

There is need for robust econometric analysis of relationship between telecommunication sector and economic growth, to facilitate effective policymaking in developing countries. This paper investigates the relationship between telecommunication sector and economic growth in Thailand(1986-2009) within bivariate and multivariate setting. Using two popular cointegration tests in time series econometrics, this study ascertains existence of relationship between telecommunication sector and economic growth.

Summary of Findings

1. Using two popular tests for long run relationship (cointegrating relationship), this study finds that there is long run relationship between telecommunication, laborforce and economic growth in Thailand.
2. The study also finds there is causality from telecommunication to economic growth in Thailand.
3. The study suggests that the growth performance of the economy may be related with telecommunication sector.
4. Government must facilitate growth of telecommunication sector by ensuring development of appropriate regulatory framework, encouraging foreign investment, and availability of human capital.
5. The government should also encourage more competition in the telecommunication sector.
6. Government should improve data collection on ICT sector to facilitate further economic research.

METHODS/RESULTS AND DISCUSSION

- This study has used cointegration tests developed Johansen (1988, 1990) and Pesaran *et al.*(2001) to investigate the long run relationship between telecommunication and economic growth in Thailand. The results from bivariate analysis are reported in Table 1 and 2 respectively.
- The causal relationship between telecommunication and economic growth was investigated using Toda-Yamamoto Granger Non Causality test(1995).

Table 1. Johansen cointegration test(1988,1990) Bivariate analysis

Hypothesized	Trace	0.05	Max-Eigen	0.05
Nº. of CE(s)	Statistic	Critical Value	Statistic	Critical Value
None	43.516	20.180	40.081	15.870
At most 1	3.435	9.160	3.436	9.160

Note: Lag length of 1 was used. The deterministic terms were selected based on Pantula principle (1989).

Table 2. Bound test for cointegration (2001) Bivariate analysis

Computed F-Statistics		Without deterministic trend	With deterministic trend
When the dependent is			
	In Y_t	4.1071	4.1941
	In T_t	3.377	2.4567
Critical Values		I(0)	I(1)
Table III (k=1;n=30)	1%	8.170	9.285
	5%	5.395	6.350
	10%	4.290	5.080
Table IV(k=1,n=30)	1%	7.593	8.350
	5%	5.377	5.963
	10%	4.427	4.957

Note: Critical values are obtained from Narayan (2005).

Table 3. Johansen cointegration test (1988, 1990) Trivariate analysis

Hypothesized	Trace	0.05	Max-Eigen	0.05
No. of CE(s)	Statistic	Critical Value	Statistic	Critical Value
None	46.714	42.915	27.155	25.823
At most 1	19.559	25.872	15.175	19.387
At most 2	4.384	12.517	4.384	12.517

Note: Lag length of 1 was used. The deterministic terms were selected based on Pantula principle (1989).

Table 4. Bound test for cointegration (2001) Trivariate analysis

Computed F-Statistics		Without deterministic trend	With deterministic trend
When the dependent is			
	In Y_t	3.5627	3.2755
	In T_t	3.3629	1.8210
	In L_t	4.7411	4.4077
Critical Values		I(0)	I(1)
Table III (k=2;n=30)	1%	6.183	7.873
	5%	4.267	5.473
	10%	3.437	4.470
Table IV(k=2,n=30)	1%	6.428	7.505
	5%	4.535	5.415
	10%	3.770	4.535

Note: Critical values are obtained from Narayan (2005).

Table 5. Causality results between telecommunication and economic growth

Direction of Causality	Computed Statistics
Telecommunication Granger does not Cause Economic Growth	0.471[0.492]
Economic Growth Granger does not Cause Telecommunication	0.059 [0.806]

Note: Figures in brackets are computed p-values.

Table 6. Causality results between telecommunication, laborforce and economic growth

Direction of Causality	Computed Statistics
Telecommunication Granger does not Cause Economic Growth	3.487[0.061]*
Economic Growth Granger does not Cause Telecommunication	0.006[0.984]
Telecommunication Granger does not Cause laborforce	4.436[0.035]**
Economic Growth Granger does not Cause laborforce	0.097[0.755]
Laborforce Granger does not Cause Economic Growth	8.648[0.003]***
Laborforce Granger does not Cause Telecommunication	0.646[0.421]

Note: Figures in brackets are computed p-values.***, **, * indicate statistical significance at 1% ,5% ,10% respectively.

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