STRUCTURAL CHANGES IN WORLD TRADE FLOWS[1]

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I. *Intensities of World Trade Flows*

The purpose of this paper is to find out the structure of international trades between pairs of countries and its overtime changes and to analyze factors affecting them. It may be asserted that one should consider the structure of a country's export to or import from the world as a whole but not that of its trade with any particular partner since the latter is determined more or less by chance and is volatile every year. In reality, on the countrary, there is found a distinct structure of high or low intensity of trade between countries and it has been fairly stable over time. This implies some underlying determinants affecting the trade intensity among countries.

The intensity index of country i's export trade with country j is defined by

$$I_{ij} \equiv \frac{X_{ij}}{X_{i.}} \Big/ \frac{X_{.j}}{X_{..}} \tag{1}$$

where X_{ij}, $X_{i.}(\equiv \sum_j X_{ij})$, $X_{.j}(\equiv \sum_i X_{ij})$ and $X_{..}(\equiv \sum_i \sum_j X_{ij})$ represents country i's export to country j, total export of country i, total import of country j, and the total volume of world trade respectively. The index measures the share of country j in the total exports of country i relative to its share in the world imports. I_{ij} equals unity when country i exports to country j in proportion to the latter's share in world imports. It exceeds unity when country i trades with country j more intensively than on the average, while its falls short of unity when country i trades with country j less intensively than on the average.

What do the world trade flows look like when I_{ij} equals unity for all pairs of i and j? This is an extreme situation where multilateral trade dominates the world in the sense that each country trades with others at equal intensity. It is, however, far from the case. The values of I_{ij} calculated from the actual trade flows are high above unity among some groups of countries and low below unity among other groups of countries.

A number of factors cause intensity of trade between countries diverge from unity. The complimentarity in comparative advantage structure of two trade partners should be counted first. Intensity of trade is likely to be high between a pair of industrial exporter and primary

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[1] This is an extended version of the author's previous study. Yamazawa, Ippei, "Intensity Analysis of World Trade Flow", *Hitotsubashi Journal of Economics*, Vol. 10, No. 2, February 1970. He has benefited from comments by Professors Kiyoshi Kojima, Yoichi Shinkai and Hiroshi Niida and other participants in the staff seminar of Hitotsubashi University and the 8th Econometric Conference at Rokko in July, 1970. He is also indebted to Misses Masako Kohno and Shoko Fujii of Hitotsubashi University for computational works. Computation was carried out by FACOM 230-25 system at Hitotsubashi University.

goods supplier where strong complementarity exists in their structure of comparative advantage, while intensity will be low either between two industrial exportors or between two primary goods suppliers where their comparative advantage structure is less complementary or competitive with each other.

Transportation costs, discriminatory commercial policies of various types, the flow of capital and economic aids from developed to developing countries, should be added to the list of possible factors causing the divergence of trade intensity from unity.

In the previous paper the intensity of trade is calculated for fifteen regions at three-year periods 1955-57, 60-62, 65-67.[2] It is reproduced in Table 2 in which we can easily confirm the above statement. High values of intensity are found between some pairs of countries, such as that of 8.5 in E EUR-CHN MX trade, 7.5 in intra-E EUR trade, 5.0 in CAN-US trade. On the other hands, very low intensity is found between US and CHN MX (0.0), between J and UK or EEC (0.2~0.3). It should be noted that the structure of high and low intensity among countries has been fairly stable over the three periods.

At the same time it may well be indicated that there exists such a steady change over the recent decade that I_{ij} below unity tends to rise whereas I_{ij} above unity tends to fall. This tendency of I_{ij} toward unity is statistically verified. Out of 219 pairs of i and j, I_{ij} is found to tend toward unity in 137 pairs. The ratio of which is high enough to reject at 1% significance level the hypothesis that there exists no particular tendency of change in I_{ij}. Furthermore, the variance of $\log I_{ij}$ around 0 declines steadily from 0.3167 in 1955-57, to 0.2512 in 1960-62, and 0.2291 in 1965-67. The tendency of I_{ij} toward unity implies the multilateralization of world trade flows.[3]

The rest of this paper is devoted to identify quantitatively the effects of various factors mentioned above on the actual structure of world trade flows and their changes over the recent decade. In the following section a measure of complementarity in comparative advantage between trade partners is devised and the structure of complementarity among the fifteen regions is analyzed. In the third section each of other important determinants is specified in quantitative terms, and in the final section it is attempted to regress intensity of world trade flows on its various determinants and to assess the relative importance of each determinant in explaining the structure of world trade flows and its overtime changes.[4]

[2] Fifteen regions are USA, Canada, Latin America, EEC, UK, EFTA excluding UK, Other Western Europe, Eastern Europe including USSR, South African Republic, Other Africa, Japan, West Asia (Asian part of Mid East), Other Asia, Mainland China and other Asian Socialist countries, Australia and New Zealand. Trade statistics were taken from U. N., *Monthly Bulletin of Statistics*.

[3] This finding seems to support Harberler's analysis of the tendency toward multilateral trade in the post World War II era. Harberler, G., "Integration and Growth of the World Economy in Historical Perspective", *American Economic Review*, March 1964.

[4] Several writers have analyzed trade flows by means of trade intensity indexes. See, Brown, A. J., *Applied Economics, Aspects of the World Economy in War and Peace*, London, 1947. Kojima, K. *Sekai Keizai to Nihon Boeki* (World Economy and Japan's Foreign Trade), Tokyo, 1962. Drysdale, D. P., "Japan, Australia, New Zealand: The Prospect for Western Pacific Economic Integration", *Economic Record*, 45, (111), Sept. 1969, pp. 321-42. But this paper is the first attempt to quantify the determinants of structure of trade intensity by econometric method.

The concept of trade intensity is used for the prediction of trade flow in Uribe, P., de Leeuw, C. G., and Theil, H., "The Information Approach to the Prediction of Interregional Trade Flows", *Rev. of Econ. Stud.*, Vol. 33, 1966. The analysis of world trade flows in alternative approaches have been undertaken by Dutch and Finish economists. Tinbergen, J., *Shaping the World Economy*, New York, 1962. Pöyhönen, Pentti, "A Tentative Model for the Volume of Trade between Countries", *Weltwirtshaftliches Archiv*, Band 10, Heft 1, 1963, pp. 93-99. Linneman, H., *An Econometric Study of International Trade Flow*, Amsterdam, 1966.

II. *Determinants of Trade Intensity: Comparative Advantage*

Comparative advantage has been thought much of in the theory of international trade. Trade would be more intensive between a pair of countries whose comparative advantage structure is complementary with each other, other conditions being equal, and it would be less intensive between countries of comparative advantage structure competitive with each other. But how can we measure the degree of complementarity in comparative advantage structure between trade partners? Even if we could devise such a measure in theory, can it be implemented with existing statistics of international trade?

Recent studies of international trade patterns have become to list up various determinants of comparative advantage, instead of simple capital-labor ratio. In addition to introducing more factors, traditional trade models of two countries by two commodities should be applied to the world of many countries and many commodities. There still remain many problems unsolved in applying the theoretical model of comparative advantage to actual world trade flows. Instead we would take a short cut and assume, according to Bela Balassa, that country's export and import performance reveals its structure of comparative advantage.[5]

The index of export specialization of country i, with respect to commodity h, the index of "revealed comparative advantage", is defined by

$$S_i^h \equiv \frac{X_{i.}^h}{X_{i.}} \Big/ \frac{X_{..}^h}{X_{..}} \tag{2}$$

where $X^h_{i.}$ is the value of i's export of commodity h to the world and $X^h_{..}$ the value of world total trade of the same commodity. It compares the share of commodity h in country i's exports with that in world total trade. It exceeds unity when country i specializes more intensively in the export of commodity h than on the average, it falls short of unity when specializes less intensively and it equal unity in the case of average specialization. The index of import specialization is defined similarly and measures the country's comparative disadvantage structure.

$$R_j^h \equiv \frac{X_{.j}^h}{X_{.j}} \Big/ \frac{X_{..}^h}{X_{..}} \tag{3}$$

Both indexes take values above or below unity, which is the weighted arithmetic mean of both S^h_i and R^h_j.

$$\sum_h \left(\frac{X_{..}^h}{X_{..}}\right) S_i^h \equiv \sum_h \left(\frac{X_{..}^h}{X_{..}}\right) R_j^h = 1 \tag{4}$$

If we define the covariance of S^h_i and R^h_j as

$$\mathrm{cov}(S_i, R_j) = \sum_h \left(\frac{X_{..}^h}{X_{..}}\right)(S_i^h - 1)(R_j^h - 1) \tag{5}$$

it would be positive when the structure of S^h_i and that of R^h_j are similar, that is, the structure of comparative advantage of the two countries is complementary with each other. It would be negative when the structure is competitive between the two.

Let us define the degree of complementarity in comparative advantage structure between

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Balassa, B., 'Trade Liberalization and "Revealed" Comparative Advantage', *The Manchester School of Economic and Social Studies*, Vol. 33, No. 2, May 1965, pp. 91-123.

two countries C_{ij} by the covariance of country i's export specialization and country j's import specialization added by one

$$C_{ij} \equiv \mathrm{cov}(S_i, R_j) + 1 \tag{6}$$

Thus C_{ij} above unity indicates strong complementarity in comparative advantage structure between two countries, while C_{ij} below unity indicates weak complementarity or competitiveness between the two.[6]

In my previous study the values of $S^h{}_i$, $R^h{}_j$ and C_{ij} were calculated for fifteen regions and three periods. It may be appropriate to summarize the result of the previous study.[7] The fifteen regions are classified into two groups according to the structure of $S^h{}_i$. For industrial group (US, UK, EEC and J) export specialization is high for manufactures and low for primary goods, whereas the structure is reversed for primary goods supplying group (the rest of the regions, except OTH EFTA and E EUR).[8] Since the structure of $R^h{}_j$ is contrary to that of $S^h{}_i$ in general,[9] the covariance is likely to be positive between a pair of countries belonging to different groups and negative between a pair belonging to the same group. Therefore the value of C_{ij} will be high above unity between the former pair of countries and low below unity between the latter pair.

In addition to this general pattern, C_{ij} tends to be higher or lower for such countries as J, UK, ANZ, S AFR, whose structure of export and import specialization is concentrated in some particular commodities. For example $C_{UK\cdot J}=.5295$ and $C_{ANZ\cdot J}=1.8652$ in 1955-57 period. It should be noted that the structure of C_{ij} among fiftteen regions has been fairly stable over the last decade. But none the less there appears a tendency of steady change, such that C_{ij} below unity rises and C_{ij} above unity falls. This tendency of C_{ij} toward unity is found in the cases of 77.33%, which is significant at 1% level. The variance of C_{ij} around 0 declines steadily from .0147 in 1955-57 to .0095 in 1960-62, and to .0090 in 1965-67.

How has this tendency been brought about during the recent decade? It is explained by the world wide change in the structure of trade and specialization. Industrialization of primary goods supplying regions has raised steadily their export specialization and lowered their import specialization in manufactures, especially that in SITC 6 & 8 category, accompanied by the contrary movements on the side of industrial regions in the same categories. This worldwide change has tended to cause C_{ij} toward unity through lower correlation, both positive and negative, in the structure of export and import specialization on one hand and more diversified structure of them both in industrial and primary goods supplying regions.

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[6] It was proved in the previous study that C_{ij} is the hypothetical intensity of trade in the world of exchange of homogeneous commodities with neither transport costs nor any artificial trade impediments. See Yamazawa, op. cit., pp. 63-64.

[7] All commodities are classified into six categories (Standard International Trade Classification Sections 0 & 1, 2 & 4, 3, 5, 7, 6 & 8), the first three of which are primary commodities and the last three are manufactures. More detailed analyses of the export and import specialization of the fifteen regions and the complementarity among them were done in the previous study. See Yamazawa, op. cit., pp. 73-77.

[8] These two regions are classified as the first group according to the structure of their export specialization but as the second group according to that of their import specialization.

[9] Structures of import specialization are contrary to those of their export specialization and are generally more diversified, which seems to be explained by the similarity of demand patterns in comparison with skewness of resource endowments among countries on one hand, and protective commercial policies on the other. See Yamazawa, op. cit., pp. 74-75.

III. *Other Determinants of Trade Intensity*

It is generally presumed that trade becomes more intensive between countries located in proximity than at a distance. This is partly because it would cost more to transport the distance and partly because the horizon of traders does not always cover the whole world but is restricted by the intensity of historical and cultural exchange and traditional channels of marketing. The physical distance between two countries is not certainly the best measure of the social and economic proximity between them, but it will stand proxy for it.

Trade intensity seems to be increased not in reverse proportion to the absolute distance itself (d_{ij}) but to the absolute distance relative to the average. The measure of *relative distance* D_{ij} is defined by

$$D_{ij} \equiv \frac{d_{ij}}{14\sqrt{(\sum_i d_{ij})(\sum_j d_{ij})}} \tag{7}$$

and it takes values around unity.[10]

When we defined measures of export and import specialization and the complementarity in comparative advantage structure, we have implicity assumed homogenity within each commodity category. In reality, however, each commodity category consists of a number of differentiated products and country i's product may be preferred in country j's market to that of others in the same commodity category. Assuming aside the product differentiation, C_{ij} may give a biased effect on trade intensity, unless it is supplemented by a variable representing the effect of product differentiation. Linder suggested that two countries with similar level of per capita income will have the "representative demand" of similar pattern and trade of differentiated products will become intensive between the two.[11]

Linder's hypothesis is tested by introducing to our model the *difference of per capita income* between two countries.

$$y_{ij} = y_{ji} \equiv \frac{\min(y_i, y_j)}{\max(y_i, y_j)} \tag{8}$$

where y_i rnd y_j are per capita income of country i and j and it may well be assumed that the effect is symmetrical, that is, it has the same effect regardless of wherther the exporting or importing country has a higher level of per capita income. y_{ij} takes positive values up to unity at which there is no difference in per capita income.

There exist various economic relationship among countries other than commodity trade, and they will affect more or less trade intensity among countries. It is often suggested that long-term capital movements, especially direct investment by multi-national enterprises will possibly change the pattern of international trade. It seems to exist a more direct link

[10] The distance between two regions is measured by the average navigation miles between major ports of each regions. More than two ports are sellected for such broad regions as LAT AM, E EUR, OTH AFR, etc. Figures are taken from Kaijo-Hoan-cho, Suiro-bu, *Kyori-hyo* (Distance Table), Tokyo, Japan, 1964.

In principle, land transportation from major port to centers of individual countries in each region is neglected as well as the well-developed land transportation between regions such as those in Europe. This measure of distance can not be helped being arbitrary, but it will serve at least to distinguish short, medium, or long distance between and within regions.

[11] Linder, S. B., *An Essay on Trade and Transformation*, Stockholm, 1961.

between the flow of economic aid from a developed to a developing country and trade flow between the two, since the economic aid often takes the form of capital loan tied with the commodity export of the donor country to the receiving country. Data is available only for flow of inter-governmental loan for 1960 and 1965.[12] The index of *intensity of aid flow* from country j, A_{ij}, is defined by

$$A_{ij} \equiv \frac{a_{ij}}{a_{i.}} \Big/ \frac{a_{.j}}{a_{..}} \tag{9}$$

where a_{ij} the value of inter-governmental loan from region i to region j. $a_{i.}(\equiv \sum_j a_{ij})$ the total aid donated by region i, $a_{.j}(\equiv \sum_i a_{ij})$ the total aid received by region j, $a_{..}$ the world total of the aid flows within a particular year.

Various types of economic integration both among developed and developing countries and traditional trade blocs such as British Common Wealth and French Community seem to explain considerable parts of the structure of trade intensity. Since it is difficult to quantify them, dummy variables are introduced to stand for the effects of these discriminatory commercial policies.

$$P_{ij}^1 = \begin{cases} 1, & \text{if both countries are members of the same economic integration among developed countries}^{13} \\ 0, & \text{otherwise} \end{cases}$$

$$P_{ij}^2 = \begin{cases} 1, & \text{if both countries are members of the same economic integration among developing countries}^{14} \\ 0, & \text{otherwise} \end{cases}$$

$$P_{ij}^3 = \begin{cases} 1, & \text{if both countries join the same traditional trade bloc}^{15} \\ 0, & \text{otherwise} \end{cases}$$

The difference in economic system between capitalist and socialist countries will have a discriminatory effect on trade relationship similar to discriminatory commercial policies. Two dumy variables are introduced to represent trade increasing effect between socialist countries and trade reducing effect between countries with different economic system.

$$P_{ij}^4 = \begin{cases} 1, & \text{if both are socialist countries}^{16} \\ 0, & \text{otherwise} \end{cases}$$

$$P_{ij}^5 = \begin{cases} 1, & \text{if one is capitalist and the other is socialist country} \\ 0, & \text{otherwise} \end{cases}$$

To sum up, trade intensity is represented as a function of nine variables

$$I_{ij} = f(C_{ij}, D_{ij}, y_{ij}, A_{ij}, P_{ij}^1, P_{ij}^2, P_{ij}^3, P_{ij}^4, P_{ij}^5) \tag{10}$$

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[12] The data source is OECD, *Geographical Distribution of Financial Flows to Less Developed Countries*, 1968, which records the flow of inter-governmental loan from OECD member countries (US, CAN, EEC, UK, OTH EFTA, J and ANZ) to developing regions (LAT AM, O W EUR, OTH AFR, W ASIA, OTH ASIA). Therefore A_{ij} takes value of 0 for other pairs of i and j.

[13] It includes EEC, EFTA for 1960-62 and 1965-67 and Australia New Zealand free trade agreement for 1965-67.

[14] It includes Latin American Free Trade Area (LAFTA), Central American Common Market (CACM), Arab Common Market, and Maghreb Economic Community, all for 1965-67.

[15] It includes British Common Wealth and French Community for the three periods.

[16] It is applied to trades between E EUR and CHN MX and within E EUR. On the otherhand P^5 takes value of unity for trades between one of the two regions and the rest of the regions.

The first four explanatory variables are normalized to take values around unity in correspondence to I_{ij} and the last five are dummy variables, it may well assumed that the effect of individual variables are multiplicative with each other.

The following equation of log-linear form is estimated with cross-region data (with sample size of 219) for each of three periods.

$$\log I_{ij}=\alpha_0+\alpha_1 \log C_{ij}+\alpha_2 \log D_{ij}+\alpha_3 \log y_{ij}+\alpha_4 \log A_{ij} +\alpha_5 \log P_{ij}^{1}+\alpha_6 \log P_{ij}^{2}+\alpha_7 \log P_{ij}^{3}+\alpha_8 \log P_{ij}^{4}+\alpha_9 \log P_{ij}^{5}+v_{ij} \quad (11)$$

As is clear from the above arguments, the signs of α_1, $\alpha_3 \sim \alpha_8$ are expected to be positive, while those of α_2 and α_9 negative.

IV. *Interpretation of the Results of Estimation*

The results of estimation of equation (11) are shown in Table 1. For each period alternative estimation is attempted to exclude some variables which turned out to be statistically insignificant and of wrong sign. Five variables, C, D, $P^3 \sim P^5$ have proved to be significant and of proper signs over three periods. The coefficients are fairly stable for alternative estimations. Two variables for economic integration P^1 and P^2 are not significant statisticaily but of proper signs. Neither y nor A is significant statistically and both are of wrong signs. The coefficient of determination is 0.52 at best, but we can not expect very high R^2 with our data of broad regional classification.

The estimates of each coefficient and their over time changes seem to throw light on the structure of world trade flows. The elasticity of C_{ij} is in the range of 1.3 and 1.6, and that of D_{ij} is about 0.5. Both do not seem to have changed over the decade. The effect of traditional trade blocs is still strong, while those of recent economic integration are weak and not significant. But over the decade the value of P^3 has declined steadily, whereas that of P^1 has increased.

The difference in economic system has proved to have the significant effect on the structure of world trade flows. Trade intensity is increased much more between socialist countries than within traditional trade blocs. But there appeared an asymmetry that the intensity of East-West trade is reduced by a quarter time as much as the trade within the East is increased.[17] It should be noted that the estimates both of P^4 and P^5 decreased in absolute values steadily over the last decade.

Unsuccessful result of introducing both Y_{ij} and A_{ij} deserves some comments. As to the former of the two, we should not test the Linder's hypothesis regardless of the absolute levels of per capita income of individual regions or of whether they are industrial regions or primary goods supplying regions. As to the latter our measure of A_{ij} do not include the aid flow donated by socialist countries and it should also be combined with capital flow by private enterprises. Thus we should improve these shortages in data before we conclude neither Y_{ij} nor A_{ij} has significant effect on trade intensity.

The tendency of I_{ij} toward unity pointed out in Section II is related to two factors. One is concerned with C_{ij} and the other with P^3, P^4 and P^5. The coefficient of C_{ij} has not

[17] In the regression estimation of log-linear form, dummy variables are adjusted to take values of ten and unity in stead of unity and zero respectively. Similarly very low values of I_{ij} are uniformly adjusted to take 0.1.

changed significantly over the decade but the value of C_{ij} itself tends toward unity. On the otherhand the coefficients of the three dummy variables have declined steady in absolute values over the decade. Both factors have caused I_{ij} move toward unity. The former is associated with industrialization in primary producing regions whereas the latter with the decline of discriminatory effects of both traditional trade blocs and of different economic system.

To conclude we have succeeded to find out several factors affecting the structure of world trade fiows and its overtime changes. But nearly a half of the variance of I_{ij} still remains unexplained. The pattern of unexplained residuals of I_{ij} shows such distinct and stable biases as high intensity among US, CAN, and LAT AM, or among Asian-Pacific regions. This seems to be attributed not merely to the geographical proximity but to such historical factors as the process of the expansion of world trade flows. In this respect we may have to analyse not so much the existing structure of world trade flows as its overtime changes.

TABLE 1. REGRESSION ANALYSIS OF TRADE INTENSITY (log-linear form)

		const.	C	D	y	A	P^1	P^2	P^3	P^4	P^5	$\bar{R}^2$
1955–57	(1)	−.2991	1.3103	−.5775	.0454				.5782	.9692	−.2684	.5261
		(.0506)	(.1981)	(.0740)	(.0764)				(.0871)	(.2004)	(.0715)	
	(2)	−.3245	1.3035	−.5953					.5791	.9574	−.2705	.5275
		(.0271)	(.1975)	(.0675)					(.0869)	(.1991)	(.0713)	
1960–62	(1)	−.2913	1.6289	−.5291	−.0596	−.0618	.0232		.5076	.7812	−.2586	.4743
		(.0482)	(.2419)	(.0734)	(.0727)	(.1173)	(.1303)		(.0866)	(.1968)	(.0691)	
	(2)	−.2863	1.6432	−.5249	−.0566		.0212		.5034	.7804	−.2610	.4761
		(.0472)	(.2400)	(.0728)	(.0724)		(.1300)		(.0861)	(.1964)	(.0688)	
	(3)	−.2556	1.6534	−.5052			.0146		.5042	.7974	−.2588	.4770
		(.0262)	(.2394)	(.0684)			(.1296)		(.0860)	(.1950)	(.0687)	
1965–67	(1)	−.3081	1.5591	−.5516	−.1264	−.0289	.0607	.3179	.4527	.5694	−.1684	.4277
		(.0485)	(.2496)	(.0748)	(.0731)	(.1342)	(.1328)	(.1744)	(.0883)	(.2000)	(.0703)	
	(2)	−.3068	1.5611	−.5494	−.1262		.0604	.3178	.4511	.5693	−.1692	.4303
		(.0480)	(.2489)	(.0740)	(.0729)		(.1325)	(.1740)	(.0878)	(.1995)	(.0700)	
	(3)	−.2377	1.5775	−.5065			.0441	.2766	.4550	.6070	−.1648	.4249
		(.0267)	(.2499)	(.0700)			(.1328)	(.1732)	(.0882)	(.1993)	(.0703)	

Simbols:

C: Complementarity in comparative advantage structure.
D: Relative distance.
y: Difference in per capita income.
A: Intensity of economic aid flow.
P^1: Economic integration among developed countries.
P^2: Economic integration among developing countries.
P^3: Traditional trade blocs.
P^4: Trade between socialist countries.
P^5: Trade between socialist and capitalist countries.

TABLE 2. TRADE INTENSITY:

Exporter \ Importer	US	CAN	LAT AM	EEC	UK	OTH EFTA	O W EUR
US		4.1528	2.7942	0.7303	0.5647	0.5161	0.9502
		4.3911	2.6890	0.8378	0.6943	0.5422	1.0448
		4.9228	2.6975	0.7400	0.8292	0.5104	0.8958
CAN	5.0091		0.5325	0.3629	1.7611	0.3063	0.1067
	5.0571		0.6057	0.3401	1.8620	0.2800	0.1645
	5.1588		0.6738	0.2608	1.5814	0.2097	0.1673
LAT AM	3.7104	0.3385	1.1516	0.8261	0.8532	0.5242	0.5979
	3.4132	0.5533	1.2015	0.8238	0.9455	0.4082	0.5174
	2.7492	0.6140	2.0021	0.8147	0.8300	0.4300	0.7362
EEC	0.5605	0.1970	0.8418	1.5757	0.6610	2.2970	1.4381
	0.6399	0.2290	0.8430	1.6143	0.6616	2.0577	1.3327
	0.6427	0.2262	0.6900	1.7599	0.6801	1.7521	1.3113
UK	0.6035	1.1503	0.5897	0.6756		1.4282	2.0961
	0.8017	1.3455	0.7301	0.7534		1.4287	1.9451
	0.9901	0.9643	0.6519	0.7657		1.6212	1.7756
OTH EFTA	0.6274	0.1856	0.8242	1.7126	1.6449	1.9601	1.1858
	0.5721	0.2383	0.7269	1.5278	1.5690	1.9888	1.4384
	0.6563	0.2736	0.7003	1.2538	1.8095	2.4124	1.5929
O W EUR	0.7841	0.0704	0.6668	1.3452	2.4664	1.0384	1.0199
	0.7411	0.1113	0.5922	1.1832	2.6216	1.0188	0.8333
	0.7855	0.1220	0.8796	1.1069	2.5659	1.1559	0.6921
E EUR	0.0576	0.0231	0.1642	0.3122	0.3664	0.5678	1.3781
	0.0489	0.0293	0.5117	0.3150	0.3473	0.4459	0.9473
	0.0658	0.0633	0.6685	0.3284	0.4177	0.4393	1.0727
S AFR	0.6244	0.1208	0.0812	0.9538	3.2916	0.2227	0.1864
	1.1725	0.2405	0.0909	0.8241	3.4962	0.2422	0.3209
	0.8734	0.3585	0.0864	0.7338	4.3876	0.2918	0.8257
OTH AFR	0.8019	0.1236	0.0426	2.3531	2.3541	0.5855	0.4145
	0.7886	0.1150	0.1174	2.0138	2.0759	0.4911	0.7918
	0.6274	0.1849	0.1063	1.8052	1.9753	0.5575	0.6971
J	1.8337	0.5119	0.9006	0.2213	0.2895	0.3009	0.7017
	2.4173	0.6602	1.1361	0.2192	0.3801	0.3522	0.4992
	2.5212	0.5904	0.9549	0.2293	0.3472	0.4280	0.3781
W ASIA	0.6258	0.1793	0.2150	1.3980	1.3097	0.5066	0.9620
	0.6356	0.5317	0.2321	1.1895	1.7083	0.3805	1.0899
	0.4236	0.2789	0.2954	1.1673	1.6989	0.4129	0.9785
OTH ASIA	1.2678	0.2698	0.2656	0.6215	1.4245	0.1780	0.2824
	1.4059	0.3429	0.2905	0.4600	1.5299	0.1791	0.3626
	1.5718	0.3561	0.2236	0.4392	1.2393	0.2039	0.3106
CHN MX	0.0000	0.0648	0.0221	0.2290	0.2199	0.1888	0.1101
	0.0133	0.0590	0.5879	0.2451	0.4477	0.1840	0.0727
	0.0132	0.1923	0.8582	0.3877	0.5101	0.2764	0.1682
ANZ	0.6227	0.3049	0.0679	0.9811	4.2413	0.1412	0.1716
	1.0621	0.3922	0.1038	0.7243	3.3900	0.0919	0.4361
	1.0611	0.3540	0.2084	0.5615	3.1096	0.1201	0.3485

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E EUR	S AFR	OTH AFR	J	W ASIA	OTH ASIA	CHN MX	ANZ
0.0235	1.1218	0.3660	1.9052	0.7929	0.9904	0.0011	0.5780
0.0694	1.1055	0.6370	2.3019	1.0876	1.4263	0.0000	1.0673
0.0599	1.2001	0.6696	1.9524	1.2217	1.6463	0.0000	1.5380
0.0889	0.8299	0.1031	0.9617	0.1150	0.2234	0.0227	0.6715
0.1130	0.6946	0.1213	1.1087	0.1600	0.2515	1.2653	1.0060
0.2916	0.6476	0.1005	1.0268	0.1202	0.3156	1.1143	0.8991
0.2019	0.1020	0.1221	1.1422	0.1002	0.0450	0.0311	0.0562
0.4592	0.1606	0.1415	1.0541	0.1028	0.0759	0.7836	0.1088
0.6250	0.1468	0.1400	1.1323	0.1852	0.1018	1.2462	0.0560
0.3127	0.7329	2.1895	0.2432	1.1751	0.7029	0.2766	0.4316
0.3254	0.8253	1.7817	0.2603	1.0589	0.4831	0.3940	0.4268
0.3351	0.8762	1.3634	0.2067	0.9642	0.4197	0.5730	0.4259
0.1855	3.8888	1.9670	0.2582	2.2093	1.6196	0.2165	5.5047
0.2492	3.9648	1.8415	0.3113	2.0543	1.4455	0.3826	4.4358
0.2902	4.3718	1.6618	0.3218	1.9476	1.1243	0.5742	3.9019
0.5712	0.7196	0.8155	0.1808	0.8100	0.4059	0.5555	0.5993
0.5110	0.7836	0.6901	0.2455	0.7706	0.3777	0.2356	0.5835
0.5120	0.7304	0.7840	0.2522	0.7877	0.3350	0.4196	0.5379
1.9243	0.1450	0.4244	0.1640	0.9020	0.1047	0.3097	0.2397
1.2874	0.1392	0.5049	0.1388	1.9470	0.2644	0.1542	0.2167
1.7662	0.2514	0.7158	0.1962	0.8155	0.2594	0.2400	0.2878
7.4529	0.0686	0.3286	0.0378	0.4645	0.2086	8.5673	0.0289
6.0834	0.0507	0.4498	0.2415	0.4752	0.3287	5.2533	0.0336
6.1659	0.0000	0.7290	0.3531	0.6165	0.4133	3.2107	0.0432
0.1802		3.7750	0.7040	0.1735	0.2359	0.0000	0.4243
0.0660		3.3419	1.7899	0.2862	0.4338	0.2202	0.7155
0.0159		3.8370	2.2574	0.0898	0.2400	0.0000	0.5305
0.4757	1.7200	0.9266	0.4646	0.8823	0.4421	0.5279	0.0236
0.5063	1.4477	1.0656	0.4432	0.7646	0.4290	0.7533	0.1681
0.5789	1.3051	1.6997	0.6956	0.6720	0.3185	0.9620	0.1731
0.0542	1.0740	2.5452		1.6894	4.4858	1.3847	0.9198
0.2218	1.2313	1.4224		1.4239	4.2970	0.5016	1.6440
0.2518	1.2485	1.6558		1.3643	3.9208	2.7577	2.0445
0.2361	1.7978	0.8773	2.1351	5.1311	1.0056	0.2072	2.0180
0.1871	1.6205	0.9979	2.4566	3 6891	0.9734	0.2503	1.5416
0.1808	1.3006	0.8877	3.8962	3.1574	0.9062	0.2700	1.3690
0.2178	0.7094	0.5404	3.1311	1.0699	3.9129	1.2446	1.5603
0.4642	0.7915	0.6015	3.0161	0.9967	3.7462	1.3365	1.6065
0.5947	0.4961	0.7923	3.3134	1.0408	3.5429	1.3848	1.4946
8.2507	0.0248	0.3867	1.9508	0.1622	2.2017		0.1747
5.6970	0.0709	0.4968	0.7363	0.2839	2.6945		0.2794
2.5955	0.0000	1.2963	3.0153	0.9861	4.4956		0.6522
0.2826	0.2337	0.0099	3.7468	0.3608	0.8995	0.3849	2.3003
0.2423	0.6805	0.1667	4.1138	0.5202	1.0104	2.7200	2.6471
0.2417	0.9024	0.2204	3.9729	0.7022	1.2992	3.5096	2.7599

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