

APPENDIX

Variables Data of Districts/Cities in Riau Province on Period 2010-2014

Year	Districts/Cities	Local Revenue	Total Pop	Gov. Spend	GRDP
2010	kuantan seningi	21193525	291044	811096146	13469.98
2011	kuantan seningi	25116050	294468	1053882538	15700.83
2012	kuantan seningi	36165266	302631	1330440116	17947.24
2013	kuantan seningi	46272301	306718	1580039279	20366.1
2014	kuantan seningi	50156701	310619	1378347822	23982.72
2010	indragiri hulu	38362438	362961	865675039	17576.98
2011	indragiri hulu	46851206	372074	1242662518	22174.31
2012	indragiri hulu	64831009	383814	1703415404	25814.51
2013	indragiri hulu	57348332	392354	1954558476	29572.45
2014	indragiri hulu	47451732	400901	1713523083	33805.08
2010	indragiri hilir	50635882	662305	1101393371	27444.56
2011	indragiri hilir	55879647	675898	1543258780	33660.79
2012	indragiri hilir	64178156	676419	1843879959	37326.46
2013	indragiri hilir	80512228	685530	1970916457	41692.7
2014	indragiri hilir	82115777	694614	2132052264	47842.72
2010	pelalawan	38382026	303021	1129036006	16923.58
2011	pelalawan	46649862	329539	1508402055	19270.38
2012	pelalawan	55689510	339869	1809391437	21660.96
2013	pelalawan	71443864	358210	1997292719	24513.07
2014	pelalawan	89065500	377221	2090584158	37864.19
2010	siak	262896648	377232	2339814507	45005.57
2011	siak	198010053	391760	2423051096	48832.45
2012	siak	346603960	404093	2994448474	52715.81
2013	siak	348618602	416298	3197243871	57515.71
2014	siak	266247427	428499	2806523994	85443.59
2010	kampar	125726736	686030	1842978340	27835.23
2011	kampar	96909123	711236	1923897724	33515.96
2012	kampar	110076551	733506	2140995874	36353.58
2013	kampar	157542304	753376	2584633424	40349.79
2014	kampar	120637348	773171	2423266889	67958.92
2010	rokan hulu	45726003	475011	1092287128	11775.17

2011	rokan hulu	34243131	507079	1118763012	14190.88
2012	rokan hulu	54369714	523024	1327297368	16305.68
2013	rokan hulu	57064234	545483	1502491943	18905.07
2014	rokan hulu	56768019	568576	1759178725	25163.55
2010	rokan hilir	85535129	498384	3305445273	39964.27
2011	rokan hilir	67947741	574419	2203597716	49757.23
2012	rokan hilir	66423364	592403	2484177864	58953.75
2013	rokan hilir	82962459	609779	2464574279	65274.3
2014	rokan hilir	149955845	627233	2756302508	74736.82
2010	bengkalis	111102710	552433	3135610676	85300.44
2011	bengkalis	216120227	503604	4668167865	123150.94
2012	bengkalis	205979691	519389	5183963996	141633.04
2013	bengkalis	181667217	527918	4356946424	152933.43
2014	bengkalis	281446579	536138	4682245382	162706.05
2010	kepualauan meranti	6146098	176371	507494060	8690.28
2011	kepualauan meranti	25230502	177004	1054037968	10275.76
2012	kepualauan meranti	32270326	177587	1283177803	11840.44
2013	kepualauan meranti	40192727	178839	1430760891	13513.75
2014	kepualauan meranti	41399000	179894	1643788784	16206.9
2010	kota pekanbaru	158830632	903902	1211241485	36753.48
2011	kota pekanbaru	225903389	929247	1551885219	45257.05
2012	kota pekanbaru	364604451	958352	2004662747	56015.82
2013	kota pekanbaru	368031805	984674	2431051391	66155.61
2014	kota pekanbaru	560074583	1011467	2792275206	74434.46
2010	kota dumai	58273921	254337	709419017	13644.23
2011	kota dumai	115777181	259913	995256492	16134.91
2012	kota dumai	117903502	268022	1321150519	18325.5
2013	kota dumai	157466165	274089	1456438778	20772.51
2014	kota dumai	147133875	280109	1462004970	23595.35

Variables Data of Districts/Cities in Riau Province on Period 2010-2014 (after Ln Mode)

Years	Districts/Cities	LnLocal Revenue	LnTotal.Pop	LnGov.Spend	LnGRDP
2010	kuantan seningi	16.86921	12.58123	20.5	9.50822
2011	kuantan seningi	17.03902	12.592926	20.8	9.66147
2012	kuantan seningi	17.40361	12.62027	21	9.79519
2013	kuantan seningi	17.65005	12.633684	21.2	9.92163
2014	kuantan seningi	17.73066	12.646322	21	10.0851
2010	indragiri hulu	17.46259	12.802051	20.6	9.77435
2011	indragiri hulu	17.66249	12.826848	20.9	10.0067
2012	indragiri hulu	17.98729	12.857913	21.3	10.1587
2013	indragiri hulu	17.86465	12.87992	21.4	10.2946
2014	indragiri hulu	17.67522	12.90147	21.3	10.4284
2010	indragiri hilir	17.74017	13.403481	20.8	10.2199
2011	indragiri hilir	17.83871	13.423797	21.2	10.4241
2012	indragiri hilir	17.97717	13.424568	21.3	10.5275
2013	indragiri hilir	18.20392	13.437948	21.4	10.6381
2014	indragiri hilir	18.22364	13.451112	21.5	10.7757
2010	pelalawan	17.4631	12.621557	20.8	9.73646
2011	pelalawan	17.65818	12.70545	21.1	9.86632
2012	pelalawan	17.8353	12.736316	21.3	9.98327
2013	pelalawan	18.08442	12.788875	21.4	10.107
2014	pelalawan	18.30488	12.840587	21.5	10.5418
2010	siak	19.38727	12.840616	21.6	10.7145
2011	siak	19.10383	12.878405	21.6	10.7962
2012	siak	19.66369	12.9094	21.8	10.8727
2013	siak	19.66949	12.939157	21.9	10.9598
2014	siak	19.39994	12.968044	21.8	11.3556
2010	kampar	18.64962	13.438677	21.3	10.2341
2011	kampar	18.38928	13.47476	21.4	10.4198
2012	kampar	18.51669	13.505591	21.5	10.501
2013	kampar	18.8752	13.53232	21.7	10.6053
2014	kampar	18.6083	13.558256	21.6	11.1267
2010	rokan hulu	17.63818	13.071093	20.8	9.37375

2011	rokan hulu	17.349	13.136422	20.8	9.56035
2012	rokan hulu	17.81132	13.167383	21	9.69927
2013	rokan hulu	17.85969	13.209427	21.1	9.84719
2014	rokan hulu	17.85448	13.25089	21.3	10.1332
2010	rokan hilir	18.26444	13.119126	21.9	10.5957
2011	rokan hilir	18.03425	13.261114	21.5	10.8149
2012	rokan hilir	18.01156	13.291942	21.6	10.9845
2013	rokan hilir	18.2339	13.320852	21.6	11.0864
2014	rokan hilir	18.82585	13.349073	21.7	11.2217
2010	bengkalis	18.52597	13.222087	21.9	11.3539
2011	bengkalis	19.19135	13.129546	22.3	11.7212
2012	bengkalis	19.14329	13.160408	22.4	11.861
2013	bengkalis	19.01769	13.176696	22.2	11.9378
2014	bengkalis	19.45545	13.192147	22.3	11.9997
2010	kepulauan meranti	15.63133	12.080345	20	9.06996
2011	kepulauan meranti	17.04356	12.083928	20.8	9.23754
2012	kepulauan meranti	17.28966	12.087216	21	9.37928
2013	kepulauan meranti	17.5092	12.094241	21.1	9.51146
2014	kepulauan meranti	17.53877	12.100123	21.2	9.69319
2010	kota pekanbaru	18.88335	13.714476	20.9	10.512
2011	kota pekanbaru	19.23562	13.74213	21.2	10.7201
2012	kota pekanbaru	19.71432	13.77297	21.4	10.9334
2013	kota pekanbaru	19.72368	13.800066	21.6	11.0998
2014	kota pekanbaru	20.14358	13.826912	21.8	11.2177
2010	kota dumai	17.88067	12.446415	20.4	9.52107
2011	kota dumai	18.56718	12.468102	20.7	9.68874
2012	kota dumai	18.58538	12.498824	21	9.81605
2013	kota dumai	18.87472	12.521208	21.1	9.94139
2014	kota dumai	18.80685	12.542934	21.1	10.0688

The Results of data processing

Fixed Effect Model

Dependent Variable: LOG(Local Revenue?)

Method: Pooled Least Squares

Date: 03/23/16 Time: 21:35

Sample: 2010 2014

Included observations: 5

Cross-sections included: 12

Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.341005	4.191211	-2.228713	0.0309
LOG(Total.Pop?)	-0.601143	0.384706	-1.562605	0.1252
LOG(Gov.Spend?)	1.824001	0.315956	5.772952	0.0000
LOG(GRDP?)	0.387503	0.053798	7.202888	0.0000
Fixed Effects (Cross)				
_KUANSING—C	0.604452			
_INHU—C	0.322958			
_INHIL—C	0.138063			
_PELALAWAN—C	0.152955			
_SIAK—C	-1.120982			
_KAMPAR—C	-0.259775			
_ROHUL—C	0.934018			
_ROHIL—C	-0.076200			
_BENGKALIS—C	-1.308037			
_MERANTI—C	1.481993			
_PEKANBARU—C	-0.837765			
_DUMAI—C	-0.031680			

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.965932	Mean dependent var	21.30261
Adjusted R-squared	0.955334	S.D. dependent var	0.468172
S.E. of regression	0.098945	Akaike info criterion	-1.576180
Sum squared resid	0.440558	Schwarz criterion	-1.052594
Log likelihood	62.28541	Hannan-Quinn criter.	-1.371377
F-statistic	91.13615	Durbin-Watson stat	1.582948
Prob(F-statistic)	0.000000		

Random Effect Model

Dependent Variable: LOG(Local Revenue?)

Method: Pooled EGLS (Cross-section random effects)

Date: 03/23/16 Time: 21:35

Sample: 2010 2014

Included observations: 5

Cross-sections included: 12

Total pool (balanced) observations: 60

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.169051	1.120828	8.180605	0.0000
LOG(Total.Pop?)	-0.310091	0.108310	-2.863010	0.0059
LOG(Gov.Spend?)	0.509185	0.101537	5.014762	0.0000
LOG(GRDP?)	0.405490	0.039985	10.14108	0.0000
Random Effects (Cross)				
_KUANSING—C	0.088510			
_INHU—C	0.061892			
_INHIL—C	0.115478			
_PELALAWAN—C	0.063338			
_SIK—C	-0.326254			
_KAMPAR—C	0.030174			
_ROHUL—C	0.212662			
_ROHIL—C	0.253325			
_BENGKALIS—C	0.053626			
_MERANTI—C	0.271419			
_PEKANBARU—C	-0.399597			
_DUMAI—C	-0.424574			
Effects Specification				
			S.D.	Rho
Cross-section random			0.118615	0.5897
Idiosyncratic random			0.098945	0.4103
Weighted Statistics				
R-squared	0.707995	Mean dependent var		7.445751
Adjusted R-squared	0.692352	S.D. dependent var		0.280625
S.E. of regression	0.155652	Sum squared resid		1.356735
F-statistic	45.25916	Durbin-Watson stat		0.669860
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.603400	Mean dependent var		21.30261
Sum squared resid	5.128792	Durbin-Watson stat		0.177200

Common Effect Model

Dependent Variable: LOG(Local Revenue?)

Method: Pooled Least Squares

Date: 05/11/16 Time: 17:03

Sample: 2010 2014

Included observations: 5

Cross-sections included: 12

Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(JUMLAH?)	0.102280	0.155167	0.659164	0.5124
LOG(PENGELUARAN?)	1.140216	0.161978	7.039308	0.0000
LOG(PDRB?)	0.018842	0.103269	0.182455	0.8559

R-squared	0.244169	Mean dependent var	21.30261
Adjusted R-squared	0.217649	S.D. dependent var	0.468172
S.E. of regression	0.414101	Akaike info criterion	1.123292
Sum squared resid	9.774333	Schwarz criterion	1.228010
Log likelihood	-30.69877	Hannan-Quinn criter.	1.164253
Durbin-Watson stat	0.185052		

Chow Test

Redundant Fixed Effects Tests

Pool: PANEL

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	25.149436	(11,45)	0.0000
Cross-section Chi-square	118.006933	11	0.0000

Cross-section fixed effects test equation:

Dependent Variable: LOG(Local Revenue?)

Method: Panel Least Squares

Date: 03/23/16 Time: 21:36

Sample: 2010 2014

Included observations: 5

Cross-sections included: 12

Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.52990	0.970080	10.85467	0.0000
LOG(Total.Pop?)	-0.237861	0.094218	-2.524568	0.0144
LOG(Gov.Spend?)	0.717466	0.100600	7.131849	0.0000
LOG(GRDP?)	0.083274	0.059433	1.401141	0.1667
R-squared	0.756498	Mean dependent var		21.30261
Adjusted R-squared	0.743453	S.D. dependent var		0.468172
S.E. of regression	0.237131	Akaike info criterion		0.023935
Sum squared resid	3.148951	Schwarz criterion		0.163558
Log likelihood	3.281944	Hannan-Quinn criter.		0.078549
F-statistic	57.99240	Durbin-Watson stat		0.554047
Prob(F-statistic)	0.000000			

Hausman Test

Correlated Random Effects - Hausman Test

Pool: PANEL

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	85.581203	3	0.0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
LOG(Total.Pop?)	-0.601143	-0.310091	0.136268	0.4304
LOG(Gov.Spend?)	1.824001	0.509185	0.089519	0.0000
LOG(GRDP?)	0.387503	0.405490	0.001295	0.6173

Cross-section random effects test equation:

Dependent Variable: LOG(PAD?)

Method: Panel Least Squares

Date: 03/23/16 Time: 21:36

Sample: 2010 2014

Included observations: 5

Cross-sections included: 12

Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.341005	4.191211	-2.228713	0.0309
LOG(JUMLAH?)	-0.601143	0.384706	-1.562605	0.1252
LOG(PENGELUARAN?)	1.824001	0.315956	5.772952	0.0000
LOG(PDRB?)	0.387503	0.053798	7.202888	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.965932	Mean dependent var	21.30261
Adjusted R-squared	0.955334	S.D. dependent var	0.468172
S.E. of regression	0.098945	Akaike info criterion	-1.576180
Sum squared resid	0.440558	Schwarz criterion	-1.052594
Log likelihood	62.28541	Hannan-Quinn criter.	-1.371377
F-statistic	91.13615	Durbin-Watson stat	1.582948
Prob(F-statistic)	0.000000		

Multicollinearity Test (Coef Covariance Matrix)

	C	LOG(Total.Pop?)	LOG(Gov.Spend?)	LOG(GRDP?)
C	17.566252	-0.718486	-0.590862	0.106311
LOG(Total.Pop?)	-0.718486	0.147999	-0.071874	0.001698
LOG(Gov.Spend?)	-0.590862	-0.071874	0.099828	-0.010533
LOG(GRDP?)	0.106311	0.001698	-0.010533	0.002894

Heterocedasticity Test with Park Test

Dependent Variable: RESID?

Method: Pooled Least Squares

Date: 08/30/16 Time: 13:20

Sample: 2010 2014

Included observations: 5

Cross-sections included: 12

Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.079790	2.153555	1.430096	0.1596
LOG(JUMLAH?)	-0.368263	0.197672	-1.863001	0.0690
LOG(PENGELUARAN?)	0.078053	0.162347	0.480779	0.6330
LOG(PDRB?)	0.023619	0.027643	0.854434	0.3974
Fixed Effects (Cross)				
_KUANSING--C	-0.055772			
_INHU--C	-0.006061			
_INHIL--C	0.172840			
_PELALAWAN--C	-0.065518			
_SIAK--C	-0.089580			
_KAMPAR--C	0.115365			
_ROHUL--C	0.080941			
_ROHIL--C	0.120932			
_BENGKALIS--C	-0.064833			
_MERANTI--C	-0.260119			
_PEKANBARU--C	0.188345			
_DUMAI--C	-0.136541			

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.343914	Mean dependent var	0.066241
Adjusted R-squared	0.139798	S.D. dependent var	0.054817
S.E. of regression	0.050841	Akaike info criterion	-2.907920
Sum squared resid	0.116315	Schwarz criterion	-2.384334
Log likelihood	102.2376	Hannan-Quinn criter.	-2.703117
F-statistic	1.684896	Durbin-Watson stat	2.276325
Prob(F-statistic)	0.093241		

Analysis Model with Panel Data on Factors which Influence Local Revenue
in Districts/Cities in Riau Province

$$\text{LOG(PAD_KUANSING)} = 0.604451779504 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_KUANSING)} + 1.82400053462 * \text{LOG(PENGELUARAN_KUANSING)} + 0.387502724877 * \text{LOG(PDRB_KUANSING)}$$

$$\text{LOG(PAD_INHU)} = 0.322957952942 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_INHU)} + 1.82400053462 * \text{LOG(PENGELUARAN_INHU)} + 0.387502724877 * \text{LOG(PDRB_INHU)}$$

$$\text{LOG(PAD_INHIL)} = 0.138062513102 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_INHIL)} + 1.82400053462 * \text{LOG(PENGELUARAN_INHIL)} + 0.387502724877 * \text{LOG(PDRB_INHIL)}$$

$$\text{LOG(PAD_PELALAWAN)} = 0.152954715738 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_PELALAWAN)} + 1.82400053462 * \text{LOG(PENGELUARAN_PELALAWAN)} + 0.387502724877 * \text{LOG(PDRB_PELALAWAN)}$$

$$\text{LOG(PAD_SIAK)} = -1.12098218659 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_SIAK)} + 1.82400053462 * \text{LOG(PENGELUARAN_SIAK)} + 0.387502724877 * \text{LOG(PDRB_SIAK)}$$

$$\text{LOG(PAD_KAMPAR)} = -0.259775053347 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_KAMPAR)} + 1.82400053462 * \text{LOG(PENGELUARAN_KAMPAR)} + 0.387502724877 * \text{LOG(PDRB_KAMPAR)}$$

$$\text{LOG(PAD_ROHUL)} = 0.934018154979 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_ROHUL)} + 1.82400053462 * \text{LOG(PENGELUARAN_ROHUL)} + 0.387502724877 * \text{LOG(PDRB_ROHUL)}$$

$$\text{LOG(PAD_ROHIL)} = -0.0762003395201 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_ROHIL)} + 1.82400053462 * \text{LOG(PENGELUARAN_ROHIL)} + 0.387502724877 * \text{LOG(PDRB_ROHIL)}$$

$$\text{LOG(PAD_BENGGALIS)} = -1.30803662689 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_BENGGALIS)} + 1.82400053462 * \text{LOG(PENGELUARAN_BENGGALIS)} + 0.387502724877 * \text{LOG(PDRB_BENGGALIS)}$$

$$\text{LOG(PAD_MERANTI)} = 1.48199349951 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_MERANTI)} + 1.82400053462 * \text{LOG(PENGELUARAN_MERANTI)} + 0.387502724877 * \text{LOG(PDRB_MERANTI)}$$

$$\text{LOG(PAD_PEKANBARU)} = -0.837764840677 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_PEKANBARU)} + 1.82400053462 * \text{LOG(PENGELUARAN_PEKANBARU)} + 0.387502724877 * \text{LOG(PDRB_PEKANBARU)}$$

$$\text{LOG(PAD_DUMAI)} = -0.0316795687438 - 9.34100542315 - 0.601143442761 * \text{LOG(JUMLAH_DUMAI)} + 1.82400053462 * \text{LOG(PENGELUARAN_DUMAI)} + 0.387502724877 * \text{LOG(PDRB_DUMAI)}$$