

()

() ()
)

(

*

(// : // :)

)

(

)

(SURE)

()

(Theil)

R^x

(

:

)

)

(

(

()

()

()

()

()

()

()

()

()

()

()

()

()

()

()

)

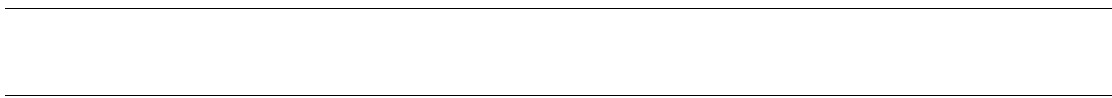
() (

()

SURE

-
1. Specification Error
 2. Aggregation Bias
 3. SURE

... () () :



$$Y_t = b_0 + \sum b_j x_j + \lambda(Y_{t-1}) + u_t \quad ($$

()

SURE

SURE

$$y_{rt} = X_{rt} b_j + u_{rt} \quad ($$

$t = 1, \dots, T \quad r = 1, \dots, R$

SURE

$T \quad R$

:

()

$$\begin{bmatrix} y_{1t} \\ y_{2t} \\ \vdots \\ y_{rt} \end{bmatrix} = \begin{bmatrix} X_{1t} & \dots & 0 & \dots & 0 \\ 0 & & X_{2t} & & 0 \\ \vdots & & \vdots & & \vdots \\ 0 & \dots & 0 & \dots & X_{rt} \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_r \end{bmatrix} + \begin{bmatrix} u_{1t} \\ u_{2t} \\ \vdots \\ u_{rt} \end{bmatrix} \quad ($$

$t \quad r \quad (\quad) \quad (\quad)$
 $r \quad x_{rt}$

$$\begin{aligned}
& \begin{pmatrix} y_{at} \\ x_{at} \end{pmatrix} = \begin{pmatrix} \sum_{r=1}^R Y_{rt} \\ \sum_{r=1}^R X_{rt} \end{pmatrix} + \begin{pmatrix} u_{rt} \\ x_{rt} \end{pmatrix} \\
& \text{where } \mathbf{K} = \sum_{r=1}^R \mathbf{K}_r \\
& \text{and } \mathbf{K}_r = \begin{pmatrix} RT^* \\ RT^*K \\ RT^* \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& y_{at} = b_a X_{at} + u_{at} \\
& \text{with } \mathbf{R}^y = \begin{pmatrix} AW_t \\ AB_t \\ AP_t \\ AC_t \\ \ln AS_t \end{pmatrix} \\
& \text{and } \mathbf{R}^x = \begin{pmatrix} AS_t \\ AC_t \\ AP_t \\ AB_t \\ AW_t \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& AW_t = b_0 + b_1 p_{t-1}^{wb} + b_2 RISK_t + b_3 Trend + b_4 AW_{t-1} + e_t \\
& AB_t = b_1 + b_2 Y_{t-1}^b + b_3 P_{t-1}^{bw} + b_4 Trend + b_5 RISK_t + e_t \\
& AP_t = b_1 + b_2 AP_{t-1} + b_3 Trend + b_4 P_{t-1}^p + e_t \\
& AC_t = b_1 + b_2 AC_{t-1} + b_3 P_{t-1}^{cf} + b_4 Trend + b_5 RISK_t + e_t \\
& \ln AS_t = b_1 + b_2 \ln AS_{t-1} + b_3 \ln P_{t-1}^{sf} + b_4 \ln TR_{t-1} + b_5 \ln RISK_t + e_t
\end{aligned}$$

$$\begin{aligned}
& \text{where } \mathbf{P}_{t-1} = \begin{pmatrix} AC_{t-1} \\ AW_{t-1} \\ AP_{t-1} \\ AS_{t-1} \\ Trend \\ TR \end{pmatrix} \\
& \text{and } \mathbf{P}_{t-1}^{wb} = \begin{pmatrix} P_{t-1}^{pj} \\ P_{t-1}^{wb} \end{pmatrix} \\
& \text{and } \mathbf{P}_{t-1}^{sj} = \begin{pmatrix} P_{t-1}^{sj} \\ P_{t-1}^{pj} \end{pmatrix} \\
& \text{and } \mathbf{P}_{t-1}^{wb} = \begin{pmatrix} P_{t-1}^{wb} \\ RISK_t \end{pmatrix}
\end{aligned}$$

... () () :

/

/

R^x

R^x

R^x

/

R^x

R^x

() ()

%

%

%

%

%

%

%

%

%

%

/

/

(

(

()

()

.. / /

/

/

()

... () () :

() ()

() ()

/ / /

/

/

/

() ()

()											
**	***	***	***	/5	***	/	***	9.96	***	/	Constant
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	
0.354**	/ **	*** /	/	/	/	** /	** /4	*** /	*** /	*** /	A_{t-1}^P
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	
/	/	/	*** /	** /	*** /	/	/	***	***	***	Trend
(/)	(/)	/	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	
/ **	4689/5**	***39.9/8		***	/	/	/	***	***	***	P_{t-1}^{Pj}
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	
/	/	/	/	/	/	/	/	/	/	/	$R^2()$
											Adj-R ²
											H-durbin
								**			
											t

() ()						
()						
/ *	/ **	/ ***	/ ***	/	/ **	Constant
(/)	(/)	(/)	(/)	(/)	(/)	
/	/ ***	/ ***	/ **	/ ***	/	LnA _{t-1} ^s
(/)	(/)	(/)	(/)	(/)	(/)	
/ **	/	/ ***	/ ***	/ **	/ ***	LnP _{t-1} ^{sf}
(/)	(/)	(/)	(/)	(/)	(/)	
/	/ **	/ ***	/ ***	/ *	/	LnTR
(/)	(/)	(/)	(/)	(/)	(/)	
/ ***	/ **	/	/	/	/	LnRisk _t
(/)	(/)	(/)	(/)	(/)	(/)	
						()R ²
						Adj-R ²
/	/	/	/	/	/	H-durbin

t

**

(

()

()

()

... () () :

() ()

											/
()											
	/		***			**		/		**	Constant
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	Y_{t-1}^b
/	/ *	/	/ ***	/	/	/ **	/ **	/	/ **	/	P_{t-1}^{bw}
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	Trend
**	**	*	***	***		*			**	*	Risk _t
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	() R ²
/ **	/		/	**	/	***	/	/	**	***	Adj-R ²
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	H-durbin
/	/	/ **	/	/	/	/ *	/	/ *	/ *	/ *	
(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	(/)	
/	/	/	/	/	/	/	/	/	/	/	

											*
											**
											t

											/
/	/	/	/	/	/	/	/	/	/	/	
	a	/	/	/	/	/	/	/	/	/	
/	/	/	/	/	/	/	/	/	/	/	
c		/		/		/		/		b	
											-a
											()
											-b
											-c

REFERENCES

- ()
10. Alston, J.M. V.H. Smith, A.Acquage, & S.S.Hosseini, 1999, Least-cost Cheap-Food Policies: Some Implications Of International Food Aid, *Agricultural Economics*, 20:191-201.
 11. Hosseini, S.S. 1995. The Aggregate Impacts of Individual-Based Income Support Programs for Farmers. University of Saskatchewan, Canada, Unpublished PhD.thesis.
 12. Park, W.I. & P. Garcia. 1994. Aggregate Versus Disaggregate Analysis: Corn and Soyboan Acreage Response in Illinois, *Review of Agricultural Economics*, 16: 17-26.
 13. Pesaran, M.H., R.G. Piers, & M.S. Kumar. 1989. Econometrics Analysis of Aggregation in the Context of Predication Models, *Econometrica*, 57: 861-888.
 14. Reed.M.R. & Riggins. 1992. A Disaggregate Analysis of Corn Acreage Response in Kentucky, *American Journal of Agricultural Economics*, 63: 708-711.
 15. Sanserson, B.A., J.J. Qulkey, & J.W. Free Barian. 1980. Supply Response of Australian Wheat Growers, *Australian Journal of Agricultural Economics*, 39: 129-140.