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# LAMPIRAN



**Lampiran 1. Data Persentase Tingkat Kemiskinan di Kabupaten/kota Provinsi Sulawesi Selatan Tahun 2017**

No	Kabupaten/Kota	HCI	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>
1	Selayar	13.28	1	34.79	95.63	39.85	33.37	26.78	61.27	72.53	38.62
2	Bulukumba	7.97	0	43.08	96.62	48.75	30.39	20.86	66.85	73.08	78.56
3	Bantaeng	9.66	0	53.05	87.96	33.46	45.15	21.39	59.93	25.85	55.39
4	Jeneponto	15.4	1	45.17	85.55	41.29	40.09	18.62	66.67	89.64	51.95
5	Takalar	9.24	0	38.42	86.99	50.65	27.1	22.25	63.49	88.66	63.24
6	Gowa	8.42	0	30.3	89.91	47.58	23.07	29.35	62.94	64.58	77.72
7	Sinjai	9.24	0	37	96.9	64.62	43.91	9.47	62.92	72.45	82.11
8	Maros	11.14	1	36.76	93.11	46.81	28.58	24.61	59.75	77.26	71.96
9	Pangkajene Kepulauan	16.22	1	29.7	92.19	55.81	17.15	27.18	63.84	65.17	57.38
10	Barro	9.71	0	48.92	98.11	61.75	22.84	15.41	59.25	37.66	60.61
11	Bone	10.28	0	40.49	89.78	39.97	41.34	18.69	63.17	51.33	54.02
12	Soppeng	8.29	0	42.03	95.84	33.99	55.74	10.27	66.13	46.57	85.63
13	Wajo	7.38	0	47.88	81.68	52.51	36.36	11.13	63.75	75.79	69.28
14	Sidrap	5.32	0	30.07	92.86	60.9	20.12	18.89	68.12	94.08	65.14
15	Pinrang	8.46	0	27.72	91.52	54.77	26.43	18.8	63.45	79.57	78.41
16	Enrekang	13.16	1	29.47	99.36	32.25	62.3	5.45	60.71	27.56	70.47
17	Luwu	14.01	1	25.77	92.22	49.39	41	9.61	61.94	68.39	44.41
18	Tana Toraja	12.62	1	49.23	87.45	33.78	64.94	1.28	64.8	19.11	76.27
19	Luwu Utara	14.33	1	31.42	92.43	38.23	48.66	13.11	60.48	65.59	72.02
20	Luwu Timur	7.66	0	36.9	88.8	41.4	49.63	8.97	65.38	79.84	43.43
21	Toraja utara	14.41	1	45.09	92.79	24.82	64.53	10.65	66.96	61.15	90.38
22	Makassar	4.59	0	8.79	100	54.82	0	45.18	60.18	100	81.7
23	Pare-Pare	5.7	0	26.7	97.16	61.62	4.92	33.46	59.38	100	69.84
24	Palopo	8.78	0	14.24	99.55	56.01	7.19	36.8	60.61	63.52	75.4



**Lampiran 2. Hasil Output Software SPSS untuk Matriks Korelasi**

		Correlations							
		x1	x2	x3	x4	x5	x6	x7	x8
x1	Pearson Correlation	1	-.548**	-.408*	.606**	-.612**	.316	-.475*	-.116
	Sig. (2-tailed)		.006	.048	.002	.001	.133	.019	.591
	N	24	24	24	24	24	24	24	24
x2	Pearson Correlation	-.548**	1	.253	-.312	.342	-.371	.001	.300
	Sig. (2-tailed)	.006		.234	.137	.101	.074	.997	.154
	N	24	24	24	24	24	24	24	24
x3	Pearson Correlation	-.408*	.253	1	-.782**	.431*	-.204	.534**	.012
	Sig. (2-tailed)	.048	.234		.000	.035	.338	.007	.954
	N	24	24	24	24	24	24	24	24
x4	Pearson Correlation	.606**	-.312	-.782**	1	-.877**	.341	-.607**	.019
	Sig. (2-tailed)	.002	.137	.000		.000	.103	.002	.931
	N	24	24	24	24	24	24	24	24
x5	Pearson Correlation	-.612**	.342	.431*	-.877**	1	-.380	.512*	.034
	Sig. (2-tailed)	.001	.101	.035	.000		.067	.011	.875
	N	24	24	24	24	24	24	24	24
x6	Pearson Correlation	.316	-.371	-.204	.341	-.380	1	.145	.125
	Sig. (2-tailed)	.133	.074	.338	.103	.067		.498	.561
	N	24	24	24	24	24	24	24	24
x7	Pearson Correlation	-.475*	.001	.534**	-.607**	.512*	.145	1	-.040
	Sig. (2-tailed)	.019	.997	.007	.002	.011	.498		.852
	N	24	24	24	24	24	24	24	24
x8	Pearson Correlation	-.116	.300	.012	.019	.034	.125	-.040	1
	Sig. (2-tailed)	.591	.154	.954	.931	.875	.561	.852	
	N	24	24	24	24	24	24	24	24

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).



**Lampiran 3.** Hasil Output *Software SPSS* untuk Nilai VIF dan TOL

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	15.161	34.716		.437	.669		
x1	-.048	.097	-.158	-.491	.630	.400	2.499
x2	-.026	.195	-.038	-.131	.897	.501	1.994
x3	.008	.208	.025	.036	.972	.086	11.652
x4	.146	.227	.807	.642	.531	.026	38.274
x5	.100	.284	.321	.354	.729	.050	19.957
x6	-.028	.330	-.023	-.085	.933	.560	1.786
x7	-.021	.049	-.142	-.426	.676	.372	2.688
x8	-.075	.054	-.321	-1.402	.181	.787	1.270

a. Dependent Variable: hcl



**Lampiran 4. Hasil Standarisasi Data Persentase Tingkat Kemiskinan di Kabupaten/kota Provinsi Sulawesi Selatan Tahun 2017**

No	Kabupaten/ Kota	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>
1	Selayar	1	-0.06938	0.61137	-0.64299	-0.07797	0.73303	-0.64132	0.26202	-2.0469
2	Bulukumba	0	0.696264	0.81682	0.171502	-0.24229	0.16857	1.428412	0.2865	0.808809
3	Bantaeng	0	1.617073	-0.9803	-1.22778	0.571602	0.21911	-1.13835	-1.8149	-0.84785
4	Jeneponto	1	0.889292	-1.4805	-0.51121	0.292583	-0.045	1.361647	1.02331	-1.09381
5	Takalar	0	0.265876	-1.1816	0.345383	-0.42371	0.30111	0.182122	0.97971	-0.28657
6	Gowa	0	-0.48407	-0.5757	0.064428	-0.64593	0.97807	-0.02188	-0.0917	0.748749
7	Sinjai	0	0.134727	0.87492	1.623867	0.503226	-0.9174	-0.0293	0.25846	1.062634
8	Maros	1	0.112561	0.08841	-0.00604	-0.3421	0.52613	-1.20512	0.47248	0.336908
9	Pangkajene Kepulauan	1	-0.53949	-0.1025	0.817608	-0.97237	0.77117	0.311944	-0.0655	-0.70556
10	Barru	0	1.235635	1.12603	1.361215	-0.65862	-0.3511	-1.39058	-1.2895	-0.47462
11	Bone	0	0.457057	-0.6027	-0.63201	0.361511	-0.0383	0.063427	-0.6812	-0.9458
12	Soppeng	0	0.599288	0.65495	-1.17928	1.155556	-0.8412	1.16135	-0.893	1.314314
13	Wajo	0	1.139583	-2.2836	0.515604	0.086904	-0.7592	0.278561	0.40707	0.145288
14	Sidrap	0	-0.50531	0.03652	1.283426	-0.8086	-0.0193	1.899481	1.22087	-0.15072
15	Pinrang	0	-0.72236	-0.2416	0.722431	-0.46066	-0.0278	0.167285	0.57526	0.798084
16	Enrekang	1	-0.56073	1.38544	-1.33852	1.517287	-1.3007	-0.84904	-1.7389	0.230373
17	Luwu	1	-0.90245	-0.0963	0.230072	0.342763	-0.9041	-0.3928	0.07782	-1.63292
18	Tana Toraja	1	1.264266	-1.0862	-1.1985	1.662862	-1.6983	0.668027	-2.1148	0.645074
19	Luwu Utara	1	-0.38063	-0.0527	-0.79125	0.76515	-0.5704	-0.93435	-0.0468	0.341198
20	Luwu Timur	0	0.125491	-0.806	-0.50114	0.818638	-0.9651	0.88316	0.58727	-1.70299
21	Toraja Utara	1	0.881904	0.022	-2.01849	1.640254	-0.8049	1.469214	-0.2443	1.65394
22	Makassar	0	-2.47069	1.51825	0.727006	-1.91806	2.48741	-1.04562	1.48427	1.033319
23	Pare-Pare	0	-0.81656	0.92888	1.349318	-1.64676	1.36995	-1.34236	1.48427	0.185328
24	Palopo	0	-1.96734	1.42487	0.835911	-1.52159	1.68841	-0.88613	-0.1389	0.582869



**Lampiran 5.** Hasil pendugaan parameter dengan metode *Ordinary Least Square* (OLS) menggunakan *Software Minitab16*.

**Regression Analysis: Y versus X1\_norm, X2\_norm, ...**

The regression equation is

$$Y = 0.375 - 0.115 X1\_norm + 0.038 X2\_norm - 0.297 X3\_norm - 0.028 X4\_norm - 0.203 X5\_norm - 0.089 X6\_norm + 0.097 X7\_norm - 0.097 X8\_norm$$

Predictor	Coef	SE Coef	T	P
Constant	0.37500	0.09955	3.77	0.002
X1_norm	-0.1146	0.1607	-0.71	0.487
X2_norm	0.0383	0.1436	0.27	0.794
X3_norm	-0.2969	0.3471	-0.86	0.406
X4_norm	-0.0281	0.6291	-0.04	0.965
X5_norm	-0.2032	0.4543	-0.45	0.661
X6_norm	-0.0889	0.1359	-0.65	0.523
X7_norm	0.0968	0.1667	0.58	0.570
X8_norm	-0.0974	0.1146	-0.85	0.409

S = 0.487676    R-Sq = 36.6%    R-Sq(adj) = 2.8%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	8	93.79	11.72	1.15	0.388
Residual Error	15	152.92	10.19		
Total	23	246.71			





**Lampiran 6.** Output program pendugaan parameter dengan metode *maximum likelihood* dan *ridge* dengan Iterasi *Method of Scoring* dengan menggunakan *software MATLAB 2009*

Bml =

-0.4339  
-0.3836  
0.0754  
-1.5450  
-1.1092  
-1.2081  
-0.2996  
0.2942  
-0.2694

Brr =

-0.1674  
-0.0780  
0.0779  
-0.2265  
0.1810  
-0.1263  
-0.0528  
0.0046  
-0.1729



**Lampiran 7. Sintaks Metode *Maximum Likelihood Estimator* (MLE) dan Metode *Ridge* menggunakan *software MATLAB 2009***

```

clear; clc;
format long
Y = [1;0;0;1;0;0;0;1;1;0;0;0;0;0;0;1;1;1;1;0;1;0;0;0];
X=[
1   -0.06938    0.61137    -0.64299    -0.07797    0.73303    -
0.64132    0.26202    -2.0469;
1   0.696264    0.81682    0.171502    -0.24229    0.16857
1.428412    0.2865    0.808809;
1   1.617073    -0.9803    -1.22778    0.571602    0.21911    -
1.13835    -1.8149    -0.84785;
1   0.889292    -1.4805    -0.51121    0.292583    -0.045
1.361647    1.02331    -1.09381;
1   0.265876    -1.1816    0.345383    -0.42371    0.30111
0.182122    0.97971    -0.28657;
1   -0.48407    -0.5757    0.064428    -0.64593    0.97807    -
0.02188    -0.0917    0.748749;
1   0.134727    0.87492    1.623867    0.503226    -0.9174    -
0.0293    0.25846    1.062634;
1   0.112561    0.08841    -0.00604    -0.3421    0.52613    -
1.20512    0.47248    0.336908;
1   -0.53949    -0.1025    0.817608    -0.97237    0.77117
0.311944    -0.0655    -0.70556;
1   1.235635    1.12603    1.361215    -0.65862    -0.3511    -
1.39058    -1.2895    -0.47462;
1   0.457057    -0.6027    -0.63201    0.361511    -0.0383
0.063427    -0.6812    -0.9458;
1   0.599288    0.65495    -1.17928    1.155556    -0.8412
1.16135    -0.893    1.314314;
1   1.139583    -2.2836    0.515604    0.086904    -0.7592
0.278561    0.40707    0.145288;
1   -0.50531    0.03652    1.283426    -0.8086    -0.0193
1.899481    1.22087    -0.15072;
1   -0.72236    -0.2416    0.722431    -0.46066    -0.0278
0.167285    0.57526    0.798084;
1   -0.56073    1.38544    -1.33852    1.517287    -1.3007    -
0.84904    -1.7389    0.230373;
1   -0.90245    -0.0963    0.230072    0.342763    -0.9041    -
0.3928    0.07782    -1.63292;
1   1.264266    -1.0862    -1.1985    1.662862    -1.6983
0.668027    -2.1148    0.645074;
1   -0.38063    -0.0527    -0.79125    0.76515    -0.5704    -
0.93435    -0.0468    0.341198;
1   0.125491    -0.806    -0.50114    0.818638    -0.9651
0.88316    0.58727    -1.70299;
1   0.881904    0.022    -2.01849    1.640254    -0.8049
1.469214    -0.2443    1.65394;
1   -2.47069    1.51825    0.727006    -1.91806    2.48741    -
1.04562    1.48427    1.033319;
1   -0.81656    0.92888    1.349318    -1.64676    1.36995    -
1.48427    0.185328;
0.96734    1.42487    0.835911    -1.52159    1.68841    -
-0.1389    0.582869];
h(Y);

```



## Lampiran 7. (Lanjutan)

```
%nilai beta OLS
b0=[0.3750;-0.1146;0.0383;-0.2969;-0.0281;-0.2032;-0.0889;0.0968;-
0.0974];
iterasi=100;

%iterasi untuk MLE
for m=1:iterasi
    for i=1:n
        a(i)=normcdf(X(i,:)*b0);
        ze(i)=norminv(a(i))+((Y(i)-a(i))/(a(i)*(1-a(i)))));
        We(i,i)=1/((1/(a(i)*(1-a(i)))^2)*a(i)*(1-a(i)));
    end
    Bml=(inv(X'*We*X))*(X'*We*ze');
    b0=Bml;
end

[G,D]=eig(X'*We*X);
G'*D*G;
X'*We*X;
S=G*Bml;
Yml=(X*Bml);
Zml=normcdf(Yml);

%menghitung standar deviasi
for i=1:n
    a(i)=normcdf(X(i,:)*Bml);
    if Y==0
        d(i)=-1*sqrt(-2*(Y(i)*log(a(i))+(1-Y(i))*log(1-a(i))));
    else
        d(i)=sqrt(-2*(Y(i)*log(a(i))+(1-Y(i))*log(1-a(i))));
    end
end
S2=sum(d)/15;
lambda=max(diag(D));

%menghitung parameter ridge
for i=1:length(S)
    q(i)=lambda/((16*S2)+(lambda*S(i)));
    k(i)=1/q(i);
end

%menentukan parameter ridge
k11=max(k);
I=eye(9);
Brr=inv(X'*We*X+k11*I)*(X'*We*X*Bml);
Yrr=(X*Brr);
Zrr=normcdf(Yrr);
format short
for i=1:n
    if Zml(i)<0.5
        YtopiML(i)=0;
    else
        YtopiML(i)=1;
    end
    if Zrr(i)<0.5
        YtopiRR(i)=0;
    else
        YtopiRR(i)=1;
    end
end
```



## Lampiran 7. (Lanjutan)

```
else
    YtopiRR(i)=1;
end
end

%display%
Bml
q
k11
Brr
Yrr
Zrr
YtopiRR
```

