

Alloy and Stainless Steel Industry Global Dynamics and Strategic Issues

September 2008

Dr. A.S.Firoz

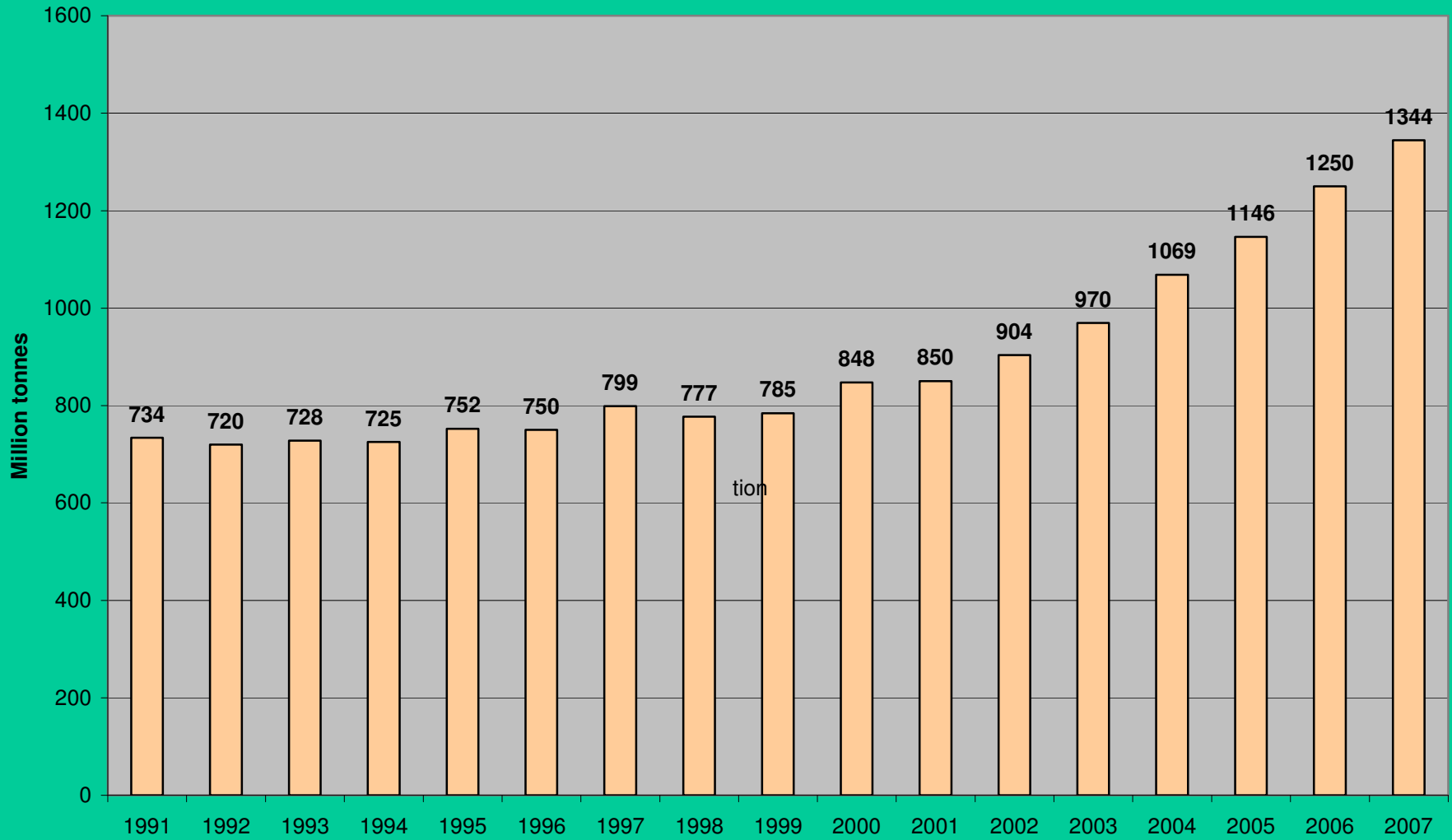
Strategy Consultant

STEEL AND NATURAL RESOURCES Strategy Research
and Former Chief Economist, ERU, Ministry of Steel (on
sabbatical)

Steel Industry Globally

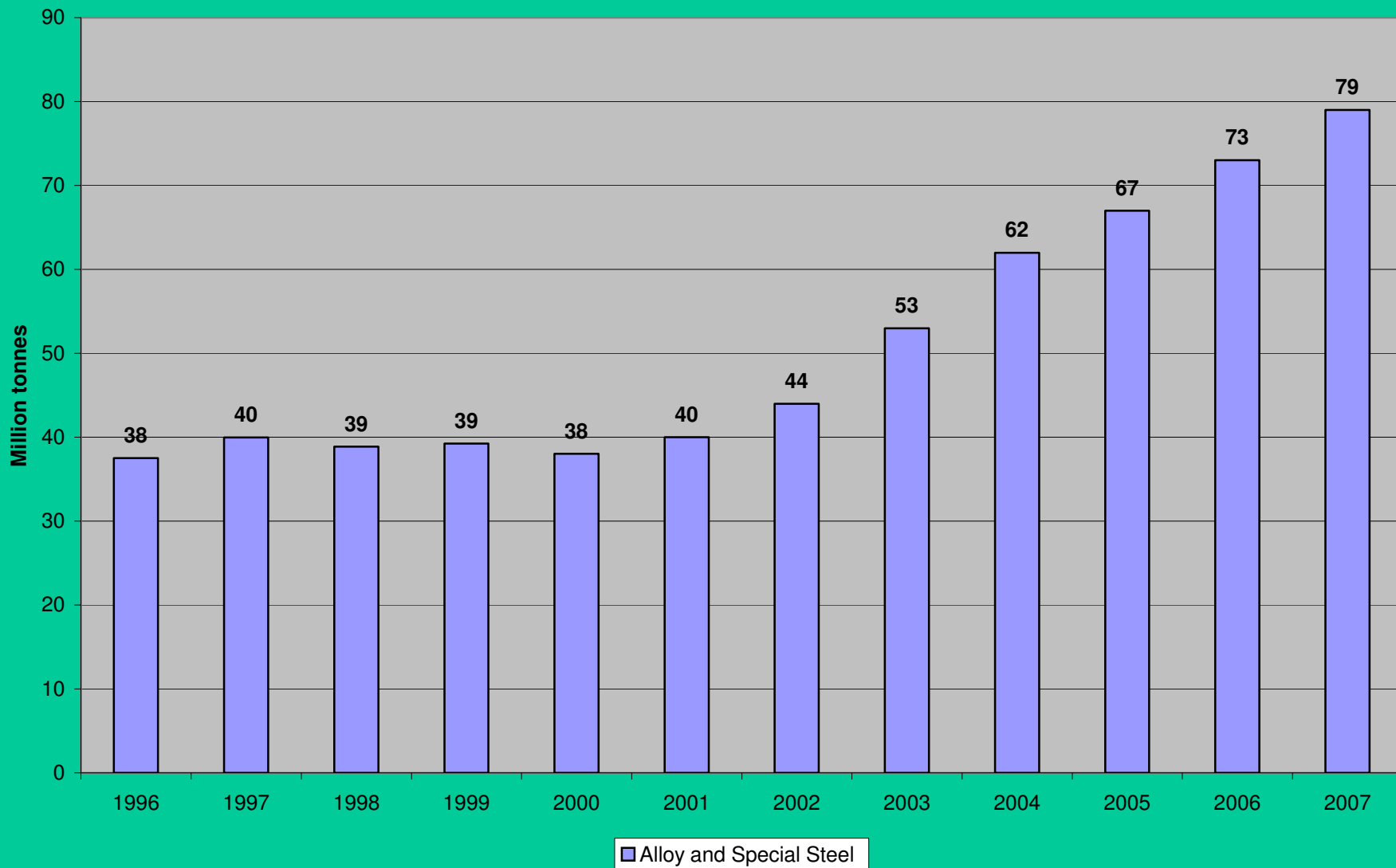
- Sliding down the super-cycle or just catching a breath?
- Steel prices have come crashing down.
- Stainless steel consumption demand has fallen. Prices weak.
- Alloy steel looks vulnerable.

World Crude Steel Production

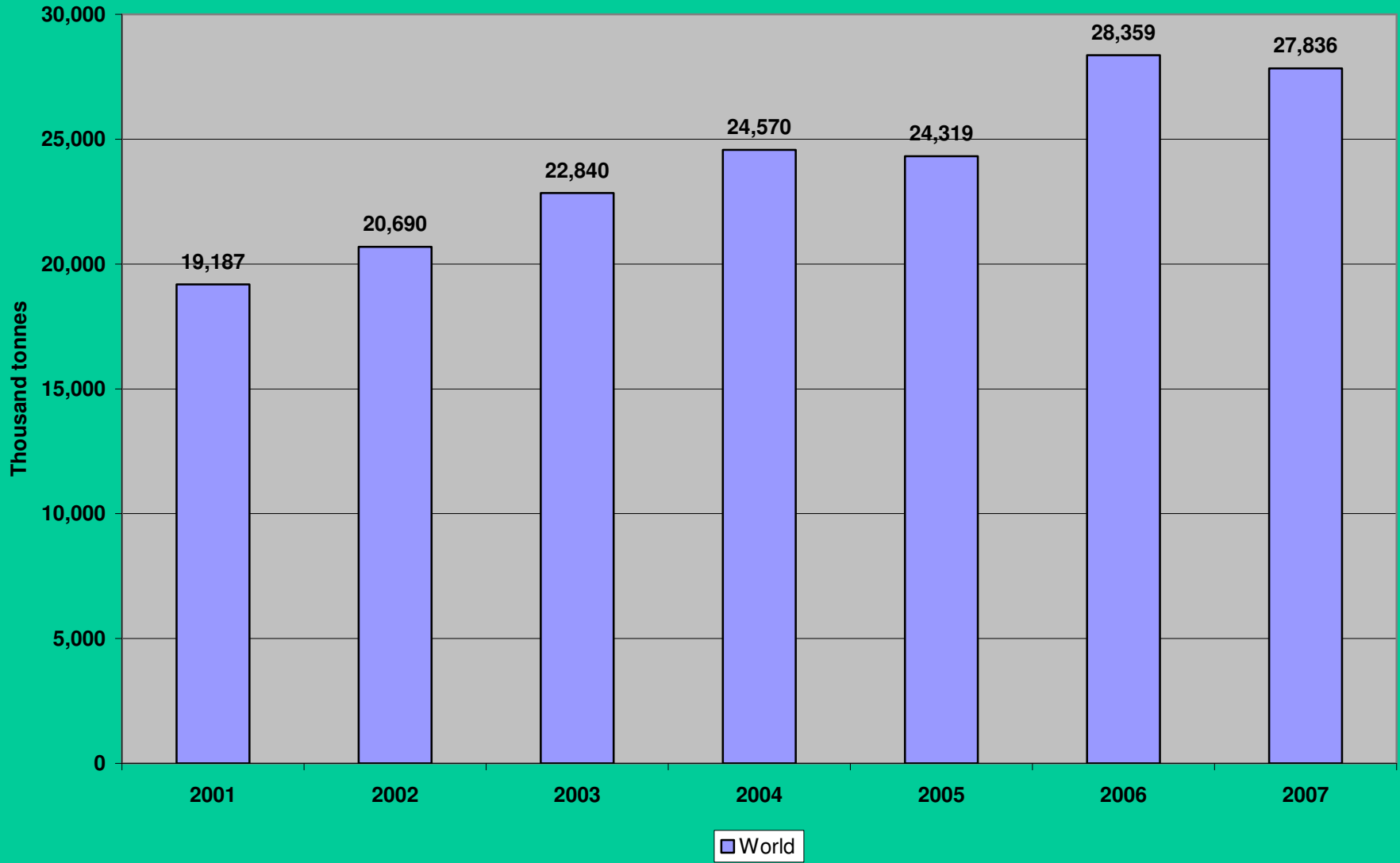


Crude Steel

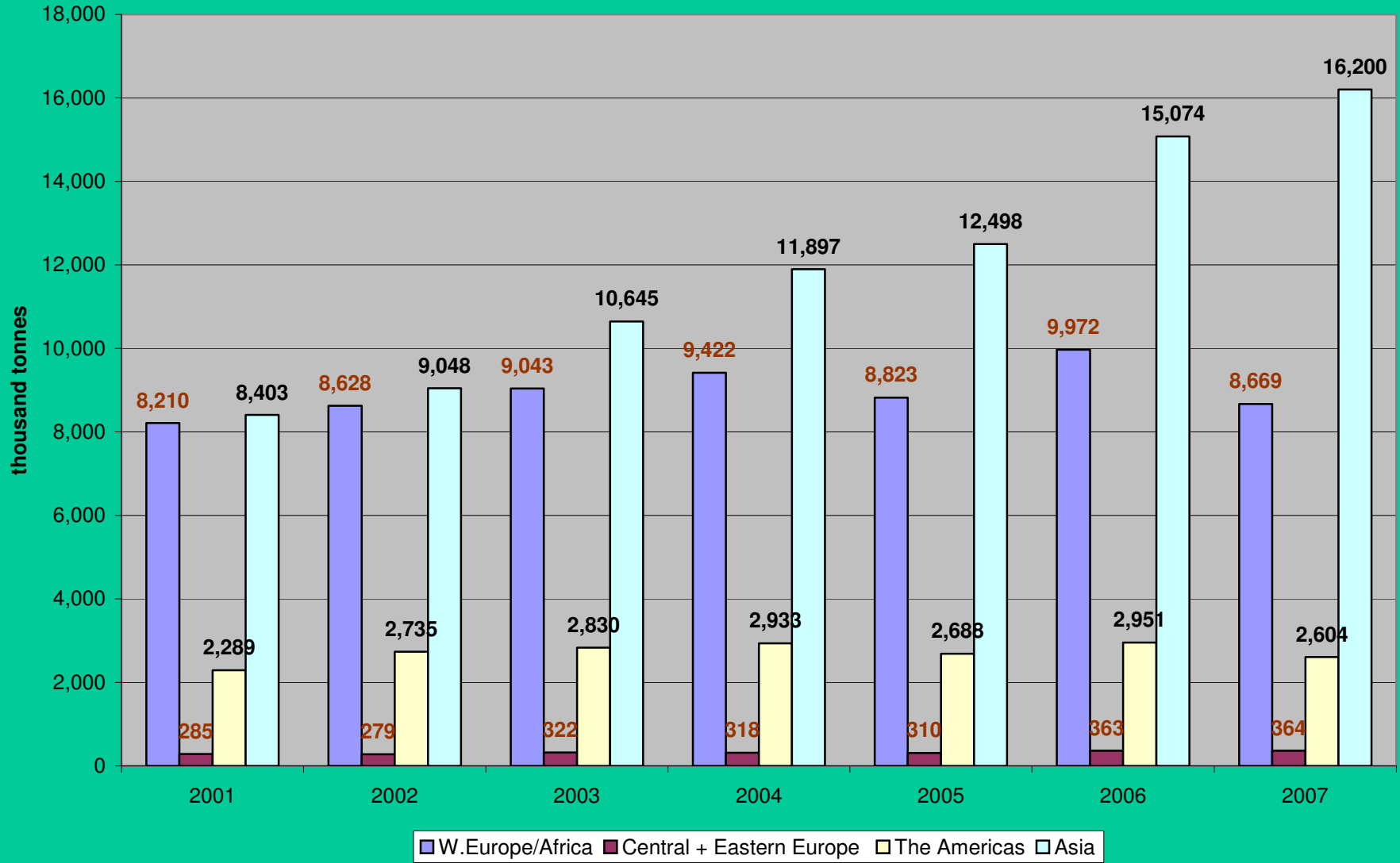
World Alloy Steel Production



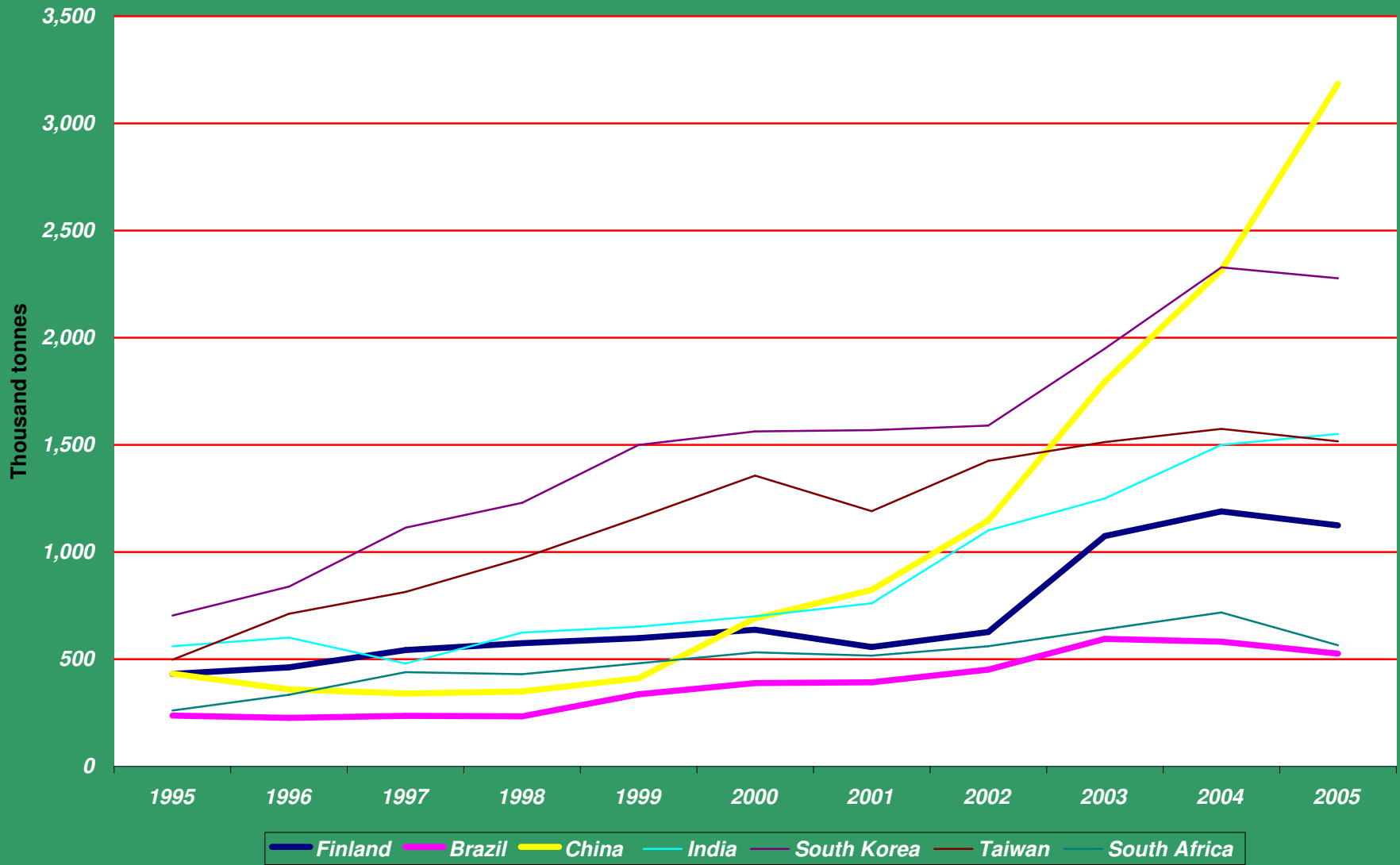
World Stainless Steel Production



Stainless Steel Production by Region



Countries With Strong Growth in Stainless Steel



GDP and Stainless Consumption Per Capita in 2005

	GDP US\$ Bn Nominal	Stainless Consumption n 000 tonnes	Populati on Millions	GDP \$ '000 per Capita	Stainless Consumpt ion kg/capita
USA	12,486	2,022	297	42.1	6.8
UK	2,201	234	60	36.6	3.9
Japan	4,571	2,136	128	35.8	16.7
Canada	1,130	275	32	35.1	8.5
Germany	2,797	1,410	82	33.9	17.1
France	2,106	428	62	33.7	6.9
Italy	1,766	1,386	58	30.5	23.9
Spain	1,127	507	41	27.2	12.3
South Korea	793	1,015	48	16.4	21.0
Taiwan	364	982	23	15.1	42.9
Mexico	768	195	105	7.3	1.9
Russia	766	260	143	5.4	1.8
Brazil	793	260	184	4.3	1.4
South Africa	239	149	47	5.1	3.2
Thailand	169	206	65	2.6	3.1
China	2,225	5,580	1,307	1.7	4.3
India	775	1,200	1,086	0.7	1.1
Total of Above	35,059	18,245	3,769	9.3	4.8
Excluding China & India	32,059	11,465	1,376	23.3	8.3
G7	27,058	7,891	720	37.6	11.0
Weathiest 10 Nations	29,324	10,395	832	35.2	12.5

Stainless Steel Production

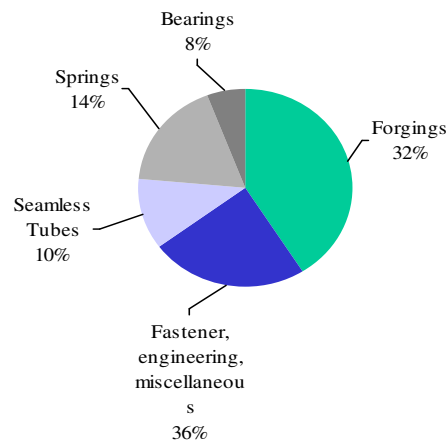
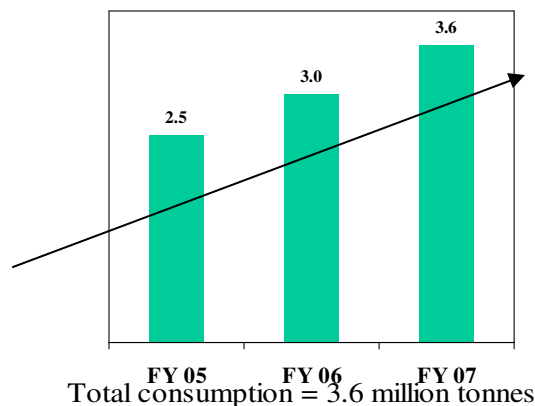
Year	1995	2005	1995	2005
Stainless Production	000 t	000 t	Share %	Share %
Asia (ex Japan)	2,194	8,529	14	35
China	432	3,185	3	13
S. Korea	704	2,278	4	9
India	560	1,550	4	7
Taiwan	498	1,516	3	6
Japan	3,925	3,977	25	16
Europe	6,547	8,302	42	34
Americas	2,485	2,765	16	12
Other	500	790	3	3
Total World	15,651	24,363	100	100

Stainless Steel Trade : Exports 2007 (thousand tonnes)

Origin	Destination								
	NAFTA	Latin America	Western Europe	Eastern Europe	Middle East	Africa	Asia	Others	Total
NAFTA	362.1	22.2	130.4	22	4.1	0.8	97.1	1.2	620.1
Latin America	29.8	51.1	37.8	122	3.8	6.3	35.8	0.6	177.3
Western Europe	666.3	108.1	5,976.70	544.3	96.9	78.2	761.1	41	8,272.50
Eastern Europe	7.8	0.3	165.8	89.6	26	0.2	4	0.5	270.8
Near/Middle East *	2.5	0	2.3	1.4	n/a	0	2.5	0.3	9.1
Africa	92	8	139.2	12.5	21.9	11.3	219.7	1.2	505.9
Asia	359	61.7	868.7	115.2	129.9	59.7	3,930.10	83.9	5,608.20
Others	0.3	0.2	0.5	0	0	0.1	1.5	2.3	4.9
Total	1,519.80	251.6	7,321.30	777.4	259.2	156.6	5,051.90	131.1	15,468.80

Indian Alloy Steel Market

Alloy & Engineering Steel Demand (Million tonnes)



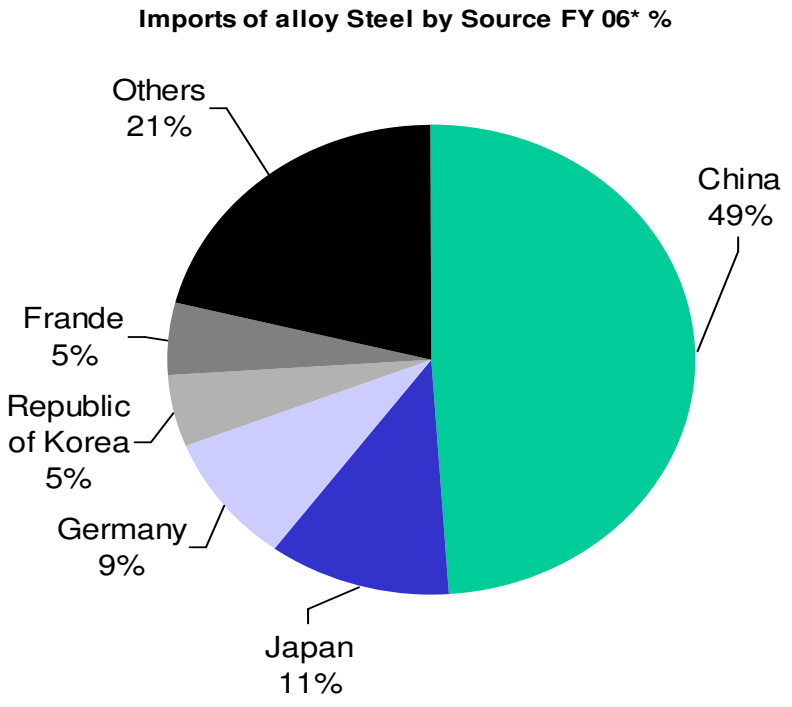
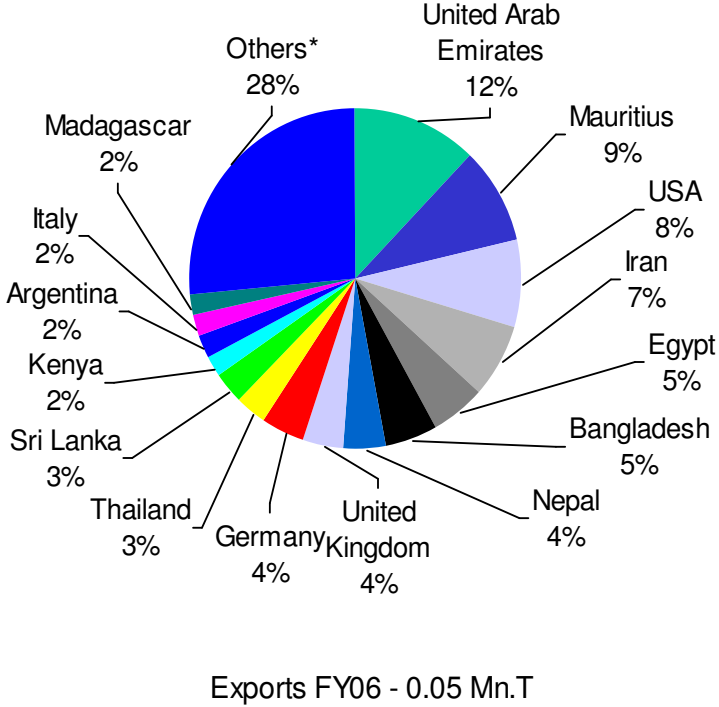
The Indian alloy and special steel long products demand has grown sharply in the past few years with the boom in the automotive, capital goods and engineering goods industry.

- The consumption could have been higher but for the lack of adequate production facilities and quality and pricing issues related to domestic production.
- Domestic product development efforts need further boost : not only for the higher acceptability in the domestic market but also for larger presence in the global market. Indian industry is way behind the world leaders.
- Indian alloy steel units are tiny by global standards. Scaling up will only help cost competitiveness. The small size of the domestic market is a constraint currently.

Alloy Steel Industry in India : Strategic Issues

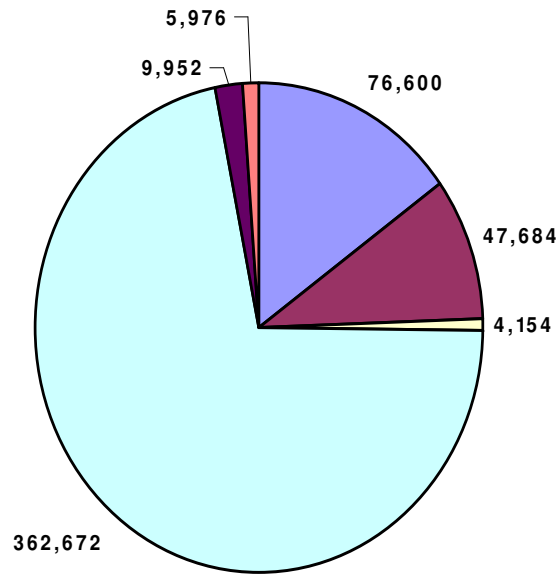
- Alloy steel demand depends hugely on the growth of the manufacturing sector.
 - It faces a substitution threat from carbon steel in the non-OEM products segments.
 - Alloy steel consumers are either large players or organised to a cartel commanding massive 'pricing power'.
 - Whereas the alloy steel producers face a volatile market for their inputs, such as scrap, ferro-alloys, DRI and have no control over them, are forced to accept buyers' prices.
 - This is why the alloy steel producers can neither hope for windfall (when the time is good) earning stability (when the production costs rise).
 - Product development efforts have often been marred by instability in contracts for long term supply. This has reduced risk bearing capacity of the alloy steel industry.
 - Most players, therefore, are confined to the lower end of the product with the bulk of the high end alloy steel products being imported.
- 60% of the alloy steel is produced in EAF units.
 - Despite low wage rates and abundance of labour, the industry faces shortage of skill. Skill development costs have fallen on to the industry.
 - India's exports are largely to developing nations. Bulk of the consumption demand originates in the quality sensitive developed country markets.
 - The industry needs some space for product development, improve management and move to higher scale of production to become global players.
 - For that, the industry needs a favourable fiscal environment and support (also patience) from the user industries.

Alloy Steel : External Trade Pattern



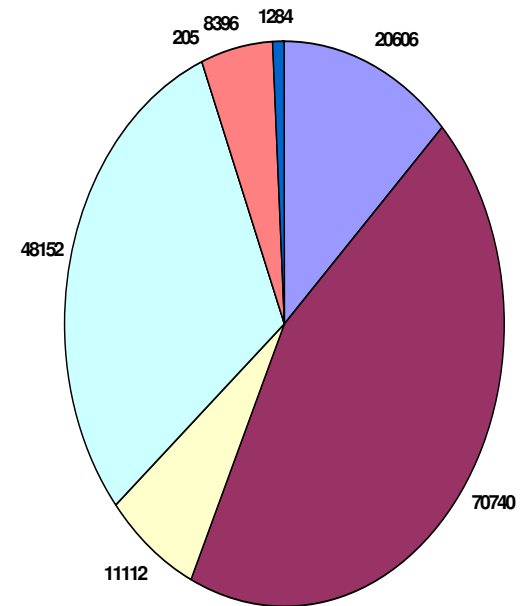
Source: Avalon

Exports of Stainless Steel from India 2005 (tonnes)



■ Americas ■ Western Europe ■ Australasia ■ Asia ■ Africa ■ Eastern Europe

Imports of Stainless Steel into India 2005 (tonnes)



■ Americas ■ Western Europe ■ Africa ■ Asia ■ Australasia ■ Eastern Europe ■ Unallocated

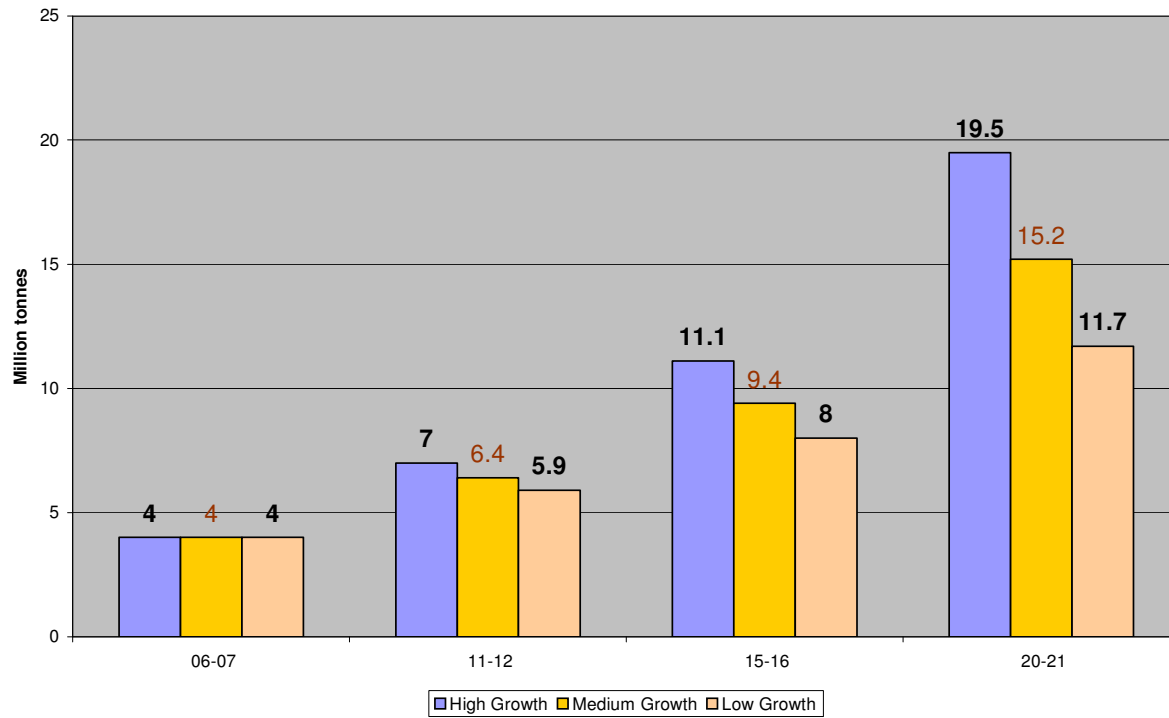
Stainless Steel Industry in India : Strategic Issues

- Stainless steel production growth in India was steered by the demand for utensils. The share of this has been on the fall continuously in the past years.
- New market development efforts have exhibited enormous potential now outside of this sector. Commercial housing, public utilities and infrastructure have the most potential now, especially for flat products.
- Use of stainless steel rebars, fasteners and miscellaneous engineering applications have potential for long products.
- New demand opens up opportunities for state of the art production at global scale.
- Greenfield projects are few : brownfield expansions have been on traditional line.
- Foreign investments have been focused on value addition only.
- Integrated projects faces financial risk due to excess global melting capacity.
- The Indian producers may remain confined to the lower end of the product in integrated operations and add finishing facilities from imported semis.
- Export potential of India's stainless steel may also be hurt in the short term.

Stainless Steel Industry in India : Strategic Issues

- China accounts for the bulk of the imports of stainless steel from India now.
- China and the Middle East offer the best potential for exports.
- Lower prices of nickel will help Indian producers.
- Lower stainless steel prices will help expand market. Demand for stainless steel is highly price elastic.

Demand for Alloy and Stainless Steel in India



- Demand growth of alloy steel will remain moderate and will follow the growth rate in manufacturing.
- Stainless steel demand growth will be driven by overall economic prosperity, disposal incomes with the population, lifestyle values, commercial construction, specific industry sector growth such as chemical and food processing, expansion of railways and airport construction.