

## CHAPTER 5: PRINCIPAL COMPONENTS ANALYSIS

### Analysis of European employment data

Correlation Matrix

		AGRIC	MINING	MANU	POWER	CONSTR	SERVICE	FINANCE	SOCIAL	TRANS
Correlation	AGRIC	1.000	.036	-.671	-.400	-.538	-.737	-.220	-.747	-.565
	MINING	.036	1.000	.445	.405	-.026	-.397	-.443	-.281	.157
	MANU	-.671	.445	1.000	.385	.494	.204	-.156	.154	.351
	POWER	-.400	.405	.385	1.000	.060	.202	.110	.132	.375
	CONSTR	-.538	-.026	.494	.060	1.000	.356	.016	.158	.388
	SERVICE	-.737	-.397	.204	.202	.356	1.000	.366	.572	.188
	FINANCE	-.220	-.443	-.156	.110	.016	.366	1.000	.108	-.246
	SOCIAL	-.747	-.281	.154	.132	.158	.572	.108	1.000	.568
	TRANS	-.565	.157	.351	.375	.388	.188	-.246	.568	1.000

### 3 Components

Communalities

	Initial	Extraction
AGRIC	1.000	.965
MINING	1.000	.858
MANU	1.000	.714
POWER	1.000	.719
CONSTR	1.000	.400
SERVICE	1.000	.776
FINANCE	1.000	.837
SOCIAL	1.000	.735
TRANS	1.000	.711

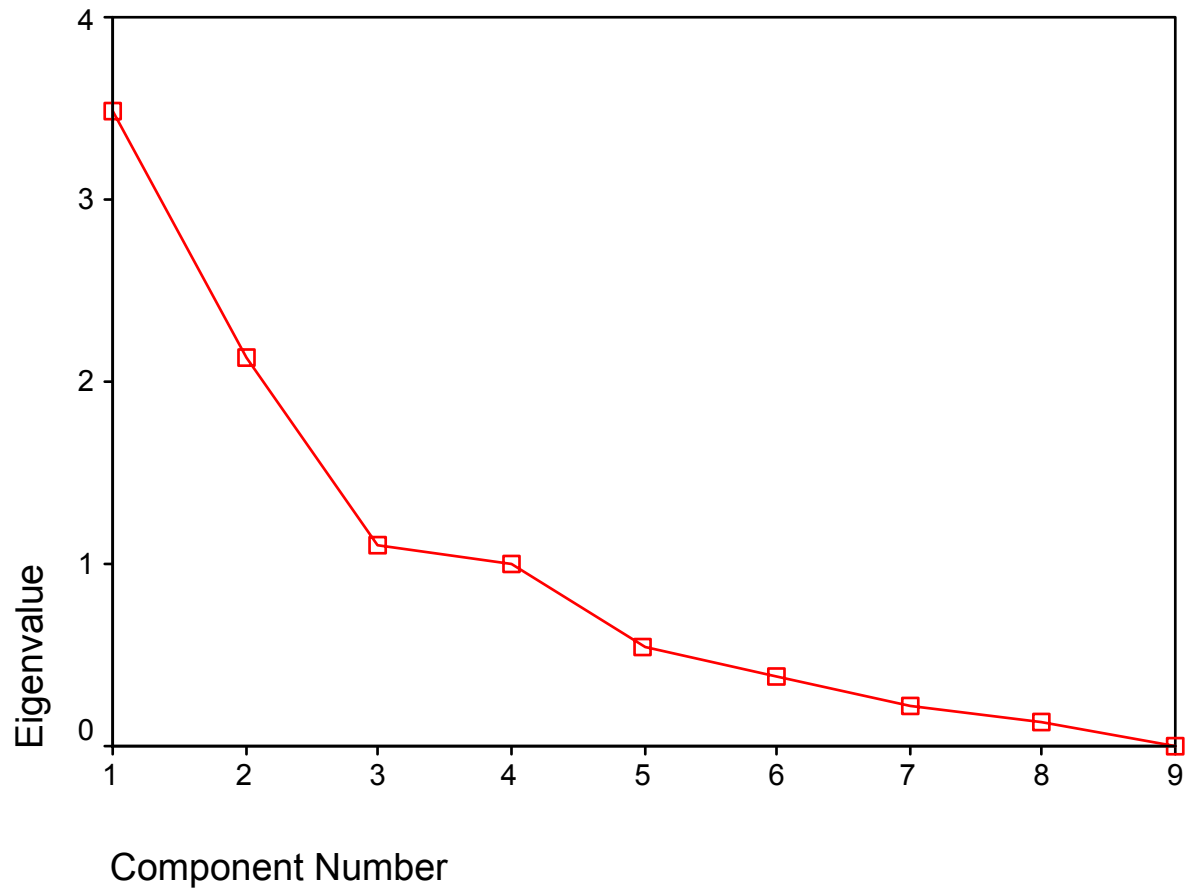
Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.487	38.746	38.746	3.487	38.746	38.746
2	2.130	23.669	62.415	2.130	23.669	62.415
3	1.099	12.211	74.625	1.099	12.211	74.625
4	.994	11.050	85.675			
5	.543	6.036	91.711			
6	.383	4.260	95.971			
7	.226	2.508	98.480			
8	.137	1.520	99.999			
9	4.563E-05	5.069E-04	100.000			

Extraction Method: Principal Component Analysis.

## Scree Plot



**Component Matrix<sup>a</sup>**

	Component		
	1	2	3
AGRIC	-.978	7.822E-02	-5.10E-02
MINING	-2.47E-03	.902	.211
MANU	.649	.518	.158
POWER	.478	.381	.588
CONSTR	.607	7.486E-02	-.161
SERVICE	.708	-.511	.121
FINANCE	.139	-.662	.616
SOCIAL	.723	-.323	-.327
TRANS	.685	.296	-.393

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

### Component Score Coefficient Matrix

	Component		
	1	2	3
AGRIC	-.280	.037	-.046
MINING	-.001	.423	.192
MANU	.186	.243	.144
POWER	.137	.179	.535
CONSTR	.174	.035	-.146
SERVICE	.203	-.240	.110
FINANCE	.040	-.311	.560
SOCIAL	.207	-.152	-.298
TRANS	.196	.139	-.358

Extraction Method: Principal Component Analysis.

### Component Score Covariance Matrix

Component	1	2	3
1	1.000	.000	.000
2	.000	1.000	.000
3	.000	.000	1.000

Extraction Method: Principal Component Analysis.

## 2 Components

### Communalities

	Initial	Extraction
AGRIC	1.000	.963
MINING	1.000	.813
MANU	1.000	.690
POWER	1.000	.373
CONSTR	1.000	.374
SERVICE	1.000	.762
FINANCE	1.000	.458
SOCIAL	1.000	.628
TRANS	1.000	.557

Extraction Method: Principal Component Analysis.

### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.487	38.746	38.746	3.487	38.746	38.746
2	2.130	23.669	62.415	2.130	23.669	62.415
3	1.099	12.211	74.625			
4	.994	11.050	85.675			
5	.543	6.036	91.711			
6	.383	4.260	95.971			
7	.226	2.508	98.480			
8	.137	1.520	99.999			
9	4.563E-05	5.069E-04	100.000			

Extraction Method: Principal Component Analysis.

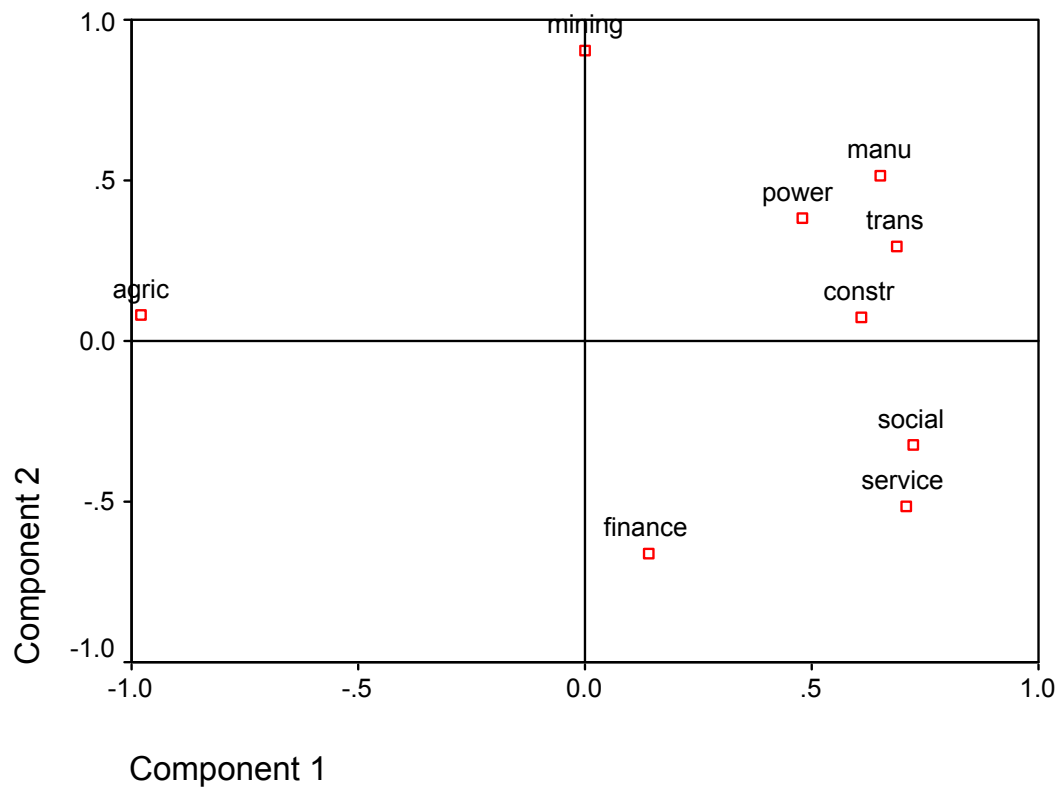
### Component Matrix<sup>a</sup>

	Component	
	1	2
AGRIC	-.978	7.822E-02
MINING	-2.47E-03	.902
MANU	.649	.518
POWER	.478	.381
CONSTR	.607	7.486E-02
SERVICE	.708	-.511
FINANCE	.139	-.662
SOCIAL	.723	-.323
TRANS	.685	.296

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

## Component Plot



### Component Score Coefficient Matrix

	Component	
	1	2
AGRIC	-.280	.037
MINING	-.001	.423
MANU	.186	.243
POWER	.137	.179
CONSTR	.174	.035
SERVICE	.203	-.240
FINANCE	.040	-.311
SOCIAL	.207	-.152
TRANS	.196	.139

Extraction Method: Principal Component Analysis.

Component Scores.