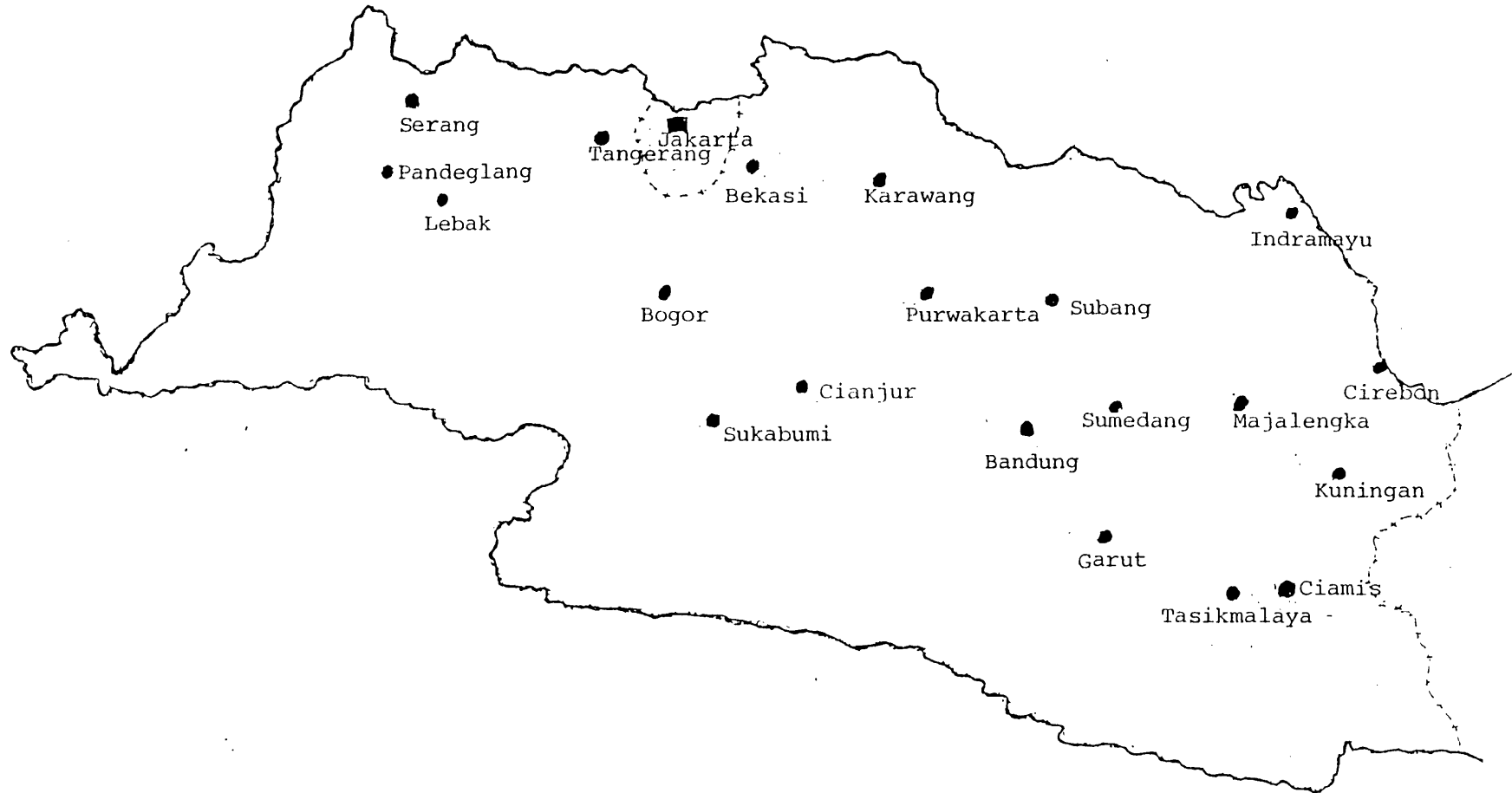


APPENDICES

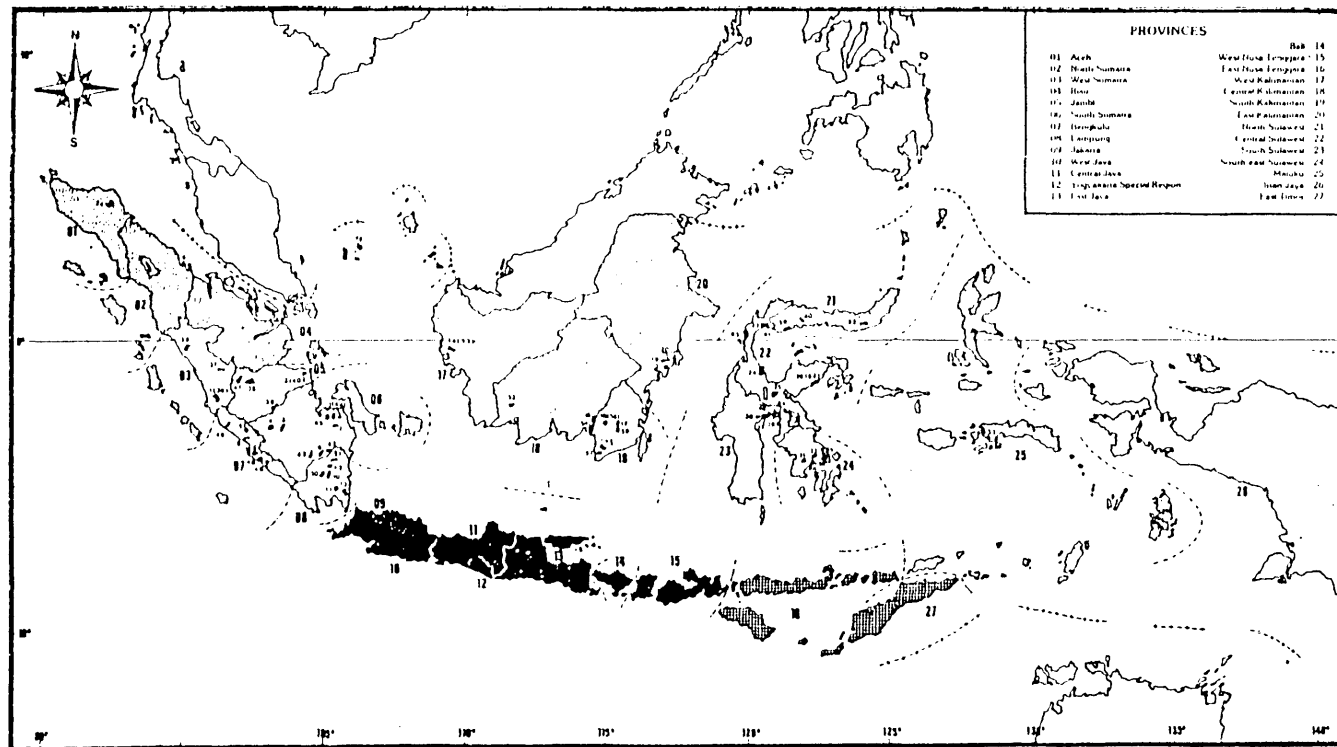
Appendix 1

Map of West Java

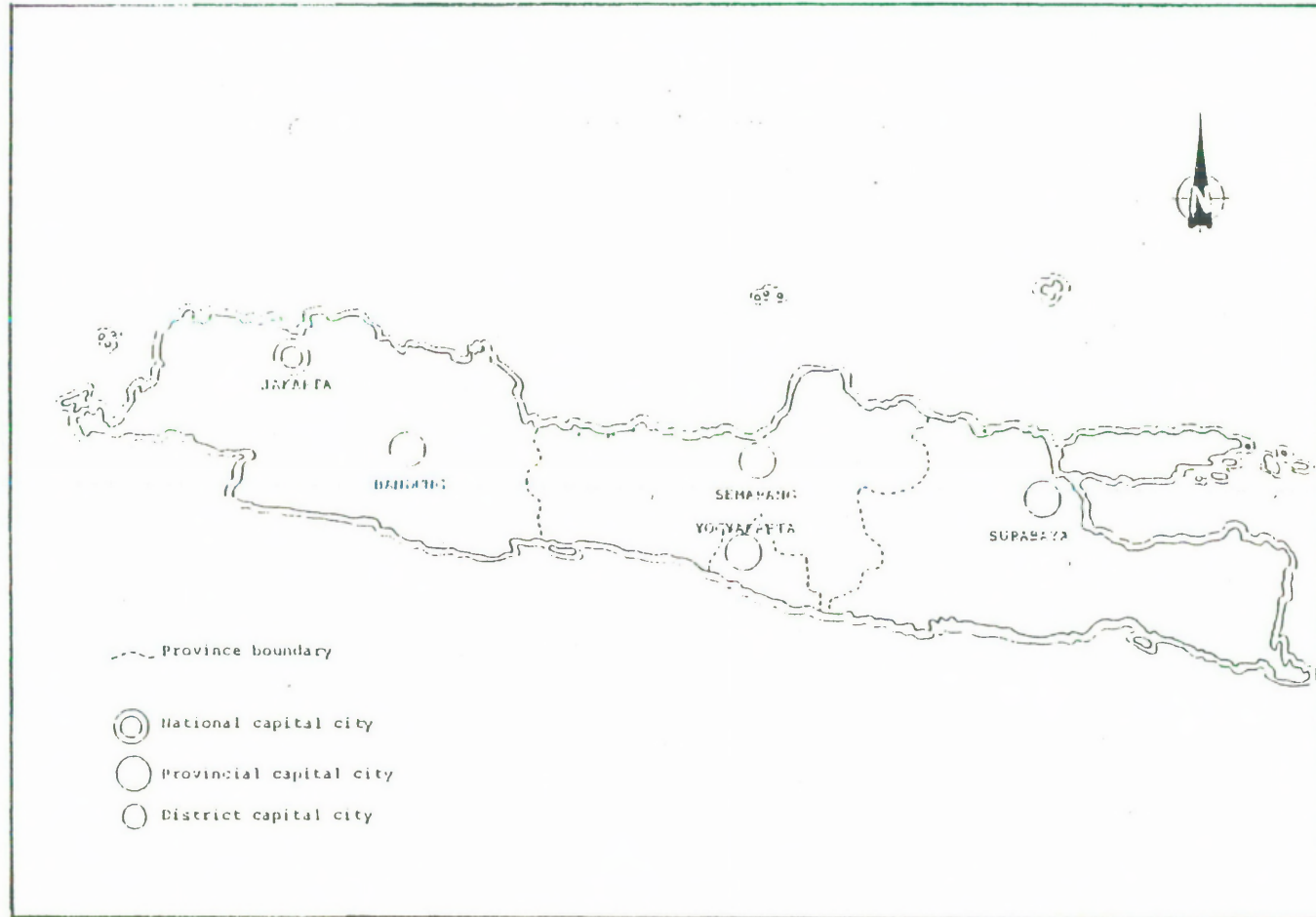


Appendix 2

MAP OF INDONESIA



Appendix 3



Map of Java

Appendix 4

The Area and the Population of the Provinces in Java

Province	Area ^a	Percentage	Population ^b	Percentage
	(sq.km)	(%)	(million)	(%)
West Java	46 300	2.43	34 163	19.02
Central Java (included Madura island)	34 206	1.80	28 873	16.07
East Java	47 922	2.52	32 763	18.24
Yogyakarta	3 169	0.17	2 983	1.66
Jakarta	590	0.03	9 099	5.07
Total	132 187	6.95	107 881	60.05
Total Indonesia	1 904 569	100.00	179 641	100.00

Source: ^a Central Bureau of Statistics (1976).

^b Central Bureau of Statistics (1983).

Appendix 5

Target of the Vegetable Intensification Program in West Java, 1987/1988

Periode/ Soil	Potatoes	Cabbages	Onions	Chillies	Chinese Cabbages	Tomatoes	Garlic	Other Vegetables	Total	Percentage
	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(%)
<u>1987</u>										
Wet-Field Rice	1 510	1 696	4 860	7 000	2 617	2 941	500	14 530	35 654	21.53
Dryland	6 875	6 194	2 080	3 985	2 238	1 819	220	16 550	39 916	24.11
Total A	8 385	7 845	6 940	10 985	4 855	4 760	720	21 080	75 570	45.64
<u>1987/1988</u>										
Field Rice	1 390	1 490	3 791	5 480	2 210	1 855	160	16 873	33 349	20.14
Dryland	7 990	8 460	2 214	5 235	3 315	2 705	465	26 352	56 666	34.22
Total B	9 380	9 950	6 005	10 715	5 525	4 560	625	43 225	90 015	54.36
Total A+B	17 765	17 795	12 945	21 700	10 380	9 320	1 345	74 335	165 585	100.00
Percentage	10.73	10.75	7.82	13.10	6.27	5.63	0.81	44.89	100.00	

Source: Governor's Instruction 1987/1988 (Adapted).

Appendix 6

Total Production of Potatoes in West Java, 1986-1988

No.	Regency	1986	1987	1988	Average (86-88)	Percentage
		(ton)	(ton)	(ton)	(ton)	(%)
1.	Pandeglang	2	2	---	1.33	0.01
2.	Subang	38	64	42	48.00	0.42
3.	Bogor	131	188	86	135.00	1.17
4.	Cianjur	1 486	800	767	1 017.67	8.84
5.	Bandung	5 343	4 948	5 036	5 109.00	44.36
6.	Sumedang	122	109	106	112.33	0.98
7.	Garut	3 344	2 271	2 771	3 128.67	27.17
8.	Tasikmalaya	2	---	---	0.67	0.006
9.	Kuningan	60	45	59	54.67	0.47
10.	Majalengka	1 142	2 023	1 815	1 660.00	14.41
11.	Sukabumi	167	173	358	232.67	2.02
12.	Bekasi	---	---	---	---	---
13.	Ciamis	---	1	---	0.33	0.003
14.	Indramayu	---	---	---	---	---
15.	Lebak	---	---	2	0.67	0.006
16.	Serang	---	---	---	---	---
17.	Tangerang	---	---	---	---	---
18.	Purwakarta	13	14	23	16.67	0.14
19.	Karawang	---	---	---	---	---
20.	Cirebon	---	---	---	---	---
		11 850	11 638	11 063	11 517.00	100.00

Source: Regional Government of West Java (1989).

Appendix 7

Total Production of Cabbages in West Java, 1986-1988

No.	Regency	1986	1987	1988	Average (86-88)	Percentage
		(ton)	(ton)	(ton)	(ton)	(%)
1.	Pandeglang	13	25	---	12.67	0.004
2.	Sukang	212	1 100	511	607.67	0.20
3.	BoGOR	237	1,655	521	804.33	0.27
4.	Cianjur	26 976	12 193	12 970	17 379.67	5.86
5.	Bardung	129 723	132 307	112 517	124 849.00	42.10
6.	Sumedang	759	483	803	681.67	0.23
7.	Garut	57 673	60 565	54 380	57 539.33	19.40
8.	Tasikmalaya	19	---	---	6.33	0.002
9.	Kuningan	623	912	758	764.33	0.26
10.	Majalengka	101 632	84 417	83 143	89 730.67	30.26
11.	Sukabumi	3 585	2 713	6 001	4 099.67	1.38
12.	Bekasi	---	---	---	---	---
13.	Ciamis	---	10	---	3.33	0.001
14.	Indramayu	---	---	---	---	---
15.	Lebak	---	---	8	2.67	0.0009
16.	Serang	---	---	---	---	---
17.	Tangerang	---	---	---	---	---
18.	Purwakarta	34	50	65	49.67	0.002
19.	Karawang	---	---	---	---	---
20.	Cirebon	---	---	---	---	---
		321 486	296 436	271 677	296 533.00	100.00

Source: Regional Government of West Java (1989).

Appendix 8

The Area of Potatoes Planted in Selected Subregencies in West Java for Every Quarter, 1986-1988

Regency/Subregency	1986					1987					1988				
	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total
-- hectare --															
<u>Bandung</u>															
Pangalengan	0	221	279	231	731	129	208	239	246	822	206	213	215	193	634
Ciwidey	179	259	96	133	667	119	127	220	131	597	112	104	125	66	341
<u>Garut</u>															
Cikajang	4661	1935	986	2320	9902	1986	1829	992	829	5636	3594	1001	1051	720	5646
Total	4840	2415	1361	2684	11300	2234	2164	1451	1206	7055	3912	1318	1391	979	6621

Source: Regional Government of West Java (1989) (for Appendices 8 to 11).

Appendix 9

The Area of Cabbages Planted in Selected Subregencies in West Java for Every Quarter, 1986-1988

Regency/Subregency	1986					1987					1988				
	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total
-- hectare --															
<u>Bandung</u>															
Pangalengan	200	529	446	497	1672	132	256	471	202	1061	273	212	437	233	1155
Lembang	0	262	374	416	1052	289	382	396	492	1559	352	396	429	488	1665
<u>Garut</u>															
Cikajang	236	91	130	111	568	145	91	38	87	361	200	66	40	72	378
<u>Cianjur</u>															
Cipanas	147	91	120	226	584	111	135	56	15	317	42	35	36	115	228
Total	503	973	1070	1250	3876	677	864	961	796	3298	867	709	942	908	3426

Notes :

QI = January - March
 QII = April - June
 QIII = July - September
 QIV = October - December

Appendix 10

The Production of Potatoes in Selected Subregencies in West Java for Every Quarter, 1986-1988

Regency/Subregency	1986					1987					1988				
	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total
-- ton --															
<u>Bandung</u>															
Pangalengan	3740	9318	15566	10926	39550	4800	5309	10322	5306	25737	780	10404	9416	5408	26008
Ciwidey	2896	3876	9084	1692	17548	1333	1841	3149	1594	7917	1428	1607	1771	8420	13226
<u>Garut</u>															
Cikajang	5988	1744	2634	2179	12545	2784	1752	7035	1557	13128	3600	1260	774	1488	7122
Total	12624	14938	27284	14797	69643	8917	8902	20506	8457	46782	5808	13271	11961	15316	46356

Appendix 11

The Production of Cabbages in Selected Subregencies in West Java for Every Quarter, 1986-1988

Regency/Subregency	1986					1987					1988				
	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total	QI	QII	QIII	QIV	Total
-- ton --															
<u>Bandung</u>															
Pangalengan	7800	17856	14170	15628	55454	4752	10911	15564	4971	36198	8190	6658	13459	7143	35450
Lembang	0	5140	5900	8500	19540	5500	7200	7800	8700	29200	5700	7550	7900	9400	30550
<u>Garut</u>															
Cikajang	5988	1744	2634	2179	12545	2784	1752	7035	1557	13128	3600	1260	774	1488	7122
<u>Cianjur</u>															
Cipanas	3190	1639	2154	3633	10616	1762	2074	898	228	4962	635	588	540	2380	4143
Total	16978	26379	24858	29940	98155	14798	21937	31297	15456	83488	18125	16056	22673	20411	77265

Notes :

QI = January - March
 QII = April - June
 QIII = July - September
 QIV = October - December

Appendix 12

Development of Infrastructure of Roads and Bridges, 1979/1980 - 1984/1985

Infrastructure	1979/1980	1980/1981	1981/1982	1982/1983	1983/1984	1984/1985*
--- kilometre ---						
<u>Roads</u>						
1. Maintenance	4 889	5 673	7 154	9 414	4 841	157
2. Improvement	936	1 685	2 367	3 272	2 488	3 502
3. Expansion	68	221	521	400	174	351
4. Supporting	21 074	18 583	16 566	18 381	15 943	1 128
----- metre -----						
<u>Bridges</u>						
1. Maintenance	6 075	8 010	8 013	8 212	10 749	755
2. Improvement	2 610	3 597	125	4 393	3 887	1 834
3. Expansion	375	1 454	2 105	2 108	826	115
4. Supporting	28 011	27 651	25 103	36 488	24 055	26 301

Source: Government of Republic of Indonesia (1985).

Notes: * Preliminary Reports

Appendix 13

The Regressions Used for Predicting the Missing Observations

1. Potatoes

Notes :

A = Price in Pangalengan
 B = ,, ,, Ciwidey
 C = ,, ,, Cikajang
 Fcal = Fcalculated from zero
 Ftest at the 1 per cent level = 3.78

Number of observations = 887.

(1) Missing in A = 37 observations.

It will be predicted by :

$$A = 20.23 + 0.33 C + 0.64 B \implies R^2 = 0.88, F_{cal} = 2460.28$$

(2) Missing in C = 25 observations.

It will be predicted by :

$$C = 3.98 + 0.34 A + 0.58 B \implies R^2 = 0.87, F_{cal} = 22256.66.$$

(3) Missing in B = 99 observations.

It will be predicted by :

$$B = 8.13 + 0.51 A + 0.46 C \implies R^2 = 0.90, F_{cal} = 3043.21$$

(4) Missing in A and C = 2 observations.

It will be predicted by :

$$A = 24.35 + 0.94 B \implies R^2 = 0.86, F_{cal} = 4284.68.$$

$$C = 12.33 + 0.91 B \implies R^2 = 0.85, F_{cal} = 3868.60.$$

(5) Missing in A and B = 13 observations.

It will be predicted by :

$$A = 37.87 + 0.93 C \implies R^2 = 0.82, F_{cal} = 3084.54.$$

$$B = 27.58 + 0.94 C \implies R^2 = 0.85, F_{cal} = 3868.60.$$

(5) Missing in A and D = 2 observations.

It will be predicted by :

$$A = -28.42 + 0.46 C + 0.65 B \quad \text{=====>} R^2 = 0.89, F_{cal}=1955.62.$$

$$D = -22.40 + 0.35 C + 0.58 B \quad \text{=====>} R^2 = 0.92, F_{cal}=2656.27.$$

(6) Missing in A and C = 8 observations.

It will be predicted by :

$$A = -14.46 + 0.49 D + 0.61 B \quad \text{=====>} R^2 = 0.89, F_{cal}=1899.35.$$

$$C = 19.15 + 0.46 D + 0.44 B \quad \text{=====>} R^2 = 0.89, F_{cal}=1887.77.$$

(7) Missing in A and B = 1 observation.

It will be predicted by :

$$A = -12.23 + 0.63 C + 0.52 D \quad \text{=====>} R^2 = 0.88, F_{cal}=1813.81.$$

$$B = 19.48 + 0.67 C + 0.39 D \quad \text{=====>} R^2 = 0.92, F_{cal}=2681.34$$

(8) Missing in C and B = 1 observation.

It will be predicted by :

$$C = 31.67 + 0.54 D + 0.34 A \quad \text{=====>} R^2 = 0.89, F_{cal}=1902.13.$$

$$B = 30.60 + 0.64 D + 0.34 A \quad \text{=====>} R^2 = 0.92, F_{cal}=2823.61.$$

(9) Missing in C and D = 1 observation.

It will be predicted by :

$$C = -12.52 + 0.26 A + 0.61 B \quad \text{=====>} R^2 = 0.91, F_{cal}=2539.92.$$

$$D = 18.18 + 0.33 A + 0.51 B \quad \text{=====>} R^2 = 0.89, F_{cal}=1856.03.$$

(10) Missing in A, B, D and E = 11 observations.

They will be deleted.

Appendix 14

Coefficients of the Model of Potatoes by Using the OLS Method for the Reference Market of Jakarta, 1986

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=294)</u>											
1. Pangalengan	0.86	25.49	0.18	2.31	0.13	4.17	0.96	0.96	57682.17	-4.68	Yes
2. Ciwidey	0.81	24.74	0.10	1.38*	0.17	5.84	0.96	0.96	56911.75	-5.04	Yes
3. Cikajang	0.81	24.13	0.11	1.50*	0.16	5.62	0.96	0.96	47242.08	-4.65	Yes

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78
 * not significant at $\alpha = 0.01$

Appendix 15

Coefficients of the Model of Potatoes by Using the OLS Method for the Reference Market of Bandung, 1986

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=294)</u>											
1. Pangalengan	0.95	41.78	0.12	3.30	0.04	2.14	0.96	0.96	56476.22	-5.04	Yes
2. Ciwidey	0.93	39.89	0.07	1.87	0.06	2.97	0.96	0.96	52659.48	-5.62	Yes
3. Cikajang	0.91	38.98	0.16	4.31	0.08	3.88	0.96	0.96	46664.43	-5.35	Yes

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 16

Coefficients of the Model of Potatoes and Cabbages by Using the OLS Method for the Reference Market of Jakarta, 1987

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=280)</u>											
1. Pangalengan	0.25	8.45	0.59	5.21	0.68	25.57	0.91	0.91	16781.80	11.03	Yes
2. Ciwidey	0.17	5.68	0.41	3.48	0.75	28.73	0.90	0.90	14031.57	8.75	Yes
3. Cikajang	0.10	5.12	0.27	3.77	0.76	45.56	0.96	0.96	35534.15	11.31	Yes
<u>Commodity: Cabbages (n=281)</u>											
1. Pangalengan	0.67	18.62	0.11	1.20*	0.23	9.30	0.86	0.86	3814.47	1.24	No
2. Lembang	0.46	13.70	0.25	3.52	0.43	16.08	0.92	0.92	9211.95	7.39	Yes
3. Cipanas	0.40	9.92	0.27	3.11	0.44	14.89	0.83	0.83	4843.66	6.60	Yes
4. Cikajang	0.60	17.57	0.12	1.64*	0.24	11.86	0.89	0.89	4754.46	8.23	Yes

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78
 * Not significant at $\alpha = 0.01$

Appendix 17

Coefficients of the Model of Potatoes and Cabbages by Using the OLS Method for the Reference Market of Bandung, 1987

Local Market	β_1		β_2		β_3		R ²	Adj. R ²	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=280)</u>											
1. Pangalengan	0.54	13.81	0.77	32.67	0.40	11.49	0.94	0.94	24270.03	3.20	Yes
2. Ciwidey	0.32	8.18	0.80	29.36	0.58	17.33	0.91	0.91	15853.32	4.37	Yes
3. Cikajang	0.17	5.10	0.78	42.17	0.68	24.61	0.96	0.96	33452.31	6.41	Yes
<u>Commodity: Cabbages (n=281)</u>											
1. Pangalengan	0.70	17.78	0.53	16.15	0.21	7.46	0.91	0.91	5840.68	-1.32	No
2. Lembang	0.64	19.17	0.57	22.97	0.29	10.62	0.95	0.95	14051.73	-0.24	No
3. Cipanas	0.46	9.85	0.65	20.34	0.40	11.45	0.88	0.88	7081.71	0.06	No
4. Cikajang	0.72	21.42	0.46	18.39	0.17	8.20	0.93	0.93	7364.25	3.84	Yes

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 18

Coefficients of the Model of Potatoes and Cabbages by Using the OLS Method for the Reference Market of Jakarta, 1988

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=297)</u>											
1. Pangalengan	0.61	17.92	0.33	4.21	0.34	11.37	0.93	0.93	16709.03	2.99	Yes
2. Ciwidey	0.56	17.05	0.35	5.13	0.38	13.59	0.94	0.94	20217.82	5.32	Yes
4. Cikajang	0.67	23.90	0.15	2.46	0.28	11.83	0.96	0.96	23370.43	4.26	Yes
<u>Commodity: Cabbages (n=278)</u>											
1. Pangalengan	0.80	25.70	0.17	4.14	0.13	5.91	0.93	0.93	3727.70	-1.59	No
2. Lembang	0.58	16.14	0.23	6.49	0.30	11.63	0.94	0.94	7680.06	1.37	No
3. Cipanas	0.67	17.45	0.53	16.48	0.23	8.68	0.92	0.92	5203.53	0.15	No
4. Cikajang	0.67	19.78	0.19	5.25	0.19	9.50	0.92	0.92	3549.72	-0.37	No

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 19

Coefficients of the Model of Potatoes and Cabbages by Using the OLS Method for the Reference Market of Bandung, 1988

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=297)</u>											
1. Pangalengan	0.80	24.64	0.83	27.20	0.18	5.99	0.97	0.97	41350.70	-1.66	Yes
2. Ciwidey	0.82	26.32	0.79	27.46	0.16	5.65	0.97	0.97	44420.92	-1.07	No
3. Cikajang	0.87	33.01	0.66	26.58	0.11	5.03	0.98	0.98	54920.50	-1.16	No
<u>Commodity: Cabbages (n=278)</u>											
1. Pangalengan	0.75	18.41	0.55	11.98	0.19	6.00	0.95	0.95	5235.22	-4.69	Yes
2. Lembang	0.58	13.21	0.31	7.69	0.34	9.51	0.94	0.94	7560.33	-0.08	No
3. Cipanas	0.57	15.37	0.44	8.21	0.34	11.67	0.89	0.89	3932.99	4.23	Yes
4. Cikajang	0.71	17.89	0.47	11.56	0.19	7.26	0.94	0.94	4495.71	-0.84	No

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 20

Coefficients of the Model of Potatoes and Cabbages by Using the OLS Method for the Reference Market of Jakarta,
for all Periods

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=873)</u>											
1. Pangalengan	0.49	24.53	0.41	7.62	0.46	25.65	0.94	0.94	52047.01	11.58	Yes
2. Ciwidey	0.39	20.05	0.36	7.16	0.53	31.27	0.94	0.94	52430.70	13.63	Yes
3. Cikajang	0.46	25.40	0.22	4.81	0.46	30.57	0.95	0.95	61003.81	14.12	Yes
<u>Commodity: Cabbages (n=562)</u>											
1. Pangalengan	0.74	30.91	0.19	4.87	0.18	10.74	0.90	0.90	7470.76	-0.13	No
2. Lembang	0.55	22.41	0.25	8.01	0.35	18.56	0.93	0.93	16011.87	6.63	Yes
3. Cipanas	0.52	18.05	0.49	14.55	0.35	17.03	0.88	0.88	9351.06	6.07	Yes
4. Cikajang	0.68	28.38	0.17	5.67	0.19	13.52	0.92	0.90	8938.50	4.83	Yes

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 21

Coefficients of the Model of Potatoes and Cabbages by Using the OLS Method for the Reference Market of Bandung,
for all Periods

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F cal	Durbin H	Autocor.
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.					
<u>Commodity: Potatoes (n=873)</u>											
1. Pangalengan	0.76	37.81	0.72	41.64	0.21	11.80	0.96	0.96	89001.03	-1.87	Yes
2. Ciwidey	0.65	30.62	0.71	37.32	0.30	16.13	0.95	0.95	66512.90	1.59	No
3. Cikajang	0.70	36.06	0.65	39.79	0.25	15.34	0.96	0.96	85802.65	2.33	Yes
<u>Commodity: Cabbages (n=562)</u>											
1. Pangalengan	0.73	26.23	0.53	20.37	0.20	9.59	0.94	0.93	11250.03	-3.97	Yes
2. Lembang	0.63	22.70	0.50	22.40	0.31	13.50	0.95	0.94	19982.49	-1.56	No
3. Cipanas	0.54	18.49	0.57	20.41	0.35	15.97	0.89	0.89	10430.93	2.94	Yes
4. Cikajang	0.78	31.79	0.46	22.98	0.14	8.77	0.94	0.94	13696.16	-0.38	No

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 22

Coefficients of the Model of Potatoes by Using the MA(1) Error Method for the Reference Market of Bandung, 1986

Local Market	β_1		β_2		β_3		R ²	Adj. R ²	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=294)</u>									
1. Pangalengan	1.00	67.84	0.13	4.00	-0.20	-0.13*	0.96	0.96	2488.00
2. Ciwidey	0.98	61.70	0.06	1.91*	0.02	1.11*	0.96	0.96	2344.41
3. Cikajang	0.96	60.76	0.15	4.48	0.03	2.38	0.96	0.96	2363.04

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78
 * Not significant at $\alpha = 0.01$

Appendix 23

Coefficients of the Model of Potatoes and Cabbages by Using the MA(1) Error Method for the Reference Market of Jakarta, 1987

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=280)</u>									
1. Pangalengan	0.05	2.40	0.52	7.92	0.85	41.94	0.94	0.94	1524.87
2. Ciwidey	0.05	1.73*	0.47	5.40	0.82	35.56	0.92	0.92	1062.33
3. Cikajang	0.01	1.11*	0.43	11.22	0.83	72.57	0.98	0.98	3632.70
<u>Commodity: Cabbages (n=281)</u>									
1. Pangalengan	0.58	11.94	0.16	1.69*	0.29	8.81	0.86	0.86	561.54
2. Lembang	0.22	6.26	0.31	6.06	0.62	21.70	0.94	0.93	1336.98
3. Cipanas	0.12	2.57	0.36	5.20	0.63	19.33	0.85	0.85	528.60
4. Cikajang	0.29	8.24	0.23	4.84	0.42	19.43	0.92	0.92	1037.82

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78
 * Not significant at $\alpha = 0.01$

Appendix 24

Coefficients of the Model of Potatoes and Cabbages by Using the MA(1) Error Method for the Reference Market of Bandung, 1987

Local Market	β_1		β_2		β_3		R ²	Adj. R ²	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=280)</u>									
1. Pangalengan	0.39	7.14	0.79	34.21	0.54	11.10	0.94	0.94	1508.00
2. Ciwidey	0.15	3.06	0.81	32.02	0.72	16.86	0.92	0.92	1024.50
3. Cikajang	0.05	1.40 [*]	0.78	47.88	0.78	26.80	0.96	0.96	2381.12
<u>Commodity: Cabbages (n=281)</u>									
1. Pangalengan	0.76	16.64	0.52	15.60	0.17	5.20	0.91	0.91	898.37
2. Lembang	0.65	16.35	0.57	22.82	0.29	8.73	0.95	0.95	1704.04
3. Cipanas	0.46	6.49	0.65	20.24	0.40	7.44	0.88	0.88	694.82
4. Cikajang	0.59	12.97	0.46	19.56	0.25	8.93	0.93	0.93	1291.97

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78
^{*} Not significant at $\alpha = 0.01$

Appendix 25

Coefficients of the Model of Potatoes and Cabbages by Using the MA(1) Error Method for the Reference Market of Jakarta, 1988

Local Market	β_1		β_2		β_3		R^2	Adj. R^2	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=297)</u>									
1. Pangalengan	0.48	10.43	0.38	5.20	0.46	11.18	0.94	0.94	1421.26
2. Ciwidey	0.29	6.90	0.42	7.91	0.42	16.93	0.95	0.95	1916.08
3. Cikajang	0.52	13.68	0.20	3.87	0.40	12.86	0.96	0.96	2406.61
<u>Commodity: Cabbages (n=278)</u>									
1. Pangalengan	0.83	24.76	0.17	4.12	0.11	4.74	0.93	0.93	1209.71
2. Lembang	0.54	11.87	0.24	6.45	0.33	10.01	0.94	0.94	1464.60
3. Cipanas	0.66	13.51	0.53	16.33	0.23	6.95	0.92	0.92	1040.43
4. Cikajang	0.69	16.40	0.18	4.70	0.18	7.36	0.92	0.92	1032.08

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 26

Coefficients of the Model of Potatoes and Cabbages by Using the MA(1) Error Method for the Reference Market of Bandung, 1988

Local Market	β_1		β_2		β_3		R ²	Adj. R ²	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=297)</u>									
1. Pangalengan	0.84	23.44	0.82	26.82	0.14	4.57	0.97	0.97	3574.01
2. Ciwidey	0.85	24.41	0.78	27.39	0.14	4.50	0.97	0.97	3793.44
3. Cikajang	0.88	32.38	0.66	26.73	0.10	4.29	0.98	0.98	5389.22
<u>Commodity: Cabbages (n=278)</u>									
1. Pangalengan	0.90	27.93	0.64	14.50	0.07	2.82	0.95	0.95	1864.41
2. Lembang	0.58	9.96	0.31	7.65	0.34	7.06	0.94	0.94	1433.43
3. Cipanas	0.32	6.71	0.45	10.29	0.52	14.26	0.90	0.90	850.25
4. Cikajang	0.75	15.40	0.46	11.22	0.16	5.22	0.94	0.94	1326.89

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 27

Coefficients of the Model of Potatoes and Cabbages by Using the MA(1) Error Method for the Reference Market of Jakarta, for all Periods

Local Market	β_1		β_2		β_3		R ²	Adj. R ²	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=873)</u>									
1. Pangalengan	0.21	9.07	0.46	11.50	0.70	33.35	0.94	0.94	4957.92
2. Ciwidey	0.13	6.47	0.44	12.24	0.75	42.16	0.95	0.95	5480.59
3. Cikajang	0.15	8.12	0.35	12.35	0.71	45.90	0.96	0.96	7313.13
<u>Commodity: Cabbages (n=562)</u>									
1. Pangalengan	0.74	26.06	0.19	4.81	0.18	9.02	0.90	0.90	1735.49
2. Lembang	0.41	13.74	0.32	10.73	0.45	19.96	0.94	0.94	2724.80
3. Cipanas	0.26	6.84	0.48	15.95	0.52	19.16	0.89	0.89	1477.69
4. Cikajang	0.54	16.70	0.24	8.15	0.27	14.47	0.92	0.92	2121.69

Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

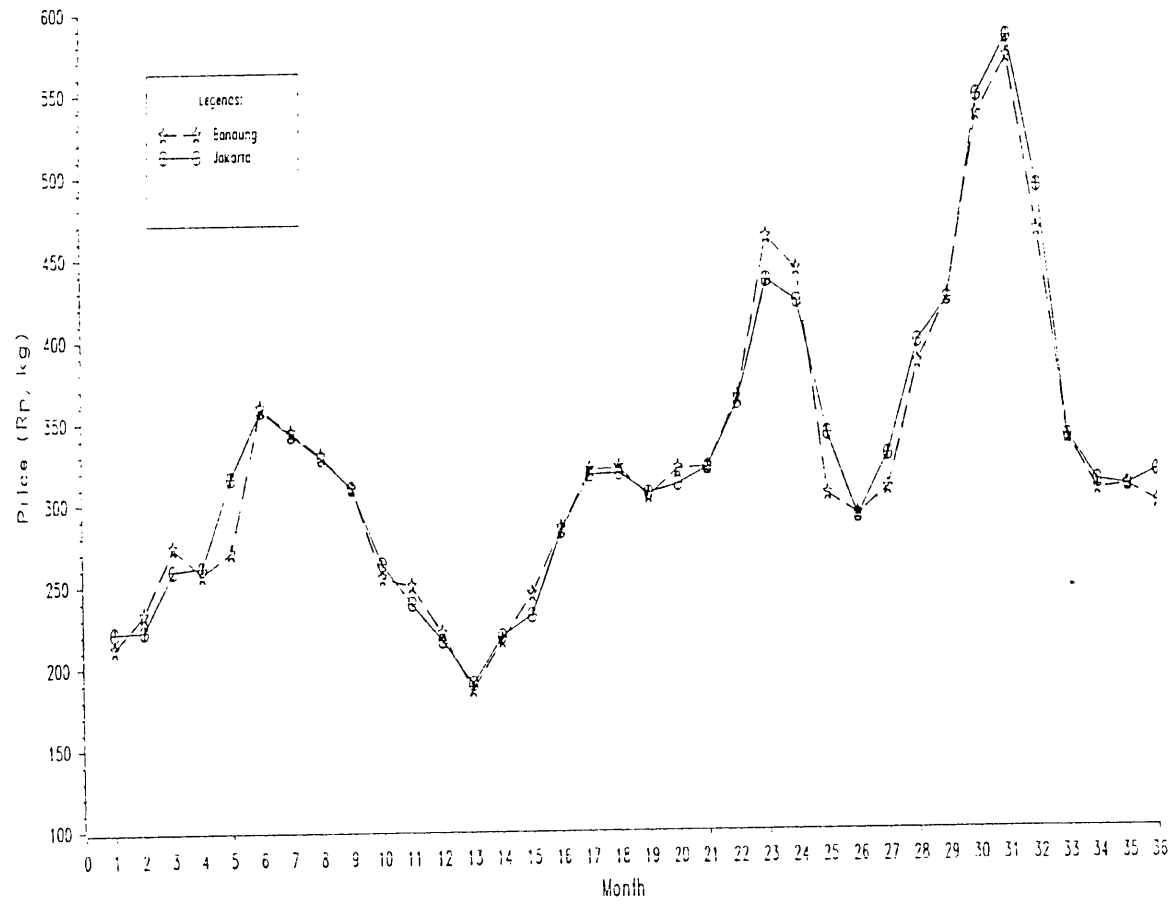
Appendix 28

Coefficients of the Model of Potatoes and Cabbages by Using the MA(1) Error Method for the Reference Market of Bandung, for all Periods

Local Market	β_1		β_2		β_3		R ²	Adj. R ²	F-cal
	Coef.	t-cal.	Coef.	t-cal.	Coef.	t-cal.			
<u>Commodity: Potatoes (n=873)</u>									
1. Pangalengan	0.79	34.47	0.71	41.45	0.19	8.97	0.96	0.96	7373.47
2. Ciwidey	0.61	21.04	0.71	37.58	0.34	13.36	0.95	0.95	5597.87
3. Cikajang	0.65	25.61	0.65	40.21	0.29	13.65	0.96	0.96	289.67
<u>Commodity: Cabbages (n=562)</u>									
1. Pangalengan	0.82	28.63	0.52	20.56	0.13	6.09	0.94	0.94	2761.70
2. Lembang	0.67	20.70	0.50	22.48	0.27	10.16	0.95	0.95	3220.59
3. Cipanas	0.40	9.79	0.59	21.66	0.45	14.69	0.89	0.89	1575.36
4. Cikajang	0.79	27.06	0.46	22.94	0.13	7.17	0.94	0.94	3171.40

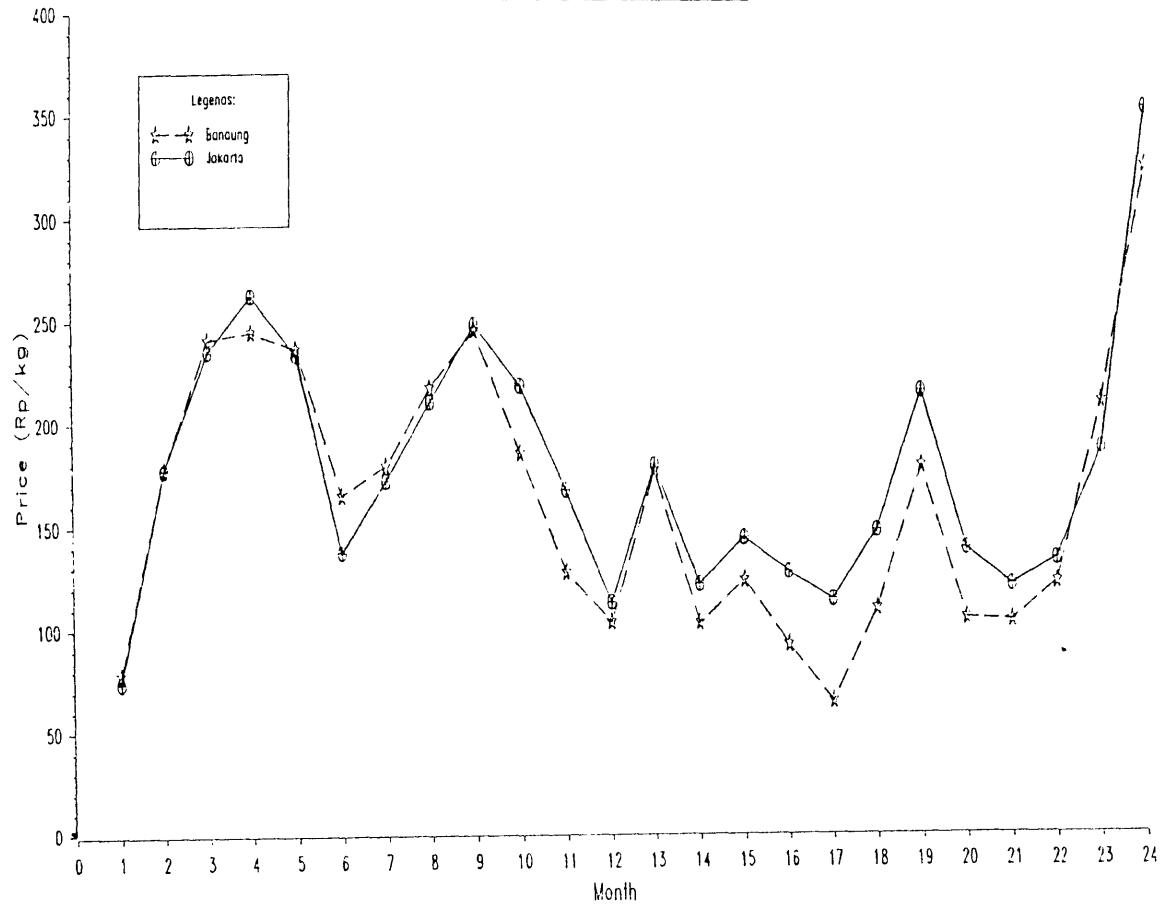
Notes: t_{table} at the 1 per cent level = 2.33
 F_{table} at the 1 per cent level = 3.78

Appendix 29
Monthly Prices of Potatoes in the Reference Markets of Jakarta
and Bandung, 1986-1988



Appendix 30

Monthly Prices of Cabbages in the Reference Markets of Jakarta
and Bandung, 1987-1988



Appendix 31

Monthly Prices in Bandung Compared to Those in Jakarta

Commodity/ Year	Price in Bandung Equal to Jakarta		Price in Bandung Greater than Jakarta	
	Number	Month	Number	Month
<u>Commodity: Potatoes</u>				
1986	6	(4,6,7,8,9, and 10)	4	(2,3,11, and 12)
1987	6	(1,4,5,6,9, and 10)	4	(3,8,11,and 12)
1988	5	(2,5,9,10, and 11)	0	
<u>Commodity: Cabbages</u>				
1987	4	(1,2,5, and 7)	3	(3,6, and 8)
1988	1	(1)	1	(12)

Notes: Number in parentheses is the symbol of the name of the month, such as follows:

1 = January; 2 = February; etc.

Appendix 32

Monthly Sources of Traded Potatoes in the Reference Market of Bandung, 1988

Province/Region	January	February	March	April	May	June	July	August	September	October	November	December	Total	Percentage
<u>West Java</u>														(%)
	—ton—													
Pangalengan	64.50	80.50	85.50	88.00	50.00	24.50	0.00	0.00	0.00	122.00	239.50	228.50	981.00	34.61
Ciwidey	45.50	88.00	93.50	117.50	32.00	11.50	0.00	0.00	0.00	54.50	93.50	96.00	632.00	22.25
Garut	106.00	119.50	98.00	104.00	47.00	19.50	0.00	0.00	0.00	110.00	260.00	162.00	1026.00	36.12
<u>Central Java</u>														
Dieng	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.50	170.70	0.00	199.20	7.01
Total	216.00	288.00	277.00	309.50	129.00	55.50	0.00	0.00	0.00	315.00	763.70	486.50	2840.20	100.00

Source: Subdirectorate of Marketing Information (1989).

Appendix 33

Monthly Sources of traded Cabbages in the Reference Market of Bandung, 1988

Province/Region	January	February	March	April	May	June	July	August	September	October	November	December	Total	Percentage
<u>West Java</u>														(%)
	—ton—													
Pangalengan	123.00	115.00	124.00	193.00	109.50	49.00	0.00	0.00	0.00	177.00	290.50	179.00	1360.00	46.92
Ciwidey	62.50	90.00	82.00	108.50	24.00	11.00	0.00	0.00	0.00	56.50	82.00	43.50	560.00	19.32
Garut	60.00	108.00	97.00	197.00	65.00	24.00	0.00	0.00	0.00	63.60	130.00	96.00	840.60	29.00
<u>Central Java</u>														
Dieng	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	118.00	0.00	138.00	4.76
Total	245.50	313.00	303.00	498.50	198.50	84.00	0.00	0.00	0.00	317.10	620.50	318.50	2098.60	100.00

Source : Subdirectorate of Marketing Information (1989).

Appendix 34

Monthly Sources of Traded Potatoes in the Reference Market of Jakarta, 1988

Province/Region	January	February	March	April	May	June	July	August	September	October	November	December	Total	Percentage
<u>West Java</u>														
Pangalengan	54.00	95.55	101.50	72.00	0.00	57.50	71.00	150.00	126.00	63.50	132.00	162.00	1085.05	26.85
Ciwidey	71.50	109.50	96.00	53.50	0.00	45.50	59.50	125.00	106.00	55.50	117.00	155.00	994.00	24.59
Garut	12.50	86.00	83.50	54.00	0.00	49.50	60.00	123.50	103.00	51.50	114.00	128.50	866.00	21.43
<u>Central Java</u>														
Monosobo	0.00	0.00	0.00	31.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	58.50	1.45
Dieng	0.00	0.00	0.00	16.00	0.00	0.00	35.00	131.50	112.00	52.50	28.00	0.00	375.00	9.28
<u>East Java</u>														
Malang	0.00	10.00	48.50	31.00	0.00	0.00	15.00	11.00	69.50	44.00	89.50	88.50	407.00	10.07
<u>North Sumatra</u>														
Medan	71.00	185.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	256.00	6.33
Total	209.00	486.05	329.50	258.00	0.00	152.50	240.50	541.00	516.50	267.00	480.50	561.00	4041.55	100.00

Source: Subdirectorate of Marketing Information (1989).

Appendix 35

Monthly Sources of traded Cabbages in the Reference Market of Jakarta, 1988

Province/Region	January	February	March	April	May	June	July	August	September	October	November	December	Total	Percentage
<u>West Java</u>														
Pangalengan	39.50	75.00	78.70	57.00	0.00	37.50	61.50	149.00	125.30	60.90	56.50	35.00	775.90	30.56
Ciwidey	58.00	90.00	84.40	59.00	0.00	53.00	63.00	139.00	121.70	60.80	54.00	0.00	782.90	30.83
Lebabang	72.50	102.50	107.40	71.50	0.00	54.50	76.50	167.00	132.40	65.40	60.00	50.50	960.20	37.82
<u>Central Java</u>														
Monosobo	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.79
Total	170.00	267.50	270.50	207.50	0.00	145.00	201.00	455.00	379.40	187.10	170.50	85.50	2539.00	100.00

Source: Subdirectorate of Marketing Information (1989).

Appendix 36

The Calculation of the Test of the IMC of Potatoes for the
Reference Markets of Jakarta and Bandung, for all Periods

Local/ Reference Markets	Pangalengan	Ciwidey	Cikajang
Bandung	4.16	1.79	2.24
Jakarta	0.30	0.17	0.21

d	3.86	1.62	2.03
d ²	14.90	2.62	4.12

Hence :

$$n = 3$$

$$\Sigma d = 7.51$$

$$\Sigma d^2 = 21.64$$

$$(\Sigma d)^2 = 56.40$$

The Average of the IMC for Bandung = 2.73

The Average of the IMC for Jakarta = 0.2267

$$Sd^2 = \frac{21.64 - \frac{56.40}{3}}{3 - 1} = 1.42 \quad Sd = \sqrt{1.42} = 1.192$$

$$t = \frac{2.73 - 0.2267}{1.192 / \sqrt{3}} = 3.64$$

t_{table} at the 5 percent level (n=2) = 2.92

Conclusion : t_{cal} is significant.

Table 37

The Calculation of the Test of the IMC of Cabbages for the Reference
Markets of Jakarta and Bandung, for all Samples

Local/ Reference Markets	Pangalengan	Lembang	Cipanas	Cikajang
Bandung	6.31	2.48	0.89	6.08
Jakarta	4.22	0.91	0.50	2.00
d	2.09	1.57	0.39	4.08
d ²	4.37	2.46	0.15	16.65

Hence :

$$n = 4$$

$$\Sigma d = 8.13$$

$$\Sigma d^2 = 23.63$$

$$(\Sigma d)^2 = 66.10$$

$$\text{The Average of the IMC for Bandung} = 3.94$$

$$\text{The Average of the IMC for Jakarta} = 1.91$$

$$Sd^2 = \frac{23.63 - \frac{66.10}{4}}{4 - 1} = 2.368 \quad Sd = \sqrt{Sd^2} = 1.539$$

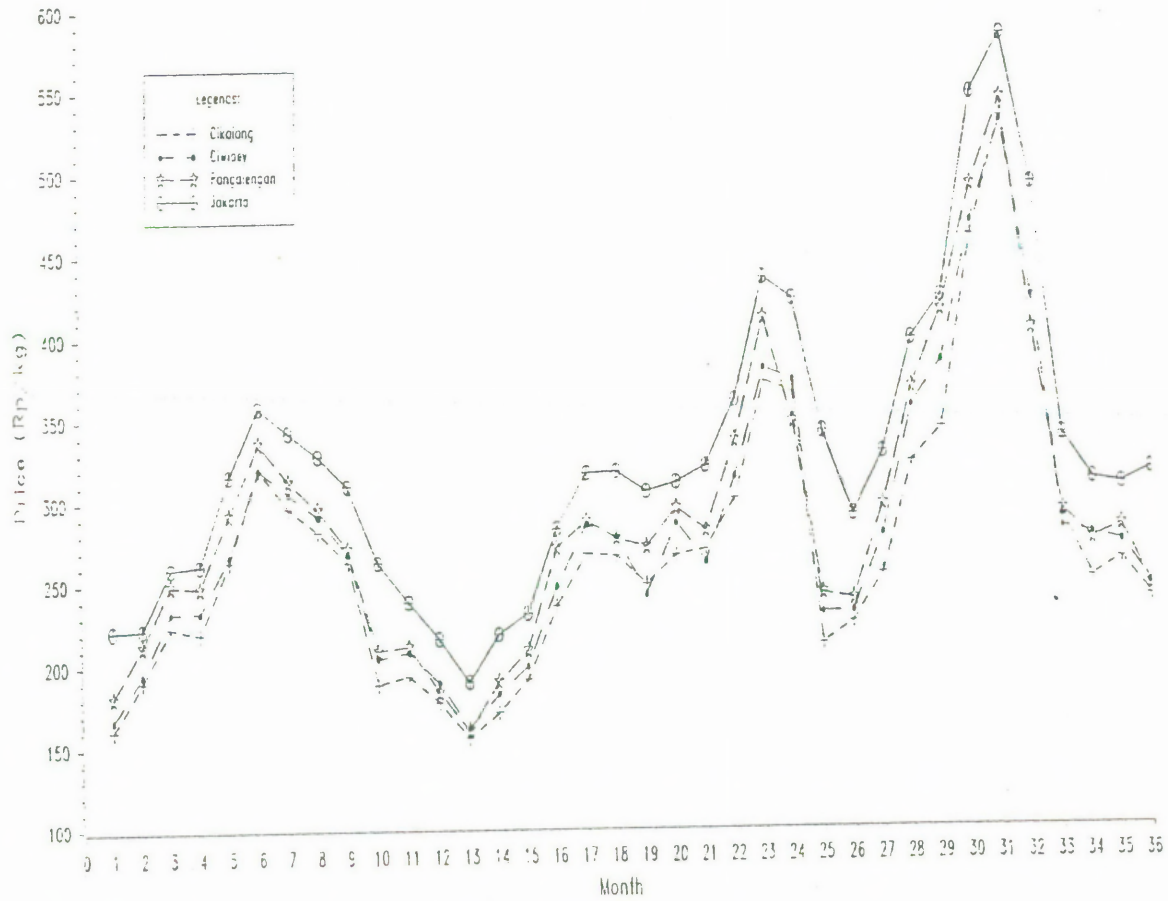
$$t = \frac{3.94 - 1.91}{1.539 / \sqrt{4}} = 2.64$$

$$t_{\text{table}} \text{ at the 5 percent level (n=3)} = 2.35$$

Conclusion : t_{cal} is significant.

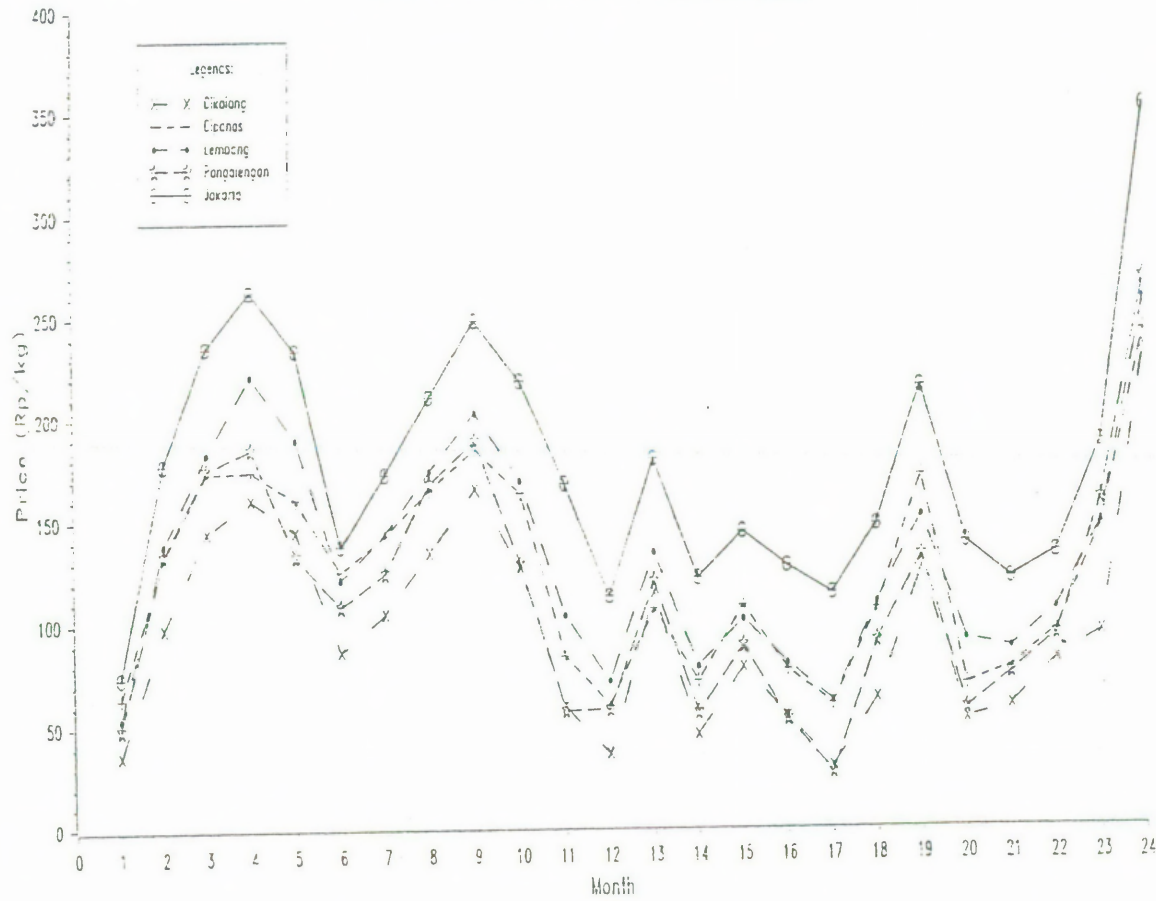
Appendix 38

Monthly Prices of Potatoes in the Reference Market of Jakarta
and Local Markets, 1986-1988



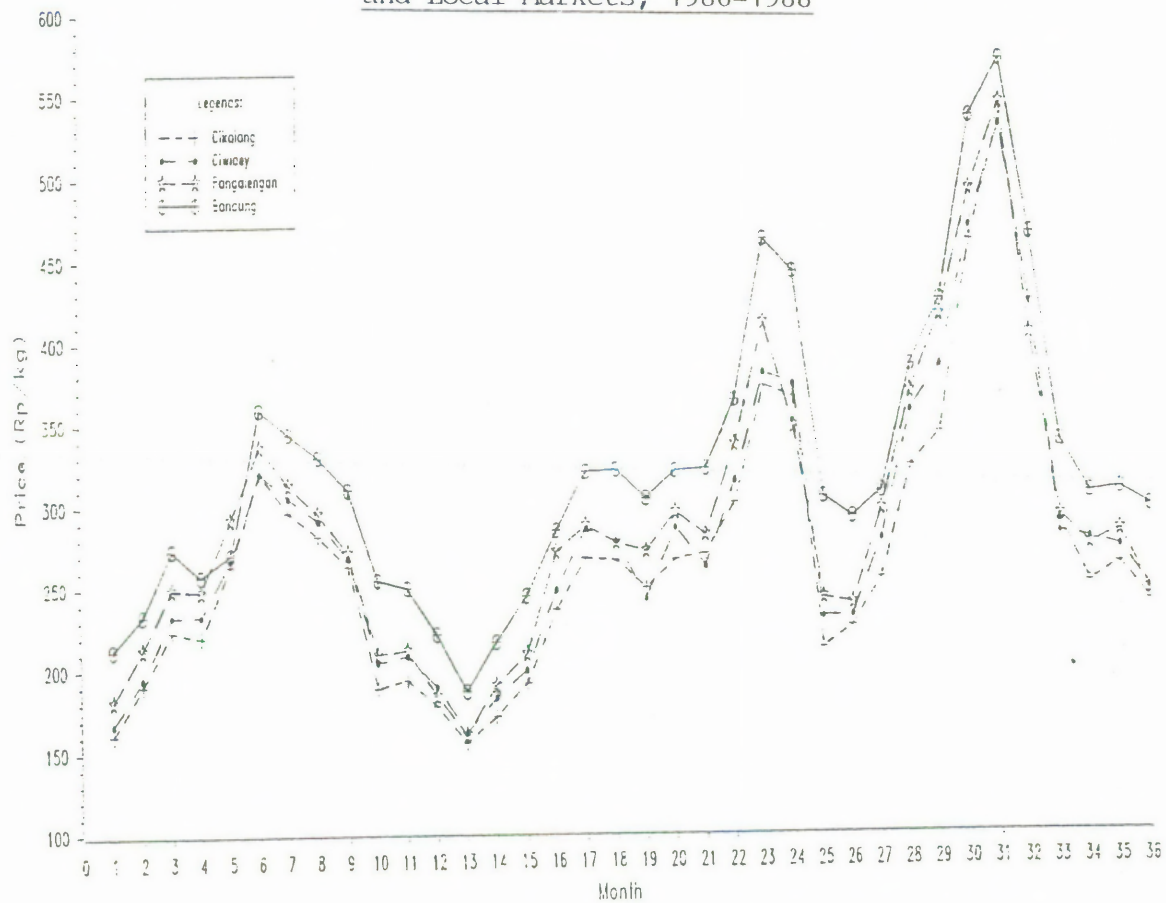
Appendix 39

Monthly Prices of Cabbages in the Reference Market of Jakarta
and Local Markets, 1987-1988



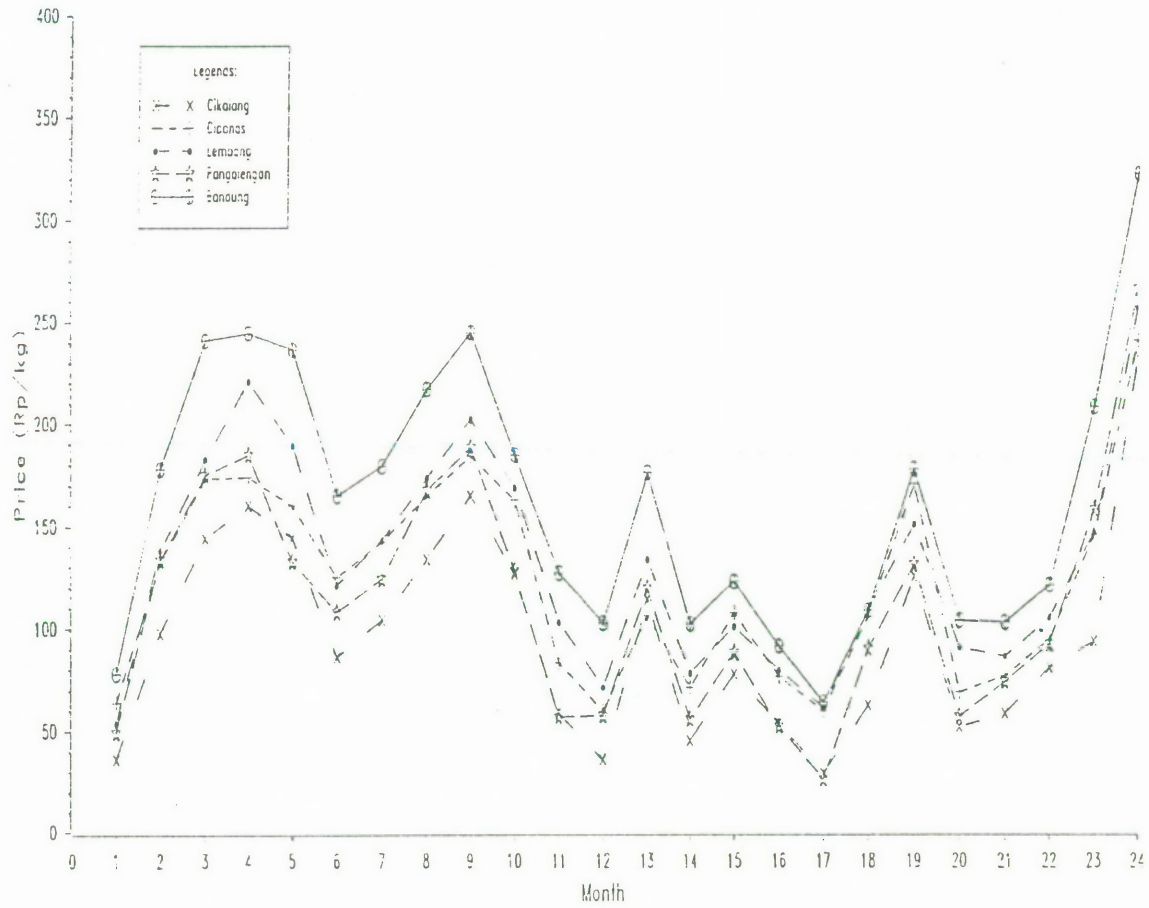
Appendix 40

Monthly Prices of Potatoes in the Reference Market of Bandung
and Local Markets, 1986-1988



Appendix 41

Monthly Prices of Cabbages in the Reference Market of Bandung
and Local Markets, 1987-1988



Appendix 42

The Calculation of the Test of the IMC of Potatoes and Cabbages, for
all Periods

Commodity	Jakarta		Bandung	
	Pangalengan	Cikajang	Pangalengan	Cikajang
Cabbages	4.22	2.00	6.31	6.08
Potatoes	0.30	0.21	4.16	2.24
d	3.92	1.79	2.15	3.84
d ²	15.37	3.20	4.62	14.75

Hence :

$$n = 4$$

$$\Sigma d = 11.70$$

$$\Sigma d^2 = 37.94$$

$$(\Sigma d)^2 = 136.89$$

The Average of the IMC of Cabbages = 4.65

The Average of the IMC of Potatoes = 1.73

$$Sd^2 = \frac{37.94 - 136.89/4}{4 - 1} = 3.7175 \quad Sd = \sqrt{Sd^2} = 1.9281$$

$$t = \frac{4.65 - 1.73}{1.9281/\sqrt{4}} = 3.03$$

t_{table} at the 5 per cent level (n=3) = 2.35

Conclusion : t_{cal} is significant.

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