Table 5.1: *p*-values of the LM tests of linearity and parameter constancy of the DHSY consumption function (5.1), 1958(2)-1970(4). The hypotheses are presented in Section 4.3.

Linearity test Hypothesis	Transition variables $\Delta_4 y_t$	$\Delta_1\Delta_4\, y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$
H_0	0.28	0.83	0.21	0.17
H_{04}	0.19	0.91	0.83	0.37
H_{03}	0.68	0.35	0.88	0.21
H_{02}	0.22	0.70	0.0041	0.16

Parameter constancy test	Null hypothesis (1)
LM3	0.42
LM2	0.42
LM1	0.25

The null hypothesis is:

(1): ”All parameters except the coefficient of the dummy variable are constant.”

The remaining parameters not under test are assumed constant in each case.

Table 5.2: *p*-values of the misspecification tests of the LSTR(1) consumption function (5.2), 1958(2)-1970(4).

LM test of no error autocorrelation against an AR(q) and MA(q) error process in the LSTR(1) model (5.2).

Test	Maximum lag q					
	1	2	3	4	5	6
No error autocorrelation	0.62	0.56	0.56	0.60	0.62	0.56

p-values of tests of no additive nonlinearity in the LSTR(1) model (5.2) for a set of transition variables.

Linearity test Null-hypothesis:	Transition variables $\Delta_4 y_t$	$\Delta_1\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$
H_0	0.63	0.89	0.76	0.86
H_{02}	0.68	0.63	0.94	0.82

Notes: Linearity tests: F is the F-test based on a third-order Taylor expansion of the transition function. F_2 is based on the first-order Taylor expansion and is thus a test against LSTR(1).

p-values of parameter constancy tests of the LSTR(1) model (5.2) against STR type nonconstancy.

Tests of parameter constancy	Null hypothesis		
Test	(1)	(2)	(3)
LM3	0.35	0.78	0.68
LM2	0.63	0.89	0.85
LM1	0.91	0.70	0.83

The null hypotheses are:

(1): ”All parameters except the coefficient of the dummy variable are constant.”
(2): ”All parameters of the linear part except the coefficient of the dummy variable are constant.”
(3): ”All parameters of the nonlinear part are constant.”

The remaining parameters not under test are assumed constant in each case.

Table 5.3: *p*-values of the LM tests of linearity and parameter constancy of the linear consumption function (5.4), 1958(3)-1970(4). The hypotheses are presented in Section 4.3.

Linearity test Hypothesis	Linearity test	Transition variables $\Delta_4 y_t$	$\Delta_1\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$	$\Delta_4 c_{t-1}$
H_0	F	0.46	0.85	0.34	0.27	0.56
H_{04}	F_4	0.40	0.84	0.71	0.29	0.68
H_{03}	F_3	0.68	0.32	0.15	0.15	0.33
H_{02}	F_2	0.25	0.90	0.19	0.78	0.39

Tests of parameter constancy Test	Null hypothesis (1)	(2)	(3)
LM3	0.0092	0.88	0.049
LM2	0.030	0.81	0.027
LM1	0.40	0.44	0.46

The null hypotheses are:

(1): ”All parameters except the coefficient of the dummy variable are constant.”
(2): ”The parameters of the seasonals are constant.”
(3): ”All parameters of the exogenous variables are constant.”

The remaining parameters not under test are assumed constant in each case.

Table 5.4. *p*-values of the misspecification tests of the nonlinear consumption function (5.5), 1958(3)-1970(4).

LM test of no error autocorrelation against an AR(q) and MA(q) error process in the nonlinear model (5.5).

Test	Maximum lag q					
	1	2	3	4	5	6
No error autocorrelation	0.96	0.74	0.90	0.92	0.85	0.62

p-values of tests of no additive nonlinearity in (5.5) for a set of transition variables.

Linearity test Null-hypothesis:	Linearity test	Transition variable $\Delta_4 y_t$	$\Delta_1\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$	$\Delta_4 c_{t-1}$
H_0	F	0.86	0.38	0.58	0.70	0.76
H_{02}	F_2	0.58	0.46	0.96	0.62	0.93

Notes: Linearity tests: F is the F-test based on a third-order Taylor expansion of the transition function. F_2 is based on the first-order Taylor expansion and is thus a test against LSTR(1).

p-values of parameter constancy tests of the nonlinear model (5.5) against STR type nonconstancy.

Tests of parameter constancy	Null hypothesis			
Test	(1)	(2)	(3)	(4)
LM3	0.11	0.30	0.35	0.65
LM2	0.017	0.048	0.18	0.81
LM1	0.22	0.23	0.77	0.57

The null hypotheses are:

(1): “All parameters except the coefficient of the dummy are constant.”
(2): “The linear parameters except the coefficient of the dummy are constant.”
(3): “All linear seasonal parameters are constant.”
(4): “All nonlinear parameters are constant.”

Table 6.1: *p*-values of the LM tests of linearity and parameter constancy of the linear consumption function (6.1), 1958(2)-1992(2). The hypotheses are presented in Section 4.3.

Linearity test Hypothesis	Transition variables $\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$	$\Delta_4 c_{t-1}$
H_0	0.25	0.37	0.31	0.065
H_{04}	0.32	0.69	0.60	0.73
H_{03}	0.065	0.25	0.10	0.0089
H_{02}	0.88	0.25	0.50	0.30

Parameter constancy test	Null hypothesis (1)
LM3	0.049
LM2	0.027
LM1	0.012

The null hypothesis is:

(1): ”All parameters except the coefficient of the dummy variable are constant.”

The remaining parameters not under test are assumed constant in each case.

Table 6.2: *p*-values of the misspecification tests of the LSTR(1) consumption function (6.2), 1958(2)-1992(2).

LM test of no error autocorrelation against an AR(q) and MA(q) error process in the LSTR(1) model (6.2).

Test	Maximum lag q					
	1	2	3	4	5	6
No error autocorrelation	0.59	0.77	0.77	0.029	0.056	0.10

p-values of tests of no additive nonlinearity in the LSTR(1) model (6.2) for a set of transition variables.

Linearity test Null-hypothesis:	Linearity test	Transition variables $\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$	$\Delta_4 c_{t-1}$
H_0	F	0.43	0.37	0.47	0.29
H_{02}	F_2	0.98	0.83	0.13	0.59

Notes: Linearity tests: F is the F-test based on a third-order Taylor expansion of the transition function. F_2 is based on the first-order Taylor expansion and is thus a test against LSTR(1).

p-values of parameter constancy tests of the nonlinear model (6.2) against STR type nonconstancy.

Tests of parameter constancy	Null hypothesis		
Test	(1)	(2)	(3)
LM3	0.69	0.81	0.39
LM2	0.33	0.59	0.29
LM1	0.54	0.95	0.11

The null hypotheses are:

(1): ”All parameters except the coefficient of the dummy variable are constant.”
(2): ”All parameters of the linear part except the coefficient of the dummy variable are constant.”
(3): ”All parameters of the nonlinear part are constant.”

The remaining parameters not under test are assumed constant in each case.

Table 6.3. *p*-values of the LM tests of linearity and parameter constancy of the linear consumption function (6.3), 1958(2)-1992(2). The hypotheses are presented in Section 4.3.

Linearity test Hypothesis	Transition variables $\Delta_4 y_t$	$\Delta_1\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$	$\Delta_4 c_{t-1}$
H_0	0.043	0.024	0.0034	0.014	0.024
H_{04}	0.38	0.30	0.46	0.0071	0.30
H_{03}	0.24	0.0029	0.13	0.20	0.0029
H_{02}	0.015	0.59	0.00045	0.35	0.59

Tests of parameter constancy Test	Null hypothesis (1)	(2)	(3)
LM3	0.00057	0.000061	0.26
LM2	0.0023	0.00019	0.13
LM1	0.00020	0.000017	0.020

The null hypotheses are:

(1): ”All parameters except the coefficient of the dummy variable are constant.”
(2): ”The parameters of the seasonals are constant.”
(3): ”All parameters of the exogenous variables except seasonals are constant.”

The remaining parameters not under test are assumed constant in each case.

Table 6.4. *p*-values of the misspecification tests of the nonlinear consumption function (6.4), 1958(2)-1992(2).

LM test of no error autocorrelation against an AR(q) and MA(q) error process in the nonlinear model (6.4).

Test	Maximum lag q					
	1	2	3	4	5	6
No error autocorrelation	0.45	0.26	0.44	0.61	0.63	0.75

p-values of tests of no additive nonlinearity in (6.4) for a set of transition variables.

Linearity test Null-hypothesis:	Linearity test	Transition variable $\Delta_4 y_t$	$\Delta_1\Delta_4 y_t$	$\Delta_4 p_t$	$\Delta_1\Delta_4 p_t$	$\Delta_4 c_{t-1}$
H_0	F	0.044	0.31	0.74	0.15	0.18
H_{02}	F_2	0.019	0.96	0.83	0.14	0.14

Notes: Linearity tests: F is the F-test based on a third-order Taylor expansion of the transition function. F_2 is based on the first-order Taylor expansion and is thus a test against LSTR(1).

p-values of parameter constancy tests of the nonlinear model (6.4) against STR type nonconstancy.

Tests of parameter constancy	Null hypothesis			
Test	(1)	(2)	(3)	(4)
LM3	0.039	0.16	0.10	0.0076
LM2	0.018	0.047	0.14	0.0038
LM1	0.15	0.16	0.089	0.58

The null hypotheses are:

(1): “All parameters except the coefficient of the dummy are constant.”
(2): “The linear parameters except the coefficient of the dummy are constant.”
(3): “All linear seasonal parameters are constant.”
(4): “All nonlinear seasonal parameters are constant.”

Table A.1: Unit root tests for all variables, 1958(2)-1970(4) and 1958(2)-1976(2) using the DHSY data. *, ** and *** indicates 10%, 5% and 1% rejection levels.

	1958(2)-1970(4)		1958(2)-1976(2)	
Variable	F-value	Lag length	F-value	Lag length
$\Delta_4 c_t$	-5.16***	3	-3.58**	3
$\Delta_1 c_t$	-3.90***	3	-3.26*	3
$\Delta_4 y_t$	-5.15***	3	-4.09**	3
$\Delta_1 y_t$	-3.92***	3	-3.93***	3
$(c-y)_t$	-1.19	4	-1.33	4
$\Delta_4 p_t$	-3.34*	4	-2.65	4
$\Delta_1\Delta_4 p_t$	-4.46***	4	-3.59**	3
(5.6)	-4.57***		0.69	

Table A.2: Unit root tests for all variables, 1958(2)-1970(4) and 1958(2)-1992(2). *, ** and *** indicates 10%, 5% and 1% rejection levels.

	1958(2)-1970(4)		1958(2)-1992(2)	
Variable	F-value	Lag length	F-value	Lag length
$\Delta_4 c_t$	-4.43***	3	-3.07	5
$\Delta_1 c_t$	-4.31***	6	-3.87**	10
$\Delta_1\Delta_4 c_t$	-5.35***	3	-8.81***	3
$\Delta_4 y_t$	-4.27***	3	-3.42*	4
$\Delta_1 y_t$	-3.76**	3	-5.36***	3
$(c-y)_t$	-1.55	4	-2.43	4
$\Delta_1(c-y)_t$	-3.90**	4	-5.26***	4
$\Delta_4 p_t$	-3.21*	4	-1.65	8
$\Delta_1\Delta_4 p_t$	-5.36***	3	-4.83***	4

Critical values are
1958(2)-1970(4): -4.15***, -3.50**, -3.18*
1958(2)-1976(2): -4.09***, -3.47**, -3.16*
1958(2)-1992(2): -4.02***, -3.44**, -3.15*

Table A.3: Cointegration tests for (c_t, y_t) and (c_t, y_t, $\Delta_4 p_t$) for different sample periods. The null hypothesis is no cointegration and, *, ** and *** indicates 10%, 5% and 1% rejection levels.

Time period	**H_A: c_t and y_t are cointegrated**	**H_A: c_t, y_t and $\Delta_4 p_t$ are cointegrated**
1958(2)-1970(4)	LR = 28.29***	---
1958(2)-1975(4)	LR = 21.69***	LR = 35.21***
1958(2)-1980(4)	LR = 22.63***	LR = 45.09***
1958(2)-1985(4)	LR = 20.05***	LR = 39.23***
1958(2)-1990(4)	LR = 15.14**	LR = 29.95**
1958(2)-1992(2)	LR = 13.28**	LR = 23.00