

PISA 2009

International symposium

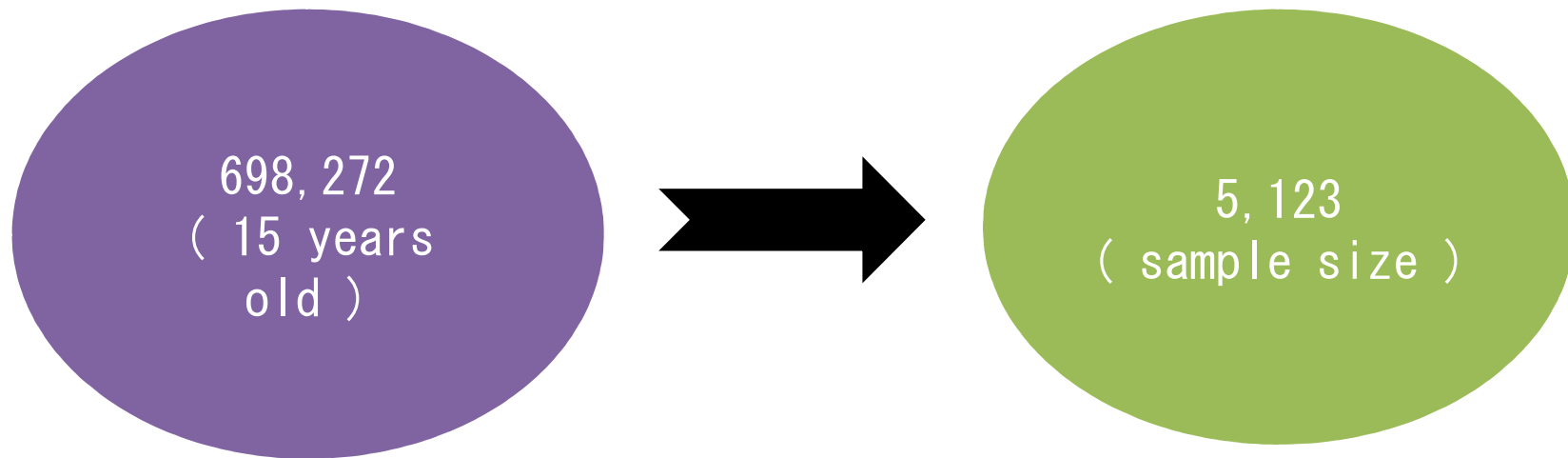
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# I . Results of PISA 2009

: Korean students? (compared with other countries)

Overall description



# Results

Countries	Reading			Mathematics			Science		
	M	Rank		M	Rank		M	Rank	
		OECD	Total		OECD	Total		OECD	Total
South Korea	539 ( 3.5 )	1~2	2~4	546 ( 4.0 )	1~2	3~6	538 ( 3.4 )	2~4	4~7
OECD	493 ( 0.5 )			496 ( 0.5 )			501 ( 0.5 )		

\* 1. PISA Scale : M = 500, Standard Deviation = 100

\* 2. ( ) stands for Standard Error

\* 3. Total : 65 countries

# 1. Reading

## Overall score distributional attributes & Rank

Countries	Reading			
	M	Standard Error	Rank	
			OECD Rank	Total Rank
Shanghai	556	(2.4)	-	1
South Korea	539	(3.5)	1~2	2~4
Finland	536	(2.3)	1~2	2~4
Hong Kong	533	(2.1)	-	3~4
Singapore	526	(1.1)	-	5~6
Canada	524	(1.5)	3~4	5~7
New Zealand	521	(2.4)	3~5	6~9
Japan	520	(3.5)	3~6	5~9
Australia	515	(2.3)	5~7	8~10
Holland	508	(5.1)	5~13	8~16
OECD	493	(0.5)		

# PISA 2009 Reading Score Distribution (Percentile)

Countries	Total students		Percentile											
	M (Standard Deviation)		5th		10 <sup>th</sup>		25th		75th		90th		95th	
			M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)					
Shanghai	556	(80)	417	(5.2)	450	(4.8)	504	(3.5)	613	(2.8)	654	(2.7)	679	(3.3)
South Korea	539	(79)	400	(7.6)	435	(5.9)	490	(4.1)	595	(3.4)	635	(3.0)	658	(3.8)
Finland	536	(86)	382	(3.4)	419	(3.6)	481	(2.7)	597	(2.2)	642	(2.6)	666	(2.6)
Hong Kong	533	(84)	380	(5.5)	418	(4.5)	482	(3.0)	592	(2.5)	634	(2.9)	659	(3.1)
Singapore	526	(97)	357	(3.4)	394	(3.1)	460	(2.0)	597	(2.1)	648	(2.8)	676	(2.7)
Canada	524	(90)	368	(2.9)	406	(2.7)	464	(1.9)	588	(1.7)	637	(1.9)	664	(2.1)
New Zealand	521	(103)	344	(5.8)	383	(4.5)	452	(3.1)	595	(2.8)	649	(2.7)	678	(3.7)
Japan	520	(100)	339	(9.8)	386	(7.1)	459	(4.8)	590	(3.0)	639	(3.6)	667	(4.6)
Australia	515	(99)	343	(3.8)	384	(3.1)	450	(2.9)	584	(2.7)	638	(3.2)	668	(3.9)
Holland	508	(89)	365	(4.7)	390	(5.0)	442	(6.1)	575	(5.4)	625	(4.6)	650	(4.0)

# 2. Mathematics

## Overall score distributional attributes & Rank

Countries	Mathematics			
	M	Standard Error	Rank	
			OECD Rank	Total Rank
Shanghai	600	(2.8)	–	1
Singapore	562	(1.4)	–	2
Hong Kong	555	(2.7)	–	3~4
South Korea	546	(4.0)	1~2	3~6
Taiwan	543	(3.4)	–	4~7
Finland	541	(2.2)	1~3	4~7
Lichtenstein	536	(4.1)	–	5~9
Switzerland	534	(3.3)	2~4	6~9
Japan	529	(3.3)	3~6	8~12
Canada	527	(1.6)	4~6	9~12
OECD	496	(0.5)		

# PISA 2009 Math Score Distribution (Percentile)

Countries	Total students		Percentile											
	M (Standard Deviation)		5th		10th		25th		75th		90th		95th	
			M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)				
Shanghai	600	(103)	421	(7.1)	462	(5.0)	531	(4.0)	674	(3.3)	726	(4.2)	757	(4.6)
Singapore	562	(104)	383	(3.0)	422	(4.1)	490	(2.9)	638	(2.0)	693	(2.5)	725	(3.8)
Hong Kong	555	(95)	390	(5.1)	428	(4.9)	492	(3.5)	622	(3.1)	673	(3.9)	703	(4.7)
South Korea	546	(89)	397	(8.4)	430	(6.8)	486	(5.3)	609	(4.3)	659	(4.6)	689	(6.5)
Taiwan	543	(105)	366	(5.0)	405	(3.8)	471	(3.6)	618	(4.6)	675	(5.4)	709	(6.6)
Finland	541	(82)	399	(4.4)	431	(3.7)	487	(3.0)	599	(2.5)	644	(2.6)	669	(3.6)
Lichtenstein	536	(88)	384	(17.8)	421	(8.9)	484	(7.9)	593	(5.4)	637	(11.4)	670	(14.9)
Switzerland	534	(99)	363	(4.8)	401	(3.6)	468	(4.2)	604	(3.9)	658	(4.1)	689	(4.8)
Japan	529	(94)	370	(6.4)	407	(5.4)	468	(4.4)	595	(3.7)	648	(4.8)	677	(5.4)
Canada	527	(88)	379	(3.0)	413	(2.7)	468	(2.0)	588	(1.9)	638	(2.2)	665	(2.2)

# 3. Science

## Overall score distributional attributes & Rank

Countries	Science			
	M	Standard Error	Rank	
			OECD Rank	Total Rank
Shanghai	575	(2.3)	-	1
Finland	554	(2.3)	1	2~3
Hong Kong	549	(2.8)	-	2~3
Singapore	542	(1.4)	-	4~6
Japan	539	(3.4)	2~3	4~6
South Korea	538	(3.4)	2~4	4~7
New Zealand	532	(2.6)	3~6	6~9
Canada	529	(1.6)	4~7	7~10
Estonia	528	(2.7)	4~8	7~11
Australia	527	(2.5)	4~8	7~11
OECD	501	(0.5)		



# PISA 2009 Science Score Distribution (Percentile)

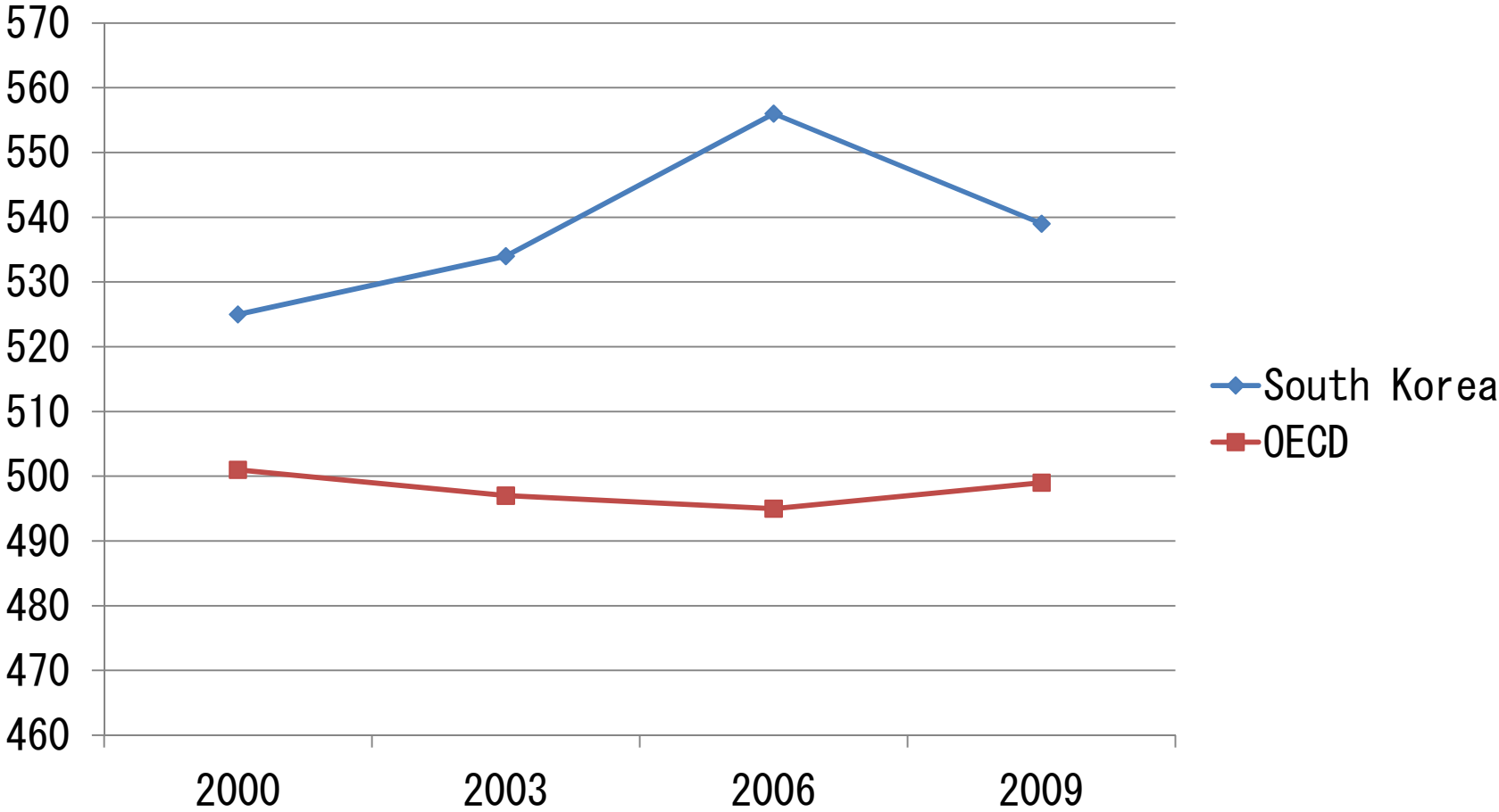
Countries	Total students		Percentile											
	M (Standard Deviation)		5th		10 <sup>th</sup>		25th		75th		90th		95th	
			M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)	M (Standard Error)				
Shanghai	575	(82)	430	(4.9)	467	(4.4)	523	(2.9)	632	(2.8)	674	(3.4)	700	(3.3)
Finland	554	(89)	400	(4.2)	437	(4.2)	496	(3.3)	617	(2.9)	665	(3.0)	694	(3.6)
Hong Kong	549	(87)	393	(7.3)	432	(4.9)	494	(3.9)	610	(2.9)	655	(2.9)	681	(3.3)
Singapore	542	(104)	362	(3.5)	401	(3.1)	471	(2.0)	617	(2.0)	673	(3.0)	704	(4.1)
Japan	539	(100)	361	(8.7)	405	(7.3)	477	(4.8)	610	(3.2)	659	(3.5)	686	(4.1)
South Korea	538	(82)	399	(6.5)	431	(5.2)	485	(4.2)	595	(3.7)	640	(3.7)	665	(4.8)
New Zealand	532	(107)	348	(5.6)	390	(4.3)	461	(4.1)	608	(3.0)	667	(3.3)	697	(3.6)
Canada	529	(90)	377	(2.8)	412	(2.7)	469	(2.0)	593	(1.7)	642	(1.7)	669	(2.6)
Estonia	528	(84)	388	(5.0)	419	(4.7)	472	(3.8)	586	(3.1)	635	(3.5)	665	(4.3)

## II. Trends shown in PISA

### 1. Reading

Countries	PISA 2000		PISA 2003		PISA 2006		PISA 2009		PISA 2009– PISA 2000	
	M (Standard Error)		M (Standard Error)		M (Standard Error)		M (Standard Error)		Difference (Standard Error)	
Shanghai							556	(2.4)		
South Korea	525	(2.4)	534	(3.1)	556	(3.8)	539	(3.5)	15	(6.5) *
Finland	546	(2.6)	543	(1.6)	547	(2.1)	536	(2.3)	-11	(6.0)
Hong Kong	525	(2.9)	510	(3.7)	536	(2.4)	533	(2.1)	8	(6.1)
Singapore							526	(1.1)		
Canada	534	(1.6)	528	(1.7)	527	(2.4)	524	(1.5)	-10	(5.4)
New Zealand	529	(2.8)	522	(2.5)	521	(3.0)	521	(2.4)	-8	(6.1)
Japan	522	(5.2)	498	(3.9)	498	(3.6)	520	(3.5)	-2	(8.0)
Australia	528	(3.5)	525	(2.1)	513	(2.1)	515	(2.3)	-13	(6.5) *
Holland	m	m	513	(2.9)	507	(2.9)	508	(5.1)	m	m
OECD	501	(0.7)	497	(0.6)	495	(0.7)	499	(0.6)	-2	(5.0)

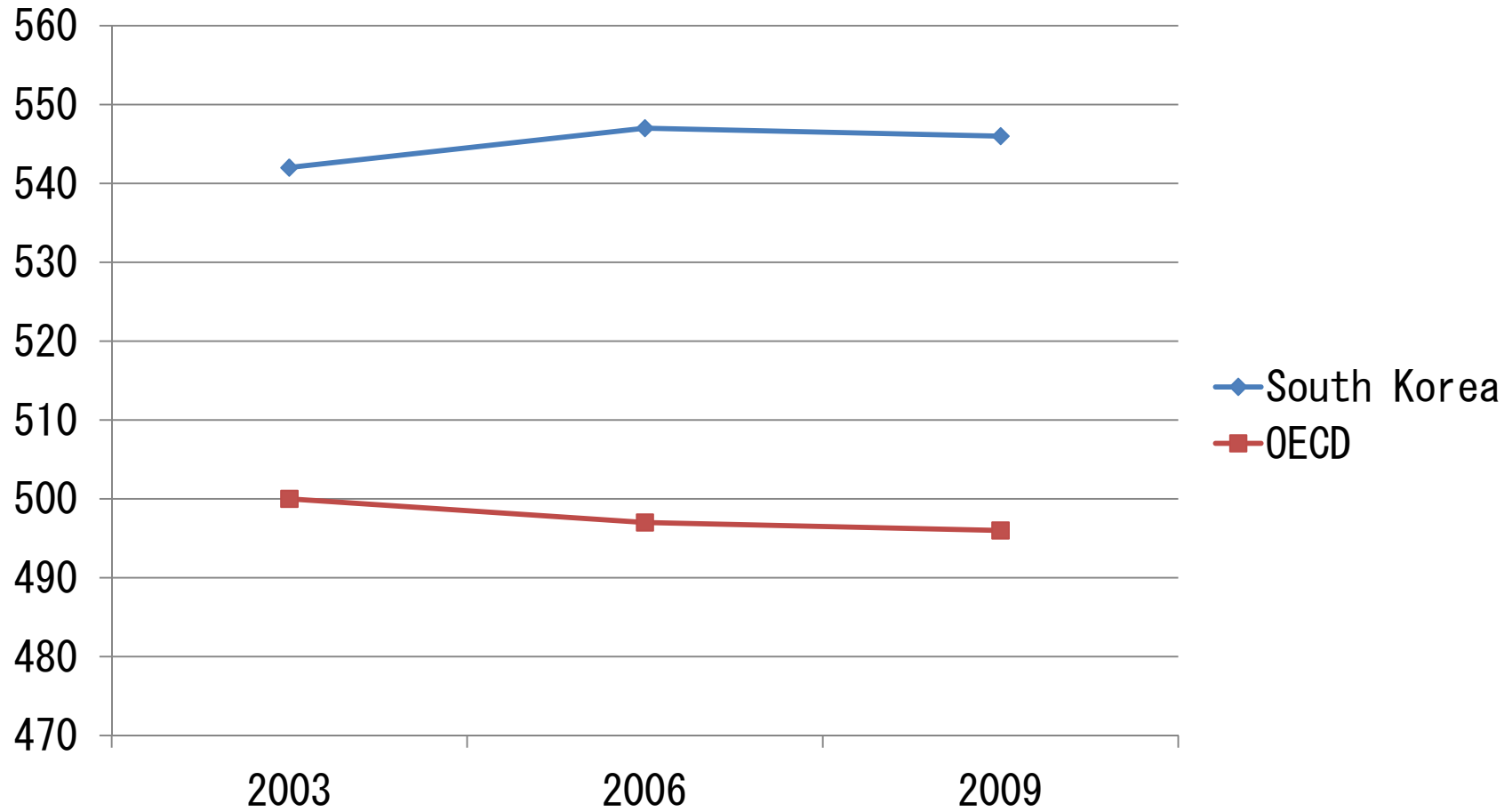
# Trajectories in Reading



## 2. Mathematics

Countries	PISA 2003		PISA 2006		PISA 2009		PISA 2009–2003	
	M	(Standard Error)	M	(Standard Error)	M	(Standard Error)	Difference	(Standard Error)
Shanghai					600	(2.8)		
Singapore					562	(1.4)		
Hong Kong	550	(4.5)	547	(2.7)	555	(2.7)	4	(5.7)
South Korea	542	(3.2)	547	(3.8)	546	(4.0)	4	(5.5)
Taiwan			549	(4.1)	543	(3.4)		
Finland	544	(1.9)	548	(2.3)	541	(2.2)	-4	(3.5)
Lichtenstein	536	(4.1)	525	(4.2)	536	(4.1)	0	(6.1)
Switzerland	527	(3.4)	530	(3.2)	534	(3.3)	7	(5.1)
Japan	534	(4.0)	523	(3.3)	529	(3.3)	-5	(5.6)
Canada	532	(1.8)	527	(2.0)	527	(1.6)	-6	(3.1)
OECD	500	(0.6)	497	(0.6)	499	(0.6)	0	(2.1)

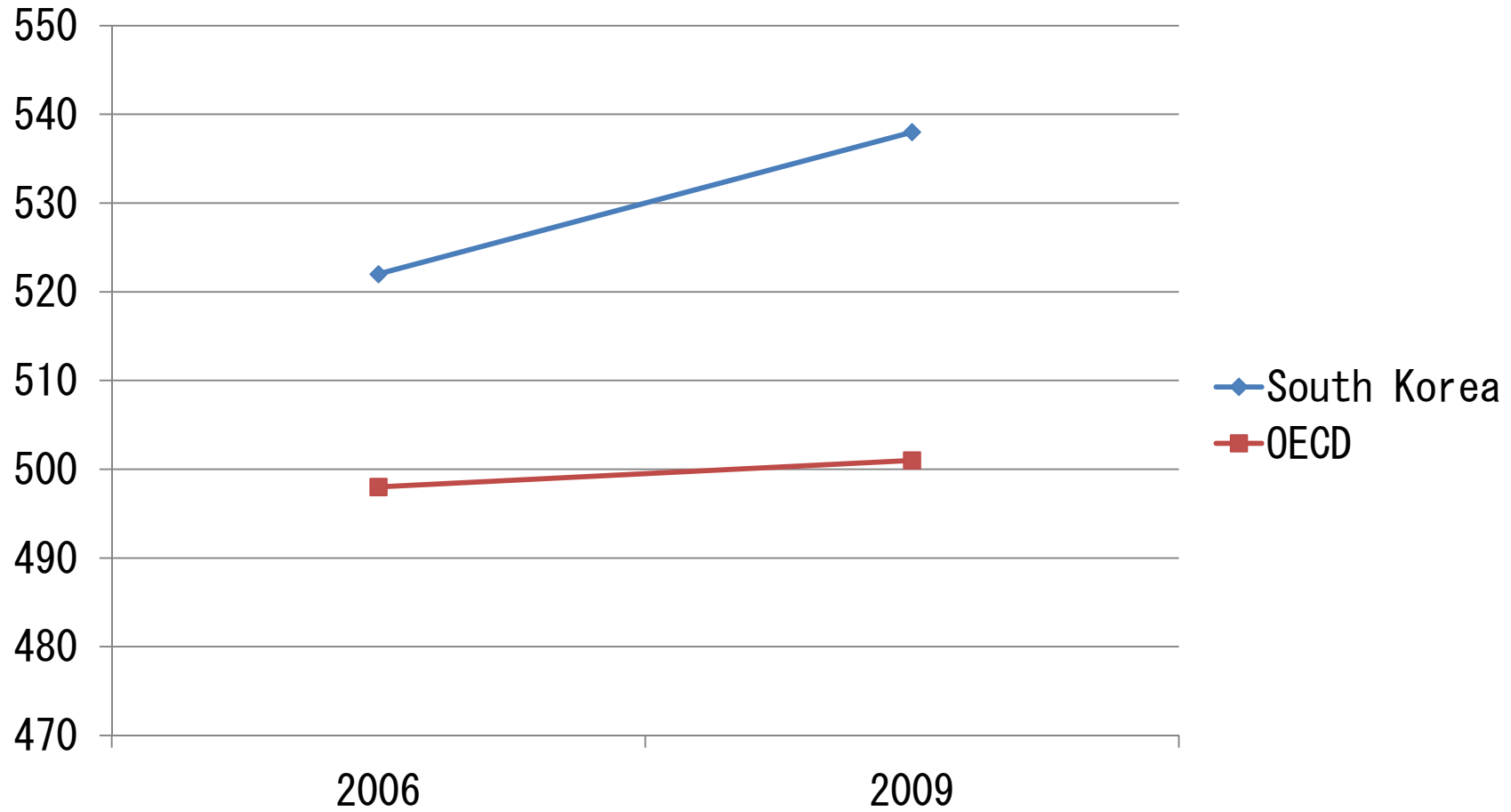
# Trajectories in Math



# 3. Science

Countries	PISA 2006		PISA 2009		PISA 2009–PISA 2006	
	M	(Standard Error)	M	(Standard Error)	Difference	(Standard Error)
Shanghai			575	(2.3)		
Finland	563	(2.0)	554	(2.3)	–9	(4.0)*
Hong Kong	542	(2.5)	549	(2.8)	7	(4.5)
Singapore			542	(1.4)		
Japan	531	(3.4)	539	(3.4)	8	(5.4)
South Korea	522	(3.4)	538	(3.4)	16	(5.5)*
New Zealand	530	(2.7)	532	(2.6)	2	(4.5)
Canada	534	(2.0)	529	(1.6)	–6	(3.7)
Estonia	531	(2.5)	528	(2.7)	–4	(4.5)
Australia	527	(2.3)	527	(2.5)	0	(4.3)
OECD	498	(0.5)	501	(0.5)	3	(2.7)

# Trajectories in Science



### III. Meanings and implications of PISA 2009

#### 1. Why it happened

1) Large-scale tests administered by Korean government

Dianostic tests & Achievement tests

Monitoring student' s achievement like  
NCLB

2) Extracurricular activities (EA)

More than 2/3 schools offering EA

More than 50% students partcipating EA

EA are subsidized by the government



## 2. What it means

1) Korean government holds the same stance toward the educational policies

2) Korean government should allow schools have the right to choose their own students

3) Korean government gives a room for schools to operate their own unique curriculum

- Thanks a lot!