Exports Growth and Economic Development:
A Comparative Logit Analysis*

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I. Introduction

International trade is believed to be the engine of development. But, there has been a controversy over the international trade strategies of economic development for more than two decades. A large body of the development literature discussed the benefits and costs of the import substitution and export expansion strategies and their associated protectionist policies. Numerous studies demonstrated the distortions and detrimental effects of the import substitution strategy and its impact on economic performance of the developing countries.[1] Meanwhile, several theoretical and empirical studies analyzed the benefits of the export expansion strategy and its success in countries like Taiwan, South Korea, Singapore, and Brazil.[2] They concluded that the export expansion strategy has accelerated economic growth and that the high income developing countries had high export-import ratios and more diversified export baskets.[3] In particular, Maizels, Kravis, Michaloupoulos, Michaely, Balassa, and Tyler measured a strong positive cross country correlation between exporter perfor-

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[1] See, for example, Krueger, Bear, Burton and Little.
[2] See, for example, Porter, Balassa and UNCTAD.
[3] Meier, 767.

poor only when the nation moves well into an intermediate level of development. The poor will gain from economic growth only when the government plays an active role to redistribute income.[7] Economic growth also creates more socio-economic opportunities in cities which induces rural-urban migration. Rapid and uncontrolled urbanization contributes to the deterioration of living conditions if cities fail to supply sufficient employment opportunities and social services.[8] Another major goal of economic development is to promote social, economic, and political freedom. Freedom expands the range of human choice and enables people to actively participate in removing the constraints in the pursuit of development.[9] Economic growth does not necessarily promote political freedom. Rising national income accompanied by high concentration of wealth and power can increase the opportunity for the ruling class to exercise control, through mass communication and education, and terror, through highly organized state security apparatus.[10] The lack of political freedom generates severe distortions in social relations and causes enormous losses in human and financial resources

III. Empirical Examination

To measure economic development and its interrelationship with export performance, the following model is designed,
Dependent variable:

EDI = 1 for countries with per capita income $\geqslant$\$1000;
EDI = 0, otherwise.

Independent variables:

SXM = share of exports to imports of manufactured goods, percentage change
GNP = per capita GNP, percentage change
GNI = Gini coefficient
UPO = urban population, percentage change

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[7] Adelman, 302-3.
[8] Todaro, 228-32.
[9] Ibid., 71-2.
[10] Myrdal, 423.

(4) $\quad e^{-z} = \dfrac{1 - P}{P}$

or

(5) $\quad e^{z} = \dfrac{P}{1 - P}$

Take natural logarithms from equation (5),

(6) $\quad \ln\left(\dfrac{P}{1 - P}\right) = Z = X'\beta$

Equation (6) is estimated by the maximum likelihood method.[12]
  Equation (7) describes the probability of economic development

(7) $P = F(Z)$

where,

(8) $\quad Z = \beta_1 \ \text{SXM} + \beta_2 \ \text{GNI} + \beta_3 \ \text{GNP} + \beta_4 \ \text{UPO} + \beta_5 \ \text{HLT}$

$$+ \beta_6 \ \text{EDG} + \beta_7 \ \text{PLI}$$

The unobservable economic development index, Z, is generated on the basis of an information set containing all explanatory variables in the model. The estimated values of this index are transformed into the probabilities of economic development. Table 1 presents these probabilities for each sample country during the period of study. Table 2 shows ranking of the probabilities of economic development to illustrate performance of each nation during the past two decades.

[12] Pindyck and Rubinfeld, 287-9.

Table 2

RANKING OF PROBABILITIES

Country	1960	1965	1970	1975	1980
Argentina	6	5	10	8	7
Bolivia	24	24	25	25	24
Brazil	4	7	5	3	3
Chile	13	3	7	14	16
Colombia	18	10	9	11	9
Dominican Rep.	14	16	17	19	17
Ecuador	25	25	24	24	25
Egypt	15	18	20	20	20
Hong Kong	2	1	2	2	1
India	12	9	11	13	10
Korea, Rep.	3	4	3	4	5
Malaysia	10	11	12	9	11
Mexico	5	6	6	5	6
Morocco	21	21	22	17	18
Pakistan	23	22	23	22	23
Paraguay	20	20	18	16	15
Peru	17	15	16	21	21
Philippines	19	17	14	12	14
Singapore	7	13	8	7	8
Sri Lanka	16	19	15	15	13
Taiwan	1	2	1	1	2
Thailand	8	8	4	6	4
Tunisia	22	23	21	23	22
Turkey	9	14	19	18	19
Uruguay	11	12	13	10	12

class was 6 ~ 10 percent which consisted of Argentina, Chile, India, Mexico, the Philippines, Singapore, Thailand, and Uruguay. In this class, Mexico, Thailand, Singapore, Uruguay, and Argentina ranked relatively high, whereas India and the Philippines experienced fluctuations and Chile suffered from rapid economic deterioration in the 1970s. The third class was 1 ~ 5 percent which included Bolivia, Colombia, the Dominican

rule in the late 1970s. Chile, however, experienced rapid economic deterioration under the military dictatorship established in the early 1970s. Turkey's economic performance worsened during the political freedom era of 1960-75 and under the military rule of 1980. Thailand improved economically under the military dominated monarchy. Taiwan, Hong Kong, South Korea, Mexico, Colombia, India, Singapore, Sri Lanka, and Malaysia performed relatively well under limited political freedom.

The export growth variable had an expected positive sign and was significant at the 10 percent level in 1965, 1970, and 1975 and at the 5 percent level in 1960 and 1980. To measure the interrelationship between export growth and economic development, the mid-point of each class of net export growth replaced the SXM variable in equation (8). Then, the mean values of other ex-

Table 3

RESULTS OF ESTIMATION

Independent Variable	1960	1965	1970	1975	1980
SXM	.22	.24.	.19	.27	.21
	$(1.74)^c$	$(1.48)^b$	$(1.44)^b$	$(1.38)^b$	$(1.78)^c$
GNP	.35	.29	.30	.25	.32
	$(1.65)^b$	$(1.25)^a$	$(1.49)^b$	$(1.27)^a$	$(1.67)^b$
GNI	-.53	-.62	-.58	-.74	-.1.28
	$(-.95)^a$	$(-1.64)^b$	$(-1.22)^b$	$(-1.69)^b$	$(-1.53)^b$
UPO	.63	.57	.49	.72	.69
	$(1.19)^a$	$(1.08)^a$	$(1.43)^b$	$(1.45)^b$	$(1.24)^a$
EDG	.32	.45	.58	.49	.33
	$(1.06)^a$	$(.98)^a$	$(1.15)^a$	$(1.19)^a$	$(1.14)^a$
HLT	.12	.08	.19	.22	.11
	$(.87)^a$	$(.69)$	$(.79)$	$(1.00)^a$	$(.97)^a$
PLI	3.19	3.85	4.61	4.58	5.36
	$(2.14)^c$	$(2.00)^c$	$(1.87)^c$	$(2.29)^c$	$(1.98)^c$

[a] Statistically significant at 20 percent.
[b] Statistically significant at 10 percent.
[c] Statistically significant at 5 percent.

the basic human necessities and promote freedom. The empirical examination measures economic development as a function of social, economic, and political variables. It finds a positive interrelationship between economic development and export growth. The probability distribution of the economic development index shifts upward as the net export growth rate rises. These findings support the main hypothesis that net exports growth accelerates the process of economic development.

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