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04981



United Nations Industrial Development Organization

Vienna, Austria
7 August 1977
UNEP/UNIDO/WHO/IAEA

Expert Group Meeting on the
Industrial Development

Vienna, 27 - 31 August 1977

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PROTOTYPE MICRO-MODELS OF THE MARKET-DRIVEN
SYSTEM AND REGULATIONS

prepared by

the Secretariat of UNIDO

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MEMORANDUM

The report on the... (text is faint and mostly illegible)

Following... (text is faint and mostly illegible)

Under... (text is faint and mostly illegible)

... and the...
... will...
... for...
... will...
... political...
... for Chile...
... serious...
... recent...
The question of Africa remains to be addressed.

It is...
completed by...
Friess.

I. Prof. ...

Prof. ...
for the...
data by...

A. The...

The data...
dependent...
and reports...
manufactured...
implicit...

Foot.
* In the work...
the word "manufactured" was used to refer to "value added in manufacturing" and "domestic" to a...
These terms...

in Annex 1 in ID/WG.160/3

... to ensure that the model is able to capture the essential characteristics of the economy... First, estimation of the model is based on the use of annual data... (However) in the process of estimation... Thus, the errors in the model... in the internal utilization sector... what conceptual model... models that would serve better...

B. The Model

The model for each country consists of a set of equations, estimated by single-equation least squares method... Frick justified the use of single-equation estimation on the grounds that they have been shown in some cases to yield more accurate forecasts, despite the so-called "single-equation bias"... are then rendered into a reduced form to provide a self-contained, interdependent model for projections.

...
 ...
 ...

$$(1) D = 25.1 + 0.001 Y + 0.001 P_m + 0.001 M + 0.001 EX + 0.001 VA \quad R^2 = 0.97 \quad F-W = 2.37$$

$$(2) P_m = 9.23 + 0.001 Y + 1.20 P_m + 1.20 M + 1.20 EX + 1.20 VA \quad R^2 = 0.97 \quad F-W = 2.37$$

$$(3) M = 25.98 + 0.001 Y + 10.10 P_m + 10.10 M + 10.10 EX + 10.10 VA \quad R^2 = 0.98 \quad F-W = 1.89$$

$$(4) EX = 86.35 + 0.001 Y + 1.00 P_m + 1.00 M + 1.00 EX + 1.00 VA \quad R^2 = 0.99 \quad F-W = 2.53$$

and (5) $VA = Y - X + M$

in which the endogenous variables are

- D = domestic utilization of manufactured goods in constant prices,
- P_m = price index for manufactured goods,
- M = real manufactured value added in imports,
- EX = real manufactured value added in exports, and
- VA = real value added in domestic manufacturing production.

The exogenous variables are

- Y = real GDP
- BT_p = the excise tax rate (collections/price deflator for manufactures/
domestic use of manufactures)
- X^i = the exchange rate for imports/price deflator for manufactures,
- P^{ex} = the price index for manufactured exports from developing
countries (Monthly Bulletin of Statistics, November issues),
- and EX_{-1} = manufactured exports in the one period.

It is clear that all coefficients are highly significant statistically, and the equations are satisfactory. It should be noted, however, that some

The policy variables in the first model are the excise tax rate and the exchange rate for dollars. The rate of interest is also included as an explanatory variable and was not included in the first model. An attempt might be made to convert it into the real rate of interest by dividing it by the price level. However, the real rate of interest in the model may appear to be dependent on the price level. For this reason, the exchange rate and interest rate are included as separate variables. On the other hand, a separate variable is not included for the price level because the price level is not included in the first model. This cannot be included.

The policy variables in the first model are the excise tax rate and the exchange rate for dollars. The rate of interest is also included as an explanatory variable and was not included in the first model. An attempt might be made to convert it into the real rate of interest by dividing it by the price level. However, the real rate of interest in the model may appear to be dependent on the price level. For this reason, the exchange rate and interest rate are included as separate variables. On the other hand, a separate variable is not included for the price level because the price level is not included in the first model. This cannot be included.

The regression matrix is given below. The matrix can be interpreted as a multiplicity relating changes in the explanatory variables (which headings) to the resulting changes in the independent variables after all interrelationships of the economy are traced through. It is used in making the projections as discussed in Section III of this report.

* P_m enters the conversion of excise taxes collections to a tax rate; the exchange rate was deflated by a wholesale price index, which is closely related.

	1970	1971	1972	1973	1974	1975
B	21.000	21.000	21.000	21.000	21.000	21.000
P	21.000	21.000	21.000	21.000	21.000	21.000
M	21.000	21.000	21.000	21.000	21.000	21.000
EX	21.000	21.000	21.000	21.000	21.000	21.000
VA	21.000	21.000	21.000	21.000	21.000	21.000

In the case of annual, quarterly, and monthly data, the first year of the sample is 1970. The number of observations is 60 for annual data, 48 for quarterly data, and 60 for monthly data. The dependent variable is the exchange rate. The independent variables are the interest rate, money stock, price level, and real GDP. The results are reported in the following tables.

- (6) $B = -1,566 + 0.215B_{-1} - 1.44P + 123.1Trend$, $R^2 = 0.93$, $D-W = 2.03$
(207) (817) (3.56) (61.1)
- (7) $P = -807 + 0.278P_{-1} + 0.5X^2 - 176Dum$, $R^2 = 0.98$, $D-W = 1.81$
(61) (0.011) (0.023) (26)
- (8) $M = -311 + 0.184M_{-1} - 0.056X^2 - 70.7Dum$, $R^2 = 0.83$, $D-W = 1.50$
(37) (0.010) (0.014) (17.8)
- (9) $EX = 20.2 + 0.177EX_{-1} - 0.200EX_{-2} - 10.9Dum$, $R^2 = 0.99$, $D-W = 3.04$
(7.3) (0.001) (0.011) (1.8)

and (10) $D = 0.0000$.

X^1 - exchange rate (per 100 units of foreign currency)
 X^2 - exchange rate (per 100 units of foreign currency)
 X^3 - exchange rate (per 100 units of foreign currency)
 X^4 - exchange rate (per 100 units of foreign currency)
 X^5 - exchange rate (per 100 units of foreign currency)
 X^6 - exchange rate (per 100 units of foreign currency)
 X^7 - exchange rate (per 100 units of foreign currency)

The reduced-form is via report - direct

	X^1	X^2	X^3	X^4	X^5	X^6	X^7
D	-0.062	0	+175.0	0.155.0	0	100.0	-217.0
F	+0.043	0	+100.0	0.150.0	0	-100.0	-146.0
H	-0.0716	0	+300.0	0.150.0	0	-100.0	-351.0
BY	0	0.15	0	0	0	0.110	10.0
VA	0.0125	0.015	140.0	0.150.0	-0.100	143.0	220.0

In general, the model for Brazil is less complex than that for the Philippines. While the model for the Philippines is a dynamic model with a state variable and a dummy variable in order to help to "explain" past industrial development in the statistical sense, the model for Brazil is the static model. Although exchange rate policy has been raised as a policy variable, the model economy is governed by that policy variable alone. Finally, the model variable (percentage change in real GDP) is used in an indirect way as a proxy for GDP in equation (1), because of a limitation in the data coverage. However, the model for Brazil is not a dynamic model.

The following equations were estimated by the method of least squares from the data reported by Prof. Frisch. The dependent variable in each equation is indicated by the letter Y in the first term of the equation. The independent variables are indicated by the letters X in the second term of the equation. The number of observations used in each equation is indicated by the number of observations in parentheses. The R^2 and DW values are indicated by the R^2 and DW in the third term of the equation.

For brevity, the equations are written in the form $Y = a + b_1 X_1 + b_2 X_2 + \dots + b_n X_n$ reported by Prof. Frisch. The variables are defined as follows: Y = the dependent variable, X_1 = the first independent variable, X_2 = the second independent variable, etc. The R^2 and DW values are indicated by the R^2 and DW in the third term of the equation. The R^2 value is the coefficient of determination, and the DW value is the Durbin-Watson statistic. The equations are numbered (11) through (15).

- (11) $Y = -543.726 + 0.0005 X_1 + 0.0000 X_2 + 0.0000 X_3 + 0.0000 X_4$, $R^2 = .999$, $DW = 1.670$
 (6) (6) (6) (6)
- (12) $Y = -417.47 + 0.0000 X_1 + 0.0000 X_2 + 0.0000 X_3 + 0.0000 X_4$, $R^2 = .996$, $DW = 1.877$
 (11) (11) (11) (11)
- (13) $Y = -70.42 + 0.0000 X_1 + 0.0000 X_2 + 0.0000 X_3 + 0.0000 X_4$, $R^2 = .976$, $DW = 2.733$
 (11) (11) (11) (11)
- (14) $Y = \dots$, $R^2 = .996$, $DW = 1.995$
- (15) $D = 7.74 - 0.0001 X_1$.

In which the notation is as follows: Y = dependent variable, and

Sub. = substitution,

T^h = size of household,

FX_{hous} = foreign exchange received, and

D_T^1 = ratio of import duties collected to other taxes on foreign trade as a fraction of amount of trade value shown in reports plus receipts.

The results are summarized in Table 1.

Ratio between Variables	1964-1971							
	con.	var.	total	β_1	β_2	β_3	β_4	β_5
D	-544.727	.00	-544.727	0.0	0.0	0.0	0.0	0.0
F	-237.977	.07	-238.047	0.086	27.482	0.0	0.0	0.0
M	-169.981	.00	-169.981	-0.050	0.0	0.0	0.0	0.0
BX	2.264	0.0	2.264	0.0	0.0	0.0	1.041	0.0
S	-176.782	.27	-177.054	0.050	0.0	-1.95	1.041	0.0

In conclusion, it may be said that Professor Ulrich and his team have made a valuable contribution to the development of the theory that the real interest rate policy variables are not correlated with a lot of variables in a similar form for a number of developed countries.

III. Empirical Results

Values of the regression coefficients, t -ratios and Durbin-Watson test statistics are reported in Table 1. The dependent variable in the first five equations is the log of the value of industrial output per employed man, and in the last three equations it is the log of the value of industrial output per employed man in the manufacturing sector. The regression equations are:

The regressions were estimated by ordinary least squares with three non-stochastic variables: the exchange rate, the rate of indirect taxation and the rate of custom duty. The dependent variable is (15). This set of equations appears below, where the number in parentheses next represents the Student's t -coefficients:

- (16) $Y = -74.25 + 0.98 E - 0.91 P - 1.18 TT_r$ $R^2 = 0.93$ D-W = 2.02
(3.2) (6.1) (1.0)
- (17) $Y = 624.6 + 1.5 P - 0.8 E - 1.5 TT_r$ $R^2 = 0.96$ D-W = 1.87
(3.1) (1.5) (2.5)
- (18) $Y = -910.9 + 1.2 E - 7.24 ZR - 1.51 P$ $R^2 = 0.998$ D-W = 2.48
(32.3) (6.0) (2.0)
- (19) $EX = -487.3 + 1.13 Y + 0.17 YR$ $R^2 = 0.99$ D-W = 1.53
(20.0) (2.2)
- (20) $EX = 40.0 + 1.1 Y$ $R^2 = 0.97$ D-W = 1.53
(17.7)
- (21) $VK = E + EX$

in which the variables are as above, and TT_r is the rate of indirect tax collections (see footnote on next page for definition). The log versions showed invariably low Durbin-Watson coefficients.

on the one hand, and the effect of the tax on the price of the product on the other. The effect of the tax on the price of the product is given by the derivative of the price with respect to the tax rate. This derivative is positive, indicating that the price of the product increases with the tax rate. The effect of the tax on the price of the product is also given by the derivative of the price with respect to the tax rate. This derivative is positive, indicating that the price of the product increases with the tax rate. The effect of the tax on the price of the product is also given by the derivative of the price with respect to the tax rate. This derivative is positive, indicating that the price of the product increases with the tax rate.

The reduced form matrix must be calculated from this equation system before the projections can be made.

* It must be pointed out that the indirect tax rate in equation (16) is based on manufacturer value added, (VA) , while that in equation (17) is based on gross domestic product (Y) . To consolidate these two variables, it is suggested that the latter variable be tried in the equation (16).

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1. The model developed in this paper is a simple one, but it is
worthwhile to see how well it works in practice. The results are
shown in Table 1 below. The results are generally in line with
the theory. In particular, the sign of the parameter in the
exchange rate equation is positive in contrast to the statistical
evidence in our experience with the other countries listed here
below. The sign of the exchange rate in the export equation is
negative, which may be explained in that quantitative controls and
restrictions dominated exchange rate movements in India; that the
parameter was probably dropped from the equation. Some more work
will have to be devoted to improving the Model for India.

Table VI/i. Selected Equations for India a/

A. Dependent Variable: Domestic Use of Manufacturing Value Added

	γ	β_m	β_{pncr}	β_{prev}	Intercept	R^2	F
linear	1.400 (2.39)				600.7	0.087	1.67
linear	0.523 (2.01)	1.677 (8.24)	-25.229 (6.71)		-1559.9	0.790	2.74
linear	0.223 (1.16)	1.320 (7.29)		-30.126 (6.29)	258.0	0.710	1.80

B. Dependent Variable: Export Price Deflator for Manufacturing Value Added

	β_A	β	β_P	β_{union}	Intercept	R^2	F
linear			3.108 (20.18)		100.0	0.000	0.00
linear		0.172 (17.28)		1.375 (9.92)	50.7	0.000	0.00
linear	0.187 (15.22)			1.124 (10.07)	100.9	0.000	0.00
linear	0.182 (14.40)				100.3	0.000	0.00

C. Dependent Variable: Imports of Manufacturing Value Added

	β_1	β_2	β_{price}	Intercept	R^2	F
linear	0.091 (2.78)	0.217 (1.26)		21.37	0.000	0.00
linear	0.118 (16.72)		-7.022 (1.85)	-312.5	0.000	0.00

a/ The Student's t-statistics appear in parentheses below the coefficients.

[Faded Title]

It is assumed that the... [Faded text describing the model's assumptions and variables, including mentions of manufacturing and development.]

Although the data used to estimate the model in 1968... [Faded text explaining the data source and the projection period from 1968 to 1970.]

Growth rates of GDP... [Faded text detailing the GDP growth rates, price levels, and the treatment of exogenous variables for the projection period.]

Table 113/1.

Manufactured

1960	9,660	2.47				
1970 a) 10,117		2.65			125	197.2
1971 a) 10,720		2.74			127	197.7
1972	11,345	2.85	3.27		129	198.2
1973	12,027	2.91			131	198.7
1974	12,770	2.97			133	199.2
1975	13,530	3.03			135	199.7
1976	14,345	3.09			137	200.2
1977	15,200	3.15			139	200.7
1978	16,100	3.21			141	201.2
1979	17,050	3.27			143	201.7
1980	18,114	3.33	3.80	5.2	145	202.2

- a) Entries above the line in each column represent observed historical data.
- b) The exchange rate is expressed relative to the applied price index for manufacturing value added. The last column of exchange rate projections assumed a fixed absolute rate and a 5% annual price increase until the rate is devalued in 1978; the right column assumes a floating exchange rate adjusted in proportion to price movements, which holds this variable constant.
- c) The excise tax rate measured as total collections divided by manufacturing value added.
- d) The unit value index of manufactured exports (SITC 5-8) from all developing countries (Monthly Bulletin of Statistics, November issues) is projected at 3% per year.

Table 11/2 (continued) - Philippine manufacturing and non-manufacturing value added, 1960-1970. (Values in millions of pesos)

Table 11/2

Table 11/2 (continued)

Projected trends based on the reference scenario for the 1970s

Indicator	A	B	X	M	P
Fixed Exchange rate					
GDP Growth - 10% p.a.	5.1	5.4	7.7	7.4	3.9
6% p.a.	6.1	6.8	11.0	8.5	4.8
7% p.a.	8.1	7.8	14.6	9.6	5.7
Sliding Exchange rate					
GDP Growth - 10% p.a.	6.3	6.5	11.2	7.5	5.2

- Legend: A - Value added in Philippine manufacturing.
 B - Value added in non-manufacturing value added.
 X - Sum of manufacturing value added.
 M - Value added in manufacturing value added.
 P - Value added in non-manufacturing value added.

The relationship between the growth rate of GDP and that of manufacturing is to be noted. Clearly the growth of manufacturing affects that of the other components of GDP and vice-versa. The International Development Strategy for the Second United Nations Development Decade takes cognizance of the former effect in its contention that an average growth rate of 7% in manufacturing is needed to reach an average rate of 6% for GDP in developing countries as a group. Here we incorporate the reverse chain of causation, i.e. that GDP growth is a determinant of manufacturing growth. Although it seems more appropriate to assume, as we do, that growth of the economy as a whole affects a sector comprising only 15% of the whole, let us assume the opposite. In any case, a 6% growth rate for GDP, which remains the goal of the International Development Strategy, is consistent with a manufacturing growth rate of manufacturing

Export and Import of Manufactured Goods, 1968-1980

Exchange Rate	VA	T	A	X	P
	(1968=100)	(1968=100)	(1968=100)	(1968=100)	(1968=100)
1968 Levels	100	100	100	100	100
Projected Levels					
Fixed Exchange Rate with 15% Devaluation					
GDP Growth = 5% p.a.					
1975	1541	1800	163	469	152
1977	1729	2073	174	517	165
1978	1769	2121	176	521	175
1980	2110	2402	219	607	191
GDP Growth = 6% p.a.					
1975	1674	1950	196	485	159
1977	1889	2277	207	579	175
1978	1999	2329	213	573	180
1980	2264	2656	307	690	202
GDP Growth = 7% p.a.					
1975	1710	2050	210	524	165
1977	2038	2385	241	675	185
1978	2137	2525	308	525	201
1980	2549	2930	353	753	226
Sliding Exchange Rate					
GDP Growth = 6% p.a.					
1975	1636	1947	180	485	160
1977	1863	2208	223	553	177
1978	1987	2351	241	599	187
1980	2264	2662	307	666	207

Key: VA = Value added in Philippine manufacturing.
 T = Domestic use of manufacturing value added.
 A = exports of manufactured value added.
 X = imports of manufactured value added.
 P = implicit price deflator of manufactured value added.

of only 0.4%... relative to GDP... in the Philippines. On the other hand, the... actual...

It appears that... more... The increase in... to industrial... The... because of the low... By... in absolute... in Table 11/2, ... exists. The

Table 11/2
The Philippines
Projection of the Growth of Exports of Manufactured Goods

Case	1968 level	1975	1977	1978	1980
Fixed exchange rate with 1970 Devaluation					
GDP growth = 5% p.a.		- 305	- 351	- 382	- 380
				- 46	+ 29
				- 58	
GDP growth = 4% p.a.		- 300	- 352	- 370	- 373
				- 43	- 32
				- 53	
GDP growth = 3% p.a.		- 314	- 351	- 370	- 350
				- 40	+ 34
				- 40	
Slightly less than 3% p.a.		- 317	- 349	- 371	- 350
				- 31	- 17
				- 37	

imbalances between domestic production and consumption. In each scenario, except in the year of the devaluation, the trade balance in imports exceeds the GDP growth rate. The 1978 trade deficit in manufactured goods is consistent with the growth. By 1979, however, the trade balance is in deficit. The difference between exports and imports is about the same as in three GDP growth rates (ranging from 5.3% to 8.3% in 1978). The assumed level of 1978 has a slightly greater negative effect on the trade balance than rates (2.3d million for 5% GDP growth and only 2.0% million for 5% growth). After 1978, faster GDP growth seems to work favorably upon the balance of trade in manufactured goods. After the year, in any event, the imbalance becomes smaller as rates of development and increases at a slower rate. This is an important finding and should be emphasized, if possible, in future reports of this nature. Additionally, progress in the late 1980's or early 1990's, the trade deficit in manufactured goods should begin to decline in absolute terms.

A similar analysis applies to the change in balance between domestic production and consumption of manufactured goods. In terms of growth rates (Table III/2), the growth of production exceeds that of consumption only at higher rates of GDP expansion. In absolute terms, however, $VA - I - X - M$, and $\frac{VA - I - X - M}{GDP}$ (see Table III/4). From the discussion above, therefore, we know that the imbalance between manufactured production and consumption ^{also} grows over time in every scenario, except in the year of the devaluation. In the early 1970's (not shown in the tables), it grows faster at higher rates of overall (GDP) expansion, but this relationship reverses itself after about 1975. Table III/2 shows that by 1975-1977, it grows by \$ 46 million with 5% GDP growth and at only \$ 19 million with 7% growth. After 1978, the level of imbalance remains smaller for higher rates of development.

It remains to comment on the price projections. These are influenced by the rate of GDP growth, the excise tax rate, and externally by the exchange rate. They are not influenced in the same way by the rate of domestic production, because it is assumed implicitly that import and

available results of the model. The model shows that the relationship between the exchange rate and the price level is highly sensitive to the expectations of the rate of inflation. If the rate of inflation is expected to be higher than the actual rate, the faster the rate of inflation, the more the price level will rise. An earlier adjustment of the price level to the actual rate of inflation with more rapid growth, but the model also shows that the volume of trade indicates an export surplus or a deficit, depending on the direction of trade in manufactured goods.

Let us turn now to the effect of the exchange rate itself on the endogenous variables. Data from an analysis of the projections for the development year 1973 apply to a fixed-exchange-rate regime, and from analysis of the model to a flexible-exchange-rate regime. It is clear that development of the price level has a direct effect on exports (which fall) and prices (which rise sharply) in response to increasing domestic consumption. It affects heavily at all the level of domestic production and of exports. If that is so, then development of a price level is a necessary result of the continued prominence of the balance of trade to export payments possibilities with no effect on real budget needs.

Because of limited time to prepare this report, no separate sensitivity tests are presented for changes in the excise tax rate. It is clear from the equations themselves and the model-run analysis, however, that its effects permeate throughout the system of endogenous variables but that they are distinctly secondary in size to those of the exchange rate.

It will be recognized that the projections for the fixed exchange rate regime encompass an inconsistency resulting from the need to deflate exchange rate by the endogenous price level. Thus, an assumed price increase of 5% per annum underlies the predetermination of the exchange rate. As Table III/2 shows, the projected rate of price increase corresponds closely to this assumption only in the case of 6% GDP growth. For the other cases, an iterative procedure must be used to obtain a convergence between the assumption and the projection. On the other hand, where the exchange rate is treated as a policy variable instead of fixed, it can be assumed that the authorities maintain it in a certain relationship to the price level,

which then need not itself be predetermined, and this problem does not arise. Tax rate variables also may be treated this way.

Appendix A: ESTIMATES OF STRUCTURAL EQUATIONS FOR KOREA

Table A1
Domestic Use Equation (Korea)

No. Version	Y	P _m	IT _r	IT _r	X _m	Intercept	Standard Error of Estimate	R ²	F _{stat}
1.1 Linear	0.32 (3.6)					- 512.1	117.4	0.10	0.04
1.2 Linear	0.56 (12.0)	-0.48 (5.5)				- 909.8	57.1	0.61	1.7
1.3 Linear	1.13 (9.4)		-1.27 (5.5)			-2521.5	101.8	0.85	1.7
* 1.4 Linear	0.65 (3.32)	-0.71 (4.1)		77.16 (1.5)		- 742.9	51.4	0.98	2.1
1.5 Linear	0.55 (11.2)	-0.40 (1.7)			-0.23 (0.4)	- 942.2	60.4	0.97	1.13

* Version selected for reduced form.

Note: Variables are as indicated in Section I and II of this report; IT represents the collections of indirect taxes in the Philippines, and IT_r indicates these collections as a rate capitalized against manufacturing value added (VA).

Table A2
Price Equation (Korea)

No. Version	D	XR	$\frac{D}{P}$	$\frac{D}{P}$	IF _r	Intercept	Standard Error of Estimate	R	R ²
2.1 Linear		5.21 (16.2)				241.2	69.7	0.97	1.00
2.2 Linear	0.13 (1.0)	4.85 (10.6)				205.5	69.7	0.97	1.00
2.3 Linear	0.53 (3.3)		1.20 (3.3)			- 333.9	217.4	0.97	1.00
* 2.4 Linear	1.36 (4.7)		0.84 (2.5)		- 15.1 (2.5)	684.0	102.3	0.90	1.00

* Version selected for reduced form.

Table A3

Import Equation (Korea)

No. Version	D	D ²	X ₃	D ² ₂	Intercept	Standard Error of Estimate	R ²	D.F.
3.1 Linear	3.74 (21.0)				- 921.2	175.3	0.92	1.71
3.2 Linear	6.14 (7.8)	-7.40 (3.3)			-1706.2	116.9	0.99	1.1
3.3 Linear	4.13 (30.3)		-1.89 (4.0)		- 365.2	100.8	0.93	1.71
3.4 Linear	5.52 (10.1)	-4.58 (2.6)	-1.41 (2.5)		-1360.4	77.3	0.97	1.71
* 3.5 Linear	4.06 (39.3)		-2.16 (6.0)	-3.51 (2.2)	- 550.9	14.2	0.99	1.71

* Version selected for reduced form.

Table A4

Export Equation (Korea)

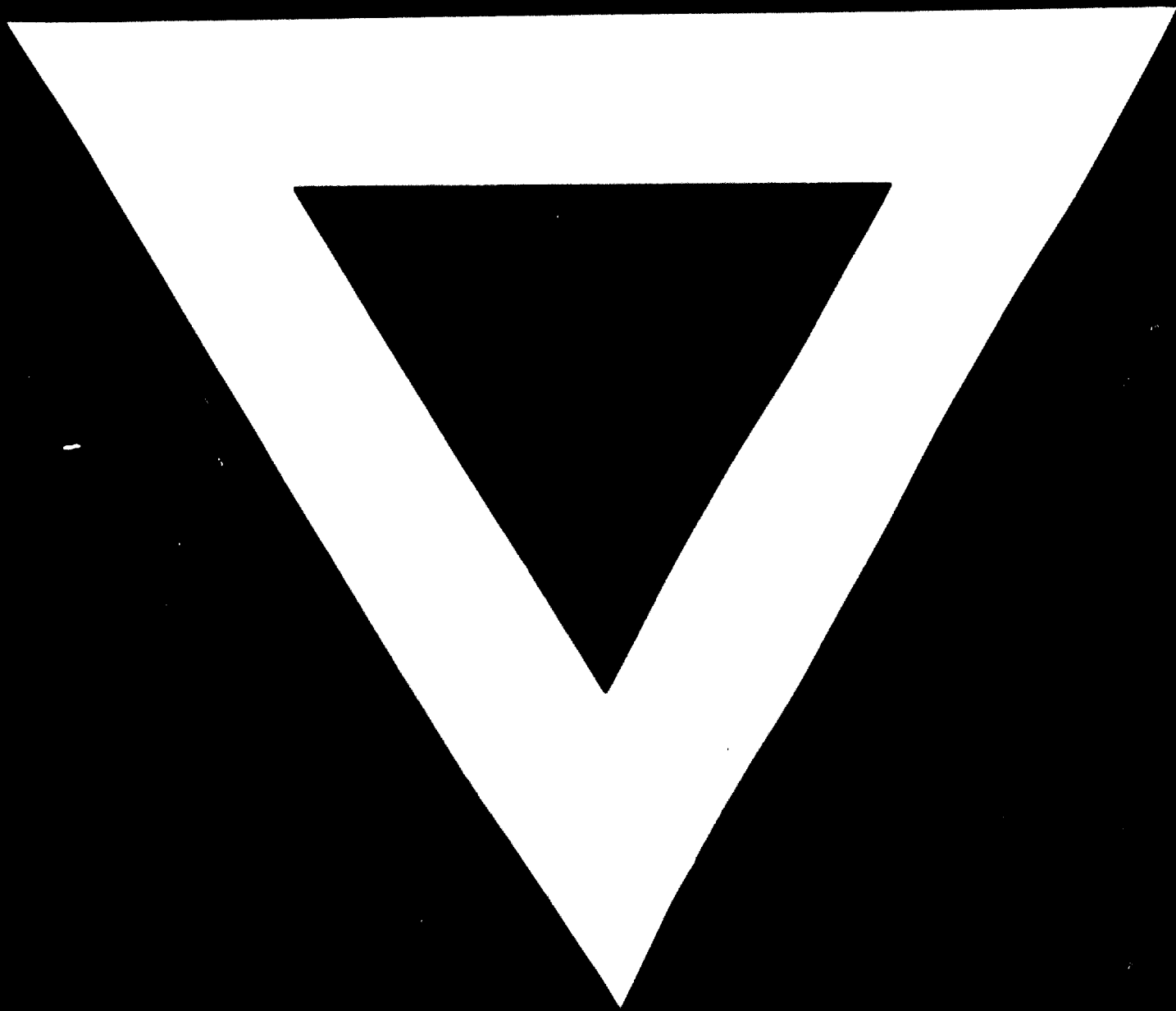
No. Version	VA	XR	WP/XR	CUST	Intercept	Standard Error of Estimate	R ²	D-N
4.1 Linear	1.70 (25.4)				- 582.6	54.2	0.786	0.69
4.2 Linear			-0.60 (1.51)		996.6	112.7	0.101	0.38
4.3 Linear	1.39 (11.2)			0.13 (2.75)	- 364.9	41.2	0.830	0.85
4.4 Linear	1.53 (20.5)	0.62 (3.2)			- 587.3	35.8	0.938	0.93
4.5 Log		0.522 (2.016)		7.686 (6.584)	- 61.7310	0.2887	0.945	0.909

Table A5

Employment

5.1 Log	0.983 (19.0)				0.3476	0.0575	0.97	1.67
5.0 Linear	1.19 (17.7)				49.0	54.3	0.972	1.53

* Version selected for reduced form.



17.7.74