An Empirical Inquiry of Economists' Consensus or Dissension: The Case of Seven Pacific-Rim Nations

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This study reports the survey results on the degree of consensus of economists of seven Pacific-rim nations (Korea, Japan, Singapore, Australia, USA, Canada and New Zealand). To our best knowledge, this will be the first survey study which covers Asian countries such as Korea, Japan, Singapore and Australia. The degree of consensus is measured by *relative entropy*. Our survey results reveal several interesting aspects such as (1) the degree of consensus is the highest in the propositions asking the desirability of free trade, (2) Keynesian macro-policies are more strongly supported than Monetarists macro-policies in Korea, Japan and Australia, while the reverse is true in USA and Singapore, (3) the degrees of consensus in macro-policy-related propositions are quite low so that it is hard to find a core of economists' beliefs in macro-policy issues, (4) there exist statistically significant differences in the degree of consensus between microeconomic propositions and macroeconomic propositions in Asian countries. Several other survey results and interpretation are introduced and discussed in the present study. (*JEL* Classifications: A00, B00, C40, C80)

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I. Introduction and Summary

Sometimes, some occasional observations give us an impression that there exist a widespread disagreement among economists. For example, Obstfeld and Rogoff (1996) write in the preface of their book, "In 1990, professor Alan Deardorff of the University of Michigan gathered graduate international finance reading lists from eight top economics departments, hoping to find a consensus on which readings should be deemed most essential. To his surprise, he found strikingly little agreement, with only one article appearing on more than half the reading lists". There are many jives on economists' dissension, for example, "six economists have seven opinions" or "President Truman wanted an one-handed economist who won't say 'on the one hand··· but on the other hand···' ". As economists' consensus or dissension do have strong effects on economic policy decisions and on the state of the economy, seeking for consensus among economists is an important task. A series of studies seek to determine the degree of consensus among economists in a given country or across different countries (Kearl *et al.* (1979) conducted the survey on US economists, Frey *et al.* (1984) for European economists, Block and Walker (1988) for Canadian economists, Ricketts and Shoesmith (1990) on UK economists, Coleman (1992) for New Zealand and Alston *et al.* (1992) for US economists). The results of these studies indicate in concert that there is an agreement among economists on the effectiveness of the price system as means of allocating resources while most contention arises with normative propositions relating to the conduct of economic policy.

This study reports the results of a recent survey on economists' degree of consensus of seven Pacific-rim nations – Korea, Japan, Singapore, Australia, USA, Canada and New Zealand (for Canada and New Zealand, we will take survey results from Block and Walker (1988) for Canada, and Coleman (1992) for New Zealand). To our best knowledge, this study is the first report on the degree of economists' covering the Asian countries – Korea, Japan, Singapore and Australia. In order to investigate economists' consensus on economic propositions and make international comparison, the questionnaires were sent to 5 countries' 2576 economists who are in academic institutions and are members of major economic

associations in each country. The survey was conducted from September 1996 to March 1997. Among the 29 propositions we ask economists to respond, 27 propositions are adopted from the survey done by Kearl et al for comparability with former survey results. The newly added two propositions in this empirical inquiry are related with further liberalization in international trade and regional economic integration – current important economic issues in the Pacific-rim nations.

From the survey, we have obtained many valuable information on the degree of consensus or beliefs of economists in this region, which could be summarized as follows:

(1) It appeared that economists of this region exhibit the highest degree of consensus (the meaning of which will be cleared soon) in the propositions related to international trade. We found that it is safe to argue that economists in the seven pacific-rim nation share a common belief that free trade enhances general economic welfare of each country.

(2) In Korea, Japan, and Australia, the Keynesian macro policies are more strongly supported than the monetarists policies, while the reverse is true in USA and Singapore. However, the degrees of consensus in the propositions related to government macro policies are quite low so that it is quite difficult to find a core of economists' beliefs in macro policies.

(3) There exists a statistically significant difference in the degree of consensus between microeconomic propositions and macroeconomic propositions in Asian countries (Korea, Japan and Singapore).

(4) The share of "Market Advocates" (those who strongly support the competitive market mechanism) falls below 35% in Korea, Japan, and Singapore, while the corresponding share is over 70% in USA. Upon this result, it could be argued that US and European economists more strongly support the competitive market mechanism than the Asian economists.[1]

(5) In Japan, the distinction between agreeable propositions and controversial propositions is most unclear among countries of our survey and relatively many propositions bring disputes.

[1]As for European economists, readers can obtain information on the similar survey results from the authors.

II. Survey

The sampling objects for each country is selected as follows: for Australian survey, the questionnaires were sent to all members of Economic Society of Australia who list their address in the 1994 member directory and whose affiliations are academic institutions. For Korean survey, we selected 500 economists from approximately 1500 members of Korean Economic Association by choosing every 3 names starting from the first person listed in the 1993 member directory. For Japanese survey, we randomly selected 768 economists from 1886 academic economists listed in the 1994 directory of Japan Association of Economics and Econometrics (after numbering all the academic economists in the directory, random numbers were generated by a computer using *Mathematica* and were used as samples of the survey).[2] For Singaporean survey, the questionnaires were sent to all members of Economic Society of Singapore who are listed in the 1993 directory and whose affiliations are academic institutions. For US survey, we randomly selected economists from 8320 academic economists listed in the 1994 directory of American Economic Association using the same method as Japanese survey.

Table 1 shows the number of questionnaires sent and the effective return rates. The total number of the questionnaires sent is 2576 and about 43% of the total were responded. Comparing with the return rates of Asian countries, US and Australia recorded very high return rate of over 50% (in past survey studies, the return rates are between 33% and 40%, see papers in reference. This survey prepared a ball-point pen as a complement which may contribute to the high return rates). Table 2 lists 29 economic propositions taken up in this survey. For each proposition, respondents are asked to choose one of three alternative answers: generally agree, agree with provision and generally disagree. Among these 29 propositions, 27 were adopted from the survey done by Kearl et al (1979) to make this survey useful for international and overtime comparison.[3] Two newly added questions (Q28 and Q29)

[2]This association is a major economists' association in Japan, though not dominant in its size. In Japan, several economists' associations are segregated from one another (e. g. Marxian economists' association). Japan Association of Economics and Econometrics has an academic Journal published in English which is quite rare in Japan.

TABLE 1

EFFECTIVE RETURN RATES

Country	Number of Questionnaires	Number of Responses	Number of Undelivered Mails	Effective Return Rates
Australia	265	161	1	61.0%
Japan	769	278	15	36.9%
Korea	500	167	3	33.6%
Singapore	46	19	0	41.3%
USA	996	492	40	51.5%

are related with economic globalization. As we mentioned in Introduction, the data for Canada and New Zealand are adopted from Block and Walker (1988) for Canada and Coleman (1992) for New Zealand.

Following the tradition of this line of study (see Kearl *et al.* (1979) or Frey *et al.* (1984) for more detail), we use the relative entropy in assessing economists' consensus, which is defined by,

$$e = \sum P_i \ln P_i / \ln n,$$

where P_i represents the proportion of the response category i and n represents the number of response categories. If there is complete unanimity in the response to a given question then relative entropy equals 0. If the answers to a given question are spread equally across all categories, the relative entropy becomes 1. Thus, e lies between 0 and 1. Several definitions of relative entropy are possible depending on how we count the response categories. We can classify the responses by the maximum 4 categories including a category of "no answer". In this study, we will define the relative entropy by two response categories integrating "generally agree" and

[3]In Japanese survey, we forgot to include the Question 22. In the Questionnaires, we use exactly the same phrases for 27 propositions with Kearl *et al.* (1979). It has become a kind of tradition to adopt the phrases used by Kearl *et al.* (1979) in this line of survey studies (only exception up to now might be Coleman (1992)) though there are several criticism to the phrases used by Kearl *et al.* For example, Kearl et al (1979) admit themselves that it would have been better to re-word Q25 as "A reduction in unemployment tends to produce a higher rate of inflation". Our adherence to the original Kearl et al phrases is for comparability of this survey with other similar surveys for different regions and different times.

TABLE 2

QUESTIONNAIRE

1. Tariffs and import quotas reduce general economic welfare.
2. The government should be employer of last resort and initiate a guaranteed job program.
3. The money supply is a more important target than interest rates for monetary policy.
4. Cash payment are superior to transfer-in-kind.
5. Flexible exchange rates offer an effective international monetary arrangement.
6. A minimum wage increases unemployment among young and unskilled workers.
7. The government should index the income tax rate structure for inflation.
8. Fiscal policy has a significant stimulative impact on a less than fully employed economy.
9. The distribution of income should be more equal.
10. National defense expenditure should be reduced from the present level
11. Antitrust laws should be used vigorously to reduce monopoly power from its current level.
12. Inflation is primarily a monetary phenomenon.
13. The government should restructure the welfare system along lines of a "negative income tax".
14. Wage-price controls should be used to control inflation.
15. A ceiling on rents reduces the quantity and quality of housing available.
16. The central bank should be instructed to increase the money supply at a fixed rate.
17. Effluent taxes represent a better approach to pollution control than imposition of pollution ceilings.
18. The government should issue an inflation indexed security.
19. The level of government spending should be reduced (disregarding expenditures for stabilization).
20. The central bank has the capacity to achieve a constant rate of growth of the money supply at a fixed rate.
21. Reducing the influence of regulatory authorities (e. g., in air traffic) would improve the efficiency of the economy.

TABLE 2
(CONTINUED)

22. The government budget should be balanced over the business cycle rather than yearly.
23. The fundamental cause of the rise in oil prices that occurred in the wake of the Iraqi invasion of Kuwait is the monopoly power of the large oil companies.
24. The redistribution of income in the developed industrial nations is a legitimate role for government.
25. In the short run, unemployment can be reduced by increasing the rate of inflation.
26. "Consumer protection" laws generally reduce economic efficiency.
27. The economic power of labor unions should be significantly curtailed.
28. Liberalization in international trade and investment should be accelerated.
29. Regional economic integration is an effective measure for liberalization in international trade and investment.

"agree with provisions" into one category of "agree" and disregarding the possible other category of "no answer."[4]

Table 3 shows the relative entropy scores for each proposition for each country. Readers need a caution when reading the scores for Canada and New Zealand because somewhat different definition of relative entropy is adopted in the surveys of these two countries. As for the New Zealand survey, Coleman (1992) uses a quite different set of questions, and thus, Coleman's survey for New Zealand is not directly comparable with the present study. Numbers in brackets after the relative entropy scores represent the rankings of the entropy in each country from low to high (for example, rank 1 means the lowest entropy and the highest degree of consensus). The final column of Table 3 is "the rank of the average ranks of the entropy score for each proposition" (which we will call simply "the rank of consensus"). The average rank is the arithmetic mean of the ranks of the corresponding propositions for each country.

[4]We found that our results are not sensitive to the different classification of the responses. Readers can obtain more extensive statistical information on our survey upon requests.

TABLE 3

ENTROPY

	Aus.	Jap.	Kor.	Sin.	USA.	Can.	N. Z.	Aver-age Rank	Rank of Aver. Rank
Q1	0.36(4)	0.52(4)	0.28(3)	0.30(4)	0.25(1)	0.53(2)	0.76	3	1
Q2	0.99(26)	0.99(24)	0.89(25)	0.99(28)	0.95(25)	0.69(7)	0.65	22.5	26
Q3	0.92(21)	0.92(18)	0.84(22)	0.83(17)	0.94(24)	0.85(21)	n.a.	20.5	23
Q4	0.63(11)	0.41(1)	0.68(15)	0.74(15)	0.53(7)	0.75(12)	n.a.	10.2	7
Q5	0.41(5)	0.45(2)	0.19(2)	0(1)	0.29(3)	0.64(6)	0.85	3.2	2
Q6	0.79(14)	0.86(15)	0.70(17)	0.63(12)	0.71(14)	0.62(4)	0.88	12.7	13
Q7	0.26(2)	0.99(22)	0.76(18)	0.90(21)	0.55(8)	0.62(5)	n.a.	12.7	13
Q8	0.23(1)	0.66(10)	0.42(7)	0.63(12)	0.61(11)	0.75(13)	0.92	9	6
Q9	0.68(12)	0.97(20)	0.40(5)	0.31(6)	0.89(20)	0.87(27)	0.96	15	16
Q10	0.82(17)	0.79(11)	0.47(8)	0.50(9)	0.82(17)	n.a.	n.a.	12.4	12
Q11	0.55(8)	0.62(7)	0.33(4)	0.31(6)	0.92(21)	0.83(20)	0.82	11	9
Q12	0.87(19)	0.82(12)	0.68(16)	0.30(4)	0.58(10)	0.82(19)	0.85	13.3	15
Q13	0.86(18)	0.85(14)	0.79(19)	0.99(27)	0.72(16)	0.73(11)	n.a.	17.5	19
Q14	0.98(23)	0.99(26)	0.99(29)	0.95(22)	0.31(4)	0.54(3)	n.a.	17.8	20
Q15	0.29(3)	0.58(6)	0.56(12)	0(1)	0.26(2)	0.45(1)	n.a.	4.2	3
Q16	0.81(16)	0.99(28)	0.93(28)	0.98(26)	0.98(27)	0.76(14)	0.52	23.2	27
Q17	0.61(9)	0.82(13)	0.60(13)	0.50(9)	0.47(6)	0.79(16)	n.a.	11	6
Q18	0.80(15)	0.99(27)	0.65(14)	0.96(24)	0.71(15)	0.87(26)	n.a.	18.5	21
Q19	0.98(24)	0.65(9)	0.52(11)	0.55(11)	0.92(22)	0.79(17)	0.95	15.7	18
Q20	0.99(27)	0.98(21)	0.90(26)	0.83(17)	0.96(26)	0.86(25)	0.87	23.7	28
Q21	0.99(28)	0.52(5)	0.40(5)	0.83(17)	0.96(26)	0.80(18)	n.a.	15.2	17
Q22	0.47(7)	n.a.	0.51(10)	0.63(12)	0.63(12)	0.73(10)	n.a.	8.5	5
Q23	0.96(22)	0.99(23)	0.82(21)	0.99(28)	0.70(13)	0.71(8)	n.a.	19.2	22
Q24	0.47(6)	0.49(3)	0.48(9)	0.83(17)	0.84(18)	0.73(9)	n.a.	10.3	8
Q25	0.88(20)	0.88(16)	0.85(23)	0.95(22)	0.88(19)	0.85(24)	0.87	20.7	24
Q26	0.99(25)	0.99(25)	0.92(27)	0.96(24)	0.99(28)	0.78(15)	0.73	24	29
Q27	0.99(29)	0.93(19)	0.88(24)	0.49(8)	0.99(29)	0.85(22)	0.80	21.8	25
Q28	0.61(9)	0.64(8)	0.16(1)	0(1)	0.33(5)	n.a.	n.a.	5.7	4
Q29	0.75(13)	0.90(17)	0.82(20)	0.74(15)	0.57(9)	n.a.	n.a.	12.3	11
Aver.	0.72	0.79	0.63	0.64	0.70	n.a.	n.a.		
S.D.	0.25	0.19	0.23	0.32	0.24	n.a.	n.a.		

TABLE 4

THE SHARE OF KEYNESIAN, MONETARISTS, MARKET ADVOCATES

	Keynesian	Monetarists	Both Keynesian & Monetarists	Neither Keynesian nor Monetarists	Market Advocates
Australia	31.68%	12.42%	3.11%	53.79%	44.10%
Japan	37.05%	32.73%	12.59%	17.63%	32.73%
Korea	49.10%	46.71%	29.34%	33.53%	30.54%
Singapore	31.58%	42.11%	21.05%	47.36%	26.32%
USA	24.59%	34.55%	4.67%	45.53%	70.33%

The last two rows of Table 4 are the average entropy scores and standard deviation of entropy scores. This average and standard deviation must be interpreted as follows; for example, Japan has the largest average score but the smallest standard deviation. This implies that, in Japan, the distinction between agreeable propositions and controversial propositions is most unclear (the smallest standard deviation) and relatively many propositions bring disputes (the largest average entropy score).

III. Interpretation

In Table 3, we can read several interesting regularities in the degree of Economists' consensus measured by the relative entropy, which will be discussed in the following order:

A. Consensus on Free Trade

Looking at propositions related to international trade and globalization (Q1, Q5, Q28 and Q29), it appears that economists in the Pacific-rim nations share common beliefs in free trade (Q1), flexible exchange rate (Q5) and globalization of the economy (Q28). The ranks of consensus are rank 1 for Q1, rank 5 for Q5, rank 4 for Q28 and rank 11 for Q29. The ranks of the entropy score are below rank 5 in 6 counties for Q1, Q5 and Q28 with exception of Canada (rank 6 for Q5) and Japan (rank 18 for Q28). It is suggesting that Korea and Singapore, whose recent economic success is often referred to as "growth through trade", reveal the highest degree of consensus in Q28 asking the necessity of further

liberalization of international trade and investments. Among the seven pacific nations, Japan is most reluctant in agreeing the desirability of free trade and the need for further liberalization of international trade and investments. As for the possible economic integration of this region (Q29), the degree of consensus among economists is relatively low and about a quarter of economists in this region are against the idea of economic integration. This opinion of, especially, Asian economists is in sharp contrast with the European economists who already experienced the regional economic integration and who are found to be strong supporters of the idea of integration (Takase *et al.* (1997) found that more than 90% of European economists (except U. K.) support (Q29).

B. Dissension on Government Macro-Policies

Secondly, we will investigate responses to the propositions related to government macro policies (Q2, Q3, Q8, Q12, Q16 and Q25). Among these propositions, Q2, Q8 and Q25 are related to Keynesian macro policies (the effect of fiscal policy and the downward sloping Philips curve) and Q3, Q12 and Q16 are related to Monetarist macro policies (the target for monetary policy, a view on inflation and the role of central bank).[5] In this study, we will define "Keynesians" by respondents who "generally agree" or "agree with provision" to the set of questions of [Q2, Q8, Q25], and in the parallel way, define "Monetarists" by respondents who "generally agree" or "agree with provision" to the set of questions [Q3, Q12, Q16]. Table 4 shows the share of Keynesians and Monetarists thus defined in each country (the corresponding shares for Canada and New Zealand could not be calculated as we do not have an access to the original data for these countries). For example, in Korea, 49.10% of economists are found to be Keynesians and 46.7% of economists are Monetarists. Further, Table 4 shows that almost a third of Korean economists support both the Keynesian views and Monetarists views. The same trend can be found in other Asian countries – the large proportion of "Both Keynesian and Monetarists."

[5]Q20 also represents the Monetarists' view. We did not include Q20 in the definition of Monetarists firstly because responses to Q20 are found to be strongly correlated with responses to Q16, and secondly because we want to define Monetarists by a set of three propositions as the definition of Keynesian does.

We want to leave this interesting but puzzling result as an open question.[6] The fourth column of Table 4 shows a proportion of those economists who can be categorized as neither Keynesian nor Monetarists. This proportion is quite low in Japan and Korea compared with other countries under our survey. Making international comparison of the shares of Keynesian and Monetarists, it appears that there are more Keynesians than Monetarists in Korea, Japan and Australia, while the reverse is true in USA and Singapore. Especially, in Australia, the share of Monetarists is quite small compared with other countries, which might reflect intellectual effects of U. K. on Australia (Takase *et al.* (1997) found that the share of Monetarists in UK is 11.11%).

One more observation must be must be made with relation to these propositions related to government macro policies that the degrees of consensus in these macro-policy-related propositions are quite low. For example, as for the proposition asserting the desirability of increasing the money supply at a fixed rate (Q16), the ranks of the relative entropy are below 26 in Korea, Japan, Singapore, and USA. As Table 3 shows, "the rank of consensus" for Q2, Q3, Q8, Q12, Q16 and Q25 are, respectively, 26, 23, 6, 15, 27 and 24. This finding is consistent with other empirical inquires on economists' consensus (see references). The high degree of dissension in macroeconomic propositions among economists in the Pacific-rim nations can be confirmed by testing a null hypothesis that the degree of consensus is equal between microeconomic propositions and macroeconomic propositions (see, for example, Frey *et al.* (1984). A classification of microeconomic propositions and macroeconomic propositions rest on past studies such as Kearl *et al.* (1977) and Frey *et al.* (1984). Microeconomic propositions are: tariffs (1), cash vs in-kind transfer (4), flexible exchange rate (5), minimum wage (6), Antitrust law (11), rent ceiling (15), effluent taxes (17), regulation and efficiency (21), consumer protection (26) and union power (27). Macroeconomic propositions are: employer of last resort (2), money is interest target (3), indexed taxes (7), fiscal policy stimulus (9), inflation as monetary phenomenon (12), negative

[6]One possible interpretation of this result would be that this group of economists support the active role of government in managing the national economy and believe the effects of both Keynesian and Monetarists policies. An anonymous referee of this paper indicated that this could simply reflect the inappropriateness of the questions.

income tax (13), pursue money rule (16), indexed securities (18), money rule is achievable (20) and Philips curve (25). We have tested a null hypothesis that there is no difference in the degree of consensus between microeconomic propositions and macroeconomic propositions.[7] This null hypothesis is rejected in Korea, Japan and Singapore. Thus, in these Asian countries, there exists a statistically significant difference in the degree of consensus between microeconomic propositions and macroeconomic propositions. This provides another proof of the view that, especially in Asian countries, the degree of consensus in macroeconomic policy-related issues is relatively low.

C. The Share of "Market Advocates"

Thirdly, we will investigate the share of "Market Advocates" in each country. "Market Advocates" will be defined by respondents who "generally agree" or "agree with provisions" to the set of questions of [Q1, Q5, Q6] and "generally disagree" to Q14. In defining Market Advocates, it is questionable whether Market Advocates would support Q5 (flexible exchange rates). However, we found that the exclusion of Q5 from the definition of Market Advocates does not affect the resulted share of Market Advocates, and thus, we can include Q5 in the definition of Market Advocates (or inversely, it could be argued that Market Advocates in the Pacific-rim nations generally support the flexible exchange rates). As Table 4 shows, the share of Market Advocates is 70.33% in USA, while this falls down around 30% in Asian countries. Australia is between USA and Asian countries in the share of Market Advocates. The observed small share of Market Advocates in Asian countries is somewhat surprising considering a recent world-wide boom of de-regulation policies. In our view, this small share might reflect Asian countries' recent experiences of successful government lead economic growth. Anyway, the survey results indicate that Asian economists are disposed to support government active roles in managing the economy but without consensus on the concrete policy issues.

[7]For example, F-value for the test is 7.535 for Japan 11.932 for Korea and 7.848 for Singapore.

IV. Concluding Remarks

As concluding remarks of the present study, we want to indicate limitation of this research and suggest several proposals for further research of this line. An important limitation of this study lies in the making the Questionnaire. Firstly, we should select an appropriate set of questions to investigate the degree of consensus of economists. As we indicated, it has become a kind of tradition to use the set of questions originally made by Kearl *et al.* (1979) in this line of investigation. Using this set of questions, we can compare the results of the survey with other similar surveys for different regions and different times. However, it goes without saying that this set of questions made about 20 years ago is out of date, and thus, we would suggest for future studies to insert more new questions while maintaining the basic structure of the original set of questions. Secondly, one must be careful in phrasing the selected propositions. We have received many responses from the scholars that the underlying meanings of the propositions we adopted for the survey are not clear for several cases. This dubiosity is partly a natural result of the intrinsic constraint given to survey that the propositions used in survey must be shortly phrased. To overcome this dubiosity in underlying meanings of the propositions, we propose to insert more questions asking respondents their opinions on the real events such as Q23 in our survey asking the cause of the rise in oil price after the Gulf War. Thirdly, a possibility of the sample selection bias in the survey would be indicated. For example, if you survey the consensus of Chinese economists using the Questionnaire phrased in English, then you must expect that more English-friendly Chinese economists would respond to the survey. Even if you translate the Questionnaire in Chinese, still the Marxian economists in China are less likely to respond to the survey. Thus, researchers must have in mind that the languages or phrases used in the survey could cause the sample selection bias.

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