

January 2009

*Potential Competitiveness Ranking 2008(Summary)*

## Japan Recovers to 12th Place

- The potential competitiveness ranking of 50 nations and regions has been compiled. Potential competitiveness here denotes the extent to which a nation or a region will be able to increase per capita gross domestic product (GDP) in the coming decade or so. It shows how much every nation and region will grow after ongoing turmoil.
- Japan has recovered to 12th place in the 2008 survey, from 13th place in the 2007 survey. Japan is strong in “science and technology” and “enterprises,” but is weak in “government,” “infrastructure” and “finance.”
- Hong Kong has remained on top for four consecutive years. And Singapore is in second place and the United States was in third place.
- The competitiveness of the United States has declined in “government” and “finance”. But, it maintains competitiveness in “science technology”, “internationalization” and “education”.

### 1. Ranking Results

#### Hong Kong is in Ranks Top in Overall Competitiveness

The latest potential competitiveness ranking shows that Hong Kong has remained in first place for four consecutive years (Table 1 and Figure 1). Singapore was in second place and the United States was in third place.

When we examine Hong Kong by item, it is in first place in “internationalization” and “finance” and in second place in “enterprises” and “infrastructure.” Singapore, which comes second in overall competitiveness, is in first place in “enterprises” and “infrastructure.”

The United States ranked low in “finance” and “government” in the previous survey, and it has further moved down in the ranking in the latest survey. Huge fiscal deficit is the cause of its weak competitiveness. “The ratio of private-sector credit to total credit” makes the rank in “finance” low. It shows that

Table 1 Rankings of the top three countries

	Hong Kong	Singapore	United States
Overall	1 (1)	2 (2)	3 (3)
Internationalization	1 (1)	3 (3)	2 (2)
Enterprises	2 (2)	1 (1)	4 (9)
Education	24 (18)	37 (33)	3 (3)
Finance	1 (1)	5 (2)	20 (18)
Government	6 (12)	3 (3)	29 (28)
Science and technology	24 (25)	21 (21)	1 (1)
Infrastructure	2 (2)	1 (1)	9 (10)
IT	10 (12)	14 (23)	6 (8)

Note: Numbers in parentheses are 2006 rankings

financial institutions entrust their funds not to lending, but to another asset such as government bonds. However, it ranked high in “internationalization”, “education” and “science and technology”. It indicates the United States still maintains long term potential competitiveness. After the sub-prime problem, the United States has been suffering from economic stagnation, but it is not correct that it lost competitiveness in every determinant.

China has risen from 41st place in 1990 to 37th place in 2000, in the 2008 survey, it rose in 34th place from 35th in the previous survey. Given China’s large presence in international trade, its ranking may be too low, but this is because this survey measured the economic strength of not only the coastal regions which have developed dramatically but also that of the hinterlands, which have lagged behind in economic development. In other words, it measures China's overall competitiveness. When the ranking of China including Hong Kong was obtained by combining the competitiveness indices of China and Hong Kong weighted to their respective nominal GDP, the nation rises from 34th in the previous survey to 33rd in the 2008 survey.

The nations which have risen sharply in the ranking were Greece and Egypt. Greece has climbed from 30th place in the 2007 survey to 26th place in the latest survey due to its sharp rise in “Education” ranking, Egypt has advanced from 48th to 44th place in the latest survey. It rose sharply in “government” because “Customs as percent of tax revenue” has declined.

In contrast, Russia slipped from 25th to 30th. Drops in the ranking of “Education” and “IT” have made the overall rank low.

#### Japan Recovers to 12th Place, but “Government” Should become worse

In the 2008 survey, Japan was in 12th place (Table 2), rising one place from the previous year’s survey. It was in the 6th place in 1980, 9th place in 1990, but it dropped greatly to 15th place in 2000. After 2000, it has been rising gradually, but its ranking remains low compared with in 1980 and 1990.

Japan has ranked high in “science and technology” (second place) and “enterprises” (5th place). It has ranked in 10th place or below in all other items.

While its rank rose in “government” because of improvement of fiscal deficit to GDP, it has dropped in “education”, “IT” and “finance”. In “education”, the score of TOEFL was very low in the ranking, it was in the 49th place out of 50 nations and regions. Each component of the “IT” has improved, but magnitude of the improvement is smaller than other countries.

Table 2 Japan’s ranking

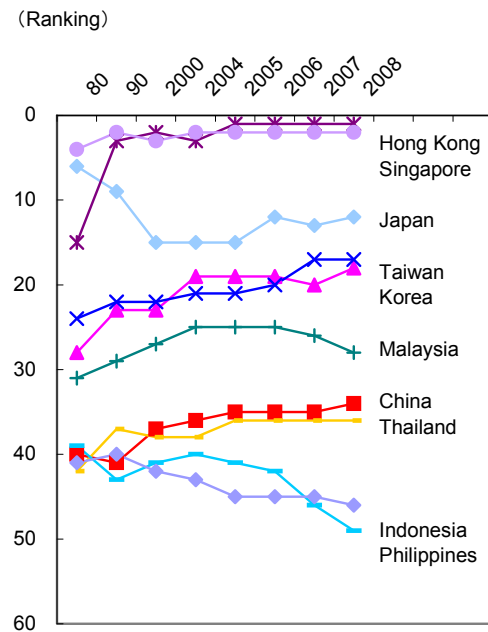
	Deviation			Ranking		
	2007	2008	Change	2007	2008	Change
Overall	57.7	58.1	0.4	13	12	-1
Internationalization	49.9	49.7	-0.2	17	17	0
Enterprises	65.2	65.3	0.1	4	5	1
Education	58.4	57.4	-0.9	11	15	4
Finance	45.5	46.1	0.6	32	35	3
Government	51.0	53.4	2.4	32	24	-8
Science and technology	68.5	68.4	-0.1	2	2	0
Infrastructure	49.2	49.1	-0.1	27	27	0
IT	58.0	57.0	-1.0	15	18	3

Note: — (minus) indicates a rise in ranking.

The ratio of fiscal deficit to GDP, which was used for this survey as one of the indicators of “government”, constituted data for 2006, was much smaller than the previous year. However, since 2007, the fiscal deficit again shows increase trend. Therefore, Japan’s competitiveness indicator is very likely become worse henceforth.

In the area of “finance,” thanks to the easing of financial uncertainties, the ratio of total market capitalization of shares to GDP and the ratio of liquid reserves to total assets have been improving. On the other hand, the ratio of private-sector credit to total credit declined sharply from 64 percent to 43 percent. This is because starting from the latest survey, the definition of total credit includes non-deposit-taking banks (non-bank banks), a change which results in a larger denominator. Therefore, the drop in the ratio of private-sector credit is due to this change in definition. Nevertheless, given the fact that financial institutions hold massive amounts of Japanese government bonds, there is ample room for improvement in terms of the efficiency of the financial system, which is supposed to lend deposits efficiently to private enterprises. When we calculate the ratio of private-sector credit to total credit using the old definition, Japan’s ranking in “finance” rises from 32nd place to 27th place, but this has no effect on Japan’s overall ranking.

Figure 1 Rankings of Potential Competitiveness in Asian countries or regions



### In Asia, Indonesia and the Philippines are Conspicuously Behind

The latest findings on the potential competitiveness of Asian countries and regions show that Hong Kong is at the top (Figure 1). Singapore is also strong at second place, followed by Japan.

Taiwan is in 17th place in overall ranking closely followed by South Korea pursue it, it was in 18th place in overall ranking.

In the Association of Southeast Asian Nations (ASEAN), the ranking is Singapore, Malaysia, Thailand, Indonesia and the Philippines in descending order. The Philippines’ ranking has dropped, while Indonesia’s ranking made no improvement.

## 2. Ranking Method?

### Significance of Potential Competitiveness

In this project, we have used per-capita GDP as an overall competitiveness indicator.

The greater the per-capita capital and the higher the productivity for a given period, the greater the growth of per-capita income. A competitive country is one that can provide products or services to domestic or foreign markets efficiently. An appropriate comprehensive indicator that measures such competitiveness should be based on per-capita output.

### Determining factor for competitiveness

We have selected factors that increase the per-capita of GDP pursuant to economic theory. Based on eight determinants of competitiveness: (1) internationalization, (2) enterprise, (3) education, (4) finance, (5) government, (6) science and technology, (7) infrastructure, and (8) IT(information technology), we have generated overall potential competitiveness indices using Principal Component Analysis.

Table 3 Indicators adopted for each item

Item	Indicator			
Internationalization (average)	Export of goods and services (ratio to GDP and absolute amount)	Import of goods and services (ratio to GDP and absolute amount)	Outflow of direct investment (ratio to GDP and absolute amount)	Inflow of direct investment (ratio to GDP and absolute amount)
Enterprises (estimate)	Ratio of combined exports & imports to GDP (adjustment of GDP factor)	Labor productivity of manufacturing industry	Developing country dummy	
Education (estimate)	Rate of enrollment in higher education	TOEFL scores	Average years of school attendance	Ratio of government education expenditure to GDP
Finance (estimate)	Ratio of bank liquidity reserves to its assets (opposite sign)	Ratio of credit to private sector to total domestic credit	Ratio of stock market capitalization to nominal GDP	
Government (estimate)	Ratio of customs duties to tax revenue (opposite sign)	Ratio of budget balance to GDP	Inflation (opposite sign)	
Science and Technology (product log)	Cumulative number of patents granted to U.S.	Number of R&D researchers per population		
Infrastructure (estimate)	Aircraft departures per capita	Containers handled per capita	Rate of power transmission/distribution loss	Ratio of paved roads
IT (principal component analysis)	Rate of fixed-line phone diffusion	Rate of mobile phone diffusion	Rate of PC diffusion	Rate of Internet diffusion
	Rate of broadband diffusion			

Note: The above indicators have been used to compute competitiveness for the latest period.

Competitiveness is measured in different ways. This project discusses “potential competitiveness”, which is defined not as an outcome of economic growth, but as an ability to be competitive in future.

The measure primarily seeks to determine if a country is equipped with the necessary groundwork for future improvement in competitiveness. High-level education and good infrastructure mean strong potential competitiveness.

### *3. Thoughts on competitiveness*

Competitiveness may be defined in many ways. When an indicator is assumed to express competitiveness, it is important to determine if it represents the “cause” or the “effect” of competitiveness. For example, high-level education or labor productivity is a cause of a nation’s strong competitiveness, while an increase in income is an indicator that represents the effect of such competitiveness.

One of the existing, representative competitiveness indicators is provided by The World Competitiveness Yearbook, published by the International Institute for Management Development (IMD) in Switzerland. The IMD develops rankings of competitiveness using a variety of different indicators but does not give reasons for its selection of such indicators. While the IMD uses questionnaire surveys, our project features quantitative analyses based on available socio-economic data.

### *4. Time relationship between potential competitiveness and*

#### *per-capita GDP increment*

Potential competitiveness computed using various indicators shows the potential capabilities of a country at a given moment to compete over the next ten years. For instance, the potential competitiveness indicator as of 1980 indicates a country’s ability to increase per-capita GDP during the 1980s.

Potential competitiveness as of '80 → influential on competitiveness in the 1980s  
 Potential competitiveness as of '90 → influential on competitiveness in the 1990s  
 Potential competitiveness as of the latest period  
 → will be influential on competitiveness over the next 10 years

Potential competitiveness and realized competitiveness do not correspond completely because potential competitiveness indicators are based on data provided at the initial point in time of the period under measurement and the possibility of unforeseen events occurring over the next ten years needs to be acknowledged. For example, Japan’s potential competitiveness, which ranked ninth as of '90, resulted in realized competitiveness falling to 14th place as measured by the '90-'98 per-capita GDP because of the collapsed financial bubble and the delayed disposal of subsequent bad loans.

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Appendix Table 1 Overall Ranking

	80		90		2000		2007		2008		
1	United States	73.0	United States	70.1	United States	69.4	Hong Kong	74.4	Hong Kong	76.0	1
2	Switzerland	66.4	Singapore	64.8	Hong Kong	68.6	Singapore	70.7	Singapore	71.2	2
3	Sweden	63.6	Hong Kong	63.1	Singapore	67.5	United States	65.3	United States	66.9	3
4	Singapore	63.0	United Kingdom	62.9	Switzerland	63.5	United Kingdom	60.5	Germany	60.3	4
5	Germany	62.6	Germany	62.8	Norway	61.8	Switzerland	60.4	Netherlands	59.9	5
6	Japan	62.0	Norway	62.5	Sweden	61.4	Netherlands	60.4	Sweden	59.8	6
7	Netherlands	61.9	Switzerland	62.1	United Kingdom	61.1	Germany	59.8	Switzerland	59.8	7
8	Denmark	61.4	Netherlands	61.6	Netherlands	61.1	Sweden	59.4	United Kingdom	59.3	8
9	Canada	61.0	Japan	61.5	Finland	60.7	Norway	59.3	Norway	58.9	9
10	Norway	60.5	Sweden	61.1	Germany	60.7	Belgium	59.0	Belgium	58.7	10
11	United Kingdom	60.5	Canada	61.0	Canada	59.6	Canada	59.0	Ireland	58.5	11
12	Finland	60.0	France	59.7	Ireland	59.4	Ireland	58.6	Japan	58.1	12
13	France	59.9	Belgium	59.4	Belgium	58.2	Japan	57.7	Canada	58.0	13
14	Austria	59.3	Denmark	58.7	Denmark	58.0	Denmark	57.7	Denmark	57.4	14
15	Hong Kong	59.0	Ireland	57.9	Japan	58.0	France	57.2	France	57.0	15
16	Australia	57.8	Finland	57.7	France	57.5	Finland	57.2	Finland	56.8	16
17	Belgium	57.2	Australia	57.5	Australia	56.1	Taiwan	55.3	Taiwan	55.1	17
18	Italy	55.3	New Zealand	57.2	New Zealand	55.7	Israel	55.2	South Korea	54.9	18
19	New Zealand	54.9	Austria	55.0	Austria	54.2	Australia	54.8	Australia	54.6	19
20	Czech Rep.	53.7	Israel	53.9	Israel	54.0	South Korea	54.8	Israel	54.1	20
21	Ireland	52.8	Italy	53.3	Italy	53.6	New Zealand	54.4	New Zealand	53.8	21
22	Russia	52.3	Taiwan	53.3	Taiwan	53.4	Austria	54.1	Austria	53.4	22
23	Israel	50.4	South Korea	51.3	South Korea	53.1	Spain	53.2	Spain	53.1	23
24	Taiwan	50.2	Spain	51.0	Spain	52.6	Italy	53.2	Italy	53.0	24
25	Spain	49.4	Russia	49.5	Greece	48.5	Russia	49.8	Czech Rep.	50.0	25
26	Greece	49.0	Czech Rep.	48.8	Czech Rep.	48.5	Malaysia	49.6	Greece	49.1	26
27	South Africa	48.1	Saudi Arabia	47.6	Malaysia	48.0	Saudi Arabia	49.4	Hungary	49.1	27
28	South Korea	47.4	South Africa	47.5	Portugal	46.9	Czech Rep.	49.3	Malaysia	48.5	28
29	Hungary	47.1	Malaysia	47.1	Hungary	46.6	Hungary	48.1	Saudi Arabia	48.3	29
30	Portugal	45.8	Greece	46.9	Russia	46.5	Greece	47.7	Russia	48.2	30
31	Malaysia	45.6	Hungary	45.4	Poland	46.5	Poland	47.2	Poland	47.6	31
32	Argentina	44.4	Portugal	45.1	South Africa	46.2	Portugal	46.3	Chile	46.2	32
33	Saudi Arabia	44.2	Poland	44.6	Saudi Arabia	44.6	Chile	46.0	Portugal	45.8	33
34	Poland	42.6	Mexico	43.6	Argentina	43.5	South Africa	45.0	China	44.0	34
35	Venezuela	42.4	Chile	43.3	Chile	43.1	China	43.5	South Africa	44.0	35
36	Mexico	41.9	Argentina	42.9	Mexico	43.0	Thailand	43.1	Thailand	43.3	36
37	Chile	41.8	Thailand	42.1	China	42.8	Argentina	42.0	Argentina	42.9	37
38	Brazil	41.7	Venezuela	41.7	Thailand	42.4	Mexico	41.4	Mexico	42.6	38
39	Philippines	40.6	Turkey	41.5	Brazil	40.0	Brazil	40.1	Turkey	41.9	39
40	China	39.9	Indonesia	41.2	Turkey	39.5	Turkey	39.7	Brazil	41.2	40
41	Indonesia	39.4	China	39.7	Philippines	39.3	Venezuela	39.7	Peru	38.9	41
42	Thailand	39.2	Brazil	39.5	Indonesia	39.1	Colombia	38.8	Venezuela	38.7	42
43	Turkey	37.9	Philippines	38.8	Venezuela	38.5	Peru	38.3	Iran	37.4	43
44	Peru	37.8	Egypt	38.2	Peru	38.3	Iran	37.2	Egypt	36.7	44
45	Iran	37.6	Iran	36.9	Colombia	36.8	Indonesia	36.3	Colombia	36.6	45
46	Egypt	36.9	Colombia	36.4	Egypt	36.0	Philippines	35.7	Indonesia	36.2	46
47	India	36.8	Peru	34.5	Iran	36.0	India	34.8	India	35.0	47
48	Vietnam	36.6	India	33.9	Vietnam	35.4	Egypt	34.7	Vietnam	34.5	48
49	Colombia	35.5	Vietnam	32.5	India	33.2	Vietnam	34.5	Philippines	34.2	49
50	Pakistan	31.8	Pakistan	31.6	Pakistan	31.5	Pakistan	30.0	Pakistan	30.5	50