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On Linking National Econometric Models of Japan, U.S.A., and the East and Southeast Asian Countries

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Introduction

In a pilot study¹⁾ conducted by CSEAS last year, Mitsuo Ezaki stresses the economic interdependence between the Southeast Asian countries, Japan and the United States. There is a need for disaggregating these countries' import functions in the research of international trade linkage. He called for further research to be done by disaggregating the international trade of these countries by the SITC commodities classification.

This paper follows this suggestion and presents the work done on the accumulation of data and the results of some initial models using these data. This step appears to be necessary for the next phase of the Sub-LINK which is to develop multiple Asian country-Japan-U.S.A. trade models. A system of six equation models representing five coun-

tries of LINK is offered here. They are the trade functions based on their trade data with Japan and the export price indexes. A large amount of work has been done by all participants in LINK on the Export Price Indexes of each country, and this is shown. A concordance for all countries' price indexes has been constructed to help make consistent these countries' data. Explanations of symbols and new LINK language follows:

Notations for Variables

<i>M1</i>	Japanese imports classification from exporting country corresponding to SITC 0+1
<i>M2</i>	Japanese imports classification from exporting country corresponding to SITC 2+4
<i>M3</i>	Japanese imports classification from exporting country corresponding to SITC 3
<i>M4</i>	Japanese imports classification from exporting country corresponding to SITC 5-9
<i>PMI</i>	Exporting country's (i.e., Taiwan's, Korea's, Singapore's, etc.) index for prices of exported goods corre-

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1) Mitsuo Ezaki, "Linking National Econometric Models of Japan, U.S.A., and the East and Southeast Asian Countries; A Pilot Study," *Southeast Asian Studies*, Vol. 17, No. 2, 1979, pp. 178-200.

	sponding to the export price index of those goods found mostly in SITC 0+1
<i>PM2</i>	Exporting country's index for prices of goods corresponding to SITC 2+4
<i>PM3</i>	Exporting country's index for prices of goods corresponding to SITC 3
<i>PM4</i>	Exporting country's index for prices of goods corresponding to SITC 5-9
<i>JMC1</i>	Japanese imports of food and beverages, custom clearance basis
<i>JMC24</i>	Japanese imports of crude materials, custom clearance basis
<i>JMC3</i>	Japanese imports of metal ores and scraps, custom clearance basis, sa.
<i>JMC5</i>	Japanese imports of mineral fuels, custom clearance basis, sa.
<i>JMC6</i>	Japanese imports of chemical products, c c basis, sa.
<i>JMC78</i>	Japanese imports of machineries, and other mfg. products, c c basis, sa.
<i>JPMC1</i>	Deflator for <i>JMC1</i> , derived from BOJ import index, 1970 =100, US \$
<i>JPMC24</i>	Deflator for <i>JMC24</i> , derived from BOJ import index, 1970 =100, US \$
<i>JPMC3</i>	Deflator for <i>JMC3</i>
<i>JPMC5</i>	Deflator for <i>JMC5</i>
<i>JPMC6</i>	Deflator for <i>JMC6</i>
<i>JPMC78</i>	Deflator for <i>JMC78</i>

<i>Q1</i>	Seasonal dummy for 1st quarter
<i>Q2</i>	Seasonal dummy for 2nd quarter
<i>Q3</i>	Seasonal dummy for 3rd quarter

Country Trade Functions

The trade model disaggregated by country by SITC commodity classification is shown. A system of six equations for each country is designed.²⁾ The equations predict Japanese imports from individual countries deflated by that country's export price indexes by estimating total Japanese demand deflated by total import price deflators. Some log equations have been done also.

Of the forty-six (46) equations run, twenty-seven (27) are significant and have potential for prediction. The nineteen (19) that are not significant are mostly comprised of 11 in Thailand and the Philippines, where few data are available. More data are expected later. But, of the twenty-seven (27) significant equations, most have very high R^2 , and the Durbin-Watson statistics are acceptable.

The importance of the equations is that they are estimated in such a disaggregated form for the first time. Notes on individual country functions follow.

2) Korean export price indexes do not contain oil export price indexes, so *PM3* could not be calculated, thus leaving only four equations for Korea. So far there are not quite enough years covered for Hong Kong's export price indexes to have enough degrees of freedom to do the equations, but perhaps soon there will be.

TAIWAN

1) Japanese imports from Taiwan standardized by Taiwan's export price index of unit values equals constant plus Japanese imports of food and beverages deflated, minus Taiwan's export price index, deflated, plus 3 seasonal dummy variables. Read in the similar fashion.

$$\frac{M1}{PM1} = -7.86 + 47.87 \frac{JMC1}{JPMC1} - 169.19 \frac{PM1}{JPMC1} + 0.30 \left(\frac{M1}{PM1} \right)_{-1} + 35.46Q1 + 233.17Q2 + 50.05Q3$$

(0.92) (6.22) (1.20)

$R^2=0.839, S^2=66.58, d=1.74$

2) $\ln \frac{M1}{PM1} = 2.85 + 1.25 \ln \frac{JMC1}{JPMC1} - 0.55 \ln \frac{PM1}{JPMC1} + 0.04 \ln \left(\frac{M1}{PM1} \right)_{-1} + 0.0003Q1 + 0.58Q2 + 0.22Q3$

(3.49) (3.52) (-2.12) (0.22) (0.003) (5.21) (1.93)

$R^2=0.812, S^2=0.19, d=1.87$

3) $\frac{M2}{PM2} = 501.03 - 17.36 \times \left(\frac{JM24}{JPMC24} + \frac{JMC3}{JPMC3} \right) - 35469.15 \frac{PM2}{JMC24 + JMC3} + 0.45 \left(\frac{M2}{PM2} \right)_{-1} + 0.18Q1 - 15.32Q2 - 6.45Q3$

(2.56) (-2.21) (-2.33) (2.42) (0.012) (-1.00) (-0.43)

$R^2=0.44, S^2=28.97, d=1.63$

4) $\frac{M3}{PM3} = -61.77 + 6.47 \frac{JMC5}{JPMC5} + 8.79 \frac{PM3}{JPMC5} + 0.26 \left(\frac{M3}{PM3} \right)_{-1} + 0.11Q1 + 8.00Q2 - 9.52Q3$

(-1.00) (1.51) (0.43) (1.28) (0.011) (0.85) (-1.04)

$R^2=0.25, S^2=16.84, d=1.60$

5) $\ln \frac{M3}{PM3} = -12.92 + 6.65 \ln \frac{JMC5}{JPMC5} + 1.29 \ln \frac{PM3}{JPMC5} + 0.056 \ln \left(\frac{M3}{PM3} \right)_{-1} - 0.05Q1 + 0.67Q2 - 0.68Q3$

(-1.86) (2.20) (1.48) (0.28) (0.07) (0.92) (-0.94)

$R^2=0.11, S^2=1.30, d=1.87$

6) $\frac{M4}{PM4} = 108.55 + 65.92 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right) - 781.63 \times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6 + JMC78} + 0.095 \left(\frac{M4}{PM4} \right)_{-1} - 82.57Q1 + 21.79Q2 - 3.05Q3$

(0.33) (3.50) (-3.06) (0.43) (-1.22) (0.33) (-0.05)

$R^2=0.92, S^2=123.73, d=0.81$

MALAYSIA

1) $\frac{M1}{PM1} = -204.36 + 23.44 \frac{JMC1}{JPMC1} + 82.36 \frac{PM1}{JPMC1} + 0.21Q1 + 11.85Q2 - 0.60Q3$

(-7.91) (11.69) (5.85) (0.04) (2.28) (-0.11)

$R^2=0.86, S^2=8.46, d=1.84$

2) $\ln \frac{M1}{PM1} = -2.05 + 2.99 \ln \frac{JMC1}{JPMC1} + 1.06 \ln \frac{PM1}{JPMC1} - 0.03Q1 + 0.13Q2 - 0.02Q3$

(-4.38) (13.26) (7.40) (-0.54) (1.93) (-0.28)

$R^2=0.89, S^2=0.11, d=1.90$

3) $\frac{M2}{PM2} = 3659.65 - 119.87 \times \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right)$

(1.73) (-1.24)

$$\begin{aligned}
 & -423330.94 \frac{PM2}{JMC24+JMC3} \\
 & \quad (-2.19) \frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \\
 & +0.63 \left(\frac{M2}{PM2} \right)_{-1} -178.54Q1 \\
 & \quad (2.31) \quad (-1.37) \\
 & +208.86Q2+22.28Q3 \\
 & \quad (1.63) \quad (0.17) \\
 & R^2=0.644, S^2=206.27, d=1.90 \\
 4) \quad \frac{M3}{PM3} &= -46.02 + 4.91 \frac{JMC5}{JPMC5} \\
 & \quad (-0.37) \quad (0.62) \\
 & -25.23 \frac{PM3}{JPMC5} + 0.93 \left(\frac{M3}{PM3} \right)_{-1} \\
 & \quad (-0.47) \quad (5.76) \\
 & +59.41Q1+26.06Q2+0.96Q3 \\
 & \quad (2.98) \quad (1.35) \quad (0.05) \\
 & R^2=0.859, S^2=29.66, d=1.98 \\
 5) \quad \ln \frac{M3}{PM3} &= -9.41 + 4.17 \ln \frac{JMC5}{JPMC5} \\
 & \quad (-1.69) \quad (1.82) \\
 & -1.33 \ln \frac{PM3}{JPMC5} + 0.41 \ln \left(\frac{M3}{PM3} \right)_{-1} \\
 & \quad (-1.48) \quad (2.06) \\
 & +1.47Q1+0.81Q2+0.77Q3 \\
 & \quad (2.85) \quad (1.62) \quad (1.62) \\
 & R^2=0.754, S^2=0.77, d=1.96 \\
 6) \quad \frac{M4}{PM4} &= 213.82 + 6.73 \left(\frac{JMC6}{JPMC6} \right. \\
 & \quad (2.06) \quad (2.27) \\
 & \left. + \frac{JMC78}{JPMC78} \right) - 214.36 \\
 & \quad (-1.86) \\
 & \times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6+JMC78} \\
 & +0.51 \left(\frac{M4}{PM4} \right)_{-1} -9.21Q1 \\
 & \quad (1.94) \quad (-0.38) \\
 & +48.90Q2+4.85Q3 \\
 & \quad (2.04) \quad (0.19) \\
 & R^2=0.577, S^2=38.05, d=1.56
 \end{aligned}$$

KOREA

$$\begin{aligned}
 1) \quad \frac{M1}{PM1} &= 357.16 + 54.73 \frac{JMC1}{JPMC1} \\
 & \quad (1.36) \quad (1.75) \\
 & -901.24 \frac{PM1}{JPMC1} + 0.56 \left(\frac{M1}{PM1} \right)_{-1} \\
 & \quad (-2.42) \quad (3.28)
 \end{aligned}$$

$$\begin{aligned}
 & -303.54Q1-30.10Q2-65.98Q3 \\
 & \quad (-4.41) \quad (-0.46) \quad (-1.06) \\
 & R^2=0.865, S^2=102.87, d=2.25 \\
 2) \quad \ln \frac{M1}{PM1} &= 0.18 + 1.32 \ln \frac{JMC1}{JPMC1} \\
 & \quad (0.33) \quad (2.48) \\
 & -0.89 \ln \frac{PM1}{JPMC1} + 0.45 \ln \left(\frac{M1}{PM1} \right)_{-1} \\
 & \quad (-2.94) \quad (2.76) \\
 & -0.51Q1-0.10Q2-1.10Q3 \\
 & \quad (-5.05) \quad (-1.05) \quad (-1.12) \\
 & R^2=0.929, S^2=0.15, d=1.83 \\
 3) \quad \frac{M2}{PM2} &= -1393.52 + 82.86 \\
 & \quad (-1.95) \quad (2.83) \\
 & \times \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right) \\
 & \quad \frac{PM2}{JMC24+JMC3} \\
 & +140923.19 \frac{JMC24+JMC3}{JPMC24+JPMC3} \\
 & \quad (1.48) \\
 & -47.06Q1-50.90Q2-67.69Q3 \\
 & \quad (-1.11) \quad (-1.18) \quad (-1.59) \\
 & R^2=0.48, S^2=69.45, d=1.52 \\
 4) \quad \text{n. a.} \\
 5) \quad \text{n. a.} \\
 6) \quad \frac{M4}{PM4} &= 2505.13 + 89.25 \left(\frac{JMC6}{JPMC6} \right. \\
 & \quad (2.31) \quad (2.32) \\
 & \left. + \frac{JMC78}{JPMC78} \right) - 4896.51 \\
 & \quad (-3.19) \\
 & \times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6+JMC78} \\
 & +0.52 \left(\frac{M4}{PM4} \right)_{-1} -170.56Q1 \\
 & \quad (3.13) \quad (-0.76) \\
 & -115.91Q2+74.64Q3 \\
 & \quad (-0.54) \quad (0.36) \\
 & R^2=0.899, S^2=345.72, d=0.89
 \end{aligned}$$

SINGAPORE

$$\begin{aligned}
 1) \quad \frac{M1}{PM1} &= 5.27 + 2.29 \frac{JMC1}{JPMC1} \\
 & \quad (0.53) \quad (2.70) \\
 & -10.89 \frac{PM1}{JPMC1} - 7.28Q1 \\
 & \quad (-1.75) \quad (-3.43) \\
 & -3.20Q2-2.60Q3 \\
 & \quad (-1.53) \quad (-1.24)
 \end{aligned}$$

$$R^2=0.60, S^2=3.09, d=1.78$$

$$2) \ln \frac{M1}{PM1} = \frac{-0.42}{(-0.40)} + \frac{1.37}{(2.88)} \ln \frac{JMC1}{JPMC1}$$

$$\frac{-0.74}{(-2.58)} \ln \frac{PM1}{JPMC1} - \frac{0.55Q1}{(-4.13)}$$

$$\frac{-0.17Q2}{(-1.3)} - \frac{0.14Q3}{(-1.09)}$$

$$R^2=0.70, S^2=0.19, d=1.80$$

$$3) \frac{M2}{PM2} = \frac{54.77}{(1.80)} - \frac{1.88}{(-1.62)}$$

$$\times \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right)$$

$$\frac{PM2}{JMC24+JMC3}$$

$$\frac{-5936.79}{(-1.70)} \frac{JMC24+JMC3}{JMC24+JMC3}$$

$$+ \frac{0.76}{(4.29)} \left(\frac{M2}{PM2} \right)_{-1} - \frac{1.75Q1}{(-0.53)}$$

$$+ \frac{8.22Q2}{(2.57)} + \frac{1.41Q3}{(0.45)}$$

$$R^2=0.708, S^2=4.54, d=2.74$$

$$4) \frac{M3}{PM3} = \frac{-1191.95}{(-1.47)} + \frac{83.27}{(1.98)} \frac{JMC5}{JPMC5}$$

$$+ \frac{457.03}{(0.80)} \frac{PM3}{JPMC3} + \frac{0.47}{(1.94)} \left(\frac{M3}{PM3} \right)_{-1}$$

$$+ \frac{112.42Q1}{(1.29)} + \frac{80.73Q2}{(0.99)} + \frac{0.86Q3}{(0.013)}$$

$$R^2=0.464, S^2=87.34, d=1.52$$

$$5) \ln \frac{M3}{PM3} = \frac{-4.97}{(-1.56)} + \frac{3.46}{(2.37)} \ln \frac{JMC5}{JPMC5}$$

$$+ \frac{1.11}{(0.95)} \ln \frac{PM3}{JPMC5} + \frac{0.41}{(1.72)} \ln \left(\frac{M3}{PM3} \right)_{-1}$$

$$+ \frac{0.33Q1}{(1.23)} + \frac{0.23Q2}{(0.92)} + \frac{0.025Q3}{(0.12)}$$

$$R^2=0.453, S^2=0.27, d=1.74$$

$$6) \frac{M4}{PM4} = \frac{-36.71}{(-0.13)} + \frac{4.90}{(1.03)} \left(\frac{JMC6}{JPMC6} \right)$$

$$+ \frac{JMC78}{JPMC78} + \frac{70.72}{(0.21)}$$

$$\times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6+JMC78}$$

$$\frac{-15.80Q1}{(-0.31)} + \frac{0.18Q2}{(0.003)} + \frac{24.00Q3}{(0.47)}$$

$$R^2=0.10, S^2=74.59, d=0.41$$

AUSTRALIA

$$1) \frac{M1}{PM1} = \frac{-3399.35}{(-3.35)} + \frac{484.30}{(6.43)} \frac{JMC1}{JPMC1}$$

$$+ \frac{3161.15}{(2.08)} \frac{PM1}{JPMC1} + \frac{0.16}{(1.18)} \left(\frac{M1}{PM1} \right)_{-1}$$

$$\frac{-246.10Q1}{(-1.81)} - \frac{147.69Q2}{(-1.15)} + \frac{2.87Q3}{(0.021)}$$

$$R^2=0.896, S^2=246.37, d=0.87$$

$$2) \ln \frac{M1}{PM1} = \frac{3.11}{(4.99)} + \frac{2.11}{(6.51)} \ln \frac{JMC1}{JPMC1}$$

$$+ \frac{0.70}{(1.75)} \ln \frac{PM1}{JPMC1} + \frac{0.10}{(0.75)} \ln \left(\frac{M1}{PM1} \right)_{-1}$$

$$\frac{-0.14Q1}{(-1.65)} - \frac{0.12Q2}{(-1.48)} - \frac{0.04Q3}{(-0.49)}$$

$$R^2=0.869, S^2=0.15, d=0.80$$

$$3) \frac{M2}{PM2} = \frac{1470.78}{(0.58)} + \frac{11.24}{(0.12)}$$

$$\times \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right)$$

$$\frac{PM2}{JMC24+JMC3}$$

$$\frac{-215385.69}{(-0.62)} \frac{JMC24+JMC3}{JMC24+JMC3}$$

$$+ \frac{0.70}{(4.86)} \left(\frac{M2}{PM2} \right)_{-1} - \frac{35.84Q1}{(-0.25)}$$

$$+ \frac{79.47Q2}{(0.57)} + \frac{313.27Q3}{(2.21)}$$

$$R^2=0.871, S^2=264.88, d=2.19$$

$$4) \frac{M3}{PM3} = \frac{855.28}{(0.84)} + \frac{10.00}{(0.15)} \frac{JMC5}{JPMC5}$$

$$\frac{-933.84}{(-1.24)} \frac{PM3}{JPMC5} - \frac{0.857}{(6.77)} \left(\frac{M3}{PM3} \right)_{-1}$$

$$\frac{-471.04Q1}{(-2.62)} - \frac{187.87Q2}{(-1.08)} - \frac{218.93Q3}{(-1.31)}$$

$$R^2=0.898, S^2=318.65, d=2.47$$

$$5) \ln \frac{M3}{PM3} = \frac{1.07}{(1.41)} + \frac{0.20}{(0.78)} \ln \frac{JMC5}{JPMC5}$$

$$\begin{aligned} & \frac{-0.16 \ln \frac{PM3}{JPMC5} + 0.79 \ln \left(\frac{M3}{PM3} \right)_{-1}}{(-1.58) \quad (6.27)} \\ & \frac{-0.22Q1 - 0.07Q2 - 0.083Q3}{(-3.22) \quad (-1.08) \quad (-1.32)} \\ & R^2=0.940, S^2=0.12, d=2.25 \end{aligned}$$

$$\begin{aligned} 6) \quad \frac{M4}{PM4} &= \frac{557.55 + 49.33 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right) - 1127.23}{(3.36) \quad (19.70) \quad (-4.19)} \\ & \times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6 + JMC78} \\ & \frac{-93.49Q1 - 38.20Q2 - 3.94Q3}{(-2.70) \quad (-1.10) \quad (-0.11)} \\ & R^2=0.93, S^2=66.34, d=2.33 \end{aligned}$$

INDONESIA

$$\begin{aligned} 1) \quad \frac{M1}{PM1} &= \frac{-466.07 + 37.98 \frac{JMC1}{JPMC1} - 252.27 \frac{PM1}{JPMC1}}{(-4.22) \quad (10.83) \quad (-2.05)} \\ & R^2=0.94, S^2=50.04, d=1.84 \end{aligned}$$

$$\begin{aligned} 2) \quad \ln \frac{M1}{PM1} &= \frac{-2.81 + 2.58 \ln \frac{JMC1}{JPMC1} - 0.42 \ln \frac{PM1}{JPMC1}}{(-2.32) \quad (7.57) \quad (-1.23)} \\ & R^2=0.89, S^2=0.15, d=2.15 \end{aligned}$$

$$\begin{aligned} 3) \quad \frac{M2}{PM2} &= \frac{1369.71 + 66.64 \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right) - 12655388.0 \frac{PM2}{JMC24 + JMC3}}{(0.44) \quad (2.46) \quad (-2.02)} \\ & R^2=0.81, S^2=403.85, d=2.94 \end{aligned}$$

$$\begin{aligned} 4) \quad \frac{M3}{PM3} &= \frac{-127.15 + 250.73 \frac{JMC5}{JPMC5} - 5862.97 \frac{PM3}{JPMC5}}{(-0.03) \quad (1.66) \quad (-0.68)} \\ & R^2=0.412, S^2=1081.42, d=0.90 \end{aligned}$$

$$\begin{aligned} 5) \quad \ln \frac{M3}{PM3} &= \frac{0.47 + 2.12 \ln \frac{JMC5}{JPMC5} - 1.05 \ln \frac{PM3}{JPMC5}}{(0.12) \quad (2.19) \quad (-0.82)} \\ & R^2=0.57, S^2=0.18, d=0.86 \end{aligned}$$

$$\begin{aligned} 6) \quad \frac{M4}{PM4} &= \frac{-109.44 + 1.78 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right) + 205.43}{(-1.42) \quad (1.10) \quad (1.39)} \\ & \times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6 + JMC78} \\ & R^2=0.78, S^2=46.69, d=2.20 \end{aligned}$$

THAILAND

$$\begin{aligned} 1) \quad \frac{M1}{PM1} &= \frac{3794.91 + 234.98 \frac{JMC1}{JPMC1} - 20842.07 \frac{PM1}{JPMC1}}{(1.06) \quad (2.66) \quad (-2.14)} \\ & R^2=0.50, S^2=1035.70, d=1.28 \end{aligned}$$

$$\begin{aligned} 2) \quad \ln \frac{M1}{PM1} &= \frac{-1.56 + 2.11 \ln \frac{JMC1}{JPMC1} - 2.37 \ln \frac{PM1}{JPMC1}}{(-0.40) \quad (2.31) \quad (-2.06)} \\ & R^2=0.43, S^2=0.32, d=1.51 \end{aligned}$$

$$\begin{aligned} 3) \quad \frac{M2}{PM2} &= \frac{1972.55 - 0.71 \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right) - 3029860.0 \frac{PM2}{JMC24 + JMC3}}{(1.62) \quad (-0.06) \quad (-0.95)} \\ & R^2=0.29, S^2=71.67, d=1.67 \end{aligned}$$

$$\begin{aligned} 4) \quad \frac{M3}{PM3} &= \frac{18.75 + 0.10 \frac{JMC5}{JPMC5} - 64.54 \frac{PM3}{JPMC5}}{(0.07) \quad (0.02) \quad (-0.33)} \\ & R^2=0.10, S^2=24.87, d=2.40 \end{aligned}$$

5) n. a.

$$6) \frac{M4}{PM4} = 1007.77 + 28.26 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right) - 3878.63$$

$$\times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6 + JMC78}$$

$R^2=0.13, S^2=98.34, d=2.40$

$$\times \frac{PM4 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right)}{JMC6 + JMC78}$$

$R^2=0.85, S^2=211.65, d=1.85$

PHILIPPINES

- 1) $\frac{M1}{PM1} = -5726.30 - 131.76 \frac{JMC1}{JPMC1} + 15483.88 \frac{PM1}{JPMC1}$
 $R^2=0.10, S^2=1071.75, d=0.80$
- 2) $\ln \frac{M1}{PM1} = 18.77 - 2.85 \ln \frac{JMC1}{JPMC1} + 5.07 \ln \frac{PM1}{JPMC1}$
 $R^2=0.10, S^2=0.71, d=0.77$
- 3) $\frac{M2}{PM2} = -1348.94 + 109.99 \left(\frac{JMC24}{JPMC24} + \frac{JMC3}{JPMC3} \right) - 19213664.0 \frac{PM2}{JMC24 + JMC3}$
 $R^2=0.31, S^2=779.31, d=1.87$
- 4) $\frac{M3}{PM3} = 8.68 - 0.38 \frac{JMC5}{JPMC5} + 22.72 \frac{PM3}{JPMC5}$
 $R^2=0.64, S^2=2.02, d=1.89$
- 5) n. a.
- 6) $\frac{M4}{PM4} = -166.18 + 5.81 \left(\frac{JMC6}{JPMC6} + \frac{JMC78}{JPMC78} \right) - 87.50$
 $R^2=0.85, S^2=211.65, d=1.85$

Taiwan—Three of the Taiwan equations show a high R^2 , indicating that we may be able to predict the food and beverages equations plus the SITC 5–9 trade equation. Low R^2 for crude materials and for oil exports may be understandable as these are not strong exports for Taiwan and data is sparse. The Durbin-Watson statistics are not out-of-line.

Korea—High R^2 in equations 1 and 2 indicate we are capturing rather well the relation between food and beverages in Korean exports and Japanese imports. Equation 3 describing Korean crude material exports has low R^2 , possibly since there is not yet data enough. As mentioned, Korean 4 and 5 are not determinable.

Malaysia—These equations display high R^2 throughout, indicating strong ability to predict Malaysian exports to Japan. The Durbin-Watsons seem reasonable in most cases, but $M2$ crude materials, and $M4$ seem to show positive autocorrelation.

Singapore—There exists good data coverage for Singapore quarterly indexes for 1972 through 1977, but unfortunately most of the equations are not significant. The equation capturing food, beverages and raw materials only seems significant and can be used for prediction.

Australia—Though not actually considered an Asian country, Australian data became available through the cooperation of Dr. Ironmonger of Australia and were tested out for possible future inclusion. All of the trade functions are significant, but *M3* and *M4* show positive autoconelation.

Indonesia—Once again equations four and five are troublesome possibly as there is an exceptionally high export price index for 1974, 1975, 1976 and 1977 for oil. This elevated the data quite a bit and possibly threw the correlations out of line. Nevertheless, the other four equations are significant.

Thailand—Only *M4* quation is significant leaving some room for improvement here. Possibly when we get quarterly data for Thailand and the Philippines which have no significant equation, this will be changed.

All these seem to show the degree of difficulty involved in estimating the import functions of Asian developing countries. Further work to be done includes the gathering of more data for quarterly export price index and thereby perfecting the trade functions between the individual countries and Japan. The crucial part is the export price indexes, which will be discussed below.

Export Price Indexes

Data for the Export Price Indexes for these countries of the LINK project of necessity come from many different

sources. In most cases, the data have been provided to this Center by economists involved directly in LINK, and then organized by the Center's staff to be consistent throughout.

The data for price indexes is arranged by SITC groupings to fall into four weighted-by-trade categories. That is, SITC 0 and 1 make up *PM1*; SITC 2 and 4 make *PM2*, SITC 3=*PM3* and SITC 5-9=*PM4*. The trade weights were calculated by taking actual figures for the base year of the index and dividing totals by the SITC individual category total to get a percentage weight of the total for each *PM1-4*. Base years varied by country but mostly centered around 1974 or 1975. The years available varied by country. An attempt has been made to collect data for 1964-1978, but in most cases, only 1970's data are available. Below are the details for each country.

Taiwan—Dr. S. Y. Lii of the Economic Planning Council, sent to this Center export unit values 1964-1978 and import unit values 1971-1978 from the Taiwan Monthly Statistics of Exports and Imports—The Republic of China, April 1978, no. 104. Trade figures were available through the Commodity Trade Statistics of the Republic of China 1954-74 of the Research, Development and Evaluation Commission, Executive Yuan, August, 1976. Exports of Taiwan were used to trade-weight the price indexes. The base year for the Taiwan data is 1971. In preparing a concordance for Taiwan price indexes and Standard

International Trade Classification, an initial correspondance was made based on one (1) digit SITC and one (1) digit Taiwan price index. Since these are (1) one digit only, it is necessary to call them approximations.

Therefore,

<i>SITC</i>	<i>Taiwan Indexes</i>
0+1	0+2
2+4	3
3	1+4
5-9	5-8

Within this 1 digit correspondance, some three (3) digit SITC categories are placed in one Taiwan index and some in another. For example, SITC 1 includes beverages and tobacco only, while Taiwan price index category 2 includes some food as well as beverage and tobacco. Thus, on a 3 digit breakdown, some commodities in SITC 0 correspond to Taiwan price index 0 and some in Taiwan price index 2. The following is a detail of the concordance:

0 Agriculture, Forestry, Livestock, Hunting, Fish:	001, 031, 032, 041, 042, 043, 044, 045, 051
1 Minerals:	none
2 Food, Beverages, Tobacco:	011, 012, 013, 022, 023, 024, 025, 046, 047, 048, 052, 053, 054, 055, 061, 062, 071, 072, 073, 074, 075, 081, 091, 099, 111, 112, 121, 122
3 Textiles, Leather, Wood, Paper and related products:	All-SITC 2, 311, 321, 331, 332, 341, 351 All-SITC 4
4 Non-metallic mineral products:	SITC 3
5 Chemicals:	SITC 5
6 & 7 Basic Metals, Products:	SITC 6 & 7
8 & 9 Miscellaneous mfg. products:	SITC 8 & 9

Korea—Dr. Jung-Soo Lee in cooperation with Dr. Jae-Yoon Kim of the Research Department, the Bank of Korea sent unit value indexes on an annual basis from 1963 and on a quarterly basis from 1971 to 1977. The indexes were classified differently than had been the Tai-

wanese or Japanese data. Thus, Korean data were concorded separately to coincide with SITC groupings. Korean data was given as foodstuffs, fibers, logs and lumber, rubber, clay and stone, metals, machinery and miscellaneous. Foodstuffs became *PMI*; fibers, logs and

<i>SITC</i>	<i>Korean Index</i>		
0, 1	1	= \$ 602,339 (a)	a/c=0.8991
2, 4	2, 3, 4, 5	= 67,565 (b)	b/c=0.1008
3		669,904 (c)	
5-9	6	= 1,484,646 (A)	A/D=0.358
	7	= 702,090 (B)	B/D=0.169
	8	= 1,882,604 (C)	C/D=0.454
		4,144,137 (D)	

lumber, rubber, clay and stone* became *PM2*; *PM3* is non-existent for Korea, as recorded oil/petroleum export prices were not sent; and *PM4* is metals, machinery and miscellaneous. These indexes were collapsed into four indexes by averaging and then weighting the averages. (See the table on p. 773.) The trade weights were constructed by using Monthly Trade Statistics and Bank of Korea Export Price Indexes. Base year is 1975. SITC 4 does not exist in Korean Price Indexes, so SITC 2 will suffice for constructing *PM2*. *Rubber, clay and stone could have gone into *PM4*. The decision was arbitrary. Calculation of Korean Price Index 6, 7, and 8 and corresponding SITC 5-9 presented one problem. Korean 6, 7, 8 included no energy export index; therefore, the decision was made to count the weight as zero for SITC 5. The total value of SITC 5 was less than 2 percent (2%) of the total SITC 5-9.

Hong Kong—Dr. Tzong-biau Lin, Faculty of Social Sciences, The Chinese University of Hong Kong, sent Trade Index Numbers for Domestic Exports, *Hong Kong Monthly Digest of Statistics*, July, 1978. These data were categorized by SITC in a useable form for the LINK model, but are on an annual basis only for 1974-1978. In *Hong Kong Monthly Trade Statistics* at the Center's Library, we located 1976-1978 quarterly, so Hong Kong data could be carried to a quarterly basis from 1976 on. The SITC categories are consistent with LINK. Food,

beverages and tobacco are collapsed together by the Digest and so make up *PM1*. *PM2* and *PM3* will be identical, as *Statistics* calculated 2, 3, and 4 (SITC) together. SITC 5 to 8 are given as one index and therefore, can be used for *PM4*. Base year for Hong Kong data is 1973=100.

Malaysia—Dr. Fong Wenk Phak of the Bank Negara Malaysia sent quarterly SITC export price indexes for 1971-77 and annual for 1962-1977. Since the data existed in perfectly corresponding SITC categories, this staff affixed trade weights to each SITC category to calculate *PM1-4*. Base year is 1970 and trade weights are calculated by using Annual Statistics of External Trade, 1972, v. 1, p. 13-14, the Dept. of Statistics Malaysia. Each categories' 1970 value was divided by the total 1970 trade to arrive at the weight.

Indonesia—Dr. J. L. Tamba, National Institute of Economic and Social Research Indonesian Institute of Sciences, sent annual export price indexes 1968-1977 on an SITC basis. The data was based both on Laspeyres', Paasche and Fisher indexes, so the decision was made to use Fisher to be consistent with afore-used data. (See Korean index.) The data is annual, and only exists for *PM1* through *PM4*. The base year is 1970 and the indexes were weighted by trade figures found in the United Nations Yearbook of International Trade Statistics, 1972-73, pp. 384-5. Since Tam-

ba's data came in corresponding SITC categories to the LINK model, weights were affixed simply by the following method:

$$0+1 \text{ export data } 1970 = \$197203$$

$$\frac{0}{0+1} = .910$$

$$\frac{1}{0+1} = .089$$

$$2+4 = \$482248$$

$$\frac{2}{2+4} = .905$$

$$\frac{4}{2+4} = .094$$

$$5+6+7+8+9 = \$36874$$

$$\frac{5}{5+6+7+8+9} = .150$$

$$\frac{6}{5+6+7+8+9} = .675$$

$$\frac{7}{5+6+7+8+9} = .173$$

$$8=0$$

$$9=0$$

These weights were multiplied by the respective indexes and *PMI* through *PM4* resulted. Annual—1970 is base year.

Singapore—Miss Ng Kim Neo of the Monetary Authority of Singapore sent import and export price indexes from 1972 through second (2nd) quarter 1978, quarterly by 2 digit SITC. This staff collapsed the 2 digits into 1 digit by averaging and then calculated *PMI-PM4* by the usual method. Weights (percentages of total category were derived for the data from the Yearbook of Statistics, Singapore, 1976-77 and 1975-76, 77-78 and were used to calculate *PMI-PM4*. Base year is 1972=100, so trade for

that year, 1972 was of course used to calculate the weighted percentage to be multiplied by the index. Data before 1972 is not available in Singapore.

Thailand—Dr. Olarn Chaipravat of the Bank of Thailand Laspeyre's formula for Export and Import Price Indexes by SITC groupings from 1960 through 1977, annual basis. Quarterly and monthly data were soon to be prepared. Since the data came in classifications common to the LINK classifications, the data coincides exactly. Weights by SITC groupings will be assigned as quarterly data arrives.

Meanwhile, annual data have been transposed to *PMI* through *PM4* to cover the years where possible from 1964 through 1977. Trade weights for annual data were constructed by using United Nations Yearbook of International Trade Statistics, 1973. Base year for Thailand export price index is 1975, but SITC trade by commodity for Thailand does not exist at this Center. Therefore, 1973 trade is used as a proxy for 1975 trade.

$$0+1 = \$687731$$

$$\frac{0}{0+1} = .976$$

$$\frac{1}{0+1} = .023$$

$$2+4^* = 2 = 1.00$$

$$3=3 = 1.00$$

$$5 = \$ 7830 \quad 5/\mathbf{T} = .019$$

$$6 = \$283439 \quad 6/\mathbf{T} = .696$$

$$7 = \$ 4148 \quad 7/\mathbf{T} = .010$$

$$8 = \$ 50170 \quad 8/\mathbf{T} = .123$$

$$9 = \$ 61397 \quad 9/\mathbf{T} = .150$$

$$\mathbf{T} = 5+6+7+8+9$$

* No trade figures for SITC 4 exist

$$9 = \$ 46,527,139 \quad 9/T = .268$$

$$T = \$173,030,446$$

Philippines—Mr. Tito A. Mijares sent export and import price indexes at the 3-digit level of the SITC for 1973–77. The commodity classification used by the National Census and Statistics office is comparable to SITC even though 1977 data were based on SITC Revision 2; and 1973–76 data was patterned after SITC original. Base year is 1972. The three (3) digit SITC had to be collapsed into single (1) digit SITC to be used by LINK, so this staff averaged division groupings to achieve the single category. Therefore, after the compilation of single SITC classifications the weighted percentages were calculated by using trade data of 1972 taken from the Foreign Trade Statistics of the Philippines, Bureau of the Census and Statistics, Manila, pp. 245–345. The exact details are given below:

Total exports = \$1,168,047,273
SITC

0 = \$333,677,611	$\frac{0}{0+1} = .949$
1 = \$ 17,891,446	$\frac{1}{0+1} = .050$
2 = \$547,842,166	$\frac{2}{2+4} = .867$
4 = \$ 83,345,152	$\frac{4}{2+4} = .132$
5 = \$ 6,282,258	$5/T = .036$
6 = \$102,346,902	$6/T = .591$
7 = \$ 2,918,647	$7/T = .016$
8 = \$ 14,955,500	$8/T = .086$

Australia—Dr. Ironmonger of the University of Melbourne set Australian Bureau of Statistics data to this Center in quarterly implicit price indexes for exports and imports. Base year is 1974–75 and covers the period September 1966 through March 1978. The data is listed on a fiscal year basis (i. e. 66–67) but since it is broken out quarterly, each quarter can be easily transposed into LINK’s annual arrangement (i. e. 1978 quarters should be Jan.–Mar., Apr.–June, July–Sept., etc.). The Australian data was listed initially by SITC 01, 04, 06 and “other” so this category was weighted by SITC 0+1 trade figures supplied also by the Bureau. The second category was wool and sheep skins, SITC 21 and 26, and trade figures were listed accordingly. Therefore, weights were used for 21 as well as 26. SITC 32 sufficed for *PM3* and metals and other exports 76, 73, 61–69 were weighted by trade in those same categories to make *PM4*. Trade and price indexes both have 1974–75 base. The SITC categories 0+1, 2+4, 3, 5–9 that are used in making up LINK model grouping—*PM1*, *PM2*, *PM3*, and *PM4* are concoded below with each country’s price index classification. For example, SITC 0+1 equals Japan’s CCCN classification 0 and Korea’s classification of 1, etc.

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SITC	Japan	Taiwan	Korea	Hong Kong	Malaysia	Indonesia	Singapore	Thailand	Philippines	Australia
0+1	0	0, 2	1	0+1	0+1	0+1	0+1	0+1	0+1	0+1
2+4	1, 2, 3	3	2, 3, 4, 5	2, 3, 4	2+4	2+4	2+4	2+4	2+4	2
3	4	1, 4	—	2, 3, 4	3	3	3	3	3	3
5-9	5, 6, 7	5, 8	6, 7, 8	5-8	5-9	5-9	5-9	5-9	5-9	6, 7

Summary

Taiwan	Quarterly	1964-78 1st quarter	Base year 1971
Korea	Quarterly	1971-77	1975
Singapore	Quarterly	1972-78 1st quarter	1972
Indonesia	Annually	1968-77	1971
Malaysia	Quarterly	1971-77	
	Annually	1964-70	1970
Hong Kong	Annually	1974-78	
	Quarterly	1976-78	1973
Thailand	Annually	1972-74	1968
Philippines	Annually	1973-77	1972

TAIWAN

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1964/ 1	162.775	106.428	97.550	89.439
1964/ 2	140.895	109.218	100.130	89.780
1964/ 3	128.119	111.428	101.120	92.711
1964/ 4	108.860	113.668	101.780	90.579
1965/ 1	102.645	108.438	96.050	90.217
1965/ 2	97.814	108.879	91.350	92.160
1965/ 3	94.229	105.968	91.410	104.918
1965/ 4	95.578	103.989	94.010	96.051
1966/ 1	99.615	106.518	100.270	99.885
1966/ 2	95.346	105.538	104.600	104.174
1966/ 3	89.650	105.189	111.980	102.928
1966/ 4	96.225	106.259	114.880	106.070
1967/ 1	99.081	106.149	111.540	96.089
1967/ 2	94.830	109.618	110.870	104.173
1967/ 3	106.627	111.178	106.880	102.176
1967/ 4	107.910	106.799	109.030	95.205
1968/ 1	101.605	109.808	109.820	89.696
1968/ 2	100.904	112.538	112.550	86.889
1968/ 3	102.041	115.728	115.740	97.428
1968/ 4	101.347	112.888	112.900	100.012
1969/ 1	110.695	114.827	109.470	103.949
1969/ 2	113.293	111.308	118.910	100.812
1969/ 3	113.645	113.618	109.550	98.078

1969/ 4	112.954	112.418	103.890	101.408
1970/ 1	113.051	112.945	100.770	105.648
1970/ 2	119.670	113.207	98.660	112.658
1970/ 3	127.718	114.247	100.900	118.492
1970/ 4	127.034	117.497	93.990	118.242
1971/ 1	118.017	107.098	119.900	104.389
1971/ 2	123.018	108.159	120.110	103.086
1971/ 3	118.411	110.738	120.900	111.645
1971/ 4	127.381	110.466	119.920	104.986
1972/ 1	141.695	110.938	92.620	98.861
1972/ 2	141.569	112.647	90.730	93.859
1972/ 3	142.671	117.571	91.830	97.880
1972/ 4	151.868	120.577	89.320	104.326
1973/ 1	151.458	133.675	94.540	106.046
1973/ 2	152.985	150.804	99.750	102.192
1973/ 3	154.531	161.763	112.180	104.471
1973/ 4	167.575	173.211	119.380	108.424
1974/ 1	195.156	184.531	121.730	114.918
1974/ 2	215.371	183.310	135.880	122.177
1974/ 3	167.164	166.472	170.450	127.546
1974/ 4	305.850	158.043	206.820	130.392
1975/ 1	271.302	134.775	175.990	128.674
1975/ 2	214.458	134.225	188.440	121.826
1975/ 3	178.169	141.405	176.060	123.101
1975/ 4	176.980	149.764	201.970	130.025
1976/ 1	187.014	150.814	249.240	132.121
1976/ 2	180.039	156.913	219.060	132.055
1976/ 3	184.444	165.932	184.730	132.908
1976/ 4	180.397	170.862	180.810	130.980
1977/ 1	177.295	175.801	206.620	137.428
1977/ 2	177.043	182.630	195.580	140.952
1977/ 3	183.540	183.981	210.020	138.994
1977/ 4	189.035	189.451	211.840	133.800
1978/ 1	190.374	192.060	232.610	133.066

KOREA

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1971/ 1	60.280	67.650	0.0	76.510
1971/ 2	63.640	69.900	0.0	76.050
1971/ 3	58.710	71.020	0.0	76.220
1971/ 4	61.440	70.240	0.0	77.060
1972/ 1	66.110	71.510	0.0	75.200
1972/ 2	71.280	74.560	0.0	73.390
1972/ 3	68.880	76.070	0.0	73.210
1972/ 4	72.630	75.800	0.0	74.260

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1973/ 1	76.240	83.010	0.0	76.420
1973/ 2	79.180	98.180	0.0	77.280
1973/ 3	82.840	99.690	0.0	82.410
1973/ 4	90.580	106.410	0.0	87.150
1974/ 1	99.410	111.510	0.0	89.950
1974/ 2	102.510	109.260	0.0	98.710
1974/ 3	100.440	100.230	0.0	104.190
1974/ 4	98.110	95.140	0.0	102.910
1975/ 1	95.540	98.580	0.0	100.800
1975/ 2	93.840	100.520	0.0	96.520
1975/ 3	97.580	100.390	0.0	96.560
1975/ 4	107.340	100.200	0.0	97.680
1976/ 1	111.610	102.640	0.0	99.680
1976/ 2	113.640	107.960	0.0	101.760
1976/ 3	118.210	115.970	0.0	104.510
1976/ 4	122.080	119.460	0.0	103.750
1977/ 1	120.880	118.010	0.0	104.570

MALAYSIA

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1971/ 1	105.380	96.730	110.130	105.380
1971/ 2	103.960	98.800	120.960	106.630
1971/ 3	102.480	96.320	134.700	106.610
1971/ 4	104.910	94.040	110.300	106.360
1972/ 1	110.090	92.510	108.800	107.870
1972/ 2	105.540	93.040	112.930	108.090
1972/ 3	102.630	92.280	122.160	108.130
1972/ 4	104.090	94.020	128.700	117.310
1973/ 1	106.590	101.070	119.900	118.840
1973/ 2	110.400	104.350	116.260	120.520
1973/ 3	109.170	109.550	157.400	128.710
1973/ 4	115.560	118.460	143.930	146.870
1974/ 1	133.590	138.800	309.460	160.870
1974/ 2	138.880	154.450	191.700	175.800
1974/ 3	137.980	153.900	191.160	184.640
1974/ 4	141.150	149.400	209.800	186.710
1975/ 1	149.270	147.650	247.800	180.550
1975/ 2	152.220	137.130	239.900	169.060
1975/ 3	153.770	146.120	234.700	170.290
1975/ 4	155.750	143.310	262.200	179.050
1976/ 1	161.140	139.920	271.100	183.050
1976/ 2	159.550	144.640	257.330	177.860
1976/ 3	160.970	152.100	260.700	180.600
1976/ 4	165.340	151.630	266.430	181.770
1977/ 1	173.690	167.070	264.500	182.110

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1977/ 2	186.430	168.570	310.730	183.630
1977/ 3	186.090	174.160	272.600	180.260
1977/ 4	187.720	175.510	270.660	180.360

HONG KONG

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1971/ 1	105.380	96.730	110.130	105.380
1971/ 2	103.960	98.800	120.960	106.630
1971/ 3	102.480	96.320	134.700	106.610
1971/ 4	104.000	94.000	110.000	106.000
1972/ 1	110.090	92.510	108.800	107.870
1972/ 2	105.540	93.040	112.930	108.090
1972/ 3	102.630	92.280	122.160	108.130
1972/ 4	104.000	94.000	128.000	117.000
1973/ 1	106.590	101.070	119.900	118.840
1973/ 2	110.400	104.350	116.260	120.520
1973/ 3	109.170	109.550	157.400	128.710
1973/ 4	115.000	118.000	143.000	146.000
1974/ 1	133.590	138.800	309.460	160.870
1974/ 2	138.880	154.450	191.700	175.800
1974/ 3	137.980	153.900	191.160	184.640
1974/ 4	141.000	149.000	209.000	186.000
1975/ 1	149.270	147.650	247.800	180.550
1975/ 2	152.220	137.130	239.900	169.060
1975/ 3	153.770	146.120	234.700	170.290
1975/ 4	155.000	143.000	262.000	179.000
1976/ 1	161.140	139.920	271.100	183.050
1976/ 2	159.550	144.640	257.330	177.860
1976/ 3	160.970	152.100	260.700	180.600
1976/ 4	165.000	151.000	266.000	181.000
1977/ 1	173.690	167.070	264.500	182.110
1977/ 2	186.430	168.570	310.730	183.630
1977/ 3	186.090	174.160	272.600	180.260
1977/ 4	187.000	175.000	270.000	180.000

SINGAPORE

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1972/ 1	106.550	94.360	101.000	98.530
1972/ 2	100.820	97.400	98.000	99.010
1972/ 3	98.880	100.190	100.000	100.770
1972/ 4	104.590	103.750	100.000	101.140
1973/ 1	109.360	111.040	102.000	104.260
1973/ 2	114.920	121.660	103.000	108.280
1973/ 3	121.490	132.750	110.000	112.720

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1973/ 4	123. 570	141. 510	132. 000	118. 380
1974/ 1	134. 420	226. 280	237. 000	133. 130
1974/ 2	151. 380	217. 260	291. 000	145. 670
1974/ 3	152. 390	190. 240	297. 000	148. 850
1974/ 4	149. 600	160. 300	321. 000	142. 060
1975/ 1	160. 840	155. 650	321. 000	140. 700
1975/ 2	156. 680	154. 070	315. 000	140. 190
1975/ 3	142. 930	161. 190	336. 000	140. 710
1975/ 4	152. 490	167. 900	377. 000	151. 310
1976/ 1	161. 180	176. 330	370. 000	150. 530
1976/ 2	157. 310	202. 500	346. 000	151. 260
1976/ 3	177. 490	213. 260	350. 000	159. 990
1976/ 4	181. 380	211. 210	347. 000	159. 280
1977/ 1	179. 550	212. 140	354. 000	155. 530
1977/ 2	195. 840	218. 200	371. 000	155. 110
1977/ 3	184. 870	219. 830	383. 000	165. 290
1977/ 4	175. 890	214. 790	374. 000	164. 050
1978/ 1	167. 180	189. 290	359. 000	161. 070
1978/ 2	165. 760	192. 110	376. 000	159. 110

AUSTRALIA

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1966/ 1	0. 0	0. 0	0. 0	0. 0
1966/ 2	0. 0	0. 0	0. 0	0. 0
1966/ 3	48. 120	63. 770	50. 600	52. 880
1966/ 4	45. 750	65. 820	49. 500	51. 060
1967/ 1	46. 190	67. 920	51. 700	51. 730
1967/ 2	46. 600	64. 670	51. 000	53. 420
1967/ 3	47. 660	64. 740	52. 100	53. 440
1967/ 4	45. 740	64. 480	51. 600	52. 440
1968/ 1	43. 550	68. 090	50. 800	50. 960
1968/ 2	45. 610	67. 190	54. 300	52. 750
1968/ 3	47. 850	65. 520	52. 100	52. 940
1968/ 4	44. 830	70. 540	51. 800	52. 500
1969/ 1	33. 050	70. 660	53. 500	53. 840
1969/ 2	47. 570	68. 520	55. 600	55. 760
1969/ 3	48. 870	69. 060	57. 300	56. 700
1969/ 4	45. 940	69. 940	59. 800	58. 110
1970/ 1	45. 470	71. 960	65. 900	61. 680
1970/ 2	48. 330	69. 040	64. 900	60. 540
1970/ 3	48. 850	65. 830	65. 000	61. 050
1970/ 4	46. 470	64. 750	64. 100	60. 780
1971/ 1	47. 350	66. 510	62. 600	60. 000
1971/ 2	52. 250	63. 790	61. 400	61. 100
1971/ 3	53. 110	62. 610	61. 500	61. 520

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1971/ 4	49.300	59.270	60.100	60.390
1972/ 1	51.560	63.810	59.900	60.600
1972/ 2	55.720	67.760	59.800	62.220
1972/ 3	55.050	72.160	60.700	65.410
1972/ 4	56.490	81.642	59.900	65.650
1973/ 1	58.270	88.540	60.600	64.270
1973/ 2	61.820	100.070	63.300	65.250
1973/ 3	67.050	106.230	70.600	68.530
1973/ 4	73.700	106.120	72.700	71.440
1974/ 1	84.220	103.150	82.700	80.530
1974/ 2	92.370	99.500	96.300	90.920
1974/ 3	95.690	95.250	93.500	92.310
1974/ 4	101.470	98.120	103.800	101.570
1975/ 1	103.070	102.990	105.400	105.640
1975/ 2	100.200	103.910	98.000	100.960
1975/ 3	92.990	104.900	92.100	100.530
1975/ 4	91.550	106.350	91.400	102.030
1976/ 1	97.790	108.750	92.800	106.320
1976/ 2	99.090	117.840	96.400	110.090
1976/ 3	92.160	119.410	100.700	113.040
1976/ 4	85.900	126.560	102.000	116.630
1977/ 1	82.420	145.690	112.980	128.110
1977/ 2	100.250	143.740	113.300	124.270
1977/ 3	93.710	139.460	105.300	127.920
1977/ 4	86.680	141.110	104.600	125.150
1978/ 1	88.720	139.740	102.200	123.830

INDONESIA

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1968	76.200	80.690	79.390	72.590
1969	58.580	86.429	79.380	72.080
1970	86.590	105.190	83.430	81.720
1971	99.901	99.903	100.000	99.803
1972	106.110	101.130	125.490	115.230
1973	129.530	170.930	174.980	127.510
1974	171.270	236.830	546.620	196.830
1975	185.210	208.070	582.280	183.600
1976	274.500	253.910	586.630	191.890
1977	424.590	297.400	617.220	247.820

THAILAND

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1964	39.130	77.620	0.0	66.180
1965	38.830	80.990	0.0	69.850

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1966	42.840	78.390	0.0	67.340
1967	47.780	65.300	0.0	65.570
1968	49.400	61.810	0.0	64.980
1969	44.500	79.380	0.0	69.700
1970	40.656	71.215	45.950	57.140
1971	31.996	65.695	35.060	60.370
1972	42.876	64.915	29.470	53.340
1973	71.706	103.450	26.140	62.970
1974	103.060	121.720	88.920	91.510
1975	99.900	100.000	100.000	84.800
1976	88.990	122.860	94.720	87.640
1977	81.400	140.780	0.0	106.140

PHILIPPINES

	<i>PM1</i>	<i>PM2</i>	<i>PM3</i>	<i>PM4</i>
1973	126.540	149.100	122.320	121.460
1974	176.030	266.460	256.780	174.340
1975	212.390	184.380	246.410	194.060
1976	177.750	183.760	225.080	189.050
1977	202.140	206.360	459.950	193.330