
Sao Tome and Principe	0.73181	1.27163
Saudi Arabia	1.06441	0.97548
Senegal	-1.41752	-0.23886
Serbia	0.31844	1.89897
Sierra Leone	-1.38618	-0.20859
Singapore	1.58744	-1.48391
Slovakia	0.83302	0.29062
Slovenia	0.83603	0.30427
Solomon Islands	-1.98573	-1.73184
Somalia	-2.81967	0.96402
South Africa	1.07827	3.96102
South Sudan	-2.00803	-0.37424
Spain	1.27411	2.11335
Sri Lanka	-0.13528	0.53176
Sudan	-1.38498	2.17354
Suriname	1.21144	0.74256
Sweden	1.43560	-0.15291

Country	Type of Employment	Unemployment Rate
Switzerland	1.27049	-1.06552
Syrian Arab Republic	-0.14312	3.04171
Tajikistan	-1.20843	0.58607
Tanzania (United Republic of)	-1.71397	-2.72129
Thailand	-0.37269	-1.53446
The former Yugoslav Republic of Macedonia	0.29675	3.12201
Timor-Leste	0.27025	1.35658
Togo	-0.48717	-2.32282
Tonga	-0.58420	-0.87853
Trinidad and Tobago	1.08188	-0.43707
Tunisia	0.05752	2.62111
Turkey	0.22444	1.34046
Turkmenistan	0.28348	-1.02686
Uganda	-1.86581	-1.71849
Ukraine	0.51367	1.07357
United Arab Emirates	0.89026	-2.42796
United Kingdom	1.46994	-0.49531
United States	1.42535	-0.52512
Uruguay	1.03971	0.13229
Uzbekistan	-0.23954	-0.37911
Vanuatu	-1.61334	-1.11344
Venezuela (Bolivarian Republic of)	0.82881	-0.01899
Viet Nam	-0.88728	-2.19708
Yemen	-0.71795	2.82763
Zambia	-1.16504	-1.02993
Zimbabwe	-1.85376	-2.15955

Weights of the Indices

Weights of Indices are computed by getting the percentage of the proportion of each component

Index	Weight
Type of Employment	66.30%
Unemployment Rate	33.70%
Total	100.00%

EVI Equation

Type of Employment*66.30%)+(Unemployment Rate*33.70%)

The combination of Components as predictor variables is quite useful in Employment Vulnerability. Further, the generated formula determines which variables are the strongest predictors or contributed much in terms of influences in employment vulnerability. Among the two identified major components on EVI, Types of Employment shows greater influence, with 66.30% compared to the unemployment rate with only 33.70%. Correspondingly, Baum et al. (2013) reported that the Employment Vulnerability Index (EVI) is an indicator that identifies those suburbs that have higher proportions of the types of jobs thought to be at risk in the current economic climate.

Ranking Based Weighted Indices

The new ranking in terms of the employment vulnerability index of different countries is shown in Table 4 based on the unified index. The top 5 countries with high employment vulnerability are South Africa, Palestine, Jordan, Samoa & Greece.

Table 5. Country's Ranking Based on the Weighted Indices

Country	Employment Vulnerability Index	Rank
South Africa	2.04976	1
Palestine, State of	1.850543	2
Jordan	1.83996	3
Samoa	1.748972	4
Greece	1.646347	5
Montenegro	1.582599	6
Spain	1.556931	7
Bosnia and Herzegovina	1.495809	8
Italy	1.449332	9
Saint Vincent and the Grenadines	1.345372	10
Libya	1.341574	11
The former Yugoslav Republic of Macedonia	1.248862	12
Lebanon	1.232837	13
France	1.216626	14
Belgium	1.180555	15
Luxembourg	1.173004	16
Namibia	1.142483	17
Saint Lucia	1.115927	18
Argentina	1.097621	19
Cuba	1.08543	20
Côte d'Ivoire	1.08253	21
Suriname	1.053425	22
Saudi Arabia	1.034442	23
Barbados	1.016925	24
Brunei Darussalam	1.004965	25
Lesotho	1.004742	26
Finland	0.98166	27
Malta	0.97786	28
Iran (Islamic Republic of)	0.944425	29

Country	Employment Vulnerability Index	Rank
Hong Kong, China (SAR)	0.933311	30
Syrian Arab Republic	0.930165	31
Tunisia	0.921448	32
Bahamas	0.920304	33
Sao Tome and Principe	0.913728	34
Sweden	0.900269	35
Brazil	0.898965	36
Portugal	0.875784	37
Serbia	0.851081	38
Oman	0.836832	39
United Kingdom	0.807651	40
Ireland	0.794138	41
Iraq	0.781944	42
Denmark	0.773152	43
United States	0.768043	44
Mauritius	0.766881	45
Costa Rica	0.760075	46
Netherlands	0.758385	47
Canada	0.749223	48
Guyana	0.74845	49
Bulgaria	0.746979	50
Uruguay	0.733911	51
Latvia	0.733281	52
Israel	0.730312	53
Australia	0.728827	54
Egypt	0.721826	55
Algeria	0.711398	56
Ukraine	0.702357	57
Norway	0.676436	58
Slovenia	0.65683	59

Country	Employment Vulnerability Index	Rank
Slovakia	0.650231	60
Timor-Leste	0.636342	61
Austria	0.628135	62
Hungary	0.613681	63
Turkey	0.600541	64
Lithuania	0.595561	65
Jamaica	0.59363	66
Germany	0.592984	67
Estonia	0.573372	68
Trinidad and Tobago	0.569999	69
Chile	0.564234	70
Singapore	0.552397	71
Venezuela (Bolivarian Republic of)	0.543104	72
Gabon	0.537175	73
Korea (Republic of)	0.506433	74
Japan	0.502615	75
Armenia	0.501373	76
Botswana	0.498145	77
Russian Federation	0.488148	78
Switzerland	0.483256	79
Yemen	0.476912	80
Poland	0.425518	81
New Zealand	0.415645	82
Maldives	0.401231	83
Belize	0.396931	84
Dominican Republic	0.346659	85
Kuwait	0.342533	86
Cyprus	0.342294	87
Croatia	0.308905	88
Colombia	0.26465	89

Country	Employment Vulnerability Index	Rank
Panama	0.254916	90
Moldova (Republic of)	0.244388	91
Iceland	0.223602	92
Gambia	0.200434	93
Malaysia	0.172905	94
Mexico	0.172467	95
Romania	0.171543	96
El Salvador	0.126636	97
Albania	0.093221	98
Sri Lanka	0.089511	99
Morocco	0.076762	100
Bahrain	0.030495	101
Mongolia	-0.00026	102
Papua New Guinea	-0.02337	103
Kyrgyzstan	-0.02357	104
Nigeria	-0.02873	105
Haiti	-0.05506	106
Belarus	-0.06189	107
Eswatini (Kingdom of)	-0.07805	108
Paraguay	-0.0959	109
Kenya	-0.10651	110
China	-0.12544	111
Kazakhstan	-0.15482	112
Turkmenistan	-0.15811	113
Philippines	-0.16808	114
Sudan	-0.18576	115
Georgia	-0.19489	116
Fiji	-0.2088	117
United Arab Emirates	-0.22798	118
Ecuador	-0.27779	119

Country	Employment Vulnerability Index	Rank
Uzbekistan	-0.28657	120
Djibouti	-0.30954	121
Nicaragua	-0.34766	122
Guatemala	-0.37553	123
Indonesia	-0.40221	124
Honduras	-0.4295	125
Bolivia (Plurinational State of)	-0.44518	126
Bangladesh	-0.44906	127
Azerbaijan	-0.46833	128
Congo	-0.48835	129
Burkina Faso	-0.52603	130
Liberia	-0.54604	131
Comoros	-0.55188	132
Peru	-0.57419	133
India	-0.59881	134
Tajikistan	-0.60368	135
Pakistan	-0.60638	136
Czechia	-0.66103	137
Tonga	-0.68339	138
Afghanistan	-0.71685	139
Thailand	-0.7642	140
Equatorial Guinea	-0.85126	141
Mozambique	-0.86082	142
Qatar	-0.89771	143
Angola	-0.97433	144
Sierra Leone	-0.98933	145
Senegal	-1.02031	146
Mauritania	-1.03522	147
Cabo Verde	-1.0358	148
Mali	-1.08183	149

Country	Employment Vulnerability Index	Rank
Ghana	-1.08238	150
Benin	-1.08429	151
Togo	-1.10578	152
Zambia	-1.11951	153
Cambodia	-1.18574	154
Myanmar	-1.22434	155
Bhutan	-1.22615	156
Viet Nam	-1.32868	157
Vanuatu	-1.44487	158
South Sudan	-1.45744	159
Guinea	-1.47498	160
Somalia	-1.54456	161
Cameroon	-1.61897	162
Uganda	-1.81617	163
Lao People's Democratic Republic	-1.87249	164
Solomon Islands	-1.90017	165
Zimbabwe	-1.95681	166
Ethiopia	-2.00324	167
Korea (Democratic People's Rep. of)	-2.03206	168
Tanzania (United Republic of)	-2.05344	169
Guinea-Bissau	-2.12271	170
Rwanda	-2.22203	171
Chad	-2.22741	172
Central African Republic	-2.23182	173
Nepal	-2.27676	174
Congo (Democratic Republic of the)	-2.30506	175
Niger	-2.38855	176
Malawi	-2.38885	177
Eritrea	-2.40008	178
Madagascar	-2.50805	179
Burundi	-2.78358	180

CONCLUSION

Calculation of employment vulnerability index using the newly generated formula that focuses on determining the strongest predictors or contribution in increasing and decreasing the employment vulnerability index changes the world EVI ranking. Further, types of employment should be given more emphasis when it comes to EVI Plan than the unemployment rate; hence, the type of employment shows greater influence with 66.30% compared to the unemployment rate with only 33.70%.

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