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Lampiran

Data Linier

obs	Y (Volume impor gula Ton)	X1 (Harga gula impor Rp/Ton)	X2 (GNP riil Indonesia Milyar Rp)	X3 (Harga gula lokal Rp/Ton)	DM (Kebijakan liberalisasi tata niaga gula)
1983	165829.0	786000.0	190504.0	350000.0	0.000000
1984	1756.000	1226000.	201992.0	400000.0	0.000000
1985	2571.000	740000.0	207103.0	425000.0	0.000000
1986	58750.00	465000.0	215366.0	425000.0	0.000000
1987	132880.0	340000.0	223097.0	467000.0	0.000000
1988	15021.00	359000.0	235992.0	514000.0	0.000000
1989	325476.0	672100.0	253598.0	600000.0	0.000000
1990	280978.0	834000.0	271958.0	650000.0	0.000000
1991	309290.0	713000.0	290859.0	708000.0	0.000000
1992	329762.0	696000.0	309649.0	792000.0	0.000000
1993	226403.0	664000.0	329776.0	792000.0	0.000000
1994	118840.0	803000.0	354641.0	792000.0	0.000000
1995	323635.0	1786000.	383798.0	910800.0	0.000000
1996	1107689.	1007000.	413798.0	910800.0	0.000000
1997	1188279.	1688000.	433246.0	961000.0	0.000000
1998	982984.0	2853000.	376380.0	2100000.	1.000000
1999	2187133.	1730000.	379558.0	2600000.	1.000000
2000	1556687.	1707000.	382659.0	3027000.	1.000000
2001	1284790.	1920000.	411132.0	3821000.	1.000000

Data log linear

obs	Ln(Y)	Ln(X1)	Ln(X2)	Ln(X3)	DM
1983	12.01871	13.57471	12.15743	12.76569	0.000000
1984	7.470794	14.01927	12.21598	12.89922	0.000000
1985	7.852050	13.51441	12.24097	12.95984	0.000000
1986	10.98105	13.04979	12.28009	12.95984	0.000000
1987	11.79720	12.73670	12.31536	13.05408	0.000000
1988	9.617205	12.79108	12.37155	13.14998	0.000000
1989	12.69304	13.41816	12.44351	13.30468	0.000000
1990	12.54603	13.63399	12.51340	13.38473	0.000000
1991	12.64203	13.47724	12.58059	13.47020	0.000000
1992	12.70613	13.45310	12.64319	13.58232	0.000000
1993	12.33007	13.40604	12.70617	13.58232	0.000000
1994	11.68553	13.59611	12.77886	13.58232	0.000000
1995	12.68737	14.39549	12.85787	13.72208	0.000000
1996	13.91779	13.82249	12.93313	13.72208	0.000000
1997	13.98802	14.33905	12.97906	13.77573	0.000000
1998	13.79835	14.86388	12.83835	14.55745	1.000000
1999	14.59810	14.36363	12.84676	14.77102	1.000000
2000	14.25807	14.35025	12.85490	14.92308	1.000000
2001	14.06611	14.46784	12.92667	15.15602	1.000000

Dependent Variable: Ln(Y)
Method: Least Squares
Date: 01/01/88 Time: 05:45
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-50.41828	17.56854	-2.869805	0.0124
Ln(X1)	-0.962208	0.920691	-1.045093	0.3137
Ln(X2)	6.597407	4.486366	1.470546	0.1635
Ln(X3)	-0.568598	3.163354	-0.179745	0.8599
DM	2.119516	3.880784	0.546157	0.5936

R-squared	0.657734	Mean dependent var	12.19230
Adjusted R-squared	0.559944	S.D. dependent var	2.015573
S.E. of regression	1.337065	Akaike info criterion	3.639765
Sum squared resid	25.02840	Schwarz criterion	3.888302
Log likelihood	-29.57777	F-statistic	6.725972
Durbin-Watson stat	1.877653	Prob(F-statistic)	0.003084

Coefficient Covariance Matrik

	C	Ln(X1)	Ln(X2)	Ln(X3)	DM
C	308.6536	0.785122	-46.22539	19.52625	-15.28174
Ln(X1)	0.785122	0.847673	-2.094531	1.049248	-1.719713
Ln(X2)	-46.22539	-2.094531	20.12748	-13.33199	15.65148
Ln(X3)	19.52625	1.049248	-13.33199	10.00681	-11.83410
DM	-15.28174	-1.719713	15.65148	-11.83410	15.06049

obs	Actual	Fitted	Residual	Residual Plot
1983	12.0187	9.46898	2.54974	
1984	7.47079	9.35161	-1.88081	
1985	7.85205	9.96777	-2.11572	
1986	10.9810	10.6729	0.30811	
1987	11.7972	11.1533	0.64391	
1988	9.61720	11.4172	-1.79995	
1989	12.6930	11.2005	1.49254	
1990	12.5460	11.4085	1.13757	
1991	12.6420	11.9540	0.68806	
1992	12.7061	12.3265	0.37967	
1993	12.3301	12.7872	-0.45714	
1994	11.6855	13.0839	-1.39837	
1995	12.6874	12.7565	-0.06915	
1996	13.9178	13.8044	0.11338	
1997	13.9880	13.5799	0.40816	
1998	13.7983	13.8216	-0.02325	
1999	14.5981	14.2370	0.36113	
2000	14.2581	14.2171	0.04100	
2001	14.0661	14.4450	-0.37887	

Dependent Variable: Ln(Y)
Method: Least Squares
Date: 01/01/88 Time: 05:54
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-48.26763	16.71627	-2.887464	0.0113
Ln(X1)	-0.720187	0.787931	-0.914023	0.3752
Ln(X2)	4.394718	1.918633	2.290546	0.0369
Ln(X3)	1.096857	0.821456	1.345261	0.2017

R-squared	0.650442	Mean dependent var	12.19230
Adjusted R-squared	0.580530	S.D. dependent var	2.015573
S.E. of regression	1.305416	Akaike info criterion	3.555584
Sum squared resid	25.56166	Schwarz criterion	3.754414
Log likelihood	-29.77805	F-statistic	9.303772
Durbin-Watson stat	1.868004	Prob(F-statistic)	0.001016

Coeficient Covariance Matrik

	C	Ln(X1)	Ln(X2)	Ln(X3)
C	279.4337	-0.914952	-28.92445	7.166579
Ln(X1)	-0.914952	0.620835	-0.292956	-0.287924
Ln(X2)	-28.92445	-0.292956	3.681153	-0.985145
Ln(X3)	7.166579	-0.287924	-0.985145	0.674789

Obs	Actual	Fitted	Residual	Residual Plot
1983	12.0187	9.38665	2.63206	. . *
1984	7.47079	9.47029	-1.99949	* . . .
1985	7.85205	10.0102	-2.15815	* . . .
1986	10.9810	10.5167	0.46431	. . * .
1987	11.7972	11.0006	0.79662	. . * .
1988	9.61720	11.3135	-1.69634	* . . .
1989	12.6930	11.3478	1.34521	. . *
1990	12.5460	11.5874	0.95866	. . * .
1991	12.6420	12.0893	0.55274	. . * .
1992	12.7061	12.5048	0.20136	. . * .
1993	12.3301	12.8154	-0.48534	. * . .
1994	11.6855	12.9980	-1.31246	* . . .
1995	12.6874	12.9228	-0.23544	. * . .
1996	13.9178	13.6662	0.25155	. . * .
1997	13.9880	13.5549	0.43312	. . * .
1998	13.7983	13.4160	0.38235	. . * .
1999	14.5981	14.0475	0.55062	. . * .
2000	14.2581	14.2597	-0.00160	. . * .
2001	14.0661	14.7459	-0.67979	. * . .

Uji Diagnosa

Multikolinearitas
Heteroskedastisitas
Autokorelasi

Uji Multikolinearitas

Dependent Variable: Ln(Y)
Method: Least Squares
Date: 01/01/88 Time: 05:45
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-50.41828	17.56854	-2.869805	0.0124
Ln(X1)	-0.962208	0.920691	-1.045093	0.3137
Ln(X2)	6.597407	4.486366	1.470546	0.1635
Ln(X3)	-0.568598	3.163354	-0.179745	0.8599
DM	2.119516	3.880784	0.546157	0.5936

R-squared	0.657734	Mean dependent var	12.19230
Adjusted R-squared	0.559944	S.D. dependent var	2.015573
S.E. of regression	1.337065	Akaike info criterion	3.639765
Sum squared resid	25.02840	Schwarz criterion	3.888302
Log likelihood	-29.57777	F-statistic	6.725972
Durbin-Watson stat	1.877653	Prob(F-statistic)	0.003084

Corelation Matrik

	DM	Ln(X1)	Ln(X2)	Ln(X3)
DM	1.000000	0.682523	0.499723	0.896209
Ln(X1)	0.682523	1.000000	0.674936	0.739080
Ln(X2)	0.499723	0.674936	1.000000	0.809517
Ln(X3)	0.896209	0.739080	0.809517	1.000000

Coefficient Covariance Matrik

	C	Ln(X1)	Ln(X2)	Ln(X3)	DM
C	308.6536	0.785122	-46.22539	19.52625	-15.28174
Ln(X1)	0.785122	0.847673	-2.094531	1.049248	-1.719713
Ln(X2)	-46.22539	-2.094531	20.12748	-13.33199	15.65148
Ln(X3)	19.52625	1.049248	-13.33199	10.00681	-11.83410
DM	-15.28174	-1.719713	15.65148	-11.83410	15.06049

Metode Klein

Dependent Variable: Ln(X1)
Method: Least Squares
Date: 01/01/88 Time: 06:02
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.303238	4.788299	-0.898699	0.3814
Ln(X2)	1.432392	0.379803	3.771409	0.0015

R-squared	0.455539	Mean dependent var	13.75122
Adjusted R-squared	0.423512	S.D. dependent var	0.590912
S.E. of regression	0.448660	Akaike info criterion	1.334200
Sum squared resid	3.422035	Schwarz criterion	1.433614
Log likelihood	-10.67490	F-statistic	14.22352
Durbin-Watson stat	0.919345	Prob(F-statistic)	0.001522

Dependent Variable: Ln(X1)
Method: Least Squares
Date: 01/01/88 Time: 06:03
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.383646	1.852070	2.906827	0.0098
Ln(X3)	0.613074	0.135522	4.523786	0.0003

R-squared	0.546239	Mean dependent var	13.75122
Adjusted R-squared	0.519547	S.D. dependent var	0.590912
S.E. of regression	0.409589	Akaike info criterion	1.151974
Sum squared resid	2.851970	Schwarz criterion	1.251389
Log likelihood	-8.943755	F-statistic	20.46464
Durbin-Watson stat	0.934328	Prob(F-statistic)	0.000300

Dependent Variable: Ln(X1)
Method: Least Squares
Date: 01/01/88 Time: 06:05
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.54851	0.114743	118.0772	0.0000
DM	0.962891	0.250076	3.850391	0.0013

R-squared	0.465837	Mean dependent var	13.75122
Adjusted R-squared	0.434416	S.D. dependent var	0.590912
S.E. of regression	0.444397	Akaike info criterion	1.315103
Sum squared resid	3.357306	Schwarz criterion	1.414518
Log likelihood	-10.49348	F-statistic	14.82551
Durbin-Watson stat	0.882557	Prob(F-statistic)	0.001283

Dependent Variable: Ln(X2)
Method: Least Squares
Date: 01/01/88 Time: 06:05
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.53448	0.064077	195.6167	0.0000
DM	0.332193	0.139652	2.378717	0.0294

R-squared	0.249723	Mean dependent var	12.60441
Adjusted R-squared	0.205589	S.D. dependent var	0.278435
S.E. of regression	0.248168	Akaike info criterion	0.149880
Sum squared resid	1.046986	Schwarz criterion	0.249294
Log likelihood	0.576143	F-statistic	5.658294
Durbin-Watson stat	0.268073	Prob(F-statistic)	0.029362

Dependent Variable: Ln(X3)
Method: Least Squares
Date: 01/01/88 Time: 06:06
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.32767	0.083963	158.7318	0.0000
DM	1.524220	0.182994	8.329337	0.0000

R-squared	0.803190	Mean dependent var	13.64856
Adjusted R-squared	0.791613	S.D. dependent var	0.712362
S.E. of regression	0.325189	Akaike info criterion	0.690481
Sum squared resid	1.797715	Schwarz criterion	0.789896
Log likelihood	-4.559569	F-statistic	69.37786
Durbin-Watson stat	0.437509	Prob(F-statistic)	0.000000

Dependent Variable: Ln(X2)
Method: Least Squares
Date: 01/01/88 Time: 06:09
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.285890	0.760595	10.89396	0.0000
Ln(X3)	0.316409	0.055655	5.685145	0.0000

R-squared	0.655318	Mean dependent var	12.60441
Adjusted R-squared	0.635043	S.D. dependent var	0.278435
S.E. of regression	0.168207	Akaike info criterion	-0.627942
Sum squared resid	0.480991	Schwarz criterion	-0.528527
Log likelihood	7.965447	F-statistic	32.32088
Durbin-Watson stat	0.374308	Prob(F-statistic)	0.000027

Dependent Variable: Ln(Y)
Method: Least Squares
Date: 01/01/88 Time: 05:54
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-48.26763	16.71627	-2.887464	0.0113
Ln(X1)	-0.720187	0.787931	-0.914023	0.3752
Ln(X2)	4.394718	1.918633	2.290546	0.0369
Ln(X3)	1.096857	0.821456	1.345261	0.2017

R-squared	0.650442	Mean dependent var	12.19230
Adjusted R-squared	0.580530	S.D. dependent var	2.015573
S.E. of regression	1.305416	Akaike info criterion	3.555584
Sum squared resid	25.56166	Schwarz criterion	3.754414
Log likelihood	-29.77805	F-statistic	9.303772
Durbin-Watson stat	1.868004	Prob(F-statistic)	0.001016

Matrik Korelasi

	Ln(X1)	Ln(X2)	Ln(X3)
Ln(X1)	1.000000	0.674936	0.739080
Ln(X2)	0.674936	1.000000	0.809517
Ln(X3)	0.739080	0.809517	1.000000

Coeficient Covariance Matrik

	C	Ln(X1)	Ln(X2)	Ln(X3)
C	279.4337	-0.914952	-28.92445	7.166579
Ln(X1)	-0.914952	0.620835	-0.292956	-0.287924
Ln(X2)	-28.92445	-0.292956	3.681153	-0.985145
Ln(X3)	7.166579	-0.287924	-0.985145	0.674789

Uji Klein

Dependent Variable: Ln(X1)
Method: Least Squares
Date: 01/01/88 Time: 06:02
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.303238	4.788299	-0.898699	0.3814
Ln(X2)	1.432392	0.379803	3.771409	0.0015

R-squared	0.455539	Mean dependent var	13.75122
Adjusted R-squared	0.423512	S.D. dependent var	0.590912
S.E. of regression	0.448660	Akaike info criterion	1.334200
Sum squared resid	3.422035	Schwarz criterion	1.433614
Log likelihood	-10.67490	F-statistic	14.22352
Durbin-Watson stat	0.919345	Prob(F-statistic)	0.001522

Dependent Variable: Ln(X1)
Method: Least Squares
Date: 01/01/88 Time: 06:03
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.383646	1.852070	2.906827	0.0098
Ln(X3)	0.613074	0.135522	4.523786	0.0003

R-squared	0.546239	Mean dependent var	13.75122
Adjusted R-squared	0.519547	S.D. dependent var	0.590912
S.E. of regression	0.409589	Akaike info criterion	1.151974
Sum squared resid	2.851970	Schwarz criterion	1.251389
Log likelihood	-8.943755	F-statistic	20.46464
Durbin-Watson stat	0.934328	Prob(F-statistic)	0.000300

Dependent Variable: Ln(X2)
Method: Least Squares
Date: 01/01/88 Time: 06:09
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.285890	0.760595	10.89396	0.0000
Ln(X3)	0.316409	0.055655	5.685145	0.0000

R-squared	0.655318	Mean dependent var	12.60441
Adjusted R-squared	0.635043	S.D. dependent var	0.278435
S.E. of regression	0.168207	Akaike info criterion	-0.627942
Sum squared resid	0.480991	Schwarz criterion	-0.528527
Log likelihood	7.965447	F-statistic	32.32088
Durbin-Watson stat	0.374308	Prob(F-statistic)	0.000027

Uji Heteroskedastisitas (*Metode Glesjer*)

Heteroskedasticity Test
Dependent Variable: ARES1
Method: Least Squares
Date: 01/01/88 Time: 05:40
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	26.51387	7.294674	3.634688	0.0027
Ln(X1)	0.463494	0.382282	1.212438	0.2454
Ln(X2)	-3.117792	1.862794	-1.673718	0.1164
Ln(X3)	0.548923	1.313464	0.417921	0.6823
DM	-1.075691	1.611349	-0.667572	0.5153

R-squared	0.612535	Mean dependent var	0.855080
Adjusted R-squared	0.501831	S.D. dependent var	0.786565
S.E. of regression	0.555166	Akaike info criterion	1.881834
Sum squared resid	4.314928	Schwarz criterion	2.130371
Log likelihood	-12.87743	F-statistic	5.533083
Durbin-Watson stat	2.281163	Prob(F-statistic)	0.006933

Heteroskedasticity Test
Dependent Variable: ARES2
Method: Least Squares
Date: 01/01/98 Time: 03:03
Sample: 1983 2001
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.64540	17.90591	1.264688	0.2253
Ln(X1)	0.466069	0.844005	0.552212	0.5889
Ln(X2)	-0.950957	2.055176	-0.462713	0.6502
Ln(X3)	-1.298658	0.879916	-1.475889	0.1607

R-squared	0.361703	Mean dependent var	-0.656644
Adjusted R-squared	0.234043	S.D. dependent var	1.597732
S.E. of regression	1.398318	Akaike info criterion	3.693081
Sum squared resid	29.32940	Schwarz criterion	3.891910
Log likelihood	-31.08427	F-statistic	2.833340
Durbin-Watson stat	2.836795	Prob(F-statistic)	0.073693