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# **IPS National Competitiveness Research 2014-2015**

Created Advantage as the Source of Competitiveness

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Seoul National University

Republic of Korea

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**Comparison of Three National Competitiveness Reports**

**Theory, Methodology, and Results**

**Fundamental Source of Economic Growth**

**Conclusion**

## **Comparison of Three National Competitiveness Reports**

- Reports: IPS, WEF, and IMD

## **Theory, Methodology, and Results**

## **Fundamental Source of Economic Growth**

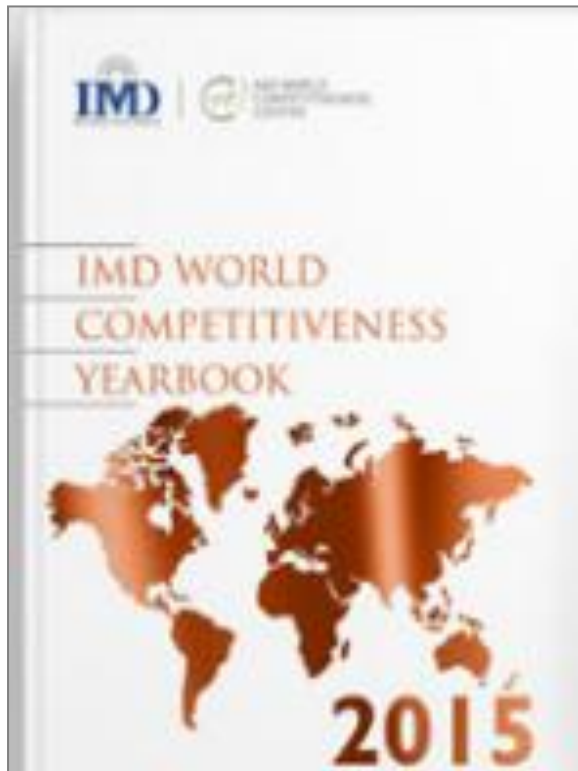
## **Conclusion**

## **Reports: IPS , WEF, and IMD**

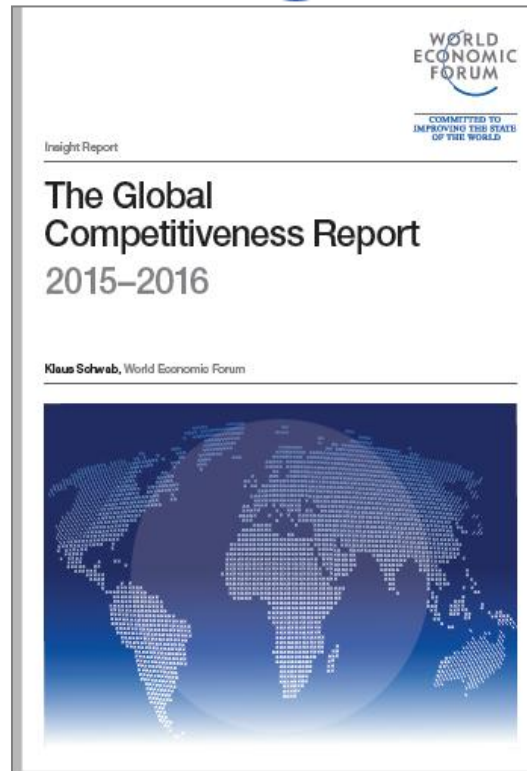
# Three Reports on National Competitiveness

## Three major National Competitiveness Research Institutions

IMD



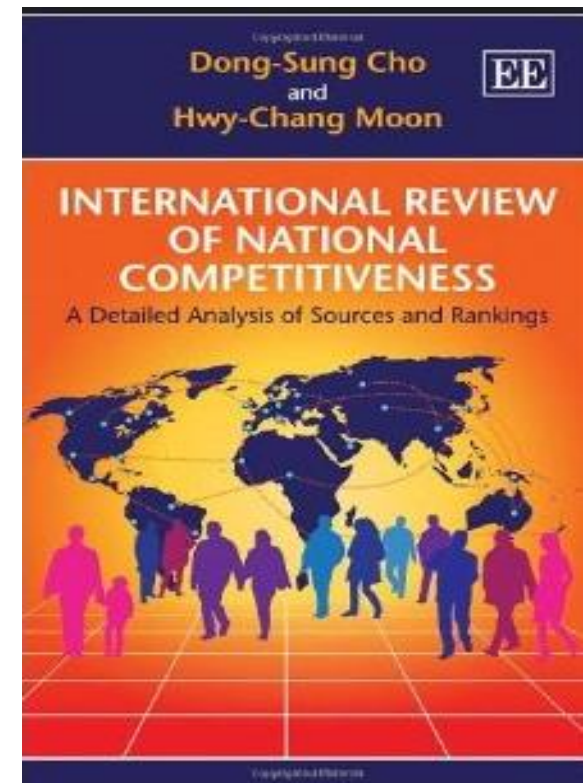
WEF





IPS



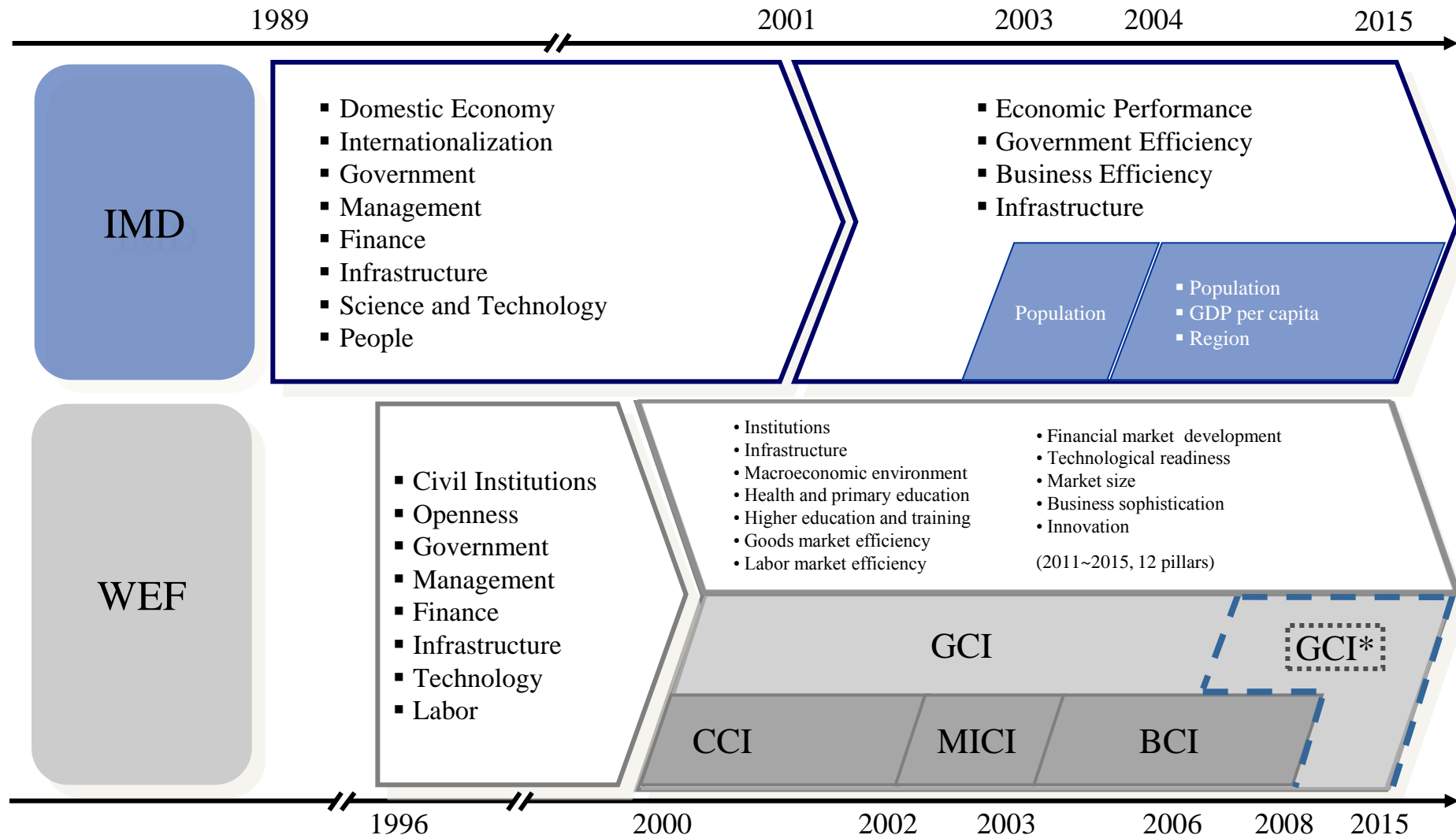
The Institute for  
Industrial Policy Studies



# Overview of the Three Reports

Items		NCR (IPS) 2014-2015	WCY (IMD) 2015	GCI (WEF) 2015-2016
Methodology	Theoretical Base	° DD Based 9-Factor Model (IPS model)	° No particular theory	° No particular theory
	No. of countries	° 62 countries	° 61 countries	° 144 countries
	Data	° Hard data: 1/2 ° Soft data: 1/2	° Hard data: 2/3 ° Soft data: 1/3	° Hard data: 1/3 ° Soft data: 2/3
	Weights	° Different weights for different strategies	° Hard data: 2/3 ° Soft data: 1/3	° Different weights for different groups
	Partner institutes	° KOTRA offices abroad	° Universities and other institutes	° Universities and other institutes
3. Policy implications		° 3 X 3 Framework	° Population ° Per capita income ° Region	° Factor-driven stage ° Efficiency-driven stage ° Innovation-driven stage
		<div> <div>  </div> <div> <b>✓ Strong theoretical basis</b>  <b>✓ Various analytical tools</b> </div> </div>	<div> <div>  </div> <div> <b>✓ Not organized</b>  <b>✓ Lacking theoretical rigor</b> </div> </div>	

# Change of Factors in the IMD and WEF Reports

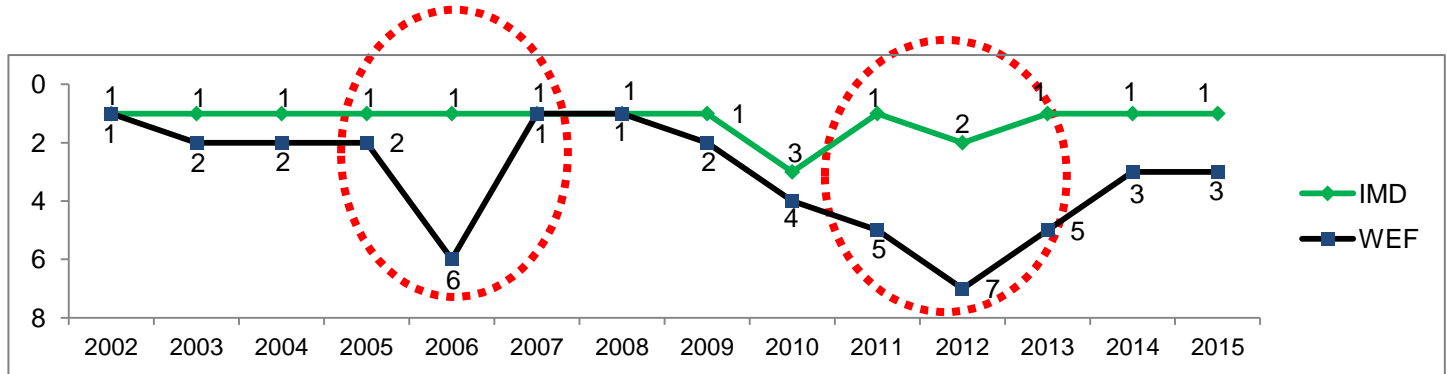


Note: GCI: Growth Competitiveness Index , GCI\*: Global Competitiveness Index, CCI: Current Competitiveness Index, MICI: Microeconomic Competitiveness Index, BCI: Business Competitiveness Index

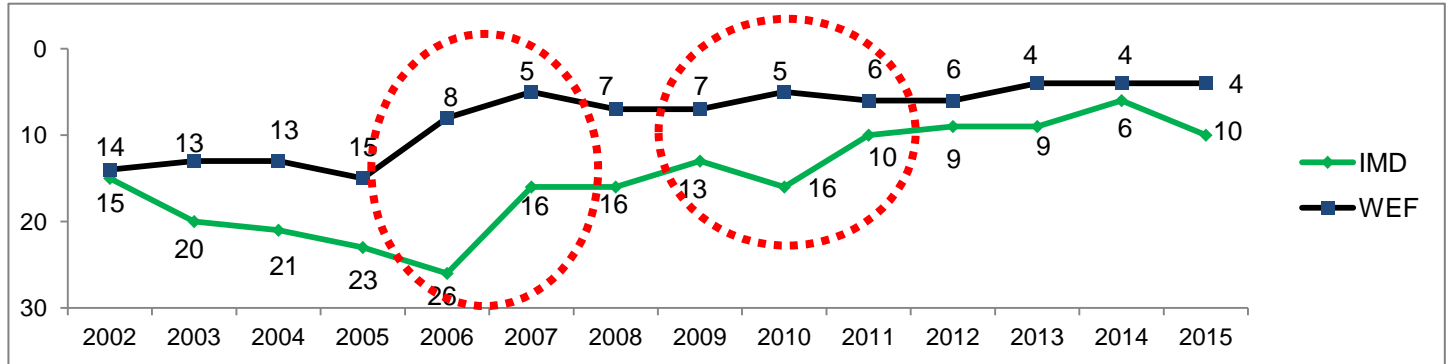
# Without theoretical validity? (1)

Discrepancy of  
Rankings

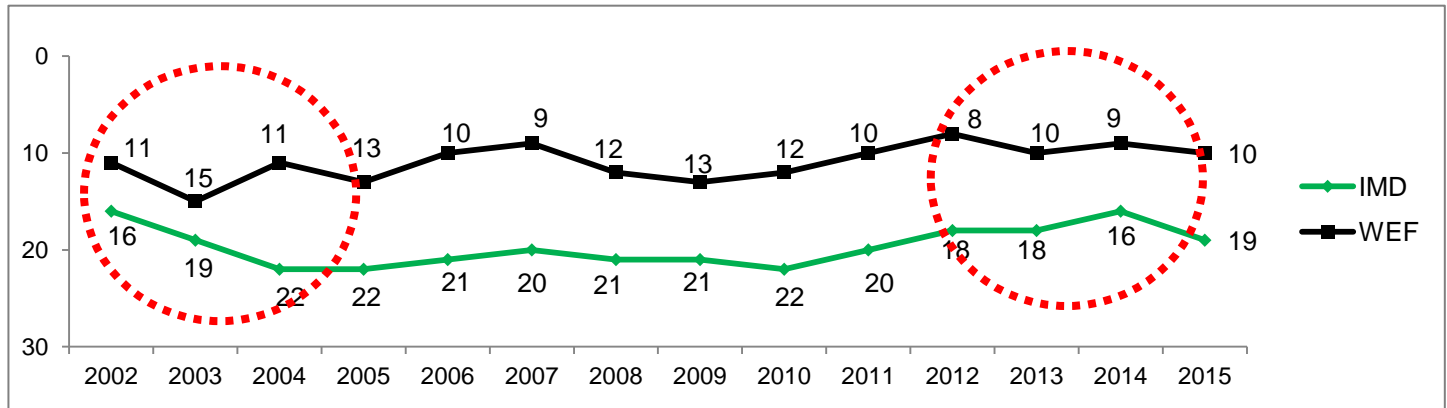
United States



Germany



United Kingdom

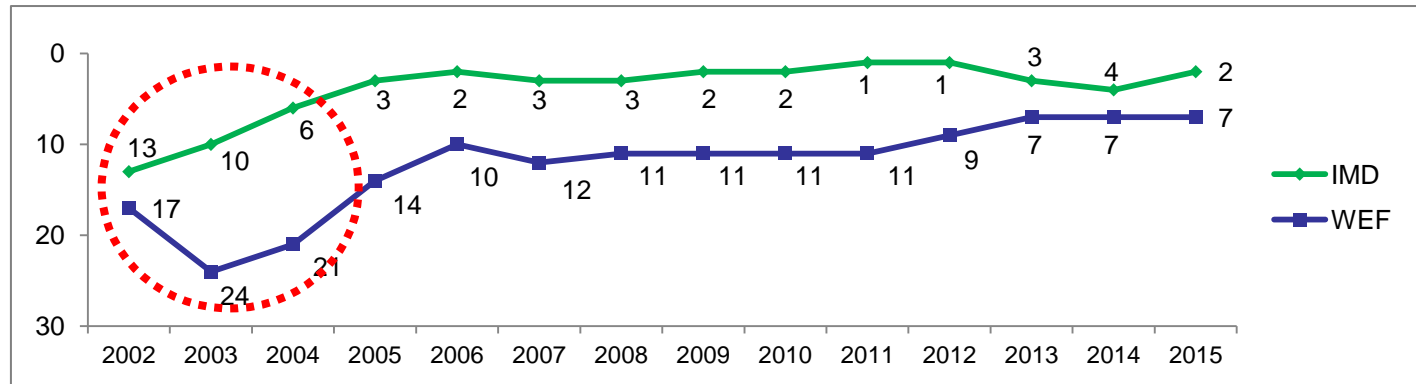




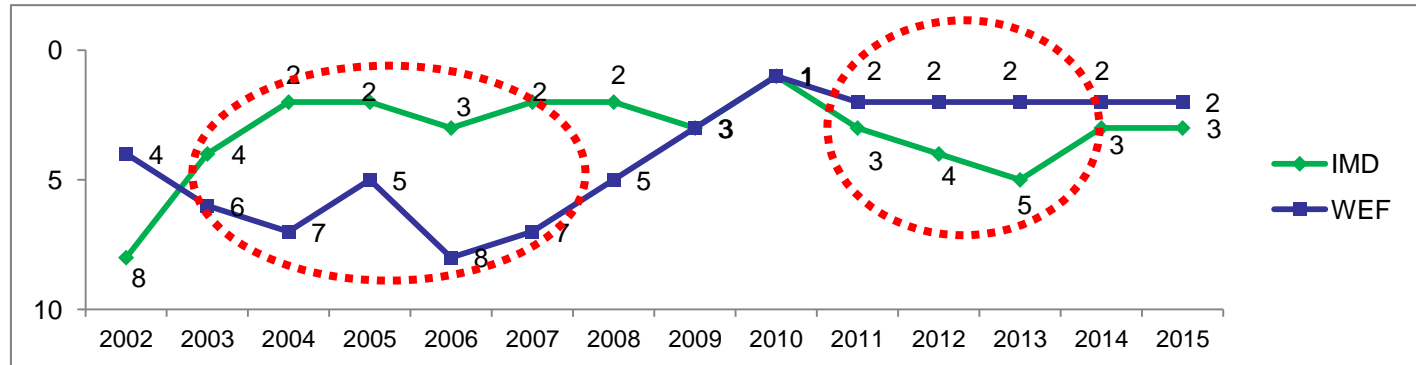
# Without theoretical validity? (2)

Discrepancy of Rankings

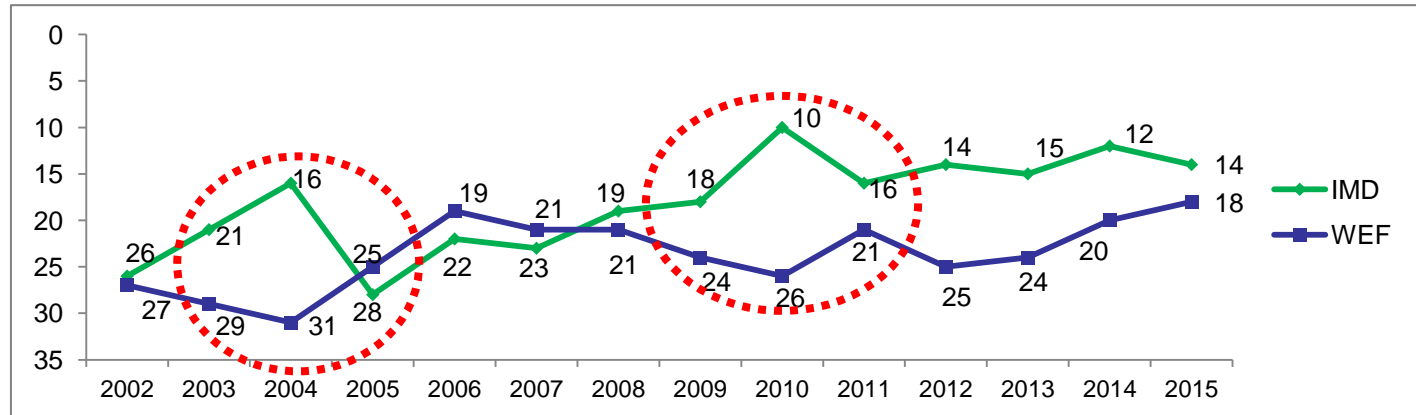
Hong Kong



Singapore



Malaysia



## **Comparison of Three National Competitiveness Reports**

## **Theory, Methodology, and Results**

- Theories
- Measurement: IPS Model
- Result 2014-2015
- Analysis: Country Grouping
- Simulation: Cost & Differentiation Strategies

## **Fundamental Source of Economic Growth**

## **Conclusion**

# Theories

# Sources of National Competitiveness Before the 1980s

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## ▶ The Productivity Model:

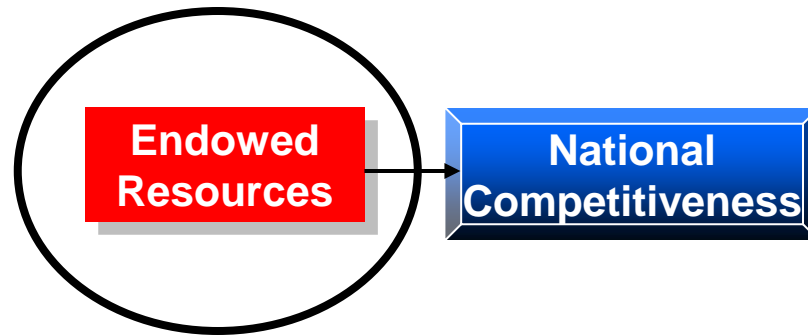
- Competitiveness was not the issue those days.
- Capital and labor as two determinants, thus  $P = f(K, L)$

## ▶ This model failed to explain:

- Why resource-lacking countries are more affluent than resource-rich nations in general.

# Concept of the Productivity Model

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# Sources of National Competitiveness Since the 1980s

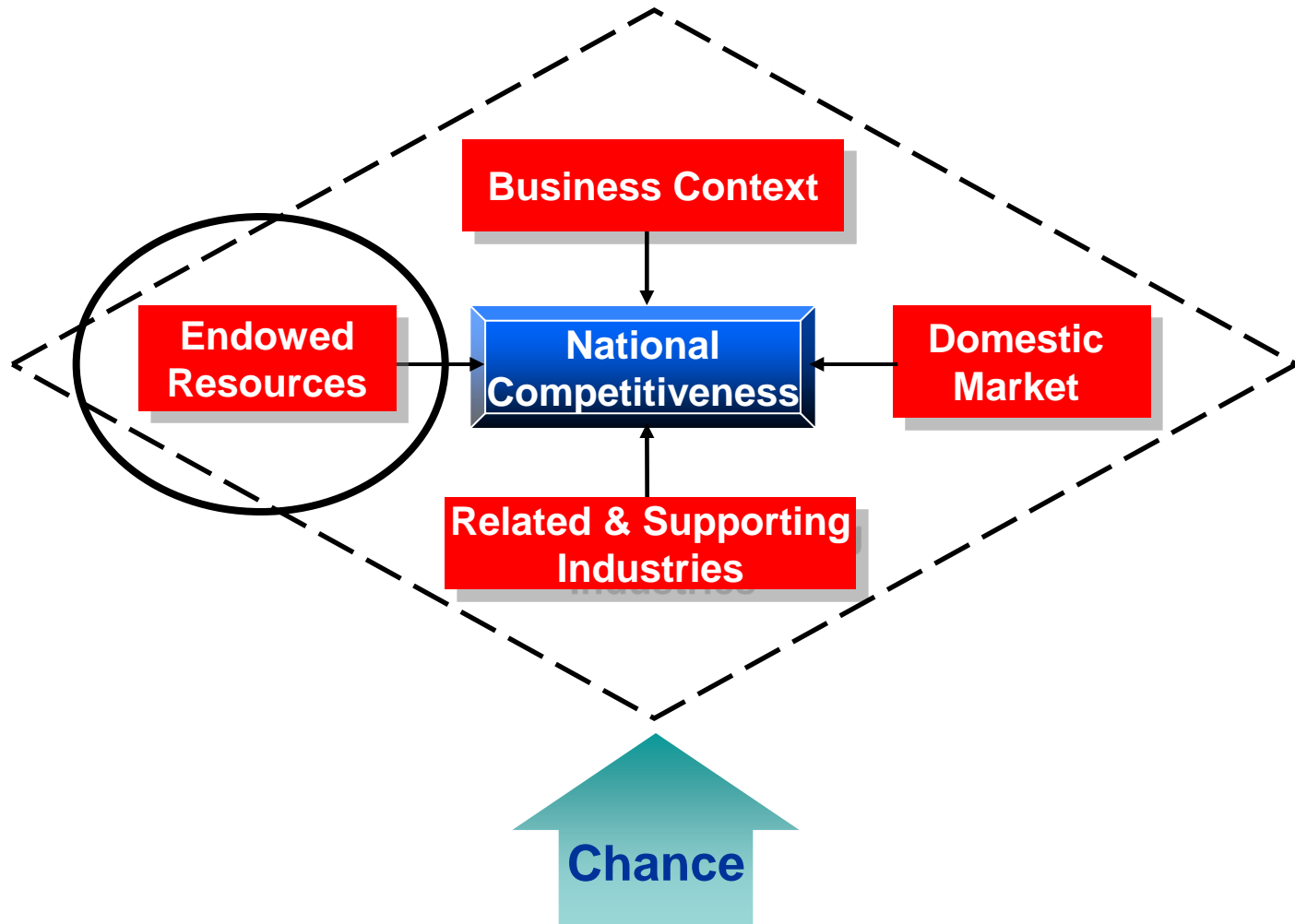
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- ▶ A New Model should be:
  - comprehensive enough to include non-quantitative variables to better explain the increasingly complex nature of the world economy
  - dynamic enough to better reflect the ever-changing nature of national competitiveness

In response to the White House Presidential Commission on Industrial Competitiveness, Michael Porter (1990) proposed a Diamond Model as a means to explain a nation's competitiveness.

# Comparison of the Productivity Model & the Diamond

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# Characteristics of the Diamond Model

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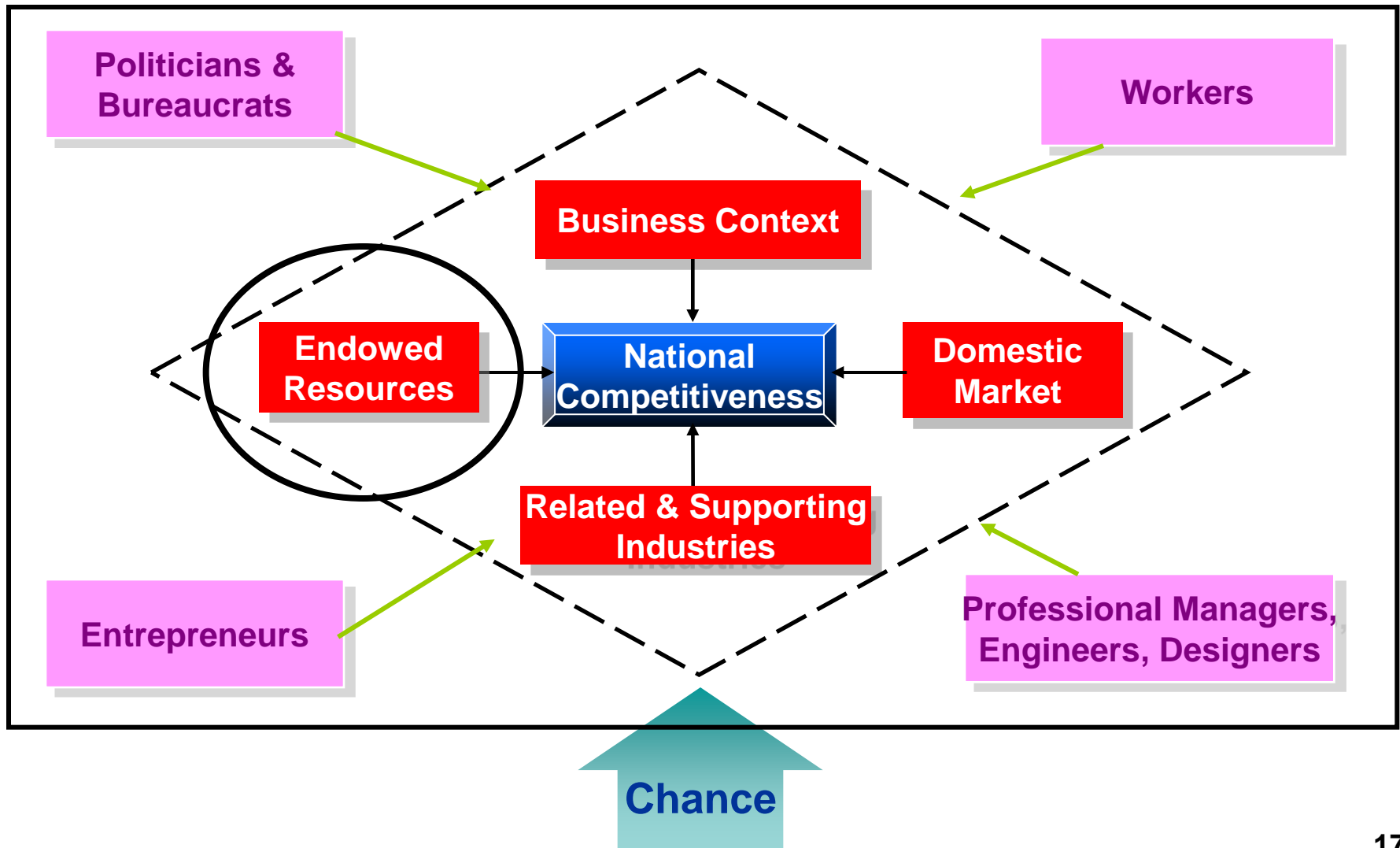
- ▶ The first model to encompass non-quantitative variables, which are mostly physical in nature
- ▶ Not so relevant to developing and underdeveloped economies
  - It was mainly designed for developed economies, failing to fully identify sources of NC that are characteristics of developing and underdeveloped economies.

Cho (1994) proposed the 9-Factor Model of NC by including human factors as additional variables in the Diamond.

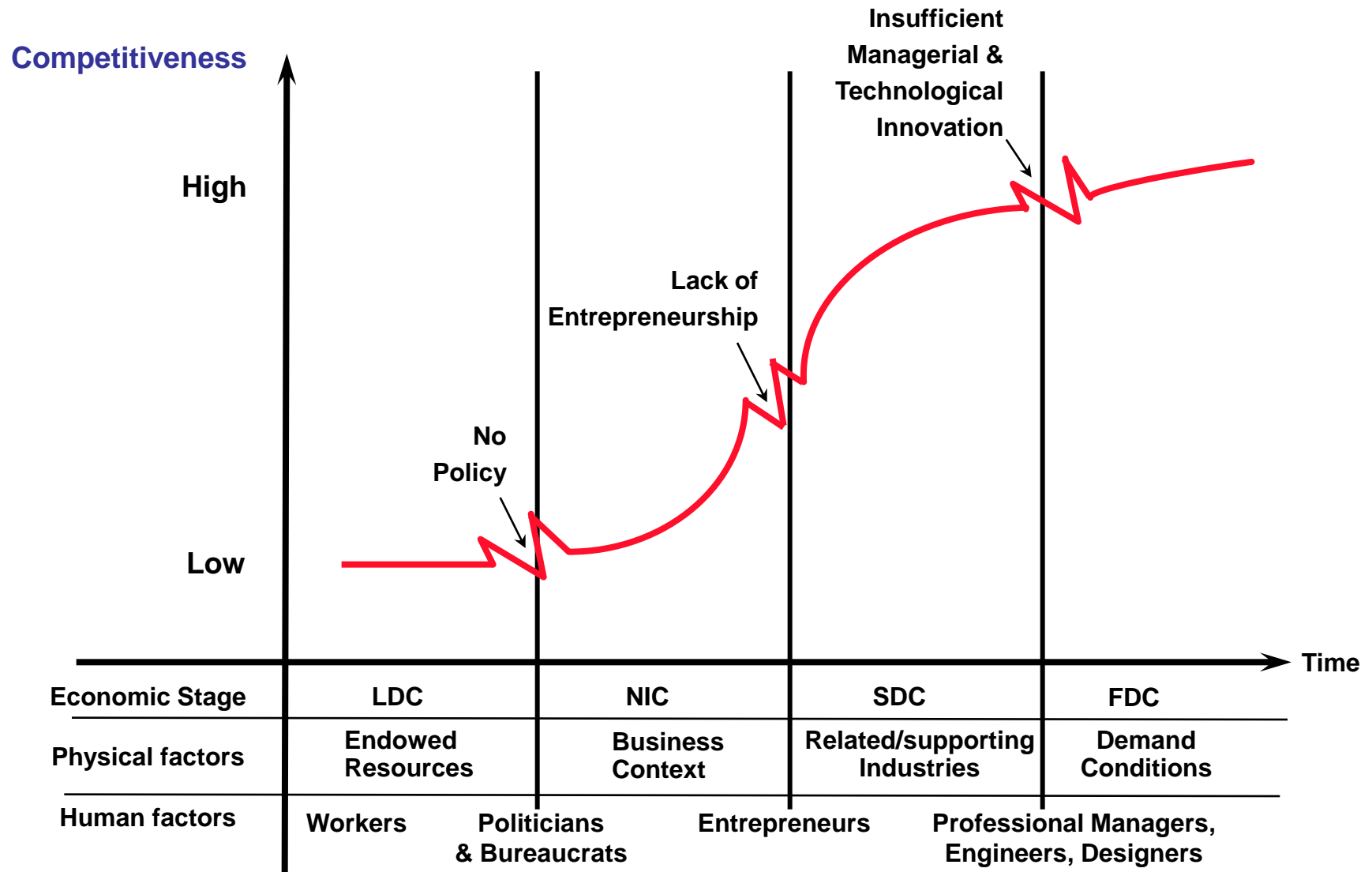


# Comparison of the Productivity Model

## The Diamond & the 9-Factor Model



# Dynamics of National Competitiveness



# **Measurement: IPS Model**

# 62 Countries

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## Europe (19)

- Austria
- Belgium
- Croatia
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Greece
- Hungary
- Italy
- Netherlands
- Poland
- Russia
- Spain
- Sweden
- Switzerland
- Ukraine
- United Kingdom

## Asia (24)

- Bangladesh
- Cambodia
- China
- Hong Kong
- India
- Indonesia
- Iran
- Israel
- Japan
- Jordan
- Korea
- Kuwait
- Malaysia
- Oman
- Pakistan
- Philippines
- Saudi Arabia
- Singapore
- Sri Lanka
- Taiwan
- Thailand
- Turkey
- U.A.E.
- Vietnam

## America (12)

- Argentina
- Brazil
- Canada
- Chile
- Columbia
- Dominican Republic
- Guatemala
- Mexico
- Panama
- Peru
- United States
- Venezuela

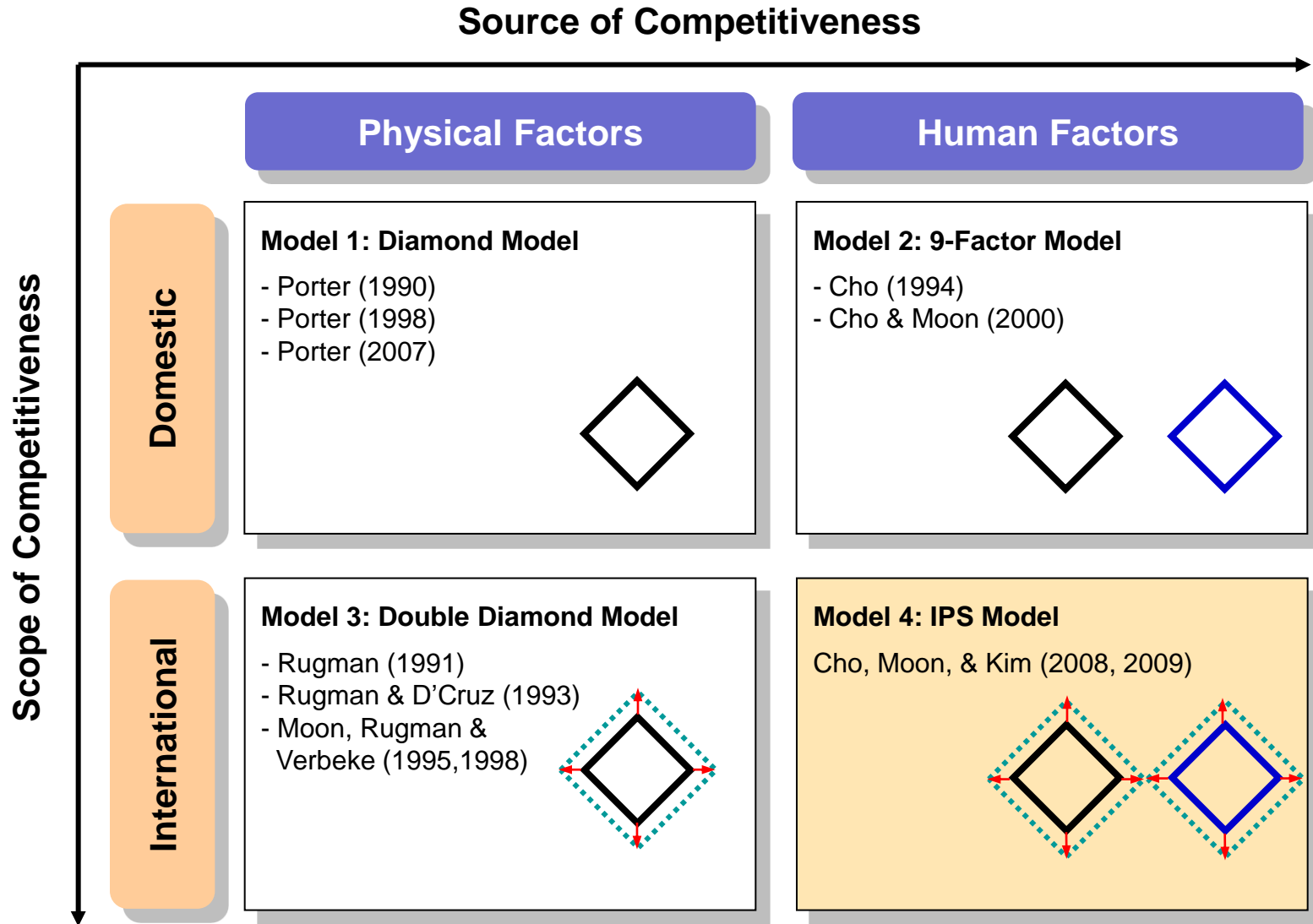
## Oceania (2)

- Australia
- New Zealand

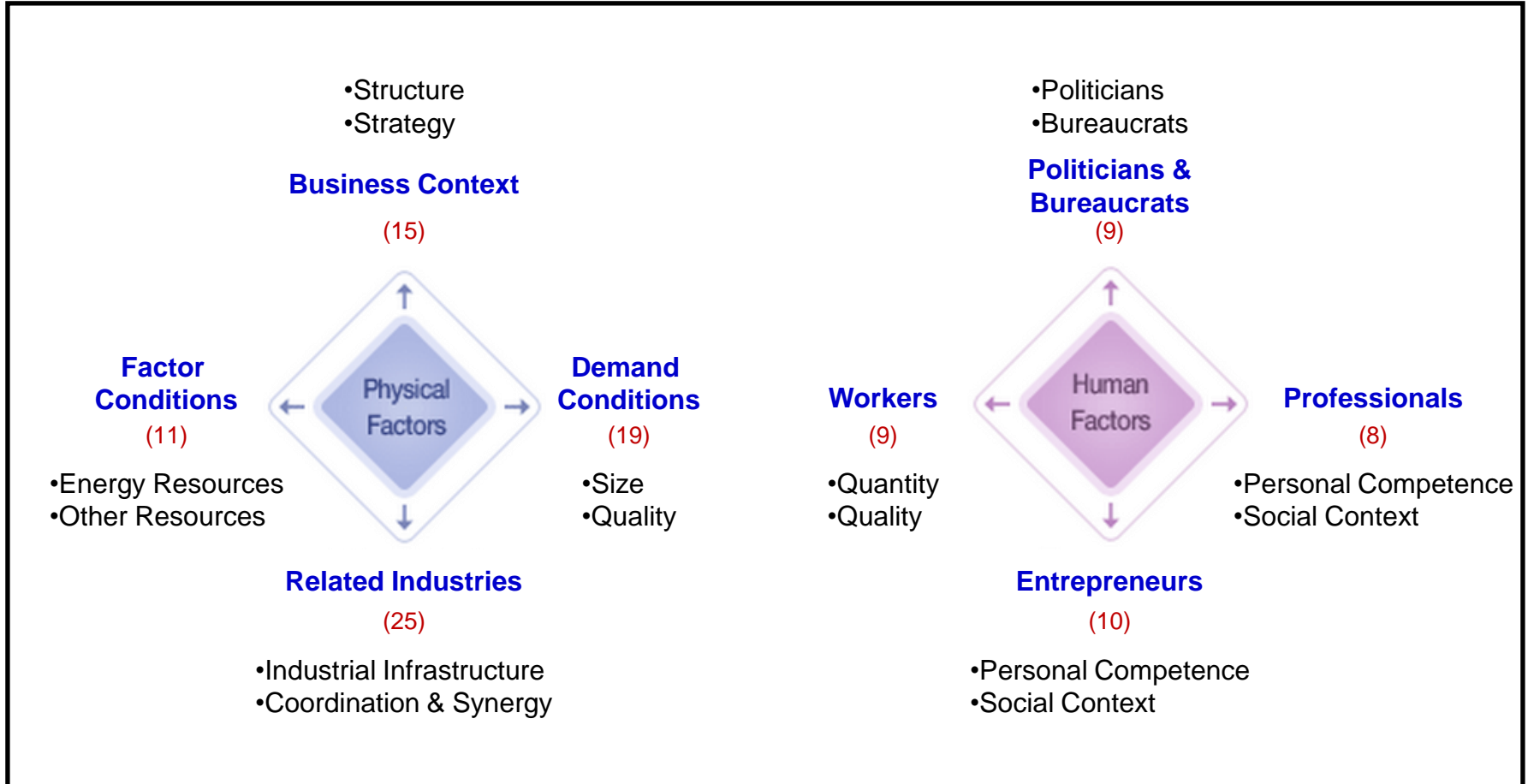
## Africa (5)

- Egypt
- Kenya
- Morocco
- Nigeria
- South Africa

# Theoretical Background



## Double Diamond-based 9 Factor Model



Note: The figure in the parenthesis indicates the number of criteria in each factor.

## **Result 2014–2015**

# NCR 2014-2015 Rankings (Cost Strategy)

Rank	Country	Index
1	China	57.39
2	Canada	56.22
3	United States	55.76
4	Singapore	55.76
5	Hong Kong	53.25
6	Australia	51.62
7	Sweden	51.18
8	Switzerland	48.98
9	Finland	47.64
10	Taiwan	46.80
11	Denmark	46.49
12	Germany	45.37
13	New Zealand	45.06
14	Netherlands	45.03
15	Israel	44.99
16	India	44.40
17	U.A.E.	43.60
18	Kuwait	42.00
19	France	41.25
20	Japan	40.95
21	United Kingdom	40.32

Rank	Country	Index
22	Russia	40.24
23	Saudi Arabia	40.23
24	Austria	39.95
25	Belgium	39.88
26	Korea	39.80
27	Indonesia	37.92
28	Chile	37.36
29	Jordan	37.23
30	Thailand	37.10
31	Panama	37.08
32	Poland	36.60
33	Brazil	36.50
34	Philippines	36.49
35	Vietnam	36.17
36	Hungary	36.13
37	Italy	35.96
38	Oman	35.83
39	Mexico	35.51
40	Malaysia	34.28
41	Egypt	33.80
42	Colombia	33.11

Rank	Country	Index
43	Czech Republic	33.08
44	Peru	32.83
45	Spain	32.72
46	Argentina	32.48
47	Turkey	32.33
48	Dominican Republic	32.22
49	Cambodia	31.96
50	Pakistan	30.58
51	Greece	30.34
52	Morocco	29.65
53	Ukraine	29.06
54	Guatemala	29.06
55	Nigeria	28.16
56	Bangladesh	27.12
57	Iran	26.70
58	Sri Lanka	25.14
59	Croatia	24.10
60	South Africa	23.46
61	Venezuela	22.66
62	Kenya	19.66

Note: Rankings when all competitors employ cost strategy



# NCR 2014-2015 Rankings (Differentiation Strategy)

Rank	Country	Index
1	Singapore	76.08
2	Switzerland	75.00
3	Denmark	73.66
4	Canada	71.55
5	Hong Kong	71.43
6	Sweden	70.95
7	Finland	70.93
8	Australia	67.36
9	Israel	66.17
10	Taiwan	65.56
11	United States	65.00
12	Germany	64.28
13	Belgium	62.25
14	Netherlands	62.23
15	Korea	56.80
16	Austria	56.73
17	New Zealand	55.41
18	China	55.40
19	Japan	55.27
20	India	54.64
21	France	54.10

Rank	Country	Index
22	Italy	52.88
23	U.A.E.	52.64
24	Hungary	50.12
25	Thailand	49.22
26	Poland	48.10
27	United Kingdom	47.88
28	Indonesia	47.06
29	Philippines	46.17
30	Czech Republic	46.07
31	Kuwait	45.38
32	Spain	45.34
33	Jordan	43.42
34	Vietnam	42.63
35	Panama	42.38
36	Oman	41.29
37	Saudi Arabia	41.25
38	Nigeria	40.64
39	Dominican Republic	40.54
40	Egypt	40.35
41	Malaysia	40.03
42	Chile	37.84

Rank	Country	Index
43	Turkey	37.66
44	Mexico	37.51
45	Morocco	37.32
46	Argentina	36.04
47	Cambodia	35.92
48	Greece	35.71
49	Bangladesh	35.67
50	Russia	35.61
51	Ukraine	34.98
52	Colombia	34.45
53	Peru	33.83
54	South Africa	33.66
55	Brazil	33.34
56	Guatemala	32.97
57	Pakistan	31.13
58	Croatia	28.75
59	Iran	27.65
60	Kenya	25.65
61	Sri Lanka	25.18
62	Venezuela	17.99

Note: Rankings when all competitors employ differentiation strategy

# Top 5 Countries of 8 Factors

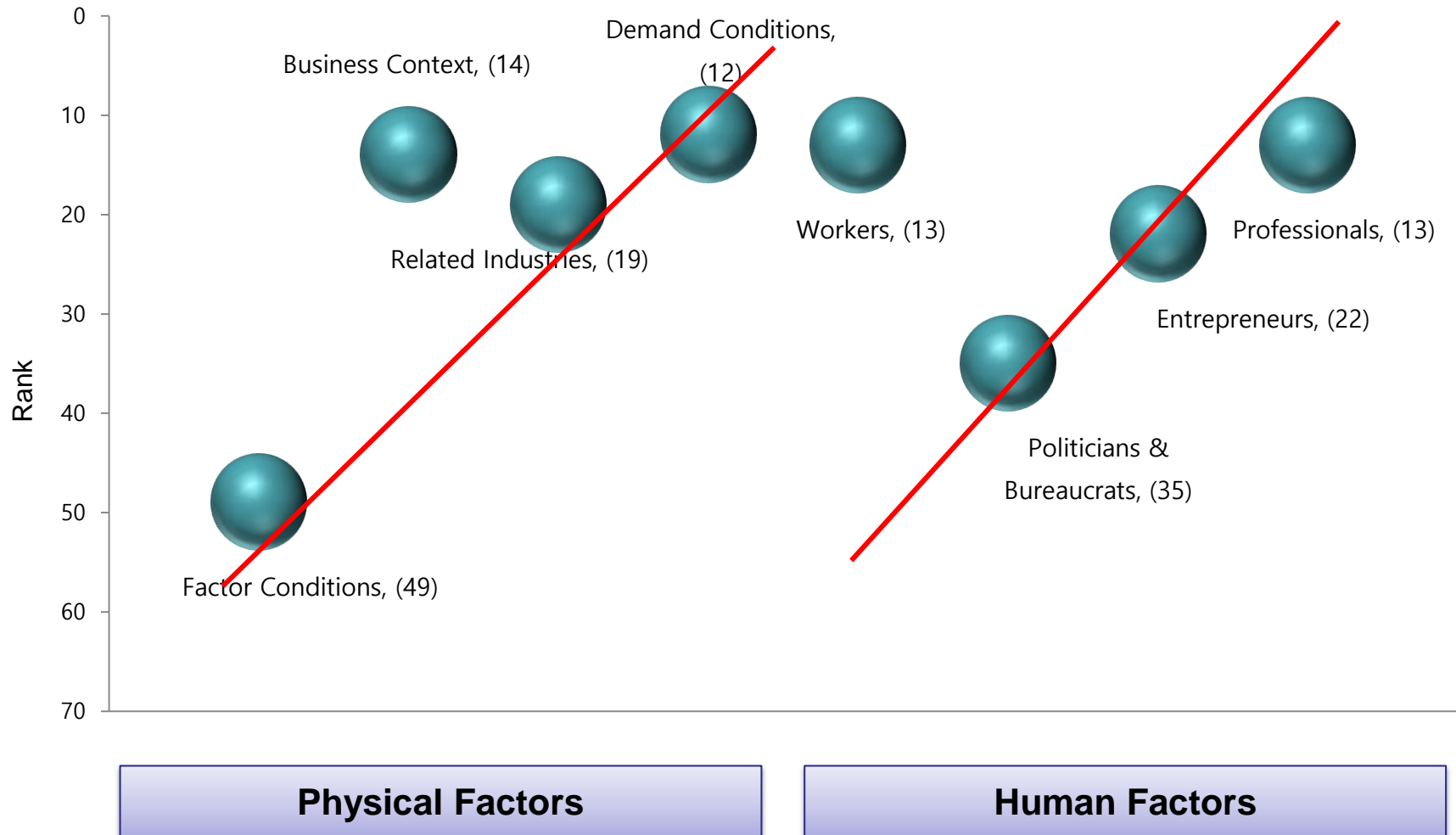
## Physical Factors

Factor Conditions	Business Context	Related industries	Demand Conditions
1: China 2: Russia 3: United States 4: Canada 5: Brazil ..... <b>49: Korea</b>	1: Sweden 2: Singapore 3: Israel 4: Hong Kong 5: Canada ..... <b>14: Korea</b>	1: Taiwan 2: Switzerland 3: Singapore 4: Hong Kong 5: Finland ..... <b>19: Korea</b>	1: United States 2: Singapore 3: Germany 4: Switzerland 5: Denmark ..... <b>12: Korea</b>

## Human Factors

Workers	Politicians & Bureaucrats	Entrepreneurs	Professionals
1: China 2: Singapore 3: Taiwan 4: Hong Kong 5: Canada ..... <b>13: Korea</b>	1: Singapore 2: Denmark 3: Sweden 4: Finland 5: Hong Kong ..... <b>35: Korea</b>	1: Israel 2: Singapore 3: Switzerland 4: Canada 5: Taiwan ..... <b>22: Korea</b>	1: Singapore 2: Denmark 3: Switzerland 4: Hong Kong 5: Canada ..... <b>13: Korea</b>

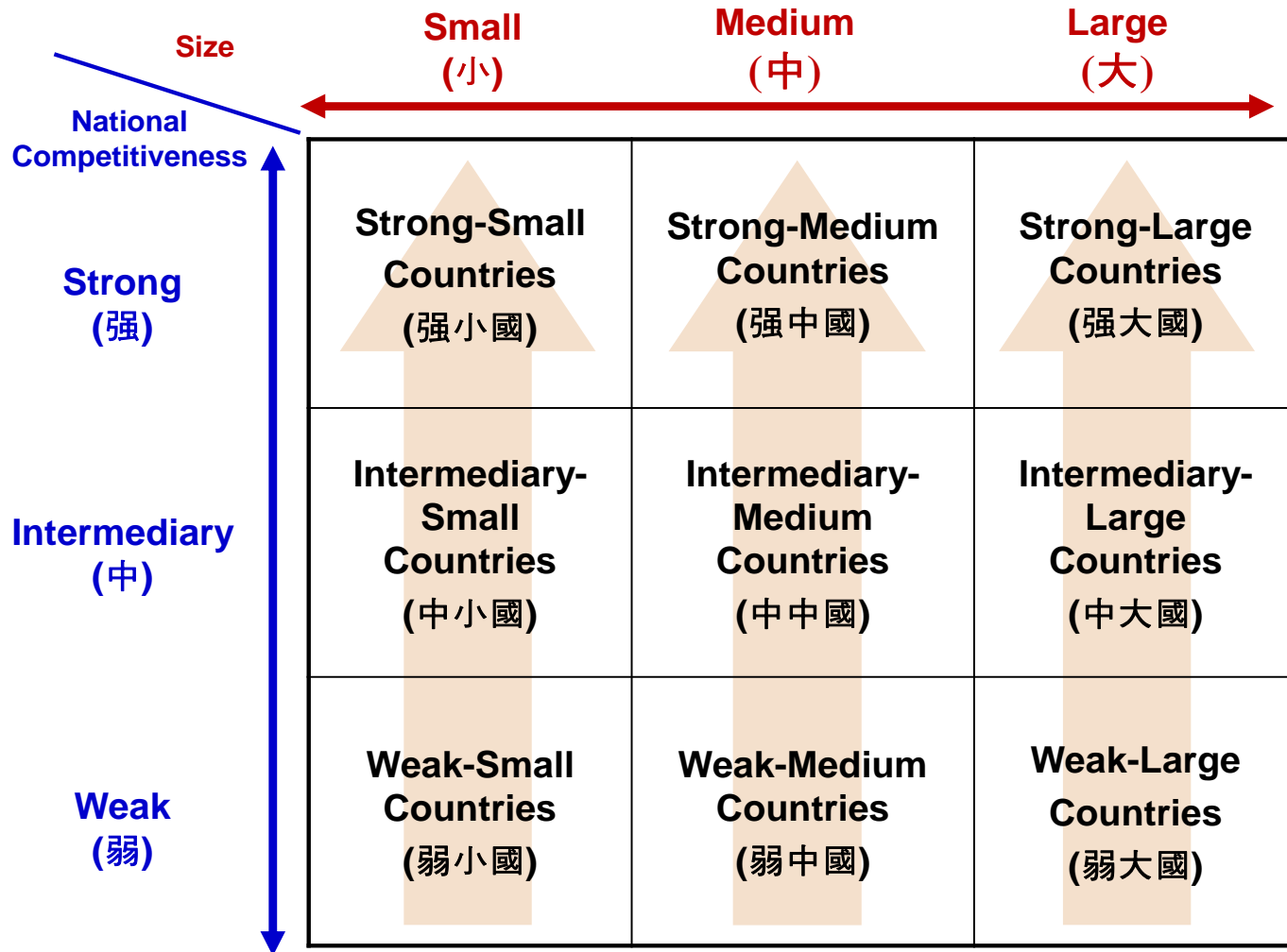
# Factor Rankings of Korea



Note: The figure in the parenthesis indicates the ranking of each factor.

## **Analysis: Country Grouping**

# Typology of Country Group



# Country Group: Result

Small Group		
Small	Strong	1 Singapore
		2 Hong Kong
		3 Switzerland
		4 Denmark
		5 Israel
		6 Netherlands
		7 Belgium
		8 Austria
		9 U.A.E.
	Intermediary	1 Kuwait
		2 Hungary
		3 Panama
		4 Jordan
		5 Czech Republic
		6 Dominican Republic
	Weak	1 Greece
		2 Guatemala
		3 Croatia

Medium Group		
Medium	Strong	1 Sweden
		2 Finland
		3 Taiwan
		4 New Zealand
		5 Korea
		6 United Kingdom
		7 Italy
	Intermediary	1 Poland
		2 Spain
		3 Oman
		4 Chile
		5 Malaysia
	Weak	1 Morocco
		2 Cambodia
		3 Ukraine
		4 Kenya
		5 Sri Lanka
		6 Venezuela

Large Group		
Large	Strong	1 Canada
		2 United States
		3 Australia
		4 Germany
		5 China
		6 Japan
		7 France
		8 India
	Intermediary	1 Thailand
		2 Philippines
		3 Indonesia
		4 Saudi Arabia
		5 Vietnam
		6 Russia
		7 Mexico
	Weak	1 Egypt
		2 Turkey
		3 Brazil
		4 Nigeria
		5 Colombia
		6 Argentina
		7 Peru
		8 Pakistan
		9 Bangladesh
		10 South Africa
		11 Iran

1. U.A.E is included in Small-Strong from Small-Intermediary Group.
2. Dominican Republic is included in Small-Intermediary from Small-Weak Group.
3. Italy goes up to Medium-Strong from Medium-Intermediary Group.
4. India goes up to Large-Strong from Large-Intermediary Group.
5. Mexico goes up to Large-Intermediary from Large-Weak Group.
6. Brazil falls down to Large-Weak Group from Large-Intermediary.

# Korea: Comparison with Other Medium-Strong Countries

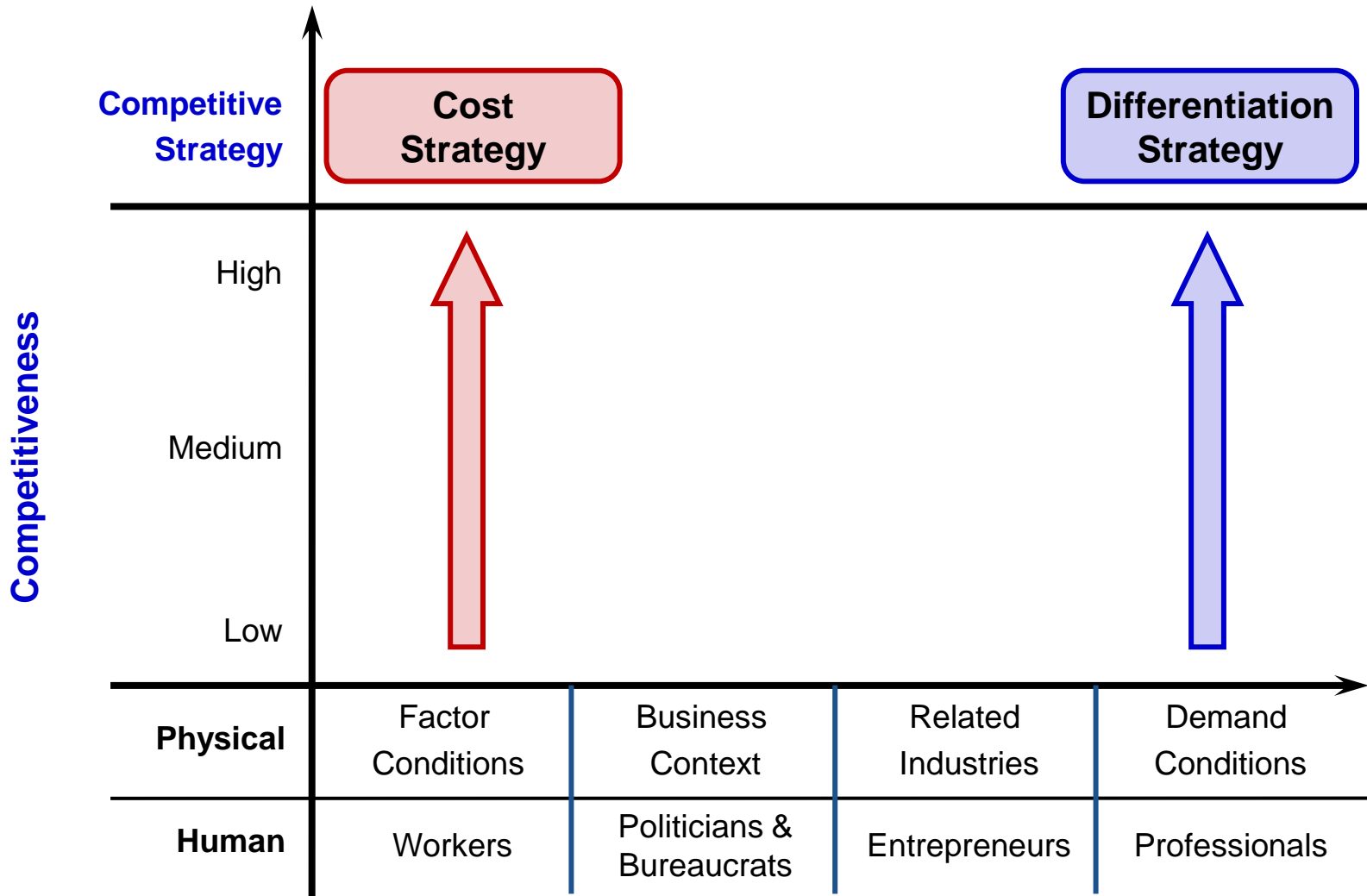


- Relatively strong in Industrial infrastructure, Quantity of Labor Force, and Personal Competence of Entrepreneurs and Professionals
- However, weak particularly in Energy and Other Resources, Politicians, and Social Context of Entrepreneurs

# **Simulation: Cost & Differentiation Strategies**



# Strategy Simulation

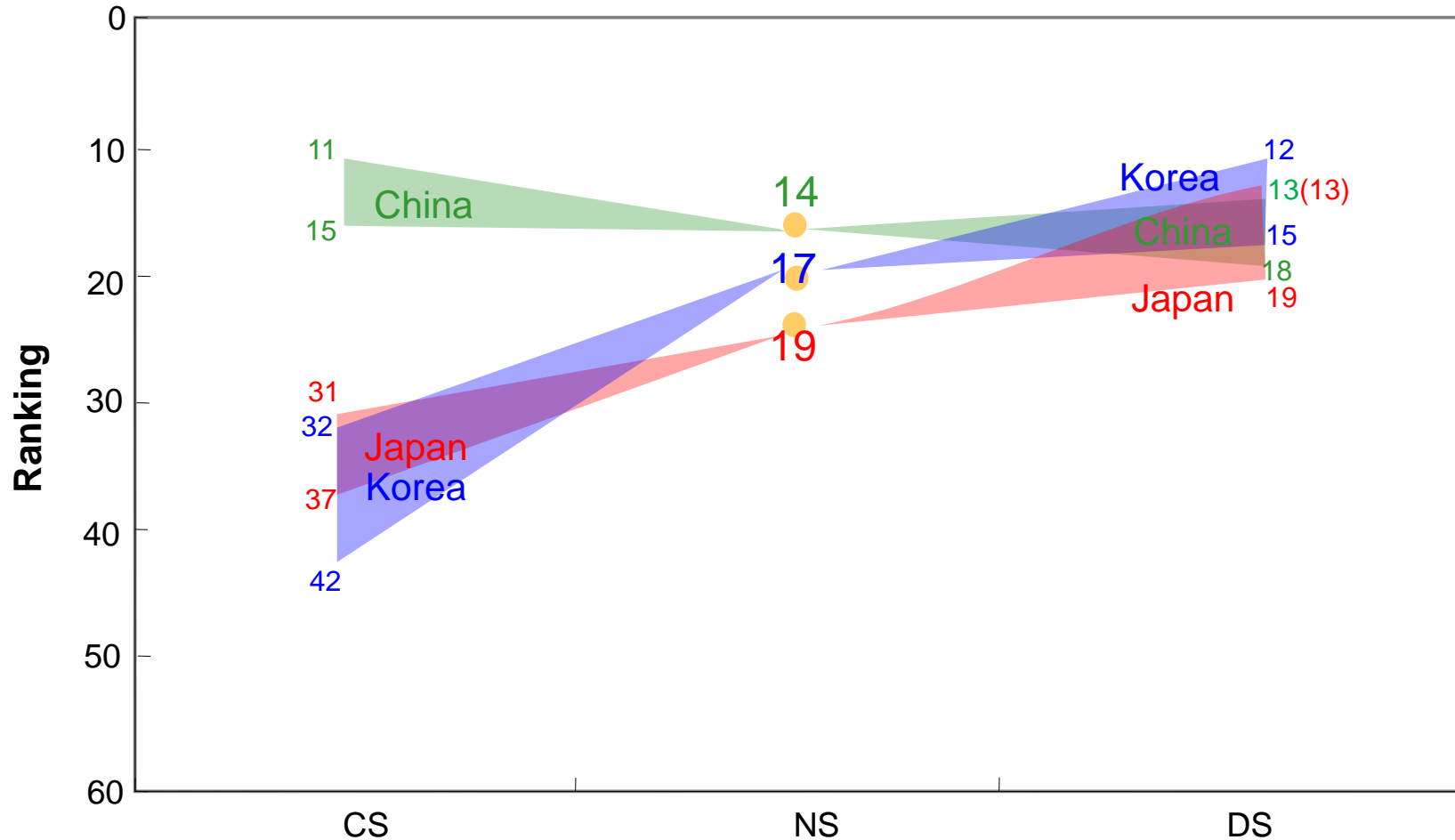


# Weights for Cost Strategy and Differentiation Strategy

Main Factors		Weights		Sub-factors	Weights	
		C*	D*		C*	D*
Physical Factors	Factor Conditions	32/120	4/120	Energy Resources	1/2	1/2
				Other Resources	1/2	1/2
	Business Context	16/120	8/120	Structure	3/4	1/4
				Strategy	1/4	3/4
	Related Industries	8/120	16/120	Industrial Infrastructure	3/4	1/4
				Coordination and Synergy	1/4	3/4
	Demand Conditions	4/120	32/120	Demand Size	3/4	1/4
				Demand Quality	1/4	3/4
Human Factors	Workers	32/120	4/120	Quantity of Labor Force	3/4	1/4
				Quality of Labor Force	1/4	3/4
	Politicians & Bureaucrats	16/120	8/120	Politicians	3/4	1/4
				Bureaucrats	1/4	3/4
	Entrepreneurs	8/120	16/120	Personal Competence	3/4	1/4
				Social Context	1/4	3/4
	Professionals	4/120	32/120	Personal Competence	3/4	1/4
				Social Context	1/4	3/4

C\*: Cost Strategy, D\*: Differentiation Strategy

# Strategy Simulation (2014): Korea•China•Japan



Note: 1) NS: Neutral Strategy, CS: Cost Strategy, DS: Differentiation Strategy. 2) The upper number of each triangle is the country's ranking when its competitors keep their neutral strategies. 3) The lower number of each triangle is the country's ranking when its competitors have their optimal strategies.

**Korea:** higher with DS

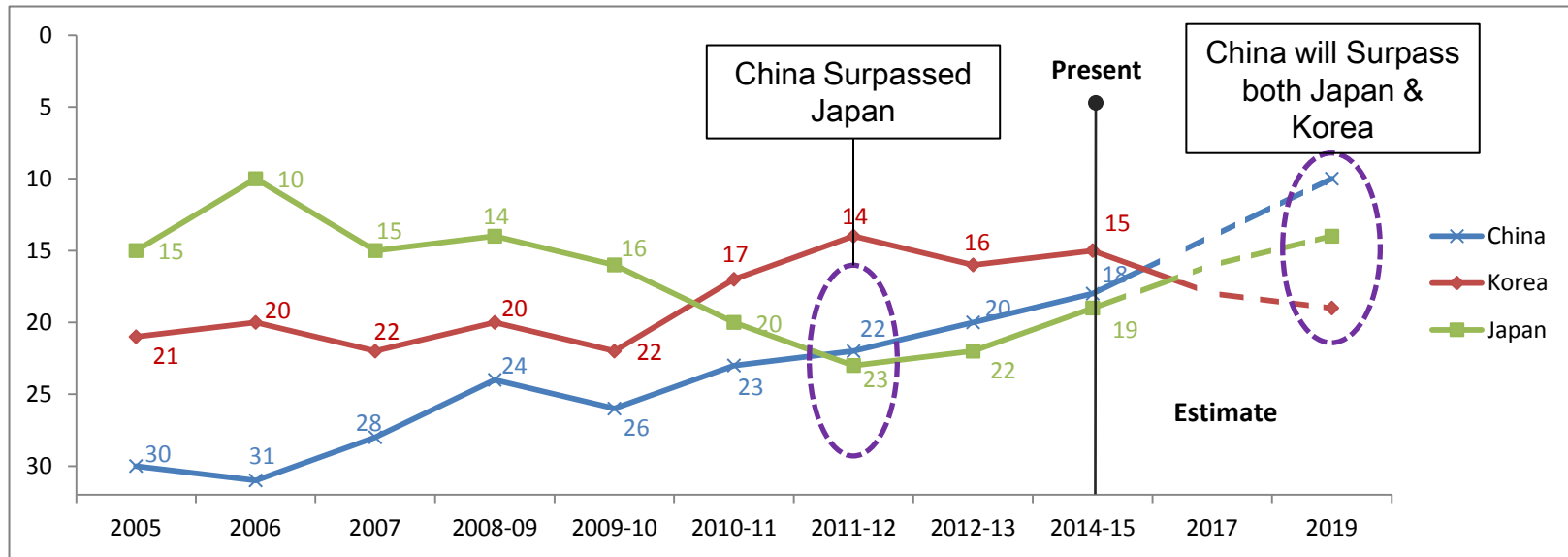
**Japan:** higher with DS

**China:** higher with CS

# DS Prediction Scenario : Korea•China•Japan

- Under the Differentiation Strategy scenario, China surpassed Japan in 2011-12 for the first time
- In 2019, China will surpass both Japan and Korea (estimate)

## Comparison under Differentiation Strategy



## **Comparison of Three National Competitiveness Reports**

## **Theory, Methodology, and Results**

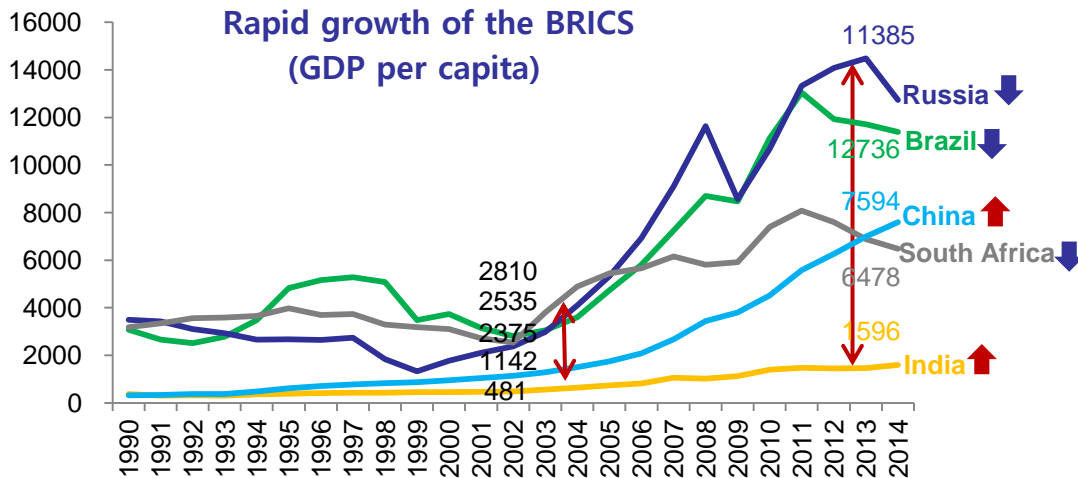
## **Fundamental Source of Economic Growth**

- BRICS case
- Absolute & Relative Created Competitiveness

## **Conclusion**

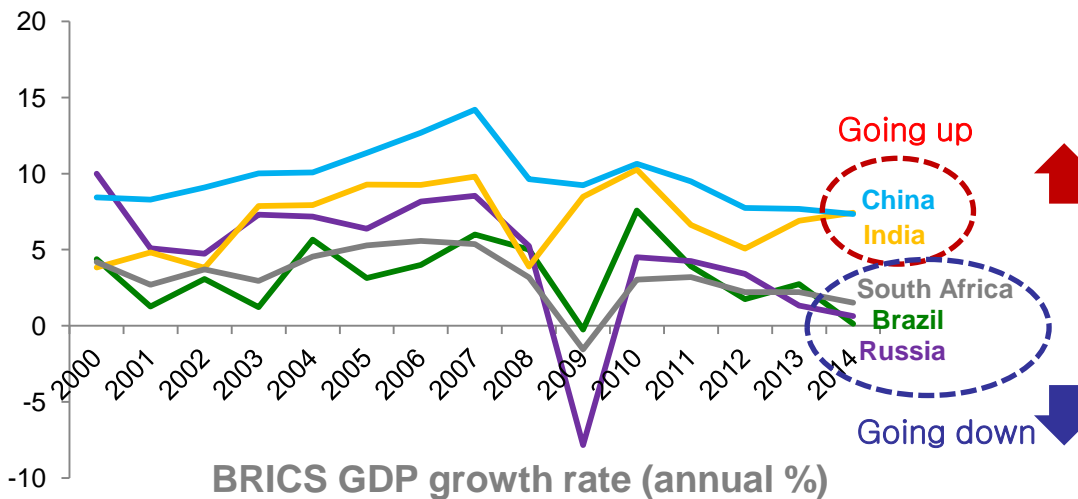
## **BRICS case**

# BRICS case 2014-2015 (1)



Source: World Bank, [www.worldbank.org/data/wdi](http://www.worldbank.org/data/wdi), accessed Oct, 14, 2015

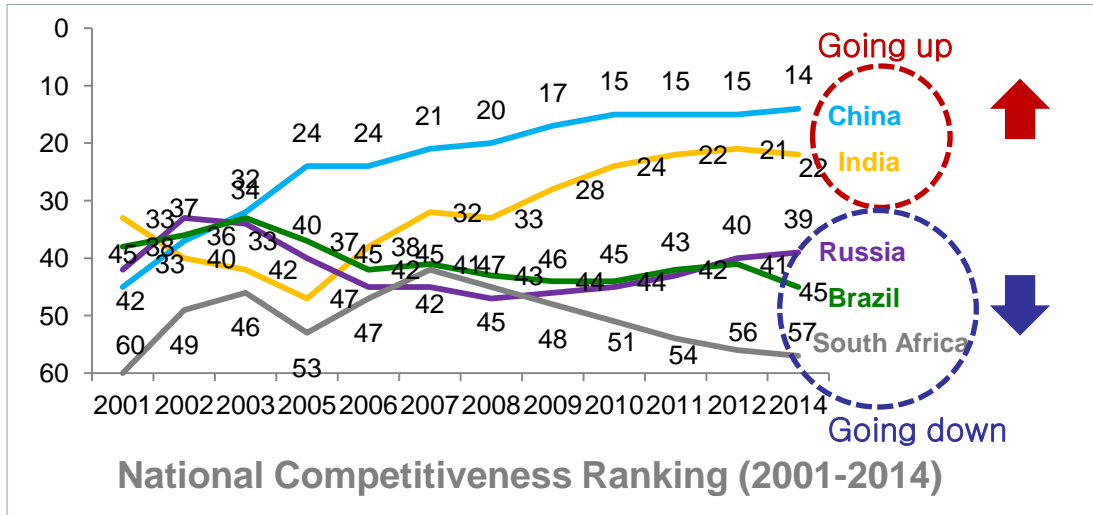
- These five countries have grown significantly and are considered important players in the global economic scenario



Source: World Bank, [www.worldbank.org/data/wdi](http://www.worldbank.org/data/wdi), accessed Oct, 14, 2015

- However, it is observable that the growth rate of China and India is relatively higher than South Africa, Brazil and Russia's growth rate

# BRICS case 2014-2015 (2)



- BRICS Economies commonly have affluent inherited resources
- However, why are some countries' rankings continuously going up but some are not?



**Brazil's economy enters recession**

28 August 2015



**South Africa heading for a recession**

July 14 2015 at 12:35pm

**THE WALL STREET JOURNAL**

**World Bank Downgrades Russia's Economic Outlook**

Updated Sept. 30, 2015 4:01 p.m. ET



**Economic Growth And India's Global Rise**

AUG 17, 2015 12:30 PM

**VS.**

**The Washington Post**

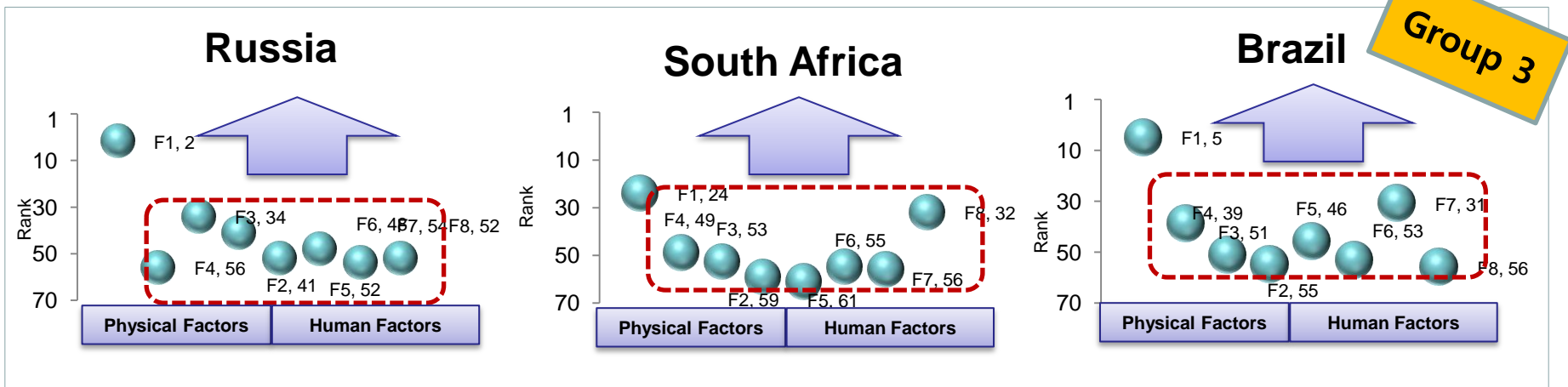
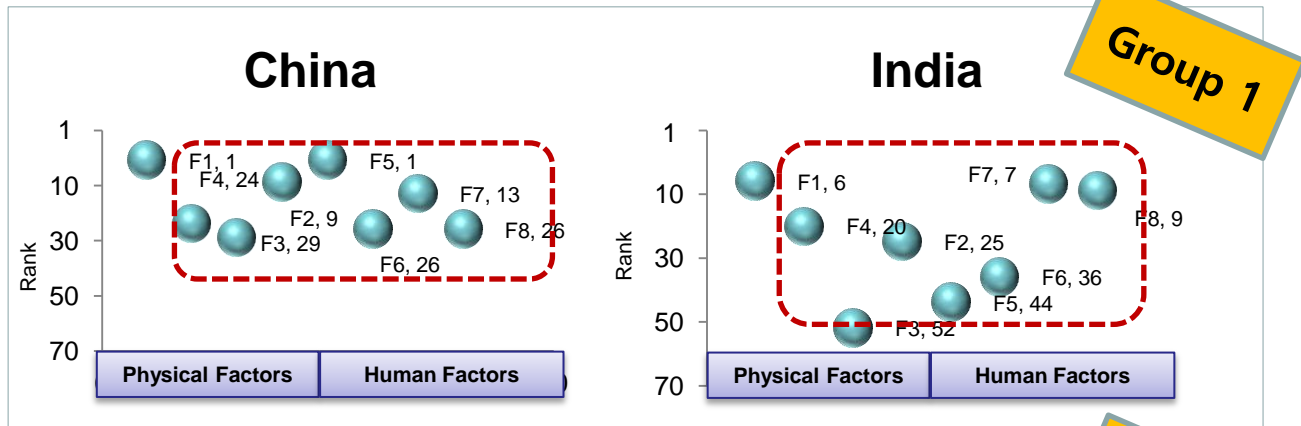
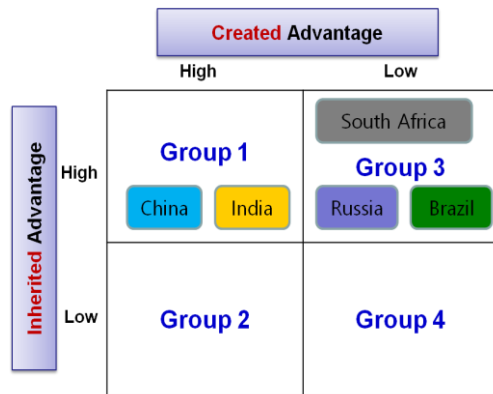
**China's economy is in big trouble, but it isn't collapsing**

AUG 25, 2015 12:30 PM



# Competitive Structures of BRICS Countries (2014-2015)

- Russia/S.Africa/Brazil(Group3): higher in Factor Conditions, but lower in other factors compared to China and India (Group 1)
- China and India (Group 3 ) should further increase each factor of created advantages to increase national competitiveness

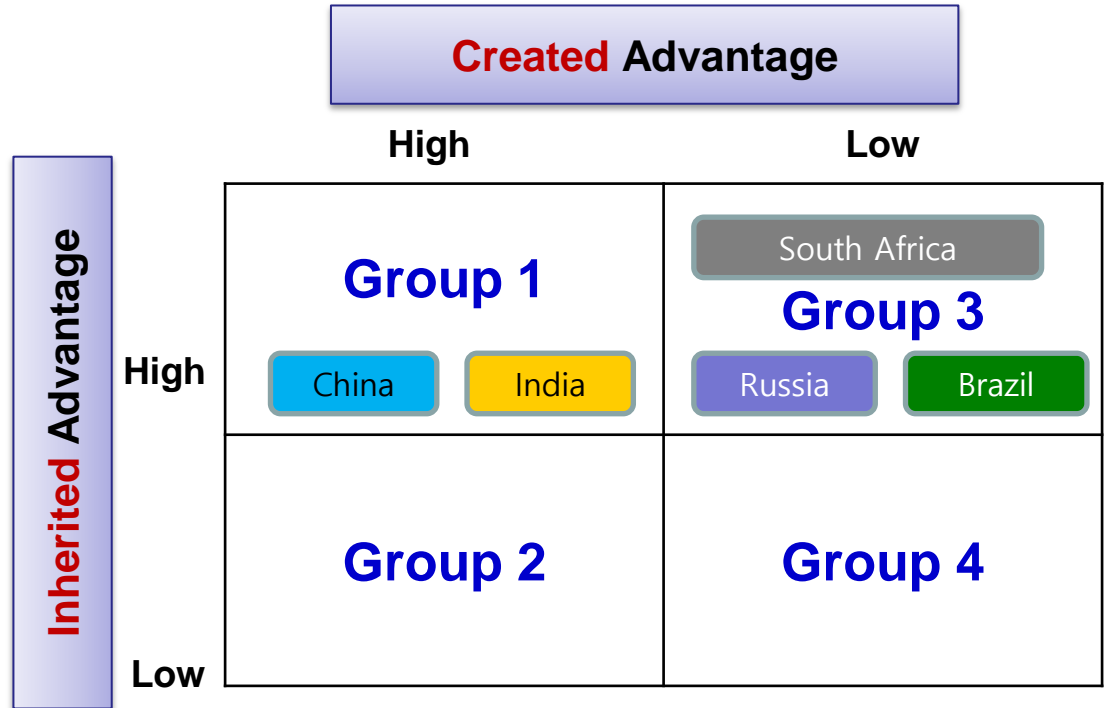


# Created Advantage and Competitiveness (2014-2015)

Looking through the IPS Group Criteria,

- (Size) All BRICS economies belong to the Large Group
- (Competitiveness) China and India are included in the Strong Group. Russia is under the Intermediary Group while Brazil and South Africa are in the Weak Group.

Large Group	Strong	1	Canada
		2	United States
		3	Australia
		4	Germany
		5	China
		6	Japan
		7	France
		8	India
	Intermediary	1	Thailand
		2	Philippines
		3	Indonesia
		4	Saudi Arabia
		5	Vietnam
		6	Russia
		7	Mexico
	Weak	1	Egypt
		2	Turkey
		3	Brazil
		4	Nigeria
		5	Colombia
		6	Argentina
		7	Peru
		8	Pakistan
		9	Bangladesh
		10	South Africa
		11	Iran



Based on the IPS research, BRICS can be divided into two groups;  
 1) China, India are classified under the high Created Advantage group  
 2) Russia, Brazil, South Africa belong to the low Created Advantage group

**Absolute & Relative  
Created Competitiveness  
(10–year Ave.)**

# Absolute & Relative Created Competitiveness (10-year Ave.) (1)

- (Group 1) attains high absolute created advantage but without any change (e.g. developed countries)
- (Group 2) has high absolute created advantage and also high relative created advantage
- (Group 3) obtains high potential due to high relative created advantage despite of low average created advantage
- (Group 4) is characterized by both low absolute average absolute and relative created advantage but has high potential

## Increase Rate of Created Advantage (Relative)

		Low	High
Index Value of Created advantage (10- year average)	High	<b>Group1</b> High created advantage without change	<b>Group 2</b> High created advantage with change
	Low	<b>Group 4</b> Low created advantage without change	<b>Group 3</b> Low created advantage with potential

# Absolute & Relative Created Competitiveness (10-year Ave.) (2)

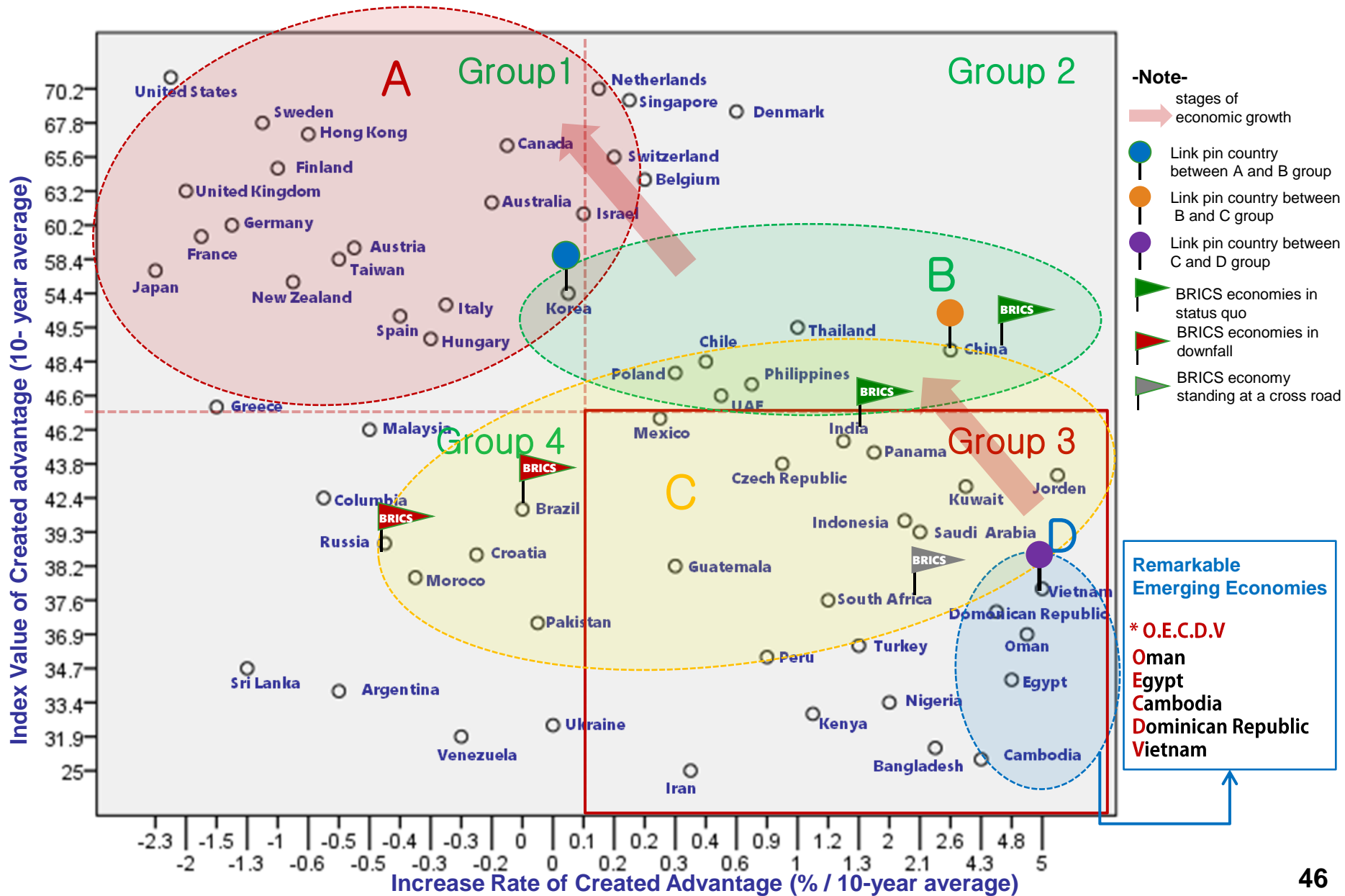
Group 1	
1	United States
2	Sweden
3	Hong Kong
4	Canada
5	Finland
6	United Kingdom
7	Australia
8	Israel
9	Germany
10	France
11	Austria
12	Taiwan
13	Japan
14	New Zealand
15	Korea
16	Italy
17	Spain
18	Hungary
19	Greece

Group 2	
1	Netherland
2	Singapore
3	Denmark
4	Switzerland
5	Belgium
6	Thailand
7	China
8	Chile
9	Poland
10	Philippines
11	UAE

Group 3	
1	Mexico
2	India
3	Panama
4	Czech Republic
5	Jordan
6	Kuwait
7	Indonesia
8	Saudi Arabia
9	Guatemala
10	Vietnam
11	South Africa
12	Dominican Republic
13	Oman
14	Turkey
15	Peru
16	Egypt
17	Nigeria
18	Kenya
19	Bangladesh
20	Cambodia
21	Iran

Group 4	
1	Malaysia
2	Columbia
3	Brazil
4	Russia
5	Croatia
6	Morocco
7	Pakistan
8	Sri Lanka
9	Argentina
10	Ukraine
11	Venezuela

## Absolute & Relative Created Competitiveness (10-year Ave.) (3)



# Contents

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**Comparison of Three National Competitiveness Reports**

**Theory, Methodology, and Results**

**Fundamental Source of Economic Growth**

**Conclusion**

## National/Corporate Goal

- **Source for Growth**

- Inherited vs. Created

- **Policy Tools**

- Simple vs. Comprehensive

- **Policy Direction**

- Blue Ocean vs. Benchmarking + alpha



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**Thank you**