Table 16. Pharmaceuticals and Medecines: OLS

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_e/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{us}/(C+M))$	0.615 (8.35) ***	-0.458 (-0.58)								0.03 (0.34)	0.43	
$Y_t = f(E_{us}/(C+M), R\&D)$	0.483 (7.03) ***	-0.978 (-1.61) **	5.77 (3.16) ***							0.515 (5.31)	0.83	
$Y_t = f(E_{us}/(C+M), \Pi_{us})$	0.296 (3.51) ***	-1.94 (-3.33) ***				0.764 (4.44) ***				0.67 (10.34)	1.32	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, \Pi_{c,t-1})$	0.301 (3.30) ***	-2.038 (-2.82) ***				0.582 (0.77) *	0.201 (0.25)			0.67 (6.26)	1.23	
$Y_t = f(E_{us}/(C+M), \Pi_{c,t-1})$	0.333 (4.13) ***	-2.26 (-3.48) ***					0.807 (4.25) ***			0.654 (9.47)	1.06	
$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$	0.247 (2.46) ***	-0.903 (-1.92) ***	2.824 (1.60) **					0.556 (2.78) ***		0.739 (8.52)	1.15	2.20
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, \Pi_{c,t-1}, Y_{t-1})$	0.216 (1.92) ***	-1.353 (-1.67) ***	0.739 (0.21)			0.351 (0.69)		0.431 (1.58) **		0.754 (6.14)	1.34	
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, \Pi_{c,t-1}, Y_{t-1})$	0.215 (1.79) **	-1.49 (-1.32) **	0.340 (0.07)			0.244 (0.31)	0.171 (0.18)	0.422 (1.43) **		0.750 (4.33)	1.30	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, Y_{t-1})$	0.205 (2.17) ***	-1.45 (-2.40) ***				0.440 (1.78) **		0.413 (1.69) **		0.753 (9.15)	1.43	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, \Pi_{c,t-1}, Y_{t-1})$	0.211 (2.07) ***	-1.55 (-2.13) ***				0.254 (0.35)	0.207 (0.28)	0.413 (1.61) **		0.755 (6.18)	1.34	
$Y_t = f(E_{us}/(C+M))$	0.215 (2.30) ***	-1.614 (-2.39) ***					0.450 (1.76) **	0.439 (1.87) **		0.751 (9.08)	1.28	
$Y_t = (E_{us}/(C+M), \Pi_{us}, CR, Y_{t-1})$	0.147 (1.05) *	-1.19 (-1.52) **				0.352 (1.17) *	0.373 (0.58)	0.386 (1.50) **		0.763 (6.44)	1.43	
$Y_t = f(E_{us}/(C+M), Y_{t-1}, DM)$	0.142 (1.97) ***	-0.332 (-0.97) **						0.769 (6.70) ***	0.024 (3.67) ***	0.866 (19.40)	1.68	3.32

Statistical significance: See note on page 36

Table 17. Pharmaceuticals and Medecines: Cochran-Orcutt

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_a/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{us}/(C+M))$	0.702 (12.1) ***	-1.394 (-2.31) ***								0.655 (20.88)	1.00	
$Y_t = f(E_{us}/(C+M), R\&D)$	0.593 (5.45) ***	-1.210 (-1.91) ***	2.867 (1.10) **							0.670 (10.15)	1.01	
$Y_t = f(E_{us}/(C+M), \Pi_{us})$	0.325 (2.85) ***	-1.670 (-2.67) ***				0.675 (3.17) ***				0.699 (11.61)	1.49	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, \Pi_{CE})$	0.330 (2.49) **	-1.821 (-2.59) ***				0.236 (0.43)	0.483 (0.79) *			0.718 (7.63)	1.25	
$Y_t = f(E_{us}/(C+M), \Pi_{CE})$	0.348 (2.69) ***	-1.855 (-2.81) ***					0.710 (2.69) ***			0.713 (12.42)	1.15	
$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$	0.279 (2.32) ***	-1.040 (-1.99) ***	3.321 (1.75) **					0.493 (2.54) ***		0.780 (10.6)	1.50	1.24
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, Y_{t-1})$	0.265 (2.01) ***	-1.128 (-1.64) **	2.711 (0.87) *			0.102 (0.24)		0.460 (1.77) **		0.786 (7.34)	1.53 n.a.	
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, \Pi_{CE}, Y_{t-1})$	0.257 (1.81) **	-1.265 (-1.34) **	2.148 (0.52)			0.024 (0.04)	0.172 (0.23)	0.439 (1.51) **		0.787 (5.17)	1.51 n.a.	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, Y_{t-1})$	0.224 (2.01) ***	-1.41 (-2.34) ***				0.412 (1.63) **		0.403 (1.68) **		0.770 (10.04)	1.73	0.61
$Y_t = f(E_{us}/(C+M), \Pi_{us}, \Pi_{CE}, Y_{t-1})$	0.232 (1.90) **	-1.585 (-2.31) ***				0.087 (0.15)	0.380 (0.63)	0.386 (1.54) **		0.780 (7.09)	1.60	1.64
$Y_t = f(E_{us}/(C+M), \Pi_{CE}, Y_{t-1})$	0.235 (2.04) ***	-1.60 (-2.50) ***					0.462 (1.72) **	0.394 (1.72) **		0.780 (10.63)	1.58	1.33
$Y_t = f(E_{us}/(C+M), \Pi_{us}, CR, Y_{t-1})$	0.162 (1.04) *	-1.214 (-1.69) **				0.348 (1.21) **	0.361 (0.56)	0.372 (1.45) **		0.779 (7.93)	1.70	1.37
$Y_t = f(E_{us}/(C+M), Y_{t-1}, DM)$	0.144 (1.82) **	-0.316 (-0.84) *						0.761 (6.14) ***	0.024 (3.51) ***	0.868 (19.72)	1.75	0.50

Statistical significance: See note on page 36

9. Paints and Varnishes (SIC 375)

In this industry, the share of U.S. exports to the Canadian market is an important explanatory variable of the share of U.S. subsidiary production (Table 18). In all specifications $\hat{b}_1$ appears with a negative sign and is statistically significant (in three cases at the 5 percent (or a higher) level, and in another three cases at the 10 percent or the 15 percent level).

Research and development expenses are an important explanatory variable of U.S. subsidiary production. (The simple correlation coefficient between these two variables is 0.510). However, the high collinearity between the share of U.S. exports and R & D (r =-0778) affects the value and the significance of the coefficient of the latter.

The lagged variable improves the multiple correlation coefficient. The coefficient of Y_{t-1} appears with the expected a priori sign and is significant at the 10 percent or the 15 percent level.

The other variables do not seem to have any significant impact on the dependent variable.

The "best" explanation of the U.S. subsidiary production is obtained from the following OLS regression:

$$\hat{Y} \equiv \left[SP_{US}/(C+M)\right] = 0.364 - 0.326\left[E_{US}/(C+M)\right] + 0.267(R\&D)$$

$$\underline{t} \qquad (3.50) \quad (-1.54) \qquad (0.22)$$

$$\qquad\qquad *** \qquad **$$

$$+ 0.250(Y_{t-1})$$

$$\underline{t} \qquad (1.39)$$

$$\qquad\qquad **$$

$$R^2 = 0.528 \qquad\qquad h = 0.15$$

$$F = 3.35$$

Durbin's h statistic shows that autocorrelation is not a source of error in the above regression.

We conclude that the results for the "Paints and Varnishes" industry support Vernon's product-cycle hypothesis.

Table 18. Paints and Varnishes: OLS

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_e/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{us}/(C+M))$	0.491 (45.87) ***	-0.375 (-2.85) ***								0.426 (8.17)	1.83	
$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$	0.364 (3.50) ***	-0.326 (-1.54) **	0.267 (0.22)					0.250 (1.39) *		0.528 (3.35)	1.93	0.15
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, Y_{t-1})$	0.358 (3.17) ***	-0.306 (-1.25) **	0.214 (0.16)				0.029 (0.209)	0.237 (1.19) **		0.53 (2.26)	1.85	0.38
$Y_t = f(E_{us}/(C+M), Y_{t-1})$	0.378 (4.80) ***	-0.363 (-2.90) ***						0.244 (1.44) **		0.525 (5.54)	1.97	0.06
$Y_t = f(E_{us}/(C+M), \Pi_{us}, Y_{t-1})$	0.368 (4.07) ***	-0.331 (-1.83) **					0.034 (0.26)	0.231 (1.25) **		0.529 (3.37)	1.87	0.31
$Y_t = f(E_{us}/(C+M), Y_{t-1}, DM)$	0.392 (4.90) ***	-0.356 (-2.84) ***						0.204 (1.17) **	0.004 (0.99)	0.57 (4.01)	2.08	-0.20

Statistical significance: See note on page 36

10. Toilet Preparations (SIC 377)

The coefficient of the share of U.S. exports to the Canadian market appears with a negative sign, and is statistically significant at the 10 percent (or a higher) level in most specifications (Table 19).

The lagged variable seems to be an important explanatory variable. Its coefficient is stable in alternative specifications and is significant at the 5 percent (or a higher) level.

Barriers to entry in the Canadian market appear to have an influence on the decision of U.S. firms to build plants in Canada. The coefficient of this variable has a high statistical significance in most specifications.

The "expectational" variable Π_{us} (profitability of U.S. firms in Canada) seems to be an important explanatory variable. Its coefficient appears with the expected a priori sign in all specifications and is fairly significant. It should be noted, however, that high multicollinearity between Π_{us} and the barriers-to-entry (BTE) variable ($r = 0.740$) affects the values and the significance of the coefficients of both variables.

The impact of R & D on the dependent variable is difficult to assess, due to its collinearity with several other explanatory variables (Table 10 of Appendix III,

p.121).

The cost variables do not seem to influence the U.S. subsidiary production for the "Toilet Preparations" industry.

Taking into account the above considerations, we believe that the "best" results are obtained from the OLS form:

$$\hat{Y} = \left[SP_{US}/(C+M)\right] = -0.87 \; -0.56\left[E_{US}/(C+M)\right] \; +0.689(M_{US})$$

$$\underline{t} \qquad (-2.04) \quad (-1.83) \qquad\qquad (1.24)$$

$$\qquad\qquad *** \qquad\quad ** \qquad\qquad\qquad ** \qquad\qquad$$

$$+1.485(BTE) \; +0.539(Y_{t-1})$$

$$\underline{t} \qquad (1.29) \qquad (2.95)$$

$$\qquad\quad ** \qquad\quad *** \qquad\qquad$$

$R^2 = 0.833$ $\qquad$ $d = 1.94$

$F = 9.97$ $\qquad$ $h = 0.12$

Durbin's h statistic shows that autocorrelation (of the first order) is not a source of error in the estimated function.

The above results are consistent with Vernon's product-cycle hypothesis.

Table 19. Toilet Preparations: OLS

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{ij}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_d/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{ij}/(C+M))$	0.744 (33.13) ***	-0.588 (-1.68) **								0.204 (2.82)	0.59	
$Y_t = f(E_{ij}/(C+M), Y_{t-1})$	0.207 (1.08) *	-0.06 (-0.20)						0.716 (2.83) ***		0.559 (6.33)	0.88	
$Y_t = f(E_{ij}/(C+M), \Pi_{cc}, Y_{t-1})$	-1.06 (-2.61) ***	-0.694 (-2.31) ***					2.566 (3.30) ***	0.526 (2.79) ***		0.80 (12.05)	2.00	-0.02
$Y_t = f(E_{ij}/(C+M), R\&D, Y_{t-1})$	0.187 (0.91) *	-0.098 (-0.27)	0.042 (0.40)					0.743 (2.73) ***		0.567 (3.92)	0.86	
$Y_t = f(E_{ij}/(C+M), \Pi_{us}, \Pi_{cc}, Y_{t-1})$	-0.87 (-2.04) ***	-0.560 (-1-83) **				0.689 (1.24) **	1.485 (1.29) **	0.539 (2.95) ***		0.833 (9.97)	1.94	0.12
$Y_t = f(E_{ij}/(C+M), R\&D, \Pi_{us}, Y_{t-1})$	-0.412 (-1.69) **	-0.329 (-1.25) **	0.027 (0.36)			1.220 (3.07) ***		0.615 (3.08) ***		0.801 (8.07)	1.62	0.98
$Y_t = f(E_{ij}/(C+M), \Pi_{us}, \Pi_{cc}, Y_{t-1}, DM)$	-0.855 (-1.91) ***	-0.393 (-0.87) *				0.778 (1.29) **	1.218 (0.94) *	0.630 (2.51) ***	0.007 (0.56)	0.840 (7.36)	1.95	0.20
$Y_t = f(E_{ij}/(C+M), \Pi_{us}, Y_{t-1}, DM)$	-0.510 (-1.99) ***	-0.105 (-0.32)				1.126 (3.22) ***		0.727 (3.20) ***	0.011 (0.98) *	0.820 (9.11)*	1.72	0.87
$Y_t = f(E_{ij}/(C+M), \Pi_{cc}, Y_{t-1}, DM)$	-1.072 (-2.47) ***	-0.632 (-1.48) **					2.516 (2.95) ***	0.561 (2.20) ***	0.002 (0.21)	0.801 (8.09)	1.99	0.004
$Y_t = f(E_{ij}/(C+M), \Pi_{us}, Y_{t-1})$	-0.404 (-1.75) **	-0.312 (-1.27) **				1.229 (3.26) ***		0.597 (3.24) ***		0.798 (11.86)	1.63	0.88

Statistical significance: See note on page 36

11. Industrial Chemicals (Inorganic) (SIC 3782)

The results obtained for this industry (Tables 20 and 21) are very difficult to interpret, due to severe multicollinearity between most of the regressors. (See Table 11 of Appendix III, p.121).

Exploring multicollinearity on the lines of Frisch's confluence analysis, we found that the two main explanatory variables (share of exports in the Canadian market and research and development) appear with the expected sign when the profitability of U.S. affiliates (Π_{US}) is introduced in the set of regressors. However, the coefficient of this variable has the "wrong" sign, a result attributable to the high collinearity between Π_{US} and R & D (the simple r for these variables is 0.833).

In view of these findings we present below two functions as indicative of the negative relationship between the share of U.S. subsidiaries and the share of U.S. exports in the Canadian market:

1. $$\hat{Y} = \left[SP_{US}/(C+M)\right] = 0.3440 \; -0.072 \left[E_{US}/(C+M)\right]$$

$$\underline{t} \qquad\qquad (6.97) \;\; (-0.40)$$

$$***$$

$$R^2 = 0.812 \qquad d = 1.02$$

$$F = 47.7$$

We note that these are the results of the Cochrane-Orcutt estimation, which raised the value of d from 0.18 (in the OLS) to 1.02. Examination of the relationship between Y and each one of the explanatory variables individually, indicates that there is quasi-autocorrelation in the above form, due to omission of autocorrelated variables.

2. OLS

$$\hat{Y} \equiv \left[SP_{US}/(C+M)\right] = 0.7894 - 0.1476\left[E_{US}/(C+M)\right] + 4.3091(R\&D)$$

$$\underline{t} \qquad (14.73) \quad (-0.80) \qquad\qquad (2.02)$$

$$\qquad\qquad *** \qquad\qquad\qquad *** $$

$$-1.4505(\Pi_{US})$$

$$\underline{t} \qquad (-7.32)$$

$$*** $$

$$R^2 = 0.927 \qquad\qquad d = 1.62$$

$$F = 38.18$$

The coefficient of R&D is significant at the 0.05 level, while the coefficient of the share of exports in the Canadian market is significant at the 0.25 level.

We believe that the second form (OLS) gives the "best" explanation of changes in the U.S. subsidiary production.

We may tentatively conclude that the results for this

industry are compatible with Vernon's hypothesis.

Table 20. Industrial Chemicals (Inorganic): OLS

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_c/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_c = f(E_{us}/(C+M))$	0.368 (3.08) ***	-0.203 (-0.35)								0.011 (0.12)	0.18	
$Y_c = f(E_{us}/(C+M), W_c/W_{us})$	0.509 (2.18) ***	-0.254 (-0.43)		-0.133 (-0.71) *						0.058 (0.31)	0.26	
$Y_c = f(E_{us}/(C+M), R\&D, \Pi_{us})$	0.789 (14.73) ***	-0.147 (-0.80) *	4.309 (2.02) ***			-1.450 (-7.32) ***				0.927 (38.18)	1.62	
$Y_t = f(E_{us}/(C+M), R\&D, W_c/W_{us}, \Pi_{us})$	0.887 (0.08)	-0.147 (-0.76) *	3.711 (1.56) **	-0.401 (-0.67)		-1.395 (-0.67)				0.931 (27.02)	1.82	

Table 21. Industrial Chemicals (Inorganic): Cochran-Orcutt

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_c/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{us}/(C+M))$	0.344 (6.97) ***	-0.072 (-0.40)								0.812 (47.7)	1.02	
$Y_t = f(E_{us}/(C+M), W_c/W_{us})$	0.264 (2.31) ***	-0.073 (-0.40)		0.085 (0.81) *						0.828 (24.06)	0.90	

Statistical significance: See note on page 36

12. Toys and Games (SIC 3932)

The results for this industry (Tables 22 and 23) seem to be compatible with Vernon's product-cycle hypothesis.

Most of the variables do not "work", in the sense that they turn up with the "wrong" a priori sign. The cause for these findings is the same as in the other industries that yielded poor results: multicollinearity, errors in variables and other problems do not allow the assessment of the impact of most regressors on the dependent variable.(See Table 12 of Appendix III, p.121).

The following model, estimated by OLS, seems to give an acceptable fit:

$$\hat{Y} = \left[SP_{US}/(C+M)\right] = 0.138 - 0.347\left[E_{US}/(C+M)\right] + 40.20(R\&D) + 0.178(\Pi_{US})$$

t	(3.07)	(-2.19)	(3.29)	(3.92)
	***	***	***	***

$R^2 = 0.730$ $\quad$ $d = 1.86$

$F = 8.14$

It is interesting to note that the introduction of the

lagged variable, which is an important explanatory variable of the U.S. subsidiary production, affects seriously the t ratio of the U.S. share of imports in the Canadian market (due to multicollinearity), and introduces autocorrelation in the function, as shown by the following results:

OLS:

$$\hat{Y} \equiv \left[SP_{US} /(C+M)\right] = 0.009 - 0.061 \left[E_{US} /(C+M)\right] + 0.267(\Pi_{US})$$

t (0.08) (-0.28) (3.78)***

$$+0.649(Y_{t-1})$$

t (2.34)***

$R^2 = 0.632$ $\quad d = 1.13$

$F = 5.15$ $\quad h = 1.89$

The value of Durbin's h statistic suggests that autocorrelation may not be a serious problem. (Re-estimation of the function with the Cochrane-Orcutt method did not change the results appreciably).

In view of the above considerations we decided to retain the first regression as the "best" explanation of the changes in the dependent variable.

We may conclude that the results for this industry are compatible with Vernon's product-cycle hypothesis.

Table 22. Toys and Games: OLS

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_c/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{us}/(C+M))$	0.257 (8.44) ***	0.115 (0.70) *								0.043 (0.49)	0.42	
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us})$	0.138 (3.07) ***	-0.347 (-2.19) ***	40.20 (3.29) ***			0.178 (3.92) ***				0.73 (8.14)	1.86	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, Y_{t-1})$	0.009 (0.08)	-0.061 (-0.28)				0.267 (3.78) ***		0.649 (2.34) ***		0.632 (5.15)	1.13	
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, Y_{t-1})$	0.080 (0.73) *	-0.260 (-1.18) **	32.81 (1.84) **			0.209 (2.98) ***		0.204 (0.59)		0.742 (5.75)	1.77	n.a.

Table 23. Toys and Games: Cochran-Orcutt

REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_c/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
$Y_t = f(E_{us}/(C+M))$	0.268 (9.79) ***	0.055 (0.52)								0.576 (14.94)	0.87	
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us})$	0.125 (3.65) ***	-0.348 (-3.08) ***	43.20 (4.53) ***			0.189 (5.44) ***				0.751 (9.04)	2.01 *	
$Y_t = f(E_{us}/(C+M), \Pi_{us}, Y_{t-1})$	0.013 (0.29)	-0.074 (-0.27)				0.240 (2.58) ***		0.587 (1.92) ***		0.68 (6.37)	1.39	
$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us}, Y_{t-1})$	0.103 (1.18) **	-0.314 (-1.82) **	40.08 (2.72) ***			0.199 (3.65) ***		0.081 (0.28)		0.753 (6.09)	1.94	n.a.

Statistical significance: See text on page 30

PART IV

OVERALL EVALUATION AND CONCLUSIONS

Table 24 includes the chosen form for each one of the 12 industries included in our study.
Examination of this table leads to the following general observations.

a) In the chosen specifications, the U.S. share of exports to the Canadian market appears with a negative sign, implying that the industries covered by our study support Vernon's product-cycle hypothesis. The coefficient of this variable is significant at the 5 percent (or a higher) level in 4 industries, at the 0.10 or 0.15 level in 3 industries, and at the 0.20 or 0.25 level in 3 industries. The low significance in the remaining 2 industries may be attributed to multicollinearity and other econometric problems.

b) R & D is an important explanatory variable of foreign direct investment in only five of the industries covered by our study. In the remaining industries, the impact of this variable on the U.S. subsidiary production was impossible to assess, due to data limitations and various econometric problems.

Table 24. Regression Results for all Industries

NAME OF INDUSTRIES	REGRESSIONS	$\hat{b}_0$	$\hat{b}_1$ $E_{us}/C+M$	$\hat{b}_2$ R&D	$\hat{b}_3$ W_c/W_{us}	$\hat{b}_4$ $P_{r,c}/P_{r,us}$	$\hat{b}_5$ Π_{us}	$\hat{b}_6$ BTE	$\hat{b}_7$ Y_{t-1}	$\hat{b}_8$ DM	R^2 (F)	d	h
OFFICE FURNITURE	$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$	0.132 (0.721) *	-0.398 (-2.19) ***	3.130 (2.00) ***					0.610 (1.02) *		0.570 (4.04)	1.38	n.a.
PULP AND PAPER MILLS	$Y_t = f(E_{us}/(C+M))$	0.348 (5.44) ***	-1.712 (-0.78) *								0.368 (6.40)	1.00	
HARDWARE, TOOL AND CUTTLERY	$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$.	0.132 (1.36) **	-0.275 (-0.97) *	2.091 (0.25)					0.728 (3.62) ***		0.62 (4.9)	0.95	2.74
AIRCRAFT AND PARTS	$Y_t = f(E_{us}/(C+M), Y_{t-1})$	0.055 (0.62)	-0.05 (-0.27)						0.859 (5.20) ***		0.730 (13.57)	1.60	0.88
MOTOR VEHICLE PARTS AND ACCESSORIES	$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1}, DM)$	0.313 (3.52) ***	-0.551 (-5.10) ***	1.480 (2.71) ***					0.851 (9.00) ***	0.020 (4.69) ***	0.979 (97.68)	2.32	-0.62
COMMUNICATIONS EQUIPMENT	$Y_t = f(E_{us}/(C+M), Y_{t-1})$	0.051 (-0.057)	-0.008 (-0.057)						0.783 (2.39) ***		0.364 (2.86)	1.18	n.a.
PLASTICS AND SYNTHETIC RESINS	$Y_t = f(E_{us}/(C+M), W_c/W_{us}, P_{r,c}/P_{r,us}, Y_{t-1})$	0.172 (1.36) **	-0.253 (-1.25) **		-0.5×10^{-7} (-2.11) **	-0.21×10^{-7} (-0.41)		0.851 (5.25) ***			0.866 (12.97)	2.17	-0.39
PHARMACEUTICALS AND MEDECINES	$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$	0.279 (2.32) ***	-1.040 (-1.99) ***	3.321 (1.75) **					0.493 (2.54) ***		0.780 (10.63)	1.50	1.24
PAINTS AND VARNISHES	$Y_t = f(E_{us}/(C+M), R\&D, Y_{t-1})$	0.364 (3.50) ***	-0.326 (-1.54) **	0.267 (0.22)					0.250 (1.39) **		0.528 (3.35)	1.93	0.15
TOILET PREPARATIONS	$Y_t = f(E_{us}/(C+M), \Pi_{us}, M_{us}, Y_{t-1})$	-0.870 (-2.04) ***	-0.560 (-1.83) **				-0.689 (1.24) **	1.485 (1.29) **	0.539 (2.95) ***		0.833 (9.97)	1.94	0.12
INDUSTRIAL CHEMICALS (INORGANIC)	$Y_t = f(E_{us}/(C+M), R\&D, M_{us})$	0.789 (14.73) ***	-0.147 (-0.80) *	4.309 (2.02) ***			-1.450 (-7.32) ***				0.297 (38.18)	1.62	
TOYS AND GAMES	$Y_t = f(E_{us}/(C+M), R\&D, \Pi_{us})$	0.138 (3.07) ***	-0.347 (-2.19) ***	40.20 (3.29) ***			0.178 (3.92) ***				0.730 (8.14)	1.86	

Statistical significance: See note on page 36

c) The lagged variable is, in general, a significant determinant of the U.S. subsidiary production in Canadian markets.

d) The other regressors did not in general "work" in the expected manner. This may be due to data limitations, severe multicollinearity, and other econometric problems.

e) The multiple correlation coefficient, R^2, is fairly high in most regressions, and the overall fit, as judged by the value of the F statistic, shows that the estimated regressions are in their majority statistically significant, at least at the 5 percent level.

In conclusion, the results of this empirical study in their majority provide evidence in support of Vernon's product-cycle hypothesis. This conclusion is tentative, given data limitations and econometric problems encountered in estimating the specified model.

BIBLIOGRAPHY

1. Caves, R.E., "Causes of Direct Investment: Foreign Firms' Shares in Canadian and UK Manufacturing Industries", Review of Economics and Statistics, 1974, pp.279-293.
2. Crookell, H. "The Future of US Direct Investment in Canada", Business Quarterly, Summer 1983, pp.22-27.
3. Dominion Bureau of Statistics, SIC Manual (1970), Ottawa, 1970.
4. Eastman, H.C. and Stykolt, S., The Tariff and Competition in Canada, Macmillan, Toronto, 1967.
5. Gorecki, P.K., "The Determinants of Entry by Domestic and Foreign Enterprises in Canadian Manufacturing Industries.Some Comments and Empirical Results." Review of Economics and Statistics, Nov. 1976, pp.485-488.
6. Government of Canada, Commodity Trade by Industrial Sector with the United States. Historical Summary: 1966-1984, Ottawa, Regional Industrial Expansion, 1985.
7. Government of Canada, Commodity Trade by Industrial Sector. Historical Summary: 1966-1984, Ottawa, Regional Industrial Expansion, 1985.
8. Government of Canada, Commodity Trade by Industrial Sector with the United States. Historical Summary: 1966-1984, Ottawa, Regional Industrial Expansion, 1985.
9. Horst, T., "The Industrial Composition of US Exports and Subsidiary Sales to the Canadian Market", American Economic Review, 1972, pp.37-45.

10. Johnston, J., Econometric Methods, McGraw-Hill, 1984.

11. Koutsoyiannis, A., Non-Price Decisions. The Firm in a Modern Context, Macmillan, England, 1982.

12. _____ , Theory of Econometrics, Second Edition, Macmillan, England, 1977.

13. Krause, L. and Daw, K.W., "Federal Tax Treatment of Foreign Income", Brookings Institute, 1964, pp.92-93.

14. Lunn, J., "Determinants of US Direct Investment in the EEC", European Economic Review, Amsterdam, no 1 (1980), pp.93-101.

15. National Science Foundation, Research and Development in Industry, 1972, 1982.

16. Pick, F., Pick's Currency Yearbook, Pick Publishing Corporation, New York, 1984.

17. Pyndick, R. and Rubinfeld, D., Econometric Models and Economic Forecasts, McGraw Hill, 1981.

18. Servan Schreiber, J.J., The American Challenge, Atheneum, 1968.

19. Statistics Canada, Domestic and Foreign Control of Manufacturing Establishments in Canada, Ottawa, 1970, 1972, 1974, 1976, 1978, 1980, 1981.

20. Statistics Canada, Employment Earnings and Hours, Ottawa, 1971-1981.

21. Statistics Canada, Gross Domestic Product by Industry, Ottawa, 1982.

22. Statistics Canada, Indexes of Real Domestic Product, Ottawa, Dec 1972.

23. Statistics Canada, Convertibility Table of 1970 SIC to SIC U.S., Standards Division, Ottawa.

24. Statistics Canada, Convertibility Table of U.S. SIC to SIC 1970, Standards Division, Ottawa.

25. Statistics Canada, Industrial Organization and Concentration in the Manufacturing, Mining and Logging Industries, Ottawa, 1970, 1972, 1974, 1976, 1978, 1980.

26. U.S. Bureau of the Census, Manufacturers' Shipments, Inventories and Orders: 1967-1978, Current Industrial Reports, US Government Printing Office, Washington D.C., 1978, 1980, 1982.

27. US Bureau of the Census, Fuels and Electric Energy Consumed, Annual Survey of Manufactures, US Government Printing Office, Washington D.C., 1970, 1971, 1974, 1976, 1978, 1981.

28. US Bureau of the Census, General Industry Statistics, Annual Survey of Manufactures, US Government Printing Office, Washington D.C., 1969-78, 1980-81.

29. U.S. Department of Commerce/Bureau of Economic Analysis, Biennial Supplement to the Survey of Current Business, U.S. Business Statistics, U.S. Government Printing Office, Washington D.C., 1979.

30. U.S. Department of Commerce/Bureau of Economic Analysis, Survey of Current Business. U.S. Government Printing Office, Washington D.C., 1979, 1980, 1981.

31. U.S. Department of Labor Statistics, Employment and Earnings, U.S. 1909-78, Washington, 1979.

32. U.S. Department of Labor Statistics, Supplement to Employment and Earnings. Revised Establishment Data, Washington D.C., 1979, 1980, 1981.

33. Vernon, R., "International Investment and International Trade in the Product Cycle", Quarterly Journal of Economics, vol. 80, 1965, pp.190-207.

34. Vernon, R., Gruber, W. and Mehta, D., "The R & D Factor in International Trade and International Investment of United States Industries", Journal of Political Economy, vol. 75, 1967, pp.20-37.

APPENDIX I

VARIABLES

1. The Dependent Variable: $Y_j = \left[SP_{us}/(C+M)\right]_j$

Y_j, the endogenous variable of the model, is the share of the U.S. subsidiaries in the jth Canadian market.

The components of the dependent variable are:

a) $(SP)_j$:The value of shipments of American affiliates in the jth Canadian market. The relevant data are published in Domestic and Foreign Control of Manufacturing Establishments in Canada, Statistics Canada, Catalogue number 31-401.

b) C_j :The value of the shipments of Canadian and foreign owned firms in the jth industry. The relevant data are published in Domestic and Foreign Control of Manufacturing Establishments in Canada, op.cit.

c) M_j : The value of total imports of goods of the jth industry.The relevant data are published in Commodity Trade by Industrial Sector, Historical Summary, 1966-1984, Government of Canada, Regional Industrial Expansion, Ottawa

1985.

2. The R & D Variable

This variable is measured by the research and development expenditures of firms of the jth U.S. industry as a percentage of the value of shipments of that industry.

The R & D expenditures of the U.S. industries are published in Research and Development in Industry, National Science Foundation, 1972, 1984.

The value of shipments of the U.S. industries are published in Manufacturers' Shipments, Inventories and Orders, Current Industrial Reports, Annual Survey of Manufactures, U.S. Government Printing Office, Washington D.C., 1978, 1980, 1982.

Given the differences in the Standard Industrial Classification of Canada and the U.S.A., we had to do several adjustments in the aggregate figures of R & D and the value of shipments. Table 25 shows the U.S. and the corresponding Canadian Standard Industrial Classifications, for the R & D variable.

Table 25.

SIC 1970 (CANADA)	U.S. SIC
264 Office Furniture Manufacturers	24,25 Lumber and Wood Products, Furniture and Fixtures
271 Pulp and Paper Mills	26 Paper and Allied Products
306 Hardware, Tool and Cuttlery Manufacturers	34 Fabricated Metal Products
321 Aircraft and Parts Manufacturers	372,6 Aircrafts and Missiles
325 Motor Vehicle Parts and Accessories Manufacturers	371 Motor Vehicle and Motor Vehicles Equipment
335 Communications Equipment Manufactures	366 Communications Equipment
373 Manufacturers of Plastics and Synthetic Resins	281,2,6 Industrial Chemicals

Table 25. Cont'd

SIC 1970 (CANADA)	U.S. SIC
374 Manufacturers of Pharmaceuticals and Medicines	283 Drugs and Medicines
375 Paint and Varnish Manufacturers	284,5,287-9 Other Chemicals
377 Manufacturers of Toilet Preparations	284,5,287-9 Other Chemicals
3782 Manufacturers of Industrial Chemicals (Inorganic)	281-2,286 Industrial Chemicals
3932 Toys and Games Manufacturers	394 Toys and Sporting Goods

3. Factor-Cost Variables

1/ The first factor-cost variable that we used in the specified model is the ratio of the weekly wages in Canada and the U.S., W_c/W_{US}.

The data for the Canadian wages were obtained from Employment, Earnings, and Hours, Statistics Canada, Catalogue number 72-002.

The data for the U.S. wages were obtained from Employment and Earnings, U.S. 1909-1978, Washington D.C., 1979. and Supplement to Employment and Earnings, Revised Establishment Data, U.S. Department of Labor Statistics, Washington D.C., 1979, 1980, 1981.

The U.S. wages were converted to Canadian dollars, using the exchange rates published in Pick's Currency Yearbook, Pick Publishing Corporation, New York, N.Y. 10006.

2/ The second Factor-Cost variable used in this study is the ratio of the Canadian and the U.S. costs of raw materials, fuel and electricity, $P_{R,C}/P_{R,US}$. The price indexes $P_{R,C}$ and $P_{R,US}$ were calculated using indexes of the value of shipments and quantity indexes in Canada and the U.S.

The Canadian data were obtained from the following sources:

(a) Domestic and Foreign Control of Manufacturing Establishments in Canada, Statistics Canada, Catalogue number 31-401.

(b) Indexes of Real Domestic Product, Statistics Canada, Catalogue number 61-005, and Gross Domestic Product by Industry, Statistics canada, Catalogue number 61-213.

The U.S. data were obtained from:

(a) Fuels and Electric Energy Consumed, Annual Survey of Manufactures, U.S. Government Printing Office, Washington, D.C., 1970, 1971, 1974, 1976, 1978, 1981.

(b) General Industry Statistics, Annual Survey of Manufactures, U.S. Bureau of the Census, U.S. Government Printing Office, Washington, D.C., 1969-78, 1980-81.

(c) Business Statistics, Biennial Supplement to the survey of Current Business, U.S. Department of Commerce/Bureau of Economic Analysis, 1979 and Survey of Current Business, U.S. Department of Commerce/Bureau of Economic Analysis, 1979, 1980, 1981. op.cit.

Table 26 shows the U.S. and the corresponding Canadian Standard Industrial Classifications for the cost variables of our study.

Table 26.

SIC 1970 (CANADA)	SIC U.S.
264 Office Furniture Manufacturers	252 Office Furniture
271 Pulp and Paper Mills	261,2,6 Pulp Mills, Paper Mills except Building Paper and Board Mills
306 Hardware, Tool and Cuttlery Manufacturers	342 Cuttlery, Hand Tools and Hardware
321 Aircraft and Parts Manufacturers	372 Aircraft and Parts
325 Motor Vehicle Parts and Accessories Manufacturers	3714 Motor Vehicle Parts and Accessories
335 Communications Equipment Manufacturers	366 Communications Equipment
373 Manufacturers of Plastics and Synthetic Resins	282 Plastics Materials and Synthetics

Table 26. Cont'd

SIC 1970 (CANADA)	SIC U.S.
374 Manufacturers of Pharmaceuticals and Medicines	2834 Pharmaceutical Preparations
375 Paint and Varnish Manufacturers	285 Paint and Allied Products
377 Manufacturers of Toilet Preparations	2844 Toilet Preparations
3782 Manufacturers of Industrial Chemicals (Inorganic)	2819 Industrial Inorganic Chemicals, N.E.C
3932 Toys and Games Manufacturers	394 Toys and Sporting Goods

4. Barriers to Entry

Barriers to entry were measured by two variables, the four-firm concentration ratio (CR), and an estimate of the profit rate of the Canadian industries.

Data for the four-firm CR are published in Industrial Organization and Concentration in the Manufacturing, Mining

and Logging Industries, Statistics Canada, Catalogue number 31-402.

The profit rate for the Canadian industries was estimated by using data on the value of shipments and costs. The cost of labour, raw materials, fuel and electricity was substracted from the value of shipments. The difference provides an estimate of the total profit. The profit rate was obtained by dividing the estimated total profit by the value of shipments. The data for the profit variable were obtained from Domestic and Foreign Control of Manufacturing Establishments in Canada, Statistics Canada, Catalogue number 31-401.

5. The Exports Variable $\left[E_{us}/(C+M)\right]_j$

This is the share of the U.S. exports in the jth Canadian Industry.

Given data limitations, we used the imports of Canada from the U.S. as a proxy for the U.S. exports. The relevant data are published in Commodity Trade by Industrial Sector with the United States, Historical Summary: 1966-1984, Government of Canada, Regional Industrial Expansion, Ottawa 1985.

The denominator (C+M) is a measure of the Canadian market. It consists of the value of shipments of Canadian and foreign owned firms (C), and the value of imports (M)

for each industry. The sources of data are the same as those cited for the dependent variable (see p.81).

6. The "Expectations" Variable

This is the profit rate of U.S. subsidiaries in Canada. It is estimated in the same way as the profit rate of each Canadian industry. The difference between the value of shipments and the production costs (wages, materials and supplies, fuel, electricity) of the U.S. affiliates was expressed as a percentage of the value of shipments. The relevant data were obtained from Domestic and Foreign Control of Manufacturing Establishments in Canada, Statistics Canada, Catalogue number 31-401.

7. The Lagged Variable: Y_{t-1}

The lagged value of the dependent variable was introduced in the set of explanatory variables, assuming that a Nerlove-type adjustment mechanism is at work (see pp.22-23).

8. Dummy Variable

A dummy variable has been introduced in order to account for the OPEC shocks. Taking into account the timing of the

dramatic changes in the price of crude oil by the OPEC cartel, we have made the assumption that the years 1973, 1974, 1980 and 1981 were "abnormal".

The dummy variable was assigned the value of zero for "abnormal" years, and the value of unity for all other years.

APPENDIX II

DATA BY INDUSTRY

Table 1. IND264 Office Furniture

DATA				
SP_{US} /(C+M)	(R&D)	(W_C / W_{US})	$(P_{R,C} / P_{R,US})1$	$(P_{R,C} / P_{R,US})2$
0.2993283	0.0006442	0.7786781	1	1
0.2998396	0.0021842	0.86	1.183631	1.184116
0.3008492	0.0019445	0.828297	1.3442617	1.3442629
0.3018588	0.0018327	0.7879187	1.2091583	1.2231892
0.2995137	0.0017491	0.8084309	1.2951184	1.2961536
0.2971687	0.0021482	0.8599656	1.3417524	1.3568578
0.2984007	0.0023394	0.975308	1.3333151	1.3186003
0.2996328	0.0023531	1.0611023	1.3995122	1.3793087
0.2977877	0.0024717	0.92088	1.3290202	1.3208835
0.2959427	0.0023846	0.852627	1.1037174	1.0627471
0.2980598	0.0021548	0.9375348	1.2029419	1.1550393
0.300177	0.002164	0.9207442	1.1830092	1.1563461
0.3121257	0.0031353	0.9125656	1.3887819	1.3433632

Note: $(P_{R,C} / P_{R,US})1$ is the cost of raw materials, fuel and electricity, deflated by the index of the Gross Product (in constant dollars).

$(P_{R,C} / P_{R,US})2$ is the cost of raw materials, fuel and electricity, deflated by the index of Gross Domestic Product (in constant dollars).

Table 1. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.384	0.439	0.349597	0.0557171	0.2993	1
0.3815776	0.431	0.3515192	0.0512888	0.2993283	1
0.376354	0.412	0.3475593	0.0483301	0.2998396	1
0.3693293	0.393	0.3381202	0.0453714	0.3008492	1
0.3665154	0.365	0.3316412	0.0536454	0.3018588	0
0.3712913	0.337	0.3263296	0.0619195	0.2995137	0
0.3818212	0.323	0.3226389	0.057902	0.2971687	1
0.3905155	0.31	0.3194019	0.0538845	0.2984007	1
0.3969024	0.298	0.3203257	0.0578955	0.2996328	1
0.4028179	0.286	0.3260268	0.0619065	0.2977877	1
0.4073513	0.276	0.3365052	0.0555117	0.2959427	0
0.4109741	0.267	0.3426879	0.0491169	0.2980598	0
0.4178559	0.251	0.3433443	0.0497153	0.300177	1

Table 2. Ind271 Pulp and Paper Mills

DATA				
SP_{US} /(C+M)	(R&D)	(W_C / W_{US})	$(P_{R,C} / P_{R,US})1$	$(P_{R,C} / P_{R,US})2$
0.3480386	0.0076967	0.9228779	1	1
0.3532174	0.0071774	0.9837789	0.8572364	0.8572878
0.3534859	0.0073445	0.9815866	0.9084804	0.9084898
0.3537545	0.006875	0.966061	0.8475656	0.8353301
0.332668	0.0059229	0.9540961	0.962299	0.9491844
0.3115816	0.005716	1.0359478	0.7972192	0.7844417
0.3264224	0.0059693	1.054205	0.9267751	0.969721
0.3412633	0.0064912	1.1147853	0.8162732	0.8355
0.3317473	0.0063588	0.999436	0.8097416	0.8191962
0.3222314	0.0070809	0.8972158	0.7265399	0.7129742
0.3147342	0.006739	0.8854143	0.7480528	0.7627608
0.3072371	0.0069809	0.8674131	0.8837619	0.7393508
0.2106243	0.0070575	0.906734	0.7544068	0.7741122

Table 2. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.2600817	0.3605	0.2719042	0.0154249	0.33	1
0.2663123	0.362	0.2761631	0.0171285	0.3480386	1
0.2686049	0.3535	0.2758694	0.0198906	0.3532174	1
0.2668779	0.345	0.2691189	0.0226527	0.3534859	1
0.2816241	0.3425	0.2822909	0.0231574	0.3537545	0
0.3179305	0.34	0.3202925	0.0236621	0.332668	0
0.3408905	0.335	0.3444294	0.0305272	0.3115816	1
0.3289509	0.33	0.3317599	0.0373924	0.3264224	1
0.2966066	0.34	0.3008741	0.031491	0.3412633	1
0.2787641	0.35	0.2923789	0.0255897	0.3317473	1
0.2887135	0.3295	0.3077262	0.0260714	0.3222314	0
0.31196	0.309	0.326438	0.0265532	0.3147342	0
0.326881	0.3	0.3289454	0.0315802	0.3072371	1

Table 3. Ind306 Hardware, Tool and Cuttlery

DATA				
SP_{us} /(C+M)	(R&D)	(W_c/W_{US})	$(P_{R,c}/P_{R,US})1$	$(P_{R,c}/P_{R,US})2$
0.2948156	0.0039075	0.91885	1	1
0.3035634	0.0044913	0.9801478	1.0765055	1.0765684
0.30147	0.0050989	0.952246	1.1868152	1.1869338
0.2993767	0.0048901	0.910859	1.0791456	1.0792291
0.3108239	0.0049204	0.9323758	1.1090735	1.1083378
0.3222712	0.0046316	0.9683757	1.1134375	1.1344126
0.3264466	0.0047133	0.9772022	1.1175539	1.1755919
0.330622	0.0046188	0.997652	1.1530961	1.153158
0.3117927	0.0045275	0.9575702	1.0321344	1.0318465
0.2929635	0.0039911	0.9178097	0.9125739	0.8383005
0.2879635	0.0041566	0.9358116	1.0027566	0.9643242
0.2897033	0.0049377	0.9683691	1.0760365	1.0367313
0.2830534	0.0050618	0.9228996	1.0631546	1.023748

Table 3. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.4095108	0.161	0.3802124	0.2174345	0.28	1
0.4047689	0.165	0.3748725	0.2021081	0.2948156	1
0.3972782	0.169	0.3678336	0.2014746	0.3035634	1
0.3875278	0.173	0.3588832	0.2008412	0.30147	1
0.3769476	0.1785	0.3528484	0.2114809	0.2993767	0
0.3690338	0.184	0.3478761	0.2221207	0.3108239	0
0.3669349	0.191	0.3411392	0.2193676	0.3222712	1
0.3679846	0.198	0.3315751	0.2166145	0.3264466	1
0.3805659	0.1685	0.3334952	0.219667	0.330622	1
0.4015304	0.139	0.3449545	0.2227195	0.3117927	1
0.4214014	0.134	0.3626075	0.22219707	0.2929635	0
0.431796	0.129	0.3721428	0.2212219	0.2879635	0
0.4311853	0.124	0.3736553	0.2418833	0.2897033	1

Table 4. Ind321 Aircraft and Parts

DATA				
SP_{us} /(C+M)	(R&D)	(W_c /W_{us})	($P_{R,c}$ /$P_{R,us}$)1	($P_{R,c}$ /$P_{R,us}$)2
0.3910935	0.2181243	0.7625302	1	1
0.3775031	0.2119851	0.8088947	0.9076012	0.9076896
0.3929352	0.2160378	0.847297	1.1299086	1.1292038
0.4083674	0.2348308	0.8871832	1.0824982	1.0803623
0.3496979	0.2025255	0.8514239	1.1579597	1.1783597
0.2910285	0.1940155	0.8537435	1.2307226	1.2515483
0.3074906	0.1966203	0.6943829	1.024272	1.1926199
0.3239527	0.2071365	0.8890495	1.1970703	1.3328278
0.2672765	0.2135158	0.8197687	1.2962468	1.3916449
0.2106004	0.2007351	0.7512455	1.0718005	1.1838331
0.2355373	0.1835677	0.761021	0.9498601	1.0085714
0.2664742	0.1799753	0.7313277	0.8062165	0.8180812
0.2541343	0.182056	0.7641256	0.7593729	0.7378222

Table 4. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.324733	0.744	0.3078157	0.3491394	0.38	1
0.3203649	0.72	0.3123136	0.3780666	0.3910935	1
0.3265447	0.708	0.3212464	0.3607485	0.3775031	1
0.3285393	0.697	0.3347983	0.3434305	0.3929352	1
0.3505597	0.686	0.3555819	0.4168474	0.4083674	0
0.3828361	0.674	0.3758443	0.4902643	0.3496979	0
0.4114712	0.663	0.3927197	0.4093742	0.2910285	1
0.4262092	0.652	0.4067294	0.3284842	0.3074906	1
0.4135647	0.688	0.4128545	0.3105984	0.3239527	1
0.387435	0.724	0.4139609	0.2927127	0.2672765	1
0.3641548	0.737	0.4091462	0.3520009	0.2106004	0
0.3572095	0.75	0.4034292	0.4112892	0.2355373	0
0.3836147	0.74	0.4077623	0.436149	0.2664742	1

Table 5. Ind325 Motor Vehicle parts and Accessories

DATA				
SP_{us} /(C+M)	(R&D)	(W_c /W_{us})	($P_{R,c}$/$P_{R,us}$)1	($P_{R,c}$ /$P_{R,us}$)2
0.3150546	0.029955	0.7234641	1	1
0.3455305	0.0362734	0.8591888	0.9951362	0.995288
0.354324	0.0293577	0.8748754	1.0992961	1.0993167
0.3631175	0.030567	0.7981515	1.1227749	1.1140421
0.3424085	0.0321528	0.7937214	0.956474	0.9116897
0.3169952	0.0348093	0.8446045	0.9900898	0.9477375
0.310123	0.0334128	0.8742633	1.1355576	1.1423844
0.3032509	0.0291256	0.9066145	1.000006	0.9618099
0.3001411	0.0285161	0.8202141	0.9959924	0.941765
0.2970314	0.0293403	0.7558813	0.9166138	0.9117072
0.272371	0.0348551	0.796255	0.9270076	0.8079473
0.2477106	0.0467757	0.7836066	0.912989	0.9000618
0.2472326	0.0418378	0.8238579	0.938488	0.9221136

Table 5. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.2543813	0.4795	0.2549725	0.564295	0.29	1
0.251837	0.462	0.2532546	0.5953179	0.3150546	1
0.2500687	0.4755	0.253382	0.5868268	0.3455305	1
0.2546952	0.489	0.2583824	0.5782818	0.354324	1
0.259447	0.4755	0.261852	0.5963985	0.3631175	0
0.2566226	0.462	0.2582552	0.6145153	0.3424085	0
0.2501944	0.4835	0.2517728	0.6166315	0.3169952	1
0.2477388	0.505	0.2494785	0.6187477	0.310123	1
0.2554277	0.525	0.2558835	0.6184859	0.3032509	1
0.2692885	0.545	0.2794622	0.6182242	0.3001411	1
0.3095723	0.4955	0.2936046	0.6371831	0.2970314	0
0.3701073	0.446	0.2937923	0.6561421	0.272371	0
0.4245503	0.46	0.2737937	0.6640237	0.2477106	1

Table 6. Ind335 Communications Equipment

DATA				
SP_{us} /(C+M)	(R&D)	(W_c /W_{us})	($P_{R,c}$ /$P_{R,us}$)1	($P_{R,c}$ /$P_{R,us}$)2
0.2787931	0.1835578	0.7943612	1	1
0.2834725	0.180777	0.8538786	1.034797	1.0343923
0.2681645	0.1894971	0.85115	1.0645877	1.064598
0.2528565	0.1890645	0.728722	1.021652	1.021788
0.2540442	0.1771285	0.724173	1.2996203	1.3007012
0.255232	0.147275	0.808914	1.3499963	1.351093
0.2457691	0.1370374	0.836811	1.143297	1.1423964
0.2363063	0.1312117	0.854601	1.2503837	1.2649189
0.2753664	0.11997	0.783720	1.07623054	1.0345827
0.3144266	0.1093089	0.742227	0.9950879	0.9552971
0.2488859	0.1130778	0.725952	0.99987031	0.9747682
0.1833452	0.1089452	0.734563	0.988039	0.9479992
0.168249	0.1157044	0.760448	1.0000927	0.953156

Table 6. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.3667722	0.551	0.3222261	0.215833	0.26	1
0.3703314	0.558	0.3247215	0.2060688	0.2787931	1
0.3726923	0.5615	0.3417664	0.2309264	0.2834725	1
0.3770825	0.565	0.3731346	0.2557841	0.2681645	1
0.3728328	0.5865	0.3959583	0.2498336	0.2528565	0
0.3669285	0.608	0.3959573	0.2438832	0.2540442	0
0.3620929	0.6235	0.3913279	0.2353451	0.255232	1
0.3599802	0.639	0.404895	0.2268071	0.2457691	1
0.3619394	0.599	0.4273545	0.3262969	0.2363063	1
0.352466	0.559	0.4405103	0.4257867	0.2753664	1
0.3690159	0.5415	0.4364522	0.3700638	0.3144266	0
0.3718992	0.524	0.4244842	0.314341	0.2488859	0
0.3716359	0.514	0.4116742	0.3095913	0.1833452	1

Table 7. Ind373 Plastics and Synthetic Resins

DATA				
SP_{us} /(C+M)	(R&D)	(W_c/W_{us})	$(P_{R,c}/P_{R,us})1$	$(P_{R,c}/P_{R,us})2$
0.3785111	0.0349845	0.8832908	1	1
0.3808446	0.0364033	0.9487467	0.9963796	0.9963794
0.3892716	0.0357058	0.931391	1.1143414	1.1143407
0.3976987	0.0336861	0.890531	1.2477752	1.2560718
0.4088516	0.0325438	0.913646	1.670809	1.6694593
0.4200045	0.0292565	0.942710	1.4619478	1.4467865
0.44513	0.0303938	0.954950	1.4680264	1.4743139
0.4702555	0.02897	0.972409	1.5165347	1.5129369
0.4468694	0.024146	0.906861	1.7196545	1.7206062
0.4234834	0.0283127	0.801343	1.8041486	1.8546004
0.4509546	0.0270677	0.836381	2.03213	2.0530674
0.4784259	0.028682	0.84786	2.0986586	2.112256
0.4557999	0.0321202	0.844689	2.3132458	2.322075

Table 7. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.3593514	0.569	0.3259352	0.3942275	0.36	1
0.3499392	0.577	0.3307088	0.3920172	0.3785111	1
0.3384632	0.5735	0.3322505	0.4024359	0.3808446	1
0.325572	0.57	0.3306651	0.4128547	0.3892716	1
0.3177219	0.5665	0.3265224	0.4028547	0.3976987	0
0.3132133	0.563	0.3230124	0.3927523	0.4088516	0
0.2996882	0.5455	0.3068061	0.3930759	0.4200045	1
0.2738052	0.528	0.277311	0.3933996	0.44513	1
0.2824328	0.56	0.2410487	0.3861541	0.4702555	1
0.2164321	0.592	0.2150746	0.379087	0.4468694	1
0.2241814	0.5825	0.2253902	0.3861541	0.4234834	0
0.2158842	0.573	0.2165474	0.3084037	0.4509546	0
0.1977618	0.57	0.2026828	0.321865	0.4784259	1

Table 8. Ind374 Pharmaceuticals and Medicines

DATA				
$SP_{US}/(C+M)$	(R&D)	(W_C/W_{US})	$(P_{R,C}/P_{R,US})1$	$(P_{R,C}/P_{R,US})2$
0.610152	0.0349845	0.898057	1	1
0.6062841	0.0364033	0.9546409	1.2852391	1.2853773
0.5982756	0.0357058	0.902294	1.3405693	1.3406409
0.5902672	0.0336861	0.77742	1.2611656	1.2798816
0.5706459	0.0325438	0.775436	1.12672816	1.13939744
0.5510246	0.0292565	0.83549	1.2518798	1.2896476
0.5495226	0.0303938	0.846955	1.102212	1.1291047
0.5480206	0.02897	0.795574	1.198318	1.2576306
0.5732471	0.0284146	0.814001	1.2440356	1.3075307
0.5984736	0.0283127	0.768853	1.126977	1.1813386
0.5684041	0.0270677	0.77088	1.1045268	1.1586155
0.5383347	0.028682	0.757857	1.0655831	1.1191161
0.5477701	0.0321202	0.707324	1.006434	1.0372373

Table 8. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.6327307	0.288	0.5907389	0.0903932	0.62	1
0.6267848	0.296	0.5930007	0.0996691	0.610152	1
0.6526245	0.287	0.5935937	0.095962	0.6062841	1
0.6265192	0.278	0.592779	0.092255	0.5982756	1
0.6231751	0.267	0.5880864	0.1027936	0.5902672	0
0.6121299	0.256	0.5777077	0.1133322	0.5706459	0
0.5936941	0.2655	0.5587052	0.1028836	0.5510246	1
0.5755689	0.275	0.5367652	0.0929435	0.5495226	1
0.5651065	0.2725	0.5228883	0.0858952	0.5480206	1
0.5619965	0.27	0.5158545	0.0788469	0.5732471	1
0.564306	0.2705	0.5202190	0.0843438	0.5984736	0
0.5646827	0.271	0.5229954	0.0898408	0.5684041	0
0.5728609	0.2715	0.5353669	0.0838971	0.5383347	1

Table 9. Ind375 Paints and Varnishes

DATA				
SP_{US} /(C+M)	(R&D)	(W_C/W_{US})	$(P_{R,C}/P_{R,US})1$	$(P_{R,C}/P_{R,US})2$
0.4577288	0.0349845	0.7727272	1	1
0.479249	0.0364033	0.9066	0.9915153	0.9915725
0.4669677	0.0357058	0.915465	1.015308	1.0153914
0.4546865	0.0336865	0.874261	1.0443734	1.0405693
0.4630347	0.0325438	0.857423	1.1594099	1.1574762
0.471383	0.0292565	0.9062823	1.1269988	1.1298164
0.4693103	0.0303938	0.9041993	1.1354662	1.1152058
0.4672376	0.02897	0.9506675	1.17671342	1.1977902
0.458178	0.0284146	0.9036686	1.1822172	1.2173429
0.4505981	0.0283127	0.7008641	1.1015851	1.1348148
0.44707	0.0270677	0.8560607	1.3072085	1.3433573
0.443542	0.028682	0.8691265	1.43402	1.4502614
0.4654203	0.0321202	0.897489	1.6600049	1.6232023

Table 9. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.4212662	0.4055	0.3910254	0.0586955	0.43	1
0.4166833	0.397	0.3948317	0.0603433	0.4577288	1
0.4178011	0.3875	0.3980355	0.064986	0.479249	1
0.4233532	0.378	0.4006114	0.0696288	0.4669677	1
0.4251191	0.369	0.3995725	0.0661288	0.4546865	0
0.4175493	0.36	0.3933024	0.0626289	0.4630347	0
0.4024877	0.3415	0.3795091	0.0736217	0.471383	1
0.3892703	0.323	0.363424	0.0846146	0.4693103	1
0.3916575	0.337	0.3593253	0.0979651	0.4672376	1
0.4078054	0.351	0.3667813	0.1113163	0.458178	1
0.4206936	0.337	0.3747241	0.1028548	0.4505981	0
0.4165616	0.326	0.3088755	0.0943934	0.44707	0
0.4144997	0.32	0.3617294	0.0899319	0.443542	1

Table 10. Ind377 Toilet Preparations

DATA				
SP_{US} /(C+M)	(R&D)	(W_C/W_{US})	$(P_{R,C}/P_{R,US})1$	$(P_{R,C}/P_{R,US})2$
0.7070602	0.0349845	1.1568537	1	1
0.7125645	0.0364033	1.2202354	0.9658276	0.9658268
0.7399673	0.0357058	1.2511862	1.0190603	1.0190603
0.7673701	0.0336861	1.2072649	1.0123217	1.0190515
0.7386061	0.0325438	1.2156109	1.0520562	1.0512347
0.7098422	0.0292565	1.2390538	1.0515887	1.0406937
0.6973021	0.0303938	1.2626255	1.0264251	1.0308205
0.6847621	0.02897	1.2962349	1.1533165	1.1505036
0.6757574	0.0281146	1.1474876	1.1505653	1.1512023
0.6667528	0.0283127	1.1437908	0.9663065	0.9934458
0.6842528	0.270677	1.2571498	1.0848845	1.096062
0.7015059	0.028682	1.1989979	1.1880212	1.1957186
0.7233986	0.0321202	1.2683607	1.186336	1.1908637

Table 10. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.5903215	0.456	0.5595691	0.0386657	0.69	1
0.5838423	0.454	0.563419	0.0389152	0.7070602	1
0.5807372	0.456	0.5657741	0.0399355	0.7125645	1
0.5806846	0.458	0.5670661	0.0409558	0.7399673	1
0.5797731	0.478	0.564969	0.0478219	0.767301	0
0.5738278	0.498	0.5612585	0.054688	0.7386061	0
0.5653164	0.48	0.5565069	0.0533983	0.7098422	1
0.5592727	0.462	0.5523278	0.0521087	0.6973021	1
0.5615632	0.447	0.5617363	0.0643326	0.6847621	1
0.5697202	0.432	0.5656713	0.0765566	0.6757574	1
0.5811971	0.4165	0.5725186	0.0900317	0.6667528	0
0.5901273	0.401	0.569272	0.1035069	0.6842528	0
0.5997093	0.41	0.5803173	0.0868523	0.7015059	1

Table 11. Ind3782 Industrial Chemicals (Inorganic)

DATA				
SP_{US} /(C+M)	(R&D)	(W_C/W_{US})	($P_{R,C}/P_{R,US}$)1	($P_{R,C}/P_{R,US}$)2
0.2833	0.0349845	0.92	1	1
0.2784721	0.0364033	0.93	1.1268143	1.163496
0.2918894	0.0357058	0.95	1.2239593	1.2239591
0.3053067	0.0336861	1.00996	1.5978927	1.6119661
0.2943685	0.0325498	1.075164	1.8885585	1.8886313
0.2833701	0.0292565	1.025194	1.8157719	1.8079203
0.317456	0.0303938	1.067616	1.9286731	2.0750314
0.3515419	0.02897	1.0800698	1.7102005	2.1909952
0.3543972	0.0281146	1.0029667	2.116457	2.1909952
0.3572525	0.0283127	0.9026787	1.9710959	2.2277748
0.3656614	0.0270677	0.9288995	2.0936115	2.213988
0.3740703	0.028682	0.9323057	2.2052922	2.327673
0.3836832	0.0321202	0.9411317	2.6133881	2.7657209

Table 11. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.439	0.528	0.3604333	0.17	0.29	1
0.431089	0.525	0.3634205	0.2601022	0.2833	1
0.4306185	0.5245	0.3690484	0.2283696	0.2784721	1
0.4217665	0.524	0.3768836	0.1966371	0.2918894	1
0.4129907	0.4855	0.3834982	0.1976122	0.3053067	0
0.4009399	0.447	0.3899357	0.1985873	0.2943685	0
0.386837	0.455	0.3815338	0.2049354	0.2833701	1
0.3739573	0.463	0.3616001	0.2112835	0.317456	1
0.3649887	0.425	0.3311896	0.2063169	0.3515419	1
0.3587081	0.387	0.3261918	0.2013504	0.3543972	1
0.3574855	0.3995	0.3320433	0.2051863	0.3572525	0
0.3586301	0.412	0.3476888	0.2090223	0.3656614	0
0.3474385	0.42	0.3404345	0.204089	0.3740703	1

Table 12. Ind3932 Toys and Games

DATA			
SP_{US} /(C+M)	(R&D)	(W_c/W_{US})	$(P_{R,c}/P_{R,US})12$
0.3344922	0.0031032	0.9155911	1
0.3339818	0.0039074	0.954742	0.8568219
0.2982235	0.0036524	1.0412716	1.0040989
0.2624652	0.0030848	0.9637767	1.0614322
0.271223	0.0029458	0.950678	1.206756
0.2799808	0.0032774	0.9870974	1.1554902
0.2765463	0.0039457	1.028457	1.3187054
0.2731119	0.0035137	1.134944	1.3553226
0.2662859	0.0034106	1.0552213	1.1553862
0.25946	0.00327	0.95486032	0.9655996
0.2603662	0.0024777	0.998915	1.0850598
0.2612724	0.0028333	0.959876	1.1716437
0.2317845	0.0030493	0.9434323	1.0631931

Table 12. Cont'd

DATA					
(Π_{us})	(CR)	(Π_c)	$E_{us}/(C+M)$	(Y_{t-1})	(DM)
0.3208269	0.3675	0.3109016	0.1089125	0.33	1
0.336124	0.412	0.3314057	0.1209117	0.3344922	1
0.3358375	0.4375	0.339188	0.1231513	0.3339818	1
0.3161195	0.463	0.333347	0.1253909	0.2982235	1
0.2921826	0.466	0.3196517	0.1401775	0.2624652	0
0.3030594	0.469	0.3204262	0.1549642	0.271233	0
0.3099427	0.499	0.3403625	0.1919112	0.2799808	1
0.3418564	0.529	0.3649909	0.2288582	0.2765463	1
0.3698532	0.5025	0.3794554	0.212664	0.2731119	1
0.3848849	0.476	0.3908244	0.1964746	0.2662859	1
0.3815523	0.481	0.3903007	0.1828675	0.25946	0
0.3728266	0.486	0.3927401	0.1692604	0.2603662	0
0.3601791	0.49	0.3935049	0.1659294	0.2612724	1

APPENDIX III

CORRELATION MATRIXES

Table 1. Ind264 Office Furniture

SP_{us} /C+M	1	1.00000									
R&D	2	0.38991	1.00000								
W_c/W_{us}	3	0.00958	0.50774	1.00000							
$P_{c,c}/P_{c,us}$ 1	4	0.33413	0.65488	0.53547	1.00000						
$P_{c,c}/P_{c,us}$ 2	5	0.29354	0.55028	0.43639	0.99420	1.00000					
Π_{us}	6	0.34249	0.51875	0.46260	-0.05753	-0.21514	1.00000				
CR	7	-0.17762	-0.72335	-0.62532	-0.33560	-0.19357	-0.76614	1.00000			
Π_{cc}	8	0.41389	-0.35936	-0.54769	-0.44577	-0.42298	0.93283	0.49154	1.00000		
$E_{us}/C+M$	9	-0.60028	0.02606	0.17684	-0.08179	-0.19142	0.02923	-0.24769	-0.61285	1.00000	
Y_{t-1}	10	0.36985	-0.16355	-0.57191	0.19225	0.29723	-0.52229	0.43865	0.20161	-0.39324	1.00000
DM	11	0.23297	0.97658	0.02816	-0.00446	0.00289	-0.00039	0.28273	0.94637	-0.13938	0.09773
		1.00000									
TEST	12	0.20687	0.39886	0.22534	0.21444	0.14289	0.35689	-0.47917	-0.35925	0.65839	-0.12971
		0.04792	1.00000								
VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 2. Ind271 Pulp and Paper Mills

SP_{us} /C+M	1	1.00000									
R&D	2	0.04978	1.00000								
W_c/W_{us}	3	0.34419	-0.51919	1.00000							
$P_{c,c}/P_{c,us}$ 1	4	0.46623	0.07292	0.12246	1.00000						
$P_{c,c}/P_{c,us}$ 2	5	0.43910	-0.01499	0.35564	0.87386	1.00000					
Π_{us}	6	-0.54627	-0.57779	0.39947	-0.25564	-0.19895	1.00000				
CR	7	0.88946	0.19364	0.21279	0.37007	0.48190	-0.72249	1.00000			
Π_{cc}	8	-0.55210	-0.48826	0.27599	-0.39089	-0.28492	0.97704	-0.74466	1.00000		
$E_{us}/C+M$	9	-0.42258	-0.45453	0.37027	-0.46562	-0.34988	0.81532	-0.67401	0.78442	1.00000	
Y_{t-1}	10	0.67787	0.03456	0.15095	0.27108	0.27939	-0.73573	0.72098	-0.82651	-0.52372	1.00000
DM	11	0.13916	0.44637	0.29366	0.01042	0.25346	-0.12996	0.39433	-0.18635	0.06927	0.08329
		1.00000									
TEST	12	0.98738	-0.02669	0.42996	0.41349	0.40484	-0.43911	0.74918	-0.44083	-0.27379	0.62705
		0.15086	1.00000								
VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 3. Ind396 Hardware, Tool and Cutlery

SP_{us} /C+M	1	1.00000									
R&D	2	0.11652	1.00000								
W_c/W_{us}	3	0.68091	0.19822	1.00000							
$P_{c,c}/P_{c,us}$ 1	4	0.54872	0.75972	0.56554	1.00000						
$P_{c,c}/P_{c,us}$ 2	5	0.66724	0.65439	0.58233	0.96591	1.00000					
Π_{us}	6	-0.92998	-0.87382	-0.39116	-0.42169	-0.55455	1.00000				
CR	7	0.92713	0.12517	0.48643	0.59146	0.72184	-0.93592	1.00000			
Π_{cc}	8	-0.73201	0.04403	-0.36565	-0.08963	-0.15582	0.77400	-0.56760	1.00000		
$E_{us}/C+M$	9	-0.24129	-0.10511	-0.14359	-0.36346	-0.39150	0.33795	-0.49653	-0.05949	1.00000	
Y_{t-1}	10	0.75825	0.05583	0.48392	0.21556	0.29514	-0.77251	0.61921	-0.94481	-0.04697	1.00000
DM	11	0.06966	-0.08914	-0.04923	-0.04227	0.00932	-0.11678	0.17994	-0.07567	-0.14938	0.27579
		1.00000									
TEST	12	0.75763	0.03649	0.54322	0.26929	0.35046	-0.62731	0.51889	-0.71334	0.45067	0.66649
		-0.93639	1.00000								
VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 4. Ind321 Aircraft and Parts

$SP_{us}/C+M$	1	1.00000									
R&D	2	0.76208	1.00000								
W_c/W_{us}	3	0.49840	0.57261	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	0.16493	0.49367	0.61029	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	0.00969	0.39124	0.43372	0.95601	1.00000					
Π_{us}	6	-0.63350	-0.37022	-0.12546	0.32997	0.51892	1.00000				
CR	7	-0.18122	-0.28263	-0.48372	-0.74160	-0.80262	-0.54428	1.00000			
$\Pi_{c\Sigma}$	8	-0.99193	-0.65512	-0.31319	-0.01008	0.17424	0.83697	-0.11659	1.00000		
$E_{us}/C+M$	9	0.00446	-0.48597	-0.07070	-0.23951	-0.31565	-0.05368	-0.06871	-0.05047	1.00000	
Y_{t-1}	10	0.95368	0.77477	0.61699	0.43128	0.24916	-0.59759	-0.31314	-0.82392	0.05744	1.00000
B	11	0.29389	0.56801	0.82587	0.94738	0.10432	0.07192	-0.11539	-0.21096	-0.53010	0.23468
		1.00000									
TEST	12	0.76636	0.26965	0.33510	-0.02859	-0.19539	-0.51816	-0.18258	-0.72104	0.64582	0.68866
		-0.11618	1.00000								
	VAR	1	2	3	4	5	6	7	8	9	10
		11	12								

Table 5. Ind325 Motor Vehicle Parts and Accessories

$SP_{us}/C+M$	1	1.00000									
R&D	2	-0.63782	1.00000								
W_c/W_{us}	3	0.20127	-0.07232	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	0.66967	-0.43253	0.44235	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	0.62965	-0.33323	0.36377	0.94525	1.00000					
Π_{us}	6	-0.80289	0.81945	-0.29176	-0.53322	-0.45587	1.00000				
CR	7	0.06244	-0.76938	-0.14068	-0.03592	-0.09937	-0.40177	1.00000			
$\Pi_{c\Sigma}$	8	-0.78502	0.60357	-0.49281	-0.69326	-0.69935	0.68125	-0.04592	1.00000		
$E_{us}/C+M$	9	-0.87958	0.69460	0.12579	-0.55936	-0.56041	0.79626	-0.12977	0.65716	1.00000	
Y_{t-1}	10	0.87382	-0.54776	0.24273	0.53797	0.42810	-0.75031	0.05531	-0.59456	-0.66213	1.00000
DM	11	0.26033	-0.44805	0.29136	0.49165	0.59144	-0.22485	0.38046	-0.55439	-0.32119	-0.13775
		1.00000									
TEST	12	0.65519	-0.29569	0.69945	0.46735	0.40293	-0.38297	-0.06366	-0.40393	-0.21676	0.73709
		0.02425	1.00000								
	VAR	1	2	3	4	5	6	7	8	9	10
		11	12								

Table 6. Ind335 Communications Equipment

$SP_{us}/C+M$	1	1.00000									
R&D	2	0.35383	1.00000								
W_c/W_{us}	3	0.29291	0.29119	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	0.04051	0.15886	0.27382	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	0.00195	0.25515	0.33038	0.99195	1.00000					
Π_{us}	6	-0.44495	0.52653	-0.21795	-0.08352	-0.04910	1.00000				
CR	7	0.32908	0.08733	0.51978	0.75459	0.77339	-0.43879	1.00000			
$\Pi_{c\Sigma}$	8	-0.27211	-0.87685	-0.54320	0.03750	-0.06363	-0.39897	0.01987	1.00000		
$E_{us}/C+M$	9	0.93565	-0.74628	-0.64141	-0.42969	-0.59558	-0.41025	-0.37690	0.99359	1.00000	
Y_{t-1}	10	0.60356	0.25496	0.90191	-0.12378	-0.06262	-0.81421	0.02824	-0.16265	0.08290	1.00000
DM	11	0.27914	0.29516	0.49136	-0.35733	-0.31366	-0.29139	0.12976	-0.37256	-0.17517	-0.21425
		1.00000									
TEST	12	0.53919	-0.45627	-0.44200	-0.33667	-0.38843	-0.57051	-0.15975	0.54567	0.86625	0.37297
		-0.00967	1.00000								
	VAR	1	2	3	4	5	6	7	8	9	10
		11	12								

Table 7. Ind373 Plastics and Synthetic Resins

SP_{us}/C+M	1	1.00000									
R&D	2	-0.75357	1.00000								
W_c/W_{us}	3	0.25856	0.09660	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	-0.02782	-0.21612	-0.08333	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	0.80192	-0.63176	0.52773	0.16159	1.00000					
Π_{us}	6	-0.13112	-0.14524	-0.14726	0.99297	0.04049	1.00000				
CR	7	-0.03053	0.25574	0.09834	-0.98932	-0.14874	-0.98270	1.00000			
$\Pi_{c\Sigma}$	8	-0.43523	0.12024	-0.32986	0.86692	-0.39467	0.91695	-0.86193	1.00000		
E_{us}/C+M	9	-0.32195	0.31200	-0.25591	-0.93168	-0.53952	-0.77453	0.80798	-0.50140	1.00000	
Y_{t-1}	10	0.86040	-0.63521	0.51139	-0.27761	0.74653	-0.37233	0.23355	-0.65569	-0.11529	1.00000
DM	11	-0.25858	0.36813	0.22139	-0.12825	-0.45609	-0.08920	0.08081	-0.01281	0.22799	-0.02547
		1.00000									
TEST	12	0.29960	-0.14809	-0.09968	-0.85793	-0.85219	-0.96368	0.79807	-0.77461	0.81295	0.41266
		0.07145	1.00000								
VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 8. Ind374 Pharmaceuticals and Medicines

SP_{us}/C+M	1	1.00000									
R&D	2	0.62323	1.00000								
W_c/W_{us}	3	0.59169	0.62991	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	0.29131	0.25894	0.46982	1.00000						
$P_{r,c}/P_{r,us}$	5	0.16582	0.04349	0.33641	0.97579	1.00000					
Π_{us}	6	0.55873	0.86467	0.67899	0.42689	0.22857	1.00000				
CR	7	0.72234	0.74908	0.63475	0.23266	0.10461	0.48777	1.00000			
$\Pi_{c\Sigma}$	8	0.49559	0.84919	0.63331	0.38564	0.19387	0.97644	0.42339	1.00000		
E_{us}/C+M	9	-0.17316	0.27189	0.44816	0.37987	0.29172	0.57279	-0.20206	0.65295	1.00000	
Y_{t-1}	10	0.77851	0.69635	0.57379	0.29771	0.06935	0.69591	0.61222	0.63941	0.12939	1.00000
DM	11	0.44144	0.41467	0.38846	0.16282	0.11382	0.14624	0.54453	0.11395	-0.31129	-0.08433
		1.00000									
TEST	12	0.92904	0.72168	0.75654	0.43229	0.27443	0.77857	0.64216	0.72797	0.20353	0.81117
		0.32189	1.00000								
VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 9. Ind375 Paints and Varnishes

SR_{us}/C+M	1	1.00000									
R&D	2	0.51062	1.00000								
W_c/W_{us}	3	0.53253	0.88857	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	-0.30797	-0.43329	0.15597	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	-0.37242	-0.58732	0.12588	0.99359	1.00000					
Π_{us}	6	-0.14534	0.46185	-0.27966	-0.85136	-0.89880	1.00000				
CR	7	0.31993	0.90439	-0.23734	-0.77872	-0.81985	0.54175	1.00000			
$\Pi_{c\Sigma}$	8	0.54617	0.59448	0.82232	-0.65488	-0.70040	0.37198	0.72536	1.00000		
E_{us}/C+M	9	-0.65299	-0.77303	-0.31912	0.53161	0.69691	-0.41937	-0.75781	-0.67718	1.00000	
Y_{t-1}	10	0.35594	-0.04245	0.58121	-0.36480	-0.35975	-0.42066	-0.06708	0.23845	-0.06363	1.00000
DM	11	0.32673	0.41463	-0.01938	-0.28144	-0.31233	-0.43777	0.29028	0.19551	-0.06669	0.23647
		1.00000									
TEST	12	-0.10326	-0.63663	-0.09559	0.46654	0.51405	-0.64058	-0.73443	-0.47737	0.02975	0.18492
		0.15097	1.00000								
VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 10. Ind377 Toilet Preparations

$SP_{us}/C+M$	1	1.00000									
R&D	2	-0.22578	1.00000								
N_c/N_{us}	3	0.20771	0.23168	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	-0.18914	0.04906	0.29198	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	-0.23041	0.07738	0.25302	0.99370	1.00000					
Π_{us}	6	0.47413	0.10019	-0.00647	0.07214	0.07793	1.00000				
CR	7	0.24250	-0.34650	0.12832	-0.46397	-0.53836	-0.48952	1.00000			
$\Pi_{c,I}$	8	0.26972	0.34031	0.01421	0.26868	0.31347	0.74046	-0.69426	1.00000		
$E_{us}/C+M$	9	-0.45210	0.37785	-0.09392	0.62833	0.69330	0.23572	-0.78774	0.59735	1.00000	
Y_{t-1}	10	0.74639	-0.39866	0.19608	-0.22537	-0.28795	0.02899	0.68496	-0.12141	-0.55694	1.00000
DM	11	-0.09389	-0.42133	-0.10463	-0.24639	-0.23339	-0.17991	0.03677	-0.23991	-0.42517	-0.20451
		1.00000									
TEST	12	0.68969	0.06816	0.21631	0.31021	0.31935	0.69239	-0.38329	0.75232	0.33406	0.33668
		-0.34918	1.00000								
	VAR	1	2	3	4	5	6	7	8	9	10
		11	12								

Table 11. Ind3732 Industrial Chemicals (Inorganic)

$SP_{us}/C+M$	1	1.00000									
R&D	2	-0.69589	1.00000								
N_c/N_{us}	3	-0.20372	-0.14469	1.00000							
$P_{r,c}/P_{r,us}$ 1	4	0.81625	-0.70650	0.09197	1.00000						
$P_{r,c}/P_{r,us}$ 2	5	0.88164	-0.75949	0.13221	0.96762	1.00000					
Π_{us}	6	-0.94561	0.83342	0.08504	-0.89610	-0.94862	1.00000				
CR	7	-0.82549	0.89006	0.15395	-0.84223	-0.86400	0.94575	1.00000			
$\Pi_{c,I}$	8	-0.76527	0.45140	0.62857	-0.42275	-0.47036	0.67509	0.64279	1.00000		
$E_{us}/C+M$	9	-0.10655	0.28392	-0.12011	-0.18867	-0.15569	0.10497	0.16667	-0.00561	1.00000	
Y_{t-1}	10	0.92683	-0.66408	-0.36305	0.81192	0.82021	-0.87737	-0.85919	-0.82200	-0.15405	1.00000
DM	11	-0.05619	0.40630	-0.09063	-0.31548	-0.21430	0.18057	0.33920	-0.14599	0.15630	-0.22443
		1.00000									
TEST	12	0.87593	-0.50777	-0.24726	0.66564	0.74230	-0.82624	-0.69480	-0.71261	0.39636	0.79462
		0.02371	1.00000								
0 VAR		1	2	3	4	5	6	7	8	9	10
		11	12								

Table 12. Ind3932 Toys and Games

$SP_{us}/C+M$	1	1.00000									
R&D	2	0.45220	1.00000								
N_c/N_{us}	3	-0.13578	0.37853	1.00000							
$P_{r,c}/P_{r,us}$	4	-0.41967	0.00667	0.69716	1.00000						
Π_{us}	5	0.53146	-0.17116	-0.37455	-0.27591	1.00000					
CR	6	-0.79198	-0.01423	0.59581	0.63249	-0.77424	1.00000				
$\Pi_{c,I}$	7	-0.43554	-0.44367	-0.01522	-0.05312	0.24297	0.19881	1.00000			
$E_{us}/C+M$	8	0.29775	-0.10636	0.06940	0.29062	0.79420	-0.29379	0.45462	1.00000		
Y_{t-1}	9	-0.20204	0.41137	0.39135	-0.83334	-0.98948	0.53671	-0.32086	-0.84964	1.00000	
DM	10	-0.90249	0.67779	0.34080	-0.14419	-0.17427	0.16625	0.03596	-0.06973	0.49163	1.00000
TEST	11	0.61525	0.11638	-0.00481	-0.02223	0.97910	-0.59522	0.17134	0.89895	-0.77522	-0.05666
		1.00000									
	VAR	1	2	3	4	5	6	7	8	9	10
		11									