

The World Steel Industry:

What to expect by 2010

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Agenda

- **World Crude Steel Production**
 - **World Apparent Crude Steel Consumption**
 - **World Crude Steel Net Import**
 - **Share of Top 5 Steel Producers Crude Steel Production by Region**
 - **Reorganization and Integration of World Steel Producer**
 - **Steel Demand and Supply in China**
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 - **Chinese Demand and Supply by 3 Major Category**
 - **Chinese Finished Steel Products Trade in 2003**
 - **Reorganization in China**
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- World Apparent Crude Steel Consumption in 2010**

World Crude Steel Production

Region	million metric tones							% World=100	
	1997	1998	1999	2000	2001	2002	2003	1997	2003
China	109	115	124	127	151	182	220	14	23
Japan	105	94	94	106	103	108	111	13	11
EU-15	160	160	155	163	158	159	161	20	17
CIS	81	74	86	98	100	101	107	10	11
NAFTA	128	129	129	134	119	122	122	16	13
South America	37	36	35	39	37	41	43	5	4
All Others	180	170	166	179	182	191	202	23	21
WORLD	799	777	789	847	850	903	965	100	100

Source: IISI International Iron and Steel Institute

- World crude steel production reached 965 mmt in 2003
- China produced 220 mmt , with 23% of world total from 14% in '97
- Production of Japan, EU and NAFT stay stable

World Apparent Crude Steel Consumption

Region	million metric tones									% World=100		
	1997	1998	1999	2000	2001	2002	2003	2004e	2005e	1997	2003	2005e
China	115	123	136	138	170	206	258	292	322	15	27	30
Japan	86	73	71	80	75	74	77	77	77	11	8	7
EU-15	146	156	155	162	157	156	157	160	163	19	16	15
CIS	31	26	28	36	37	36	37	38	39	4	4	4
NAFTA	156	170	164	173	150	157	144	156	161	20	15	15
South America	33	33	30	33	34	33	33	37	39	4	3	4
All Others	220	197	204	221	221	244	255	264	271	28	27	25
WORLD	786	777	788	844	845	905	960	1024	1072	100	100	100

Source: IISI International Iron and Steel Institute Short Range Outlook 2004 April

- World consumption reached 960 mmt and expected strong increase
- China is main engine; with share 30% in '03 from 15% in 15%
- Japan, EU and NAFTA 's fluctuation band shows maturity of demand
- Others demand continue to grow at steady rate

World Crude Steel Net Import

Region	million metric tones							% Self Sufficiency		
	1997	1998	1999	2000	2001	2002	2003e	1997	2000	2003
China	-6	-8	-12	-11	-20	-24	-38	95	92	85
Japan	19	21	23	27	28	34	34	122	134	144
EU-15	14	4	0	1	1	3	4	110	101	103
CIS	50	48	58	62	63	65	71	261	271	292
NAFTA	-28	-41	-35	-39	-31	-35	-22	82	77	85
South America	4	3	5	6	4	8	10	111	117	129
All Others	-40	-27	-38	-42	-39	-53	-53	82	81	79
WORLD*	13	0	1	4	5	-2	5	102	100	101

* Balancing Items

Source: IISI, JATIS

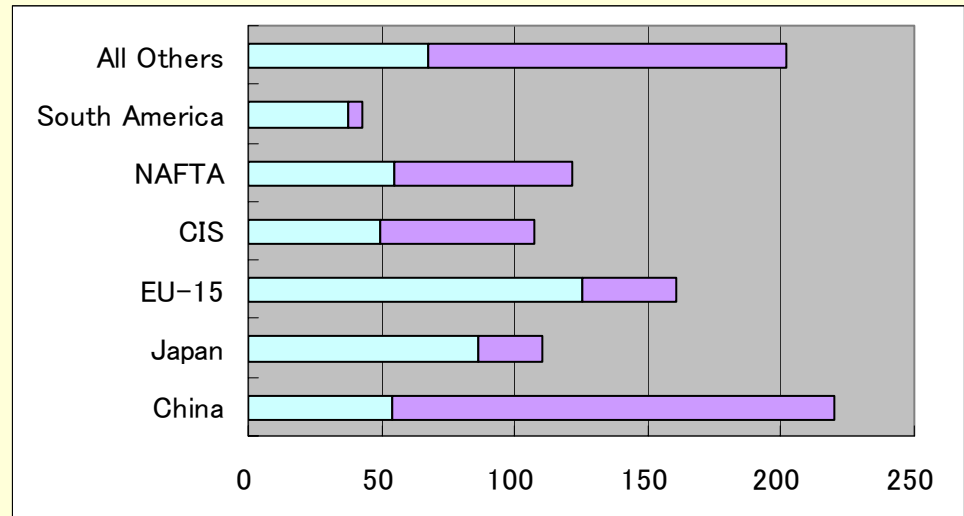
- China is huge net importer, self sufficiency rate keep downward
- Japan and CIS stay as net exporter
- EU become neutral , but play important role in world trade
- NAFTA and Others stay as net importer

Share of Top 5 Steel Producers

Crude Steel Production by Region

million metric tones

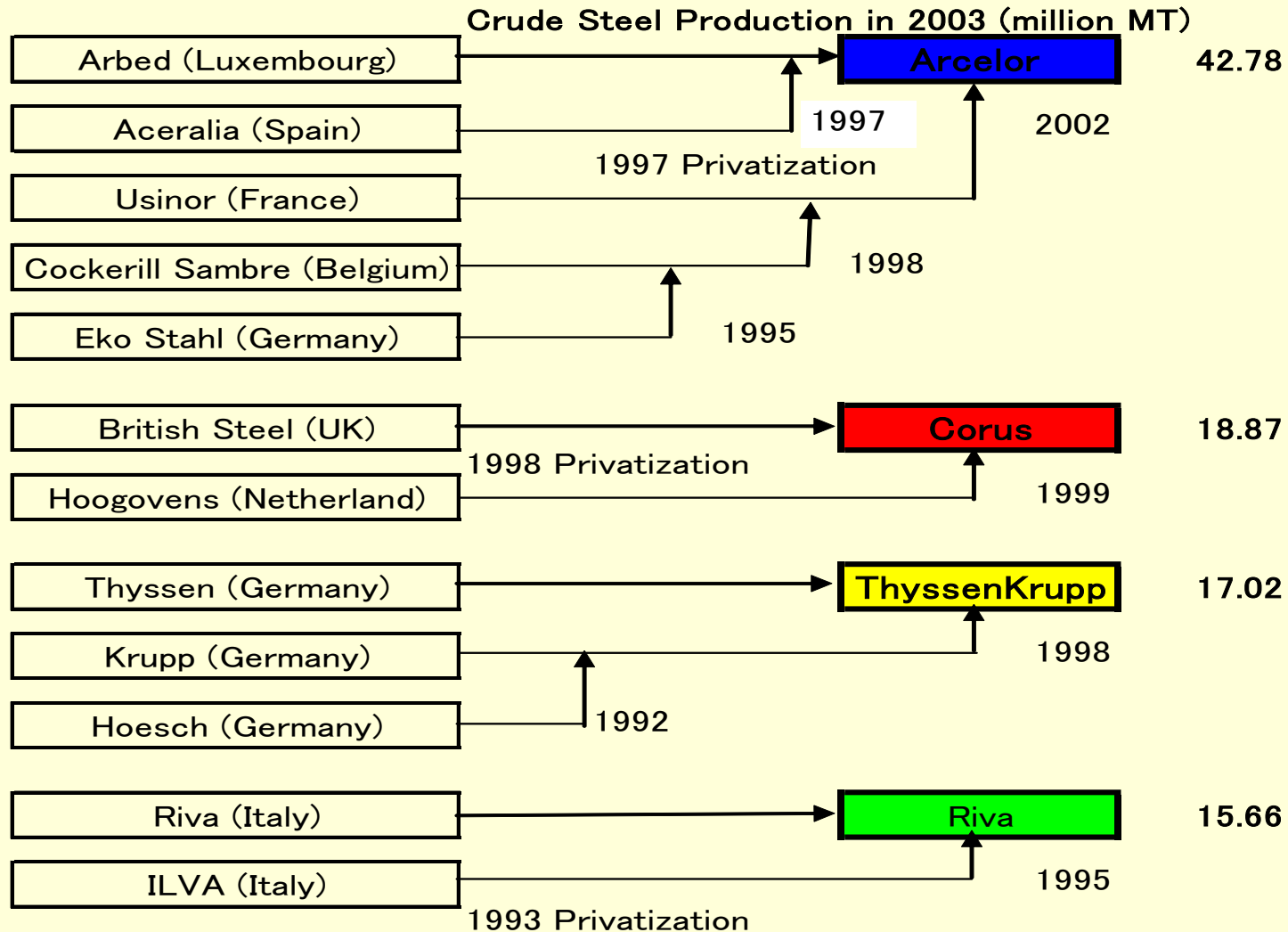
Region	total	top 5	Others	%
China	220	54	166	24
Japan	111	86	25	78
EU-15	161	125	35	78
CIS	107	49	58	46
NAFTA	122	54	67	45
South America	43	37	6	87
All Others	202	67	134	33
WORLD	965	474	491	49



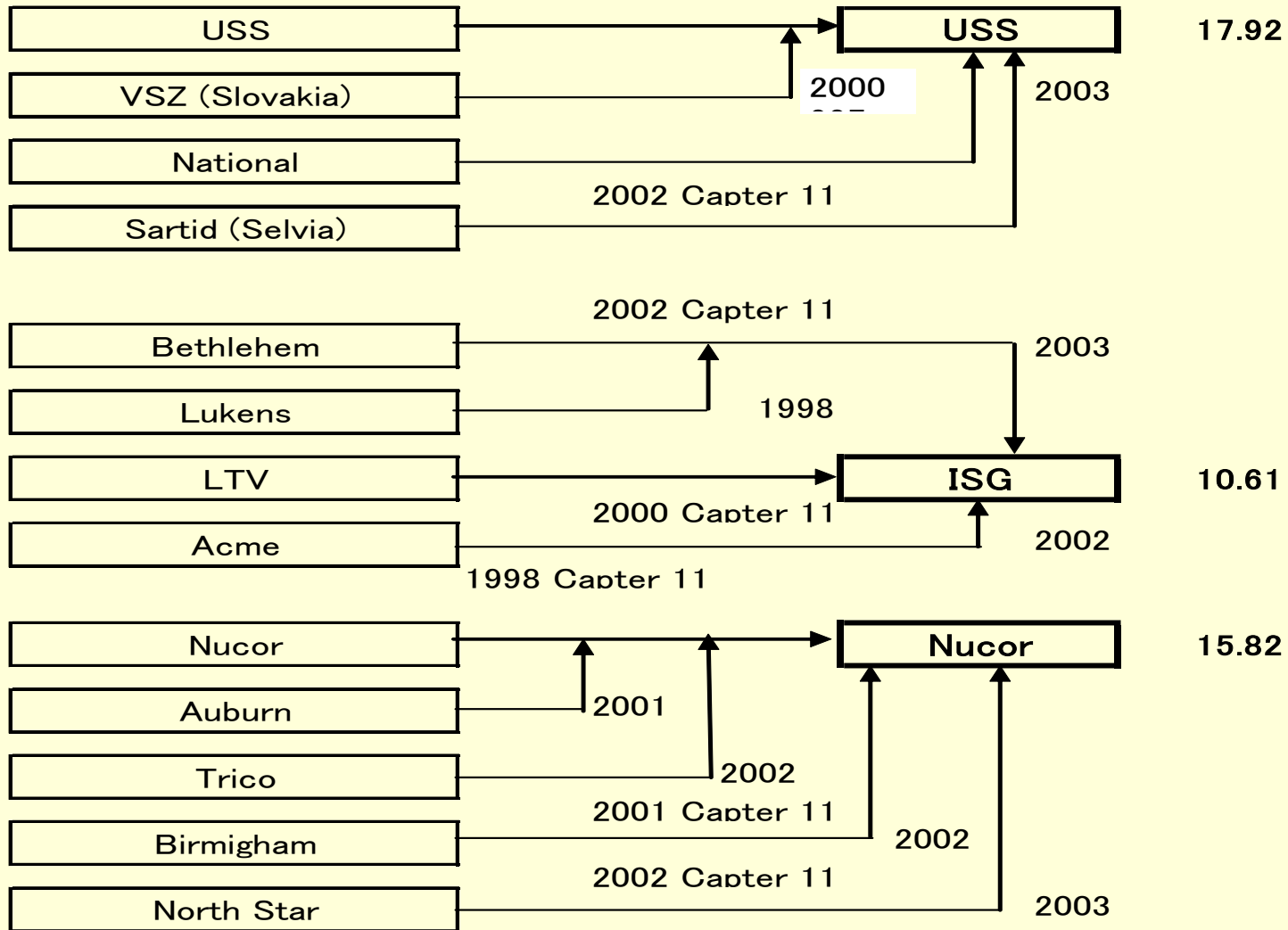
Source: IISI and Metal Bulletin

- World average ; 49%, same as CIS , NAFTA
- EU and Japan ; 78% South America ; 87%
- China ; only 24%, needs to integrate to world class

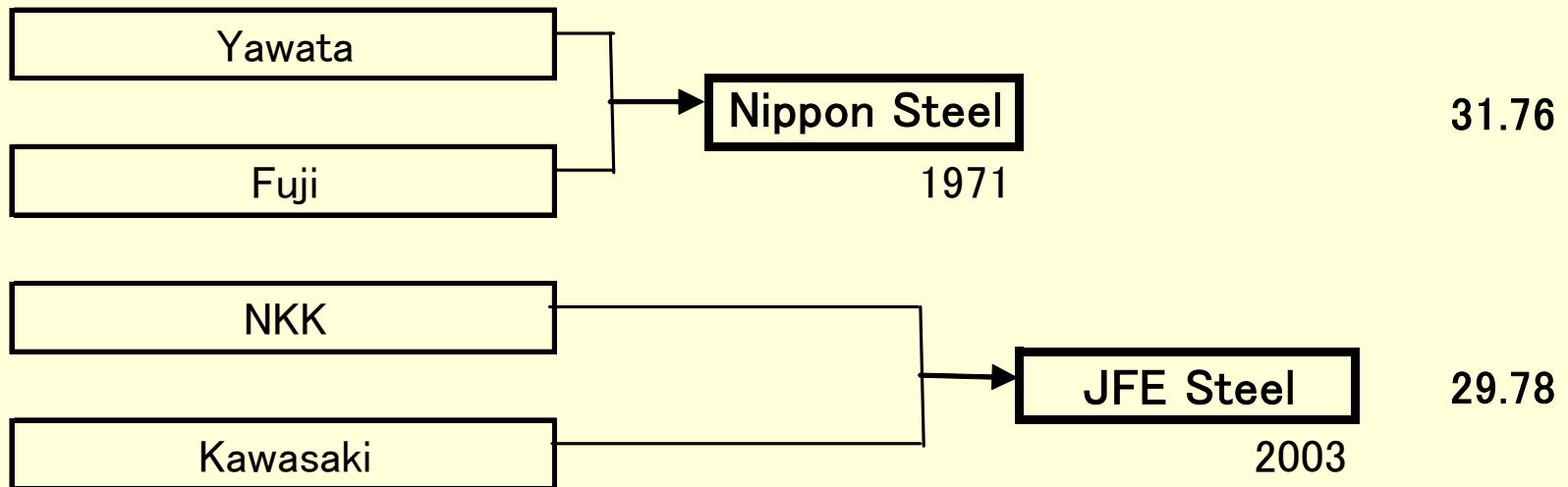
Reorganization and Integration of World Steel Producer :EU



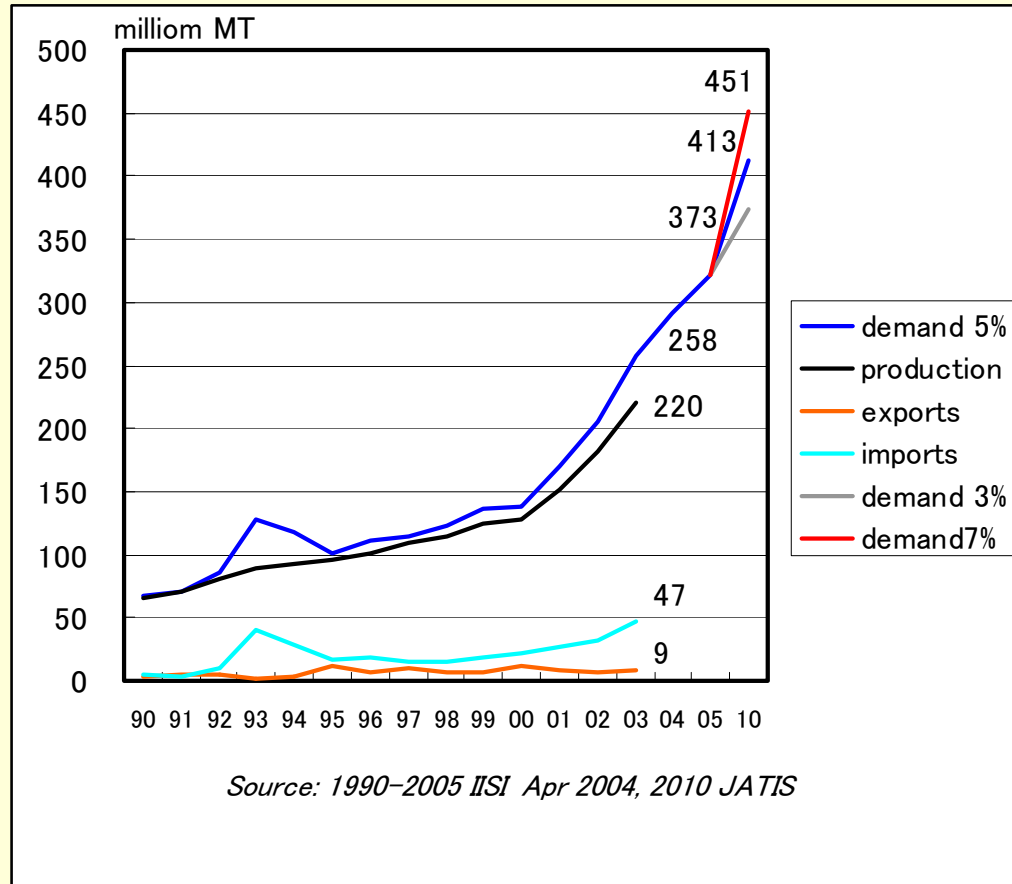
Reorganization and Integration of World Steel Producer :USA



Reorganization and Integration of World Steel Producer : JAPAN



Crude Steel Demand and Supply in China



- 1990-03 Annual Average growth ratio:

- Demand 11.0%

- Production 9.8%

- Imports recorded historical high level in 2003; 47 mmt

- Exports stay stable at 10 mmt level

- Forecast of demand in 2010

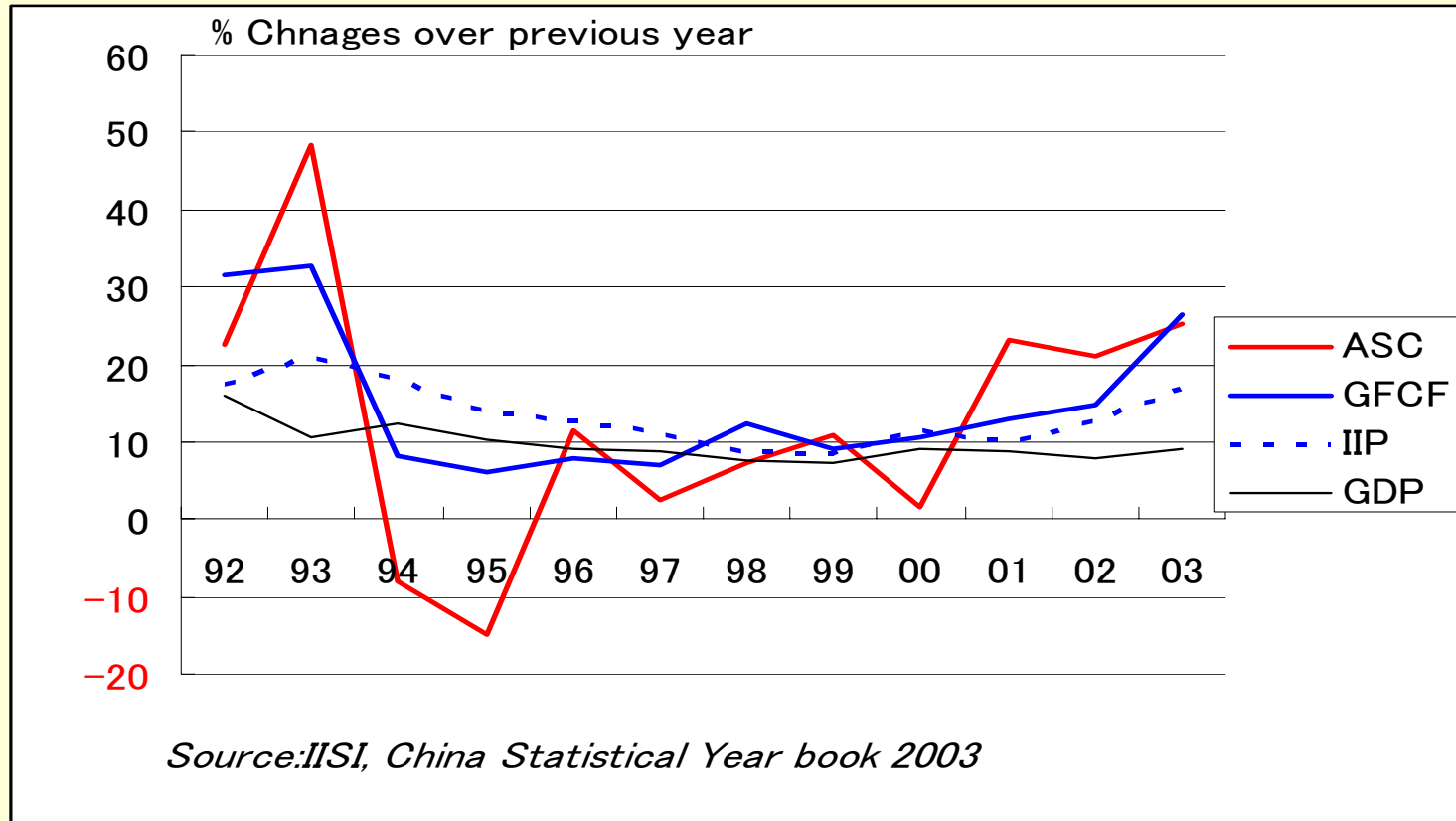
Varies (2005-10 growth rate)

- 3% to 373 mmt (low)

- 5% to 413 mmt (medium)

- 7% to 451mmt (high)

Chinese Steel Consumption & GDP



- ASC (Apparent Steel Consumption) fluctuates widely
- GDP remain relatively stable from 7 to 10% per annum
- GFCF and IIP; dominant factor of ASC

Crude Steel Production in China 2002-2003

Million M.T.

Crude Steel Production	2002			2003			Changes Over Previous Year		
	Number of Company	Annual Production	%	Number of Company	Annual Production	%	Number of Company	Annual Production	%
10 ≤	2	21.65	12	2	21.72	10	0	0.07	-2
5 ≤	6	37.38	21	11	67.85	31	5	30.47	10
3 ≤	8	31.43	17	5	18.37	8	-3	-13.06	-9
2 ≤	10	22.94	13	18	41.39	19	8	18.45	6
1 ≤	24	36.50	20	21	31.60	14	-3	-4.90	-6
0.5 ≤	7	5.80	3	5	3.89	2	-2	-1.91	-1
0.5 ≤ total(a)	57	155.70	86	62	184.82	84	5	29.12	-2
0.5 > (b)	n.a.	25.85	14	n.a.	35.30	16		9.45	2
China Total(a+b)	n.a.	181.55	100	n.a.	220.12	100		38.57	0

Source: China Iron & Steel Federation

- Chinese Government try to integrate steel producers to world class scale
- Number of producers more than 5 million increased from 8 to 13
- Share of producers less than 0.5 million increased 2 point %

Chinese Demand and Supply by 3 Major Category

million metric tones

		2002	2003		% total fsp		Index		
				%	2002	2003	2002	2003	
Long	Production	110.0	132.7	20.6	58	58	100.9	100.8	Self sufficiency ratio
	Export	1.8	2.6	45.1	47	50	1.6	2.0	Export ratio
	Import	0.8	1.5	95.9	3	4	0.7	1.2	Import ratio
	ASC	109.0	131.6	20.7	53	50			
Flat	Production	65.0	80.2	23.4	35	35	77.0	71.9	Self sufficiency ratio
	Export	1.4	1.5	9.1	35	28	2.1	1.8	Export ratio
	Import	20.7	32.8	58.0	91	93	24.6	29.4	Import ratio
	ASC	84.4	111.5	32.1	41	43			
Pipe & Tubes	Production	13.1	17.7	35.2	7	8	95.1	100.1	Self sufficiency ratio
	Export	0.7	1.1	63.0	18	22	5.3	6.4	Export ratio
	Import	1.4	1.1	-17.8	6	3	9.9	6.3	Import ratio
	ASC	13.8	17.7	28.5	7	7			
Total Finished Steel	Production	188.1	230.6	22.6	100	100	90.8	88.4	Self sufficiency ratio
	Export	3.9	5.2	35.7	100	100	2.0	2.3	Export ratio
	Import	22.9	35.4	54.8	100	100	11.0	13.6	Import ratio
	ASC	207.1	260.7	25.9	100	100			

Source: CISA; China Iron and Steel Association

- China is already net exporter of long product
- Flat products demand expands rapidly and causes huge imports

Chinese Finished Steel Products Trade in 2003

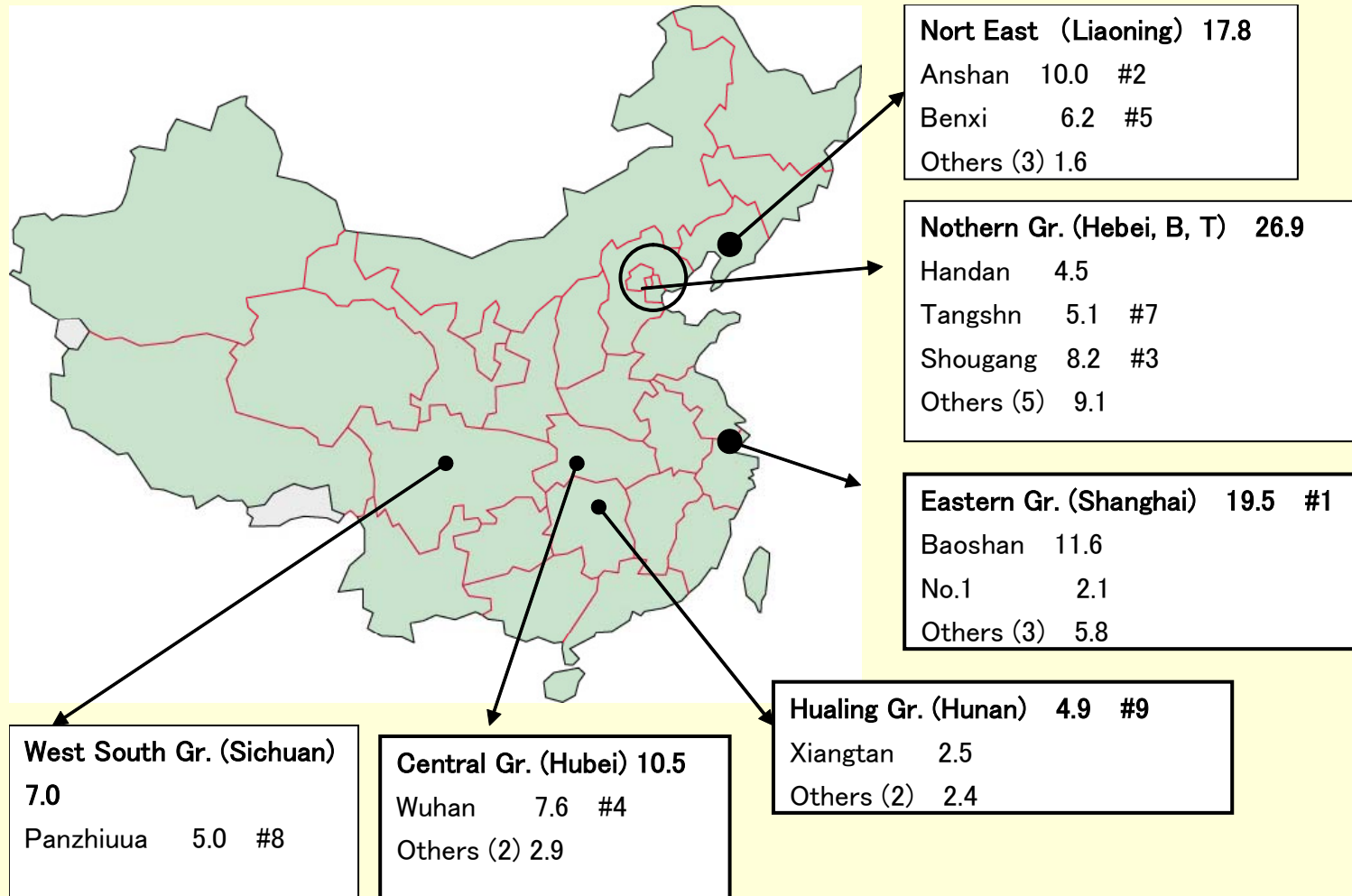
	Million MT,%				
	Imports	Exports	Net Imports	Imports %	Exports %
Japan	7.1	0.2	-7.0	19.5	2.8
Korea	5.1	1.4	-3.7	14.0	25.1
Taiwan	5.8	0.1	-5.7	15.9	2.0
Thailand	0.6	0.2	-0.4	1.6	3.4
India	2.2	0.1	-2.1	6.0	1.0
Other Asia	1.3	2.3	0.9	3.6	39.6
EU15	2.2	0.4	-1.8	6.2	7.8
Russia	3.4	0.0	-3.4	9.4	0.1
Ukraine	2.5	0.0	-2.5	6.9	0.0
USA	0.9	0.5	-0.3	2.4	9.2
Brazil	1.1	0.0	-1.1	3.0	0.0
South Africa	0.5	0.0	-0.5	1.5	0.0
All Others	4.3		-4.3	11.6	0.0
World Total	36.5	5.7	-30.9	100.0	100.0
Asia Total	22.1	4.2	-17.9	60.6	74.0

Source: China Custom Office

- 61% of imports from Asia
- Major source
Japan, Korea and Taiwan
- EU and CIS are also important
trade partner

- 74% of exports to Asia
- Korea imports 1.4m mt
- China is net exporter toward
Other Asian Countries

Reorganization in China



Raw Materials and Infrastructure

- Iron ore & Scrap
- Coal
- Water
- Electricity
- Port facility
- Inland Transportation
- Environmental Protection
- Government Policy

Iron Ore Supply and Demand (mil. MT, %)

	Domestic supply	Import	Demand	Import ratio
2000	112	70	182	38.5
2001	108	92	200	46.0
2002	116	111	227	48.9
2003	131	148	279	53.0
03/02(%)	12.9	33.3	22.9	–

Source: IISI, UNCTAD

Scrap Supply and Demand (mil. MT, %)

	Domestic supply	Import	Demand	Import ratio
2000	21.9	5.1	27.0	18.9
2001	22.7	9.8	32.5	30.1
2002	31.8	7.9	39.7	19.8
2003	43.9	9.3	53.2	17.5
03/02(%)	38.1	18.5	34.2	–

Source: Japan Iron and Steel Federation

World Apparent Crude Steel Consumption in 2010

	million MT				Annual % change		
	2000	2003	2005e	2010f	00-03	03-05	05-10
China	138	258	322	413	23	12	5
Japan	80	77	77	77	-1	0	0
EU-15	162	157	163	173	-1	2	1
CIS	36	37	39	43	0	2	2
NAFTA	173	144	161	177	-6	6	2
South America	33	33	39	47	0	8	4
All Others	221	255	271	314	5	3	3
WORLD	844	960	1,072	1,245	4	6	3

Source: 05e; IISI april 2004'07f; IISI april 2004, JATIS for Japan and China', 10f; JATIS May 2004

- World demand expected to keep steady growth at 3% annum
- China grow at moderate rate, keep one third of world total demand
- Rest of world will grow except for Japan