FUND FOR RESEARCH INTO INDUSTRIAL DEVELOPMENT, GROWTH AND EQUITY (FRIDGE)

NEDLAC

STUDY TO PREPARE VARIOUS SOUTH AFRICAN MANUFACTURING SECTORS FOR EFFECTIVE NEGOTIATIONS FOR THE PROPOSED SACU/CHINA AND SACU/INDIA TRADE NEGOTIATIONS.

REPORT NO 8
CHINA
STAINLESS STEEL

April 2006

Report by the Consortium:

Consult 101
Emerging Market Focus (Pty) Ltd
Danie Jordaan CC
Ozone Business Consulting (Pty) Ltd
Tswelopele Associates

PARTS OF THE CONTENTS OF THIS REPORT ARE SENSITIVE WITH REGARD TO THE ENVISAGED TRADE NEGOTIATIONS AND ARE TO BE DEALT WITH AS CONFIDENTIAL BY THE COUNTER PART GROUP AND THE CONSULTANTS.

ABBREVIATIONS

NDRC	National Development and reform Council
MOFCOM	Ministry of Commerce
MOFTEC	Ministry of Foreign Trade and Economic Co-operation
CISA	China Iron and Steel Association
CSSC	China Stainless Steel Council
SEPA	State Environmental Protection Agency
GAC	General Administration of Customs
AQSIQ	General Administration of Quality Supervision, Inspection and Quarantine
CCC	China Compulsory Certification
TISCO	Taiyuan Iron and Steel Group
TPCO	Tianjin Pipe Company Co. Ltd
SKS	Shanghai Krupps Steel
JV	Joint Venture
WFOE	Wholly Foreign Owned Enterprise
FIE	Foreign Invested Enterprise
FICE	Foreign Invested Commercial Enterprise
SOE	State-Owned Enterprise
SME	Small and Medium-sized Enterprise
FTZ	Free Trade Zone
IDZ	Industrial Development Zone
OEM	Original Equipment Manufacturer
TRIPS	Trade Related Intellectual Property Rights
TRIMS	Trade Related Investment Measures
CR	Cold Rolled
HR	Hot Rolled
Cr	Chromium
Mn	Manganese
Ni	Nickel
RMB	Renminbi (China’s currency)

Table of Contents

1 EXECUTIVE SUMMARY 9
Recommendations 14

BACKGROUND 21

2. Introduction 32

3. Sector Development Policies 33
3.1. China's Steel Industry Policy 33
3.1.1. Steel industry during the 1990's: 34
3.1.2. Steel Policy during the Tenth Five Year Plan 34
3.1.3. Production Growth to Overcapacity: 38
3.1.4. Looking ahead: 41
3.2. Implementation: 42
3.2.1. Banking sector funds development of heavy industries 42
3.2.2. Irrationality in the Stainless Steel sector: 44
3.2.3. The Processing Trade 47
3.3. Trade Discriminatory incentives 49
3.4. Considerations 51

4. OVERVIEW OF MARKETS 54
4.1. Estimating future Stainless Steel Consumption: 55
4.2. China's Apparent Consumption: 60
4.3. Stainless Steel Markets Growth Prospects: 61
4.4. Present Stainless Steel consumption patterns 62
4.5. Stainless pipes, tubing and fittings 69
4.5.1. Chemical fertilizer 70
4.5.2. Petroleum refineries and pipelines 70
4.5.3. Petrochemical and Chemicals 71
4.5.4. Power-Generation 72
4.5.5. Automobile Industry 72
4.5.6. Urban Renewal 73

4.5.7. The East-West Gas Pipeline project 73
4.6. Considerations 75

5. FEATURES OF THE INDUSTRY 76
5.1. Distribution 76
5.2. Production 80
5.3. 2005 Stainless Steel Production figures 82
5.4. Types of products 84
5.4.1. Flats, Long, Pipe 84
Flat products: 84
Long products: Wire, Bar, and Rod 85
Tubes and Pipes 85
5.4.2. Different Stainless Steel Grades 86
The 200 series 86
The 300 series 88
5.4.3. Austenitic v Ferritic 88
5.4.4. CR v HR: 89
5.5. Number of producers in the Stainless Steel industry 90
5.6. Stainless Steel industry Consolidation 92
5.7. Major Stainless Steel companies 93
5.7.1. TISCO - Shanxi Taigang Stainless Steel Company Co. Ltd (Taiyuan Iron & Steel Group) 93
5.7.2. Baosteel – Shanghai Baosteel Group Corporation 94
Projects in the pipeline 96
Projects completed 96
5.7.3. Jiugang (Jiuquan Steel) 98
5.8. Presence of Multinationals 98
5.9. Downstream Stainless Products Industries 100
5.9.1. Catalytic converters: 100
5.9.2. Food machinery 101
5.9.3. Consumer Durables of Stainless Steel 102
5.10. Employment 105
5.11. Cost of Capital 106
5.12. Cost structure 107

5.13. Current Stainless Steel Prices in China 111
5.14. China's Import and Export scenario 114
5.14.1. Import position 115
5.14.2. Export position 116
5.14.3. China as a Net Exporter, but Imports remains strong 117
5.15. Key Government bodies and Associations 140
5.16. Considerations 142

6. PROTECTION AND ASSOCIATED ASPECTS. 145
6.1. Tariffs 145
6.1.1 Bindings and bound rates 145
5.1.1.1 South Africa 145
China 146
6.1.2 Applied tariffs 147
6.1.2.1 South Africa 147
6.2. Non tariff barriers 152
6.2.1. Import quotas 152
6.2.2. Prohibited imports for processing trade 153
6.2.3. Dual Purpose Use/ Double Functions restrictions 154
6.2.4. Export duty rate (export tax) 155
6.2.5. Export Subsidies 155
6.2.6. Export Rebate System 157
6.3. Customs procedures 158
6.3.1. Import License 159
General Distribution and Trading 159
Product-specific import license 160
Automatic Import License (AIL) 161
6.3.2. Certification and Inspection of Used Electro-mechanical Products 162
6.3.3. Certificates of Origin 163
6.4. Standards 163
6.4.1. Mandatory cargo inspection by AQSIQ: 163
6.4.2. Certification: The CCC Mark 164
6.5. Trade Actions issues 165

6.5.1. China's Trade Remedy Laws 165
6.5.2. Trade Actions by China 165
Quota system on steel products 165
CR strip imports from Japan and Korea 167
6.5.3. Trade actions against China 168
6.6. Pricing regime 168
6.6.1. Price watching regime 169
6.6.2. Pricing Control of raw materials imports by import licenses 170
6.7. Labels 171
6.8. Environmental regulations and imports 172
6.8.1. Scrap metal import license and supplier registration 172
6.9. Labour aspects 174
6.10. Important government departments (Trade-related) 174
6.11. Provinces and trade discrimination 176
6.12. Considerations 176

7. TRADE FLOW ANALYSIS OF THE DEFENSIVE POSITION 178
7.1. Introduction 178
7.2. Comparative size 179
7.3. Export to the world 179
7.3.1. Data 179
7.3.2. Product categories 179
7.3.3. Export growth of stainless steel on the 4HS level 180
7.3.4. Destination 182
7.3.5. Revealed comparative advantages 184
7.4. Imports of Stainless Steel by South Africa 184
7.4.1. Data 184
7.4.2. Analysis 185
South African imports of Stainless Steel from the world 185
7.4.3. Origin of imports 186
7.4.4. Product Groups 187
7.4.5. Revealed comparative advantages 189
7.5. Considerations 190

8. TRADE FLOW ANALYSIS OF THE OFFENSIVE POSITION 193
8.1. Introduction 193
8.2. Data 193
8.3. Analysis 194
8.3.1. Product categories 194
8.3.2. ORIGIN 195
8.3.3. Origin 195
8.3.4. Revealed comparative disadvantages 196
8.4. Exports of Stainless Steel products by South Africa 196
8.4.1. Data 196
8.4.2. Analysis 197
8.4.2.1 South African exports of Stainless Steel to the world 197
8.4.2.2 Destination of South African exports. 198
8.4.2.3 Trade Balance 199
8.4.3 Revealed comparative advantages 200
8.5. Considerations 200

9. SYNTHESIS AND RECOMMENDATIONS 202
9.1. The defensive position 202
9.1.1 Considerations 202
9.1.2. Recommendations 207
9.2 The offensive position 210
9.2.1 Considerations 210
9.2.2. Recommendations 213
9.3 Guidance on opportunities to be exploited 214
9.4 Opportunities offered with or without a PTA/FTA 214
9.5 What is needed to take advantage of them? 214
9.6 Issues that may complicate trade negotiations 215
9.7 Possible negotiation strategies that China may employ 215
9.8 Possible negotiation strategies that SACU should consider, ... 215
9.9 Any other comments/recommendations 216

Appendix 1: Tariff Tables 216

Appendix 2: Stainless Steel Standards 227

EXECUTIVE SUMMARY

1. Developing countries will have to position themselves for China as a competitive producer in a wide range of industries. However, China's GDP is expected to grow at 7% p.a. in the medium term, though this figure has been bettered for the last few years. More importantly, China's infrastructure and construction boom will continue to grow demand for materials at above GDP rates for the next decade.

2. China's steel industry is very important for the Chinese economy and its development over the last decade reflects recent trends across China's heavy industries.

3. China's stainless steel production capacity was insignificant during the 1990s as import-supplied demand for stainless steel products grew. By 2000, China was consuming 1.8Mt of stainless steel while only producing 480'000t.

4. Improving self-sufficiency ratios in stainless steel products became an obsession during the Tenth Five Year Plan (2000-2005), as massive investment pushed up melt shop capacity to 4.7Mt/a by 2005. By 2010, 3.3Mt/a more melt shop capacity would have been completed, taking China's total stainless capacity to 8.15Mt. However, this figure does not include those plans not yet passed by the State Council. The president of TISCO, China's largest stainless steel producer, estimates that total stainless steel production capacity may reach 16.3Mt/a by 2010.

5 The key to the global stainless steel market lies in how much of this additional capacity gets built in the next 5 years. The circumstances facing China's heavy industries changed in 2003/04 as rising raw material and energy prices and mounting overcapacity forced down prices. China's policy-makers have also become concerned about high pollution and energy-usage in the heavy industries. The aluminium,

copper, power generation and automobile industries are all facing mounting overcapacity. As a result, policy-makers are discouraging further investment in the stainless steel industry and have removed many of the incentives for the export of processing trade products when there is insufficient value-added for China. The State Council would be advised to be stronger on reigning in irrational investment but because so much of this investment is being driven by irrational decision-making on the provincial level, the Central authorities may not be entirely successful.

7. However, the current competitiveness of its stainless steel sector came about by deep state intervention. State funds were used to upgrade and expand SOE melt shop and mill facilities, while foreign steel firms were attracted by favourable investment policies to establish operations and transfer technologies to China. While it is impossible to get accurate information on the extent of incentives, it is widely accepted that they include various municipal rates and taxes, as well as some more significant corporate tax – related benefits. On the labour side, SOEs have been known to abuse the minimum wage limit rules as well as receiving support from local governments on labour related issues. At the end of the day, hassle-free labour relations contributes to stability and labour costs in many politically connected companies in China

8. Electricity prices in China are widely regarded as ‘subsidised’. Electricity prices are set on a national level and the power industry must face the losses that results from selling at this price. Many SOE’s enjoy discount electricity from local-government officials who control the local electricity production and grid facilities. Since 2005 local governments are not allowed to offer discounted energy prices for heavy industry. It is widely regarded that national-level directives like this, often carry little weight at local government level where officials continue to use control over taxes and input prices to create greater incentives for local investment.

9.. State spending has been concentrated on promoting consolidation and creating two 'national champions' in the stainless steel industry, namely; TISCO and Baosteel. These two firms produce 42% of stainless steel and while JV and privately-funded facilities have been cutting production to prop up prices, Tisco expanded production by 50% in 2005. By 2010, Tisco will have the 3rd largest melt shop capacity and the 2nd largest CR capacity in the world.

11. China has established comparative advantages in down stream stainless steel products. This demonstrates China's pursuit of trading up the value chain in maximising value addition. The export of downstream stainless steel products by China increased by 160% between 2000 and 2004. Government generally supports the production of products which are important input products of the downstream manufacturing industry. Policy-makers have used SOEs in the heavy industry sector to reduce key costs of production for the export-orientated manufacturing sector. The extent to which this policy objective is driving rapid expansion in the stainless steel sector is open to debate.

12.. Despite the recent irrational investment in the stainless steel industry, the market is otherwise relatively marketised. The hand of the state is large in the capacity generation, while the pricing and distribution of stainless steel products to end-users is handled by China's two highly efficient steel markets, Foshan and Wuxi.

13. It is estimated China's stainless steel market will continue to expand at around 10% per year for the next decade. Although the flatware and white goods sectors are significant users of stainless steel, China's infrastructure boom has created a unique situation in which the industrial and construction sectors account for over 50% of stainless steel consumed. With the consumer consumables seeing strong export-driven growth and China's infrastructure boom continuing in the medium term, China's stainless steel market faces strong growth prospects.

14. Stainless steel companies have been importing around 2-3Mt/a of stainless steel products to China since 2000. Previously, CR Flats made up most of these imports. But since huge CR capacity expansions in China have squeezed importers into the HR Flats, Long and Pipe products. Looking forward, China will still rely on imports to cover stainless steels with special finishes, high-end niche products and to cover for the structural shortages caused by the inherent irrationality in capacity expansions.

17. Stainless steel exporters, such as South Africa will increasingly be squeezed into third country and their own domestic markets. Despite the dependence on raw material imports, China is still a low-cost producer. Perhaps only India is able to undercut China, but then India lacks the technologies and production capacity to compete globally in the entire range of stainless products. Labour, capital and rates and taxes are low by international standards.

18. Expansion by the Chinese is to reduce South Africa's favourable trade balance with China in the trade in stainless steel products. For a stainless steel producer such as South Africa, the really rewarding market opportunities in China's market are drying up, while stiff competition in third country markets looms as an additional uncertainty on the horizon. Most global stainless steel firms have chosen to hedge against this uncertainty by investing in operations in China.

18. China is already becoming a significant exporter of lower-end CR Flats. A new production facility in Guangdong will focus on HR coil and plans to export 20% of production. A new multi-phase development in Tianjin hopes to make China self-sufficient in pipeline piping very soon and thereafter will look to export markets.

19. China needs reasonably-priced stainless steel products to feed its infrastructure boom. Since the end of the quota-system in 2004, China has been trying to outspend foreign competitors instead of resorting to

tariff protectionism. That said, some importers have complained as to the lack of transparency in policy directions and customs procedures which lead to a veil of uncertainty over the industry looking forward.

21. China's stubborn drive to promote its 'national champions' buckles the trend of consolidation in the global industry. Some traditional stainless steel production bases may be forced to close-down underperforming facilities and move up the supply chain, designing the technologies that will lead the global stainless steel industry forward in a changing, competitive marketplace. In the meantime, China will be aiming to continue production expansions and growing market share for its stainless steel products in the international arena.

22. Non tariff barriers to trade exist and in the context of the import replacement phase in the Chinese stainless steel industry the use of quotas was the most prominent NTB until its scrapping to reign in irrational investment. However, the more important practice in this respect is the supply and cost of capital from State sources that drives irrational investment to the eventual detriment of developing countries such as South Africa because of the overflow of competition from Chinese companies into third markets.

23. Tariffs in South Africa and in China are low on primary and intermediate stainless steel products. Up to 2004 trade in stainless steel between the two countries intensified. South Africa's exports to China are primary and intermediate products while the majority of China's to South Africa is downstream products. China may benefit from concessions on South Africa's higher tariffs on stainless steel downstream products, household items being prominent in this respect.

24. However, the rationale for concessions on downstream products seems to be questionable in view of China's advances into the South African market in the past couple of years. Prominent is the imports of heading 7323.93, (hollowware) that practically exploded from R23 million in

2004 to R78 million in 2005. Volumes increased from 990 Kg in 2004 to 4768 Kg in 2005. Similar trends can be observed for knives and for cutlery. Past experience suggests that these trends will strengthen and spread to other products. Import growth of this magnitude relates more to a need for countervailing measures to stem imports than the consideration of the granting of tariff concessions for preferential entry.
.

25. Recommendations on a South African defensive position on the trade in stainless steel and products thereof in the event of the conclusion of a FTA or a PTA between SACU and China2Threats from a cross cutting perspective

25.1 The threats from a cross cutting perspective are:

- The Chinese economic system is in transition from a communist to a social market economy with pockets of the economy that are "marketised" but a mixture of market conditions and state intervention apply in many others;
- The state (central, provincial and local) participates in capital formation, manipulation of input costs and directs bank financing;
- Preferential interest and tax rates, subsidies contingent on exports and favourable financing of target industries apply;
- The Chinese government officials intervene in the economy in a way inconsistent with market principles;
- Subsidies are non-transparent;
- Investment practices lead to the creation of unsustainable and surplus capacity;
- Pricing is non-transparent and divorced from market discipline because of interventions and support;
- China is obliged to do away with trade related investment measures but that progress seems to be slow;
- The undervalued Chinese currency contributes considerably to competitiveness in international markets.

- The Chinese economy is 9 times South Africa's and its population 28 times that entails a huge difference in capacity to trade in China's favour.

These cross cutting threats are such that it is recommended that the negotiation of a bi-lateral FTA or PTA with China is resisted at least until such time as the Chinese economy becomes fully marketised; it fully complies with WTO conventions; and a market determined exchange rate has replaced China's presently undervalued currency.

25.2 Threats arising from aspects specific to the Chinese and South African stainless steel sectors.

These threats are:

- China embarked on an aggressive self sufficiency drive in stainless steel production that raised production from about 0.5Mt by the end of the nineties to 3.2Mt in 2005 and the predicted potential for 2010 to 8.1Mt (it could even be 16 Mt). South Africa's capacity is stagnant around 600 000 Mt.
- There is an apparent inability at the centre of Chinese government to calm down run away capacity expansion;
- China's import gap is set to narrow and it is to become a net exporter in many intermediate stainless steel products;
- Tariff rates on primary and intermediate stainless steel products are rather low on the Chinese and South African sides rendering the need for tariff concessions somewhat superfluous;
- South Africa's downstream stainless steel industries are under attack of Chinese competitive advantages in these products,
- China is rapidly making inroads in the South African market for downstream stainless steel products rendering the high(er) South African tariffs essential as a last ditch resistance in safeguarding local producers in the absence of alternative trade remedies;
- South Africa stands to loose out in the Chinese market from its present positive trade position;

- South Africa is threatened by marginalisation in the markets of third countries because of increasing Chinese competition;

The above threats render any tariff concessions on stainless steel products to China as dangerous and it is recommended that no bi-lateral concessions on stainless steel products should be contemplated in favour of China.

26. Recommendations on a South African offensive position on the trade in stainless steel and products thereof in the event of the conclusion of a FTA or a PTA between SACU and China

26.1 Opportunities from a cross cutting perspective

Opportunities of a cross cutting nature are to be found in the sustained high growth in the economy of China that makes that country a prominent modern day creator of wealth. South Africa shares in the prosperity that is generated by the Chinese economy and should devise means to continue to do so.

26.2 Opportunities a rising from aspects specific to the Chinese and South African stainless steel sectors.

By considering that:

- High growth in China's stainless steel demand demonstrates that opportunities may arise despite, or as a consequence, of China's self sufficiency drive;
- Trade in stainless steel products between South Africa and China is increasing at present with the balance in favour of South Africa;

South Africa could decide to request tariff concessions from China even at the present comparatively low applied rates. It is recommended that such a request for tariff concessions should be compiled in close liaison with existing and/or potential exporters.

27 Guidance on opportunities to be exploited

The Chinese market should be entered in partnership with Chinese counterparts. Apart from many other reasons to facilitate entry into the Chinese market, partnerships of this nature help in dealing with the bureaucracy and with NTB's. Such partnerships are usually in the form of a JV and in many instances are accompanied by investment in China as opposed to pure import/export operations.

28 Opportunities offered with or without a PTA/FTA

Opportunities to be exploited with or without a FTA are limited. Growing trade shows that opportunities are being exploited in the trade in intermediate products (but that are to become more difficult because of the rapid development of the Chinese stainless steel industry. Potential downstream opportunities are limited to catalytic converters and exhaust systems.

Viewed from the import side the picture is quite different. Aggressive exporting by China and a propensity to import on the South African side could result in deep Chinese import penetration with little regard to the current or any future South African import tariffs.

29. What is needed to take advantage of them?

Catalytic converters and exhaust systems are both competitive as the result of the MIDP. According to the MIDP, automotive exports by China to South Africa may open up avenues for Chinese imports of automotive components from South Africa.

It is important to note that little stainless steel downstream products are exported if not linked to a special dispensation like the MIDP or favourable personal tax benefits as in the case of ocean going tank containers. The message is that some supply side or demand pull scheme or a combination of both is needed for opportunities to arise in downstream stainless steel manufacture and export.

30 Issues that may complicate trade negotiations

The trade negotiations can be expected to be complicated by:

1. The threats as listed in 1.1.2.1.
2. The threats as listed in 1.1.2.2.
3. Lack of clarity on the outcomes of the NAMA that introduces a degree of uncertainty with respect to future MNF tariff levels that may render bi-lateral concessions pre-mature.

4 South Africa's limited range of stainless steel export products especially down stream products. As opposed to this, China will be able to propose a wide range of products carrying high South African tariffs in any request for concessions on its part.. Glaring asymmetry is therefore present in the export potential of the two countries.

31 Possible negotiation strategies that China negotiators may employ,

It would be logical for China to seek concessions on down stream products in view of its broad industrial strategy. (However, should negotiations on a trade agreement happen only in two or three years time, China by then could have won a place to its satisfaction in the South African market that relegate the priority of stainless steel products, if any, in its quest for concessions from South Africa.)

32 Possible negotiation strategies that SACU negotiators should consider.

The threats overshadow the limited South African opportunities to such an extent that the benefits of a trade agreement are so marginal as opposed to the potential disadvantages that the negotiation of an agreement inclusive of stainless steel should be resisted. The granting of concessions by China without any demands from South Africa because of the overwhelming asymmetry in trade potential between the two countries could possibly be entertained.

33. `Any other comments/recommendations deemed relevant by the consultants

Massive skewed asymmetry between China and South Africa in many respects is such that, in the event of negotiations, the South African negotiators may opt for a strategy to require concessions from China in multiples to that granted by South Africa.

BACKGROUND

The Southern African Customs Union (SACU) and China expressed the desire to enter into a trade agreement. NEDLAC launched a study into the implications of the envisaged agreement for a number of

South African manufacturing sectors in preparation of stakeholders for the coming negotiations. It is accepted that the trade agreement with China could be selective in the format of a Preferential Trade Agreement (PTA) or it could be a Free Trade Agreement (FTA).

The primary objectives of the study are to obtain an insight into the business environment of doing business in China, and the attributes of its textile, clothing, leather and footwear sector as well as the stainless steel, metals, automotive and chemical industries. Threats and opportunities are to be identified and defensive and offensive strategies developed with regard to the envisaged trade deal.

Trade Agreements

In June 2004 South Africa granted China market economy status. China and SACU agreed to encourage and support mutual trade and investment, to expand cooperation in areas of mutual economic interest and to launch FTA/PTA negotiations. No time frame was set out for the negotiations.

China has followed a similar path to that of the large powers such as the EU and US in the trading system that have looked beyond the multilateral trading system to conclude bilateral deals furthering their national commercial interests. China is pursuing an extensive number of FTA's and brought a number of impressive ones to conclusion since its accession to the WTO in 2001. The Chinese are pragmatic in their approach to bilateral economic agreements, recognising differences across economic partners and allowing for linkages along conventional trade interests. The CEPA with Hong Kong focuses on trade in goods, cross border investment and financial activities, while the agreements with Australia and New Zealand will cover a number of wider areas.

Currently China's FTA target partners are selected on a regional basis. From a long-term point of view, China must secure a place in the rising trading block within Asia. This has been achieved in the Asia Pacific-and the Asean agreement. China's next move will be to begin official negotiations with Japan and Korea with the aim of creating an East Asian FTA bringing together China, Japan, South Korea and the ASEAN member states (ASEAN + 3). In this regard, China will be aiming to become the focal point of an East Asian free trade zone that will effectively rival others blocs such the EU and NAFTA (North American Free Trade Area).

China is seeking to penetrate other regions by signing FTAs with strategic countries in each region. For example China's FTA with Chile is seen by many as a gateway to other Latin American countries and indeed the region. As such China's impending FTA/PTA / with SACU can be seen in the same light. Although China has economic and trade relationships with many Africa countries, FTA/PTA negotiations with SACU are the first for China on the African continent.

China's strong bilateral focus in its trade agenda has also been strategically oriented in order to secure commodity supplies. The rate of growth of the Chinese economy requires a constant supply of raw materials (SACU, Australia, GCC).

By becoming a member of the WTO China agreed to the core principles governing the body. Undertakings by China require adherence to key agreements of the WTO transparency and independent reviews of administrative decisions, technical barriers to trade; sanitary and phyto-sanitary measures; trade-related investment measures (TRIMS) Intellectual Property Rights (TRIPS); subsidies; import licensing; rules of origin; customs valuation; distribution services; non-tariff measures; state-trading enterprises; price controls; and safeguard measures. Compliance to these commitments requires substantial reforms.

Market access to China was greatly improved when China agreed to reduce tariff rates. The tariff rates were reduced and are set out in China's Goods Schedule. Down phasing of tariffs should be substantially completed by December 2007. China has selected to position itself with other developing countries and more specifically with the G-20, in the Doha negotiations.

Macro Matters

China started with market orientated reforms in the 1980's to reduce the constraints on growth of its rigid communist economy. The ruling Chinese Communist Party (CCP) remains in firm control of reforms and its vision is for China to become a "socialist market economy". A FTA/PTA between SACU and China will thus be a trade deal between two different economic systems. Implications arise for cost competitiveness as determined under market conditions in South Africa and non-market conditions in China

The reforms that drive economic growth and transformation in China are the (1) rationalisation of the State Owned Enterprises (SOE's); (2) the regulatory framework of markets; and (3) the internationalisation of the economy.

The norm for growth in GDP in recent years came to more than 8% for China and 4% for South Africa. China is expected to grow at between 7 and 8% in future. South Africa has a vision of 6% growth. The population of China is about 23 times and its GDP 9 times that of South Africa. However it's GDP per capita is more than 3 times less than South Africa's. China is catching up as one of the largest economies of the world. In 2004 it was the 7th largest economy and five years time it can be 4th.

China is able to sustain a high growth rate with the help of an extraordinary high investment ratio equal to 40.2% of GDP. Foreign direct investment is at the core of the internalisation of the Chinese economy. Incentives and subsidies that China offers to foreign investors are important promoters of foreign investment. The expansion in its foreign trade opened the Chinese economy at an unprecedented rate. Whereas the sum of exports and imports

of goods and services amounted to 38.1% of GDP in 1998 it rocketed to 70.8% in 2004.

The growth in merchandise trade and foreign direct investment are directly related. Foreign investors target China's comparative advantage in low cost labour to supply world markets. Foreign invested Enterprises (FIE's) increased their share of Chinese exports from 20% in 1992 to 54.8% in 2003. The share of SOE's in exports fell from 46.7% in 2000 to 31.5% in 2003. The FIE's is also responsible for the change in the export structure from primary to manufactured goods. In 1985 primary exports was 50% of merchandise exports while in 2003 manufactured goods accounted for 92% thereof.
Total employment in the Chinese economy increased from 740 million in 2000 to 760.million in 2003 as the result of employment by private enterprise.

Accession to the WTO is set to change the present dispensation with regard to incentives. China is now committed to implement a comprehensive programme according to a set time table to prevent appeals to the WTO by trade partners. However, tax reforms to eliminate incentives as the result of accession to the WTO are expected not to come into force before 2007. Membership of the WTO is to benefit China because its exports will now have easier and more secure entry into foreign markets with the clothing industry to benefit immediately with the termination of the Multi-fibre Agreement.

In the mean time it is suspected that the investment that is taking place may remain less disciplined than would be the case in an environment of free capital markets. The inefficient SOE-sector poses a threat to the banking sector. Banking is still overwhelmingly state owned and the overwhelming majority of bank funds are being lent to state linked firms. Rationalisation of the banking sector included steps to allow banks to operate on a more commercially oriented basis. Solvency ratios were improved by state capital injections and by shoving bad loans into government established asset management companies. These actions in effect constitute a subsidy on the cost of capital. Short term interest rates in China is about half of that in South

Africa. The real interest rate is very low and possibly a contributing factor to the high investment ratio.

Chinese companies thus benefit from an uneven playing field. In the mean time rapid expansion of capacity may lead to excesses that may upset the markets of trading partners in the absence of market dictated investment discipline in China. However, a strong plus point of the Chinese economy is its investment in human resources as a long term platform for sustained growth. A high proportion of students is enrolled in engineering and management sciences.

Reforms that introduced private enterprise into manufacturing reduced the importance of SOE's in production from more than 80% of the output before 1980 to 37% in 2003. They are mainly found in heavy industry. The government follows aggressive strategies to improve the efficiency of SOE's through closures, mergers, sale of ownership and by allowing SOE's to shed redundant labour. The drive towards efficiency among SOE's, by necessity, has a serious socio-economic fall out. It is said that about 30 million work places became redundant between 1998 and end 2004. These workers and their families lost extensive social security benefits. As a consequence the government is trying to introduce a new social security system to complement SOE reforms.

The South African production structure conforms to that of a developed country. The Chinese economy apparently has a production structure of its own with inordinately high dependence on manufacturing and a low contribution by the services sector. The latter would be indicative of underdeveloped financial, business and commercial (retail) services and is commensurate with a society with a low per capita income.

Business Environment

China is the world's third largest country, with a geographical area of 9.6 million kilometres square and a population of approx. 1.3 billion people. The

country consists of 23 provinces, 5 autonomous regions, 4 municipalities, and 2 special administration regions directly under the Central Government. The State Council is responsible for exercising unified leadership over the local state administrative bodies and regulates the division of power and the functions of the state administrative organs at the central level and the provincial, regional and municipal levels. The bureaucratic hurdle is acute when it comes to starting a business, licensing applications and applying for credit. Foreign investors are also wary of a lack of transparency and high levels of corruption.

Uniform personal income taxes on locals and foreigners apply ranging from zero to 30% differentiated over nine levels. Concessions serve to reduce the flat tax rate on profits.

For profits in SEZ's, ETDZ's, EPZ'S and the western region the income tax rate is reduced to 15%. The 15% tax rate may also apply to investment in transport-infrastructure and some other activities while refunds, tax holidays and allowances apply to targeted activities. A capital gains tax is in force. South Africa and China have signed an agreement for the avoidance of double taxation.

Financial sector reform is ongoing, having being identified as a key area for promoting economic growth and attracting FDI. The banking sector suffers from non-performing loans and government strives to improve the situation in order to avoid a banking crisis.

The Chinese financial system is highly regulated and relatively underdeveloped. A number of international banks have been permitted to open branches in China with only a few being permitted to carry out branch functions in Shanghai and Shenzhen. Participation in the financial sector has been minimal. As part of China's WTO commitments all remaining restrictions on local currency transactions will have to be removed and foreign banks will be able to conduct transactions in Yuan (Renminbi) with both Chinese companies and individuals. The rate of reform is slow.

The Chinese stock markets have been described as relatively underdeveloped and in need of internal reform.

The transport infrastructure in China is undergoing improvement, particularly with regards to port development and capacity and the improvement of road and rail networks. China has embarked on several power generation and hydro electric projects and has also urged foreign companies to become involved in the infrastructure development process in the country.

There are many cases where foreign products and brand names have been copied by unscrupulous Chinese operators. Registering a brand name, logo, patent, trademark, and copyright is a priority. Since joining the World Trade Organization, China has strengthened its legal framework and amended its IPR laws and regulations to comply with the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Despite stronger statutory protection and committed officials measures taken have not been sufficient to deter massive IPR infringements effectively.

Trade and Industrial Policies

In its latest five year plan the Chinese government has undertaken to increase investment in rural construction; development of the middle and western areas of the country; social causes; science and technology; environmental protection; and infrastructure construction. The Chinese leadership is aware of the growing disparities between the wealth of the urban and rural areas, and endeavours to address these concerns.

A primary objective of its trade policy is to strengthen China's position vis-à-vis trade with the developing world. Presently China is challenged to develop high-technology products locally and is heavily reliant on imported technologies. In order to address this perceived shortfall, it is promoting the development of its high-technology sectors. China is moving to a position where it will potentially be able not only to compete with the developed world in terms of high-technology goods and services, but also simultaneously supply them with all the low-technology goods it currently provides.

Resources companies have strategically positioned themselves vis-à-vis China's booming commodity demand. However, it appears that the Chinese leadership is wary of over reliance on foreign companies and governments for its supplies of raw materials. The past two years have seen an incredible growth in China's direct interaction with natural resource rich regions and countries. Prominent among these are South America and most recently, Africa.

China is extracting significant amounts of raw materials from Africa and has also increasingly been promoting Africa as an investment destination for Chinese multinational corporations. There has been substantial investment in for example oil, construction, telecommunications, and transport and energy assets. A side effect of China's industrial or trade policy has been the further competitive marginalisation of Africa's manufacturing sector. Unable to compete against lesser priced Chinese imports, African economies continue to move further down the manufacturing value-chain. This further entrenches the lack of industrialisation amongst the continent's economies.

China is pursuing its various trade and industrial objectives through a number of means, incentives and initiatives. China relies heavily on foreign investment to build up its industrial sector, especially export manufacturing, high technology enterprises and investment in the central and western regions.

China is attempting to achieve its economic objectives by providing direct support for number of specific industries. Prominent among these are the automotive, agriculture, energy and transport industries. Many of these often appear in reference to certain "pillar industries" which receive direct support from the state. These industries are offered a large degree of protection by the PRC government and some concerns have been raised about the lack of transparency and access in these industries.

Membership of The World Trade Organization (WTO) has been a significant target of its strategy. Within the WTO, and through various bilateral

agreements pursued since 2001, China has been trying to acquire Market Economy Status (MES) from as many countries as possible. China is not recognised as a market economy by the US, a status that makes it easier for trade actions to be brought against Chinese firms. Dissatisfied by what it sees as discriminatory treatment and fearful that this status could make it vulnerable to Western protectionism, the People's Republic has embarked on a comprehensive campaign in the international community to gain MES

China is supporting its manufacturers and industries through the retaliatory mechanisms of the WTO. An example is extensive use of the anti-dumping mechanism to protect its chemicals industry against imports from South Korea, Japan, the United States, and even South Africa.

China is inclined to utilising political influence to support its trade and industrial policies. The most prominent has been the recent close political interaction with Africa and the release of its "Africa Policy" in January 2006. China has also used this appeal in South America, where Venezuela has stated openly a preference for a relationship with China over the US. These overtures are sometimes shored up by providing access to loans, technical assistance, expertise, and physical infrastructure development to countries that are dissatisfied with the assistance received from Western institutions.

China has relied on six types of industrial policy tools and incentives: central government financing and planning; empowering key industries with direct financing; preferential interest and tax rates and favourable financing for target industries; infant industry (trade) protection; pricing policies; and administrative means. In addition to these six tools, there are at least two additional important measures. One is the systematic guideline to channel FDI into desired industries. Based on these guidelines the government grants licenses and approval of investment projects. The other is the various restrictions imposed on foreign ownership, business ranges, and geographic scope of foreign-funded enterprises.

The foregoing serves as background to the sector analysis of the stainless steel industry and the ultimate formulation of a strategy for the sector to be followed in trade negotiations. The emphasis of the sector analysis is to be on features of the Indian stainless steel industry, the markets and on protection and associated aspects with an evaluation of trade flows. Threats and opportunities are to be identified and defensive and offensive strategies developed with regard to the envisaged trade deal.

Cross cutting threats and opportunities.

The cross cutting threats and opportunities as they also apply to the stailess steel sector are:

THREATS

1. The Chinese economic system in transition from a communist to a social market economy. Pockets of the economy are “marketised” but a mixture of market conditions and state intervention apply in many others. The stainless steel industry cannot be considered as marketised. WTO membership imposes requirements for China to become fully market orientated.
2 There is intensive involvement by the state (central, provincial and local) in capital formation. Industries are empowered with direct financing, preferential interest and tax rates, subsidies contingent on exports and favourable financing of target industries.
3. Banks are state controlled and they are bailed out when bad debts become a burden.
4 Chinese government officials intervene in the economy in a way inconsistent with market principles. Subsidies are non-transparent. Practices lead to the creation of unsustainable and excess (global) capacity while pricing becomes non-transparent and divorced from market discipline because of interventions and support. Although China is obliged to do away with trade related investment measures, progress seems to be slow.

5 The undervalued Chinese currency contributes considerably to competitiveness in international markets.

6 Non tariff barriers and bureaucracy prevail that discourages trade.

7 Despite a willingness to comply to WTO requirements contravention of intellectual property rights remain a huge problem.

8 Penetration of Chinese exports into the South African market is rapid. This questions the need for preferences as implied by a bi-lateral trade agreement.

9 The Chinese economy is 9 times South Africa's and its population 28 times. The difference in capacity to trade is to China's advantage.

10. The applied tariff rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. NAMA introduces a degree of uncertainty with respect to future MNF tariff levels that may render bi-lateral concessions pre-mature.

The cross cutting threats should make South Africa extremely careful in the negotiation of a trade agreement with China at least until such time as it fully complies with WTO obligations and the exchange rate has become market related.

OPPORTUNITIES

1. Sustained high growth in economy makes China a prominent modern day wealth creator. China will soon advance from the 7th to the fourth 4th largest market in the world.

2. South Africa is to share in the prosperity that generated by the Chinese economy.

3. Rapid growth gives rise to supply shortages that can be taken advantage of by South African exporters.

2. INTRODUCTION

China's policy-makers hold the key to the global stainless steel industry over the next decade.

The global stainless steel industry has seen impressive growth over the past 10 years, driven largely by rising Asian demand. But more importantly, the last 10 years have witnessed a strong eastward shift in production capacity. Europe's Big Four steel producers have lost global market share to Korean, Taiwanese and now Chinese producers.

China's rise has a major stainless steel producer has started in 2000, five years of after the start of rising demand. This gap has supported global producers who have exported 2-3Mt of stainless steel annually.

However, massive State and private investment has caused production growth to outstrip demand growth for the last few years. China is expected to change from being a significant stainless steel importer to a net exporter by 2008. This rapid turn-around has major implications for international stainless steel producers, already struggling with overcapacity and high raw material prices.

More worrying however, is the potential volume of China's exports. Some estimates point at an installed capacity of 16.3Mt//a by 2008 which, could potentially flood the world with 8Mt of unwanted Chinese stainless steel products.

In 2006, China still presents stainless steel exporters, including South Africa, with good market opportunities. Tariffs on stainless steel products are low, and there are few significant non-tariff barriers to stainless steel imports, beyond the lack of transparency and uncertainty that is inherent to exporting to China.

In addition, China is threatening to extend trade actions against certain Korean and Japanese stainless imports makes up for the higher transport costs facing European and South African exporters.

Chinese demand from HR flats will remain strong for the next few years. Looking forward, South African producers should focus on special stainless steels, and long products, as well as key downstream niche markets such as catalytic converters and machinery.

The South African industry should also be very concerned about increased competition from Chinese products in third markets, especially in Africa where Chinese products will benefit from the Chinese-led construction industry supply chains running back to China instead to South Africa.

The stainless steel industry presents few significant opportunities for South Africa's trade negotiators to leverage concessions under a FTA.

3. Sector Development Policies

3.1. China's Steel Industry Policy

China does not have a specific stainless steel policy as such. Stainless steel only makes up 1.3% of China's total steel production by volume in 2004. Stainless steel falls very much inside China's industrial policy on steel and other heavy metal industries. The State Council makes policy-decisions, The National Development and Reform Council (NDRC) announces these policy guide. The Ministry of Commerce (MOFCOM) and China Iron and Steel Association (CISA) are responsible to implementing the policies and dealing with the administrative measures therein.

China's Steel industrial policy and development plan has showed three distinct phases, during each of the Ninth, Tenth and Eleventh Five Year Plans:

3.1.1. Steel industry during the 1990's:

During the 1990s, China's economy was growing very quickly, albeit off a low base. However, growth was driven by growing economic freedoms domestically and the start of a phenomenon of low-quality and labour-intensive exports from the Southern Coastal Regions. The infrastructure development boom was in its infancy and China's economy was still plagued by state-trading and high tariff protection.

China's steel industry was dominated by the inefficient SOEs producing large volumes of low-quality grades. Stainless steel production was very low, hovering between 300'000 - 400'000t/a. China's stainless flat capacity was only 40'000t/a. Its was only in the mid- 90's, when trade barriers started coming down, and 5 years of growth started raising national purchasing power, that consumption of stainless steel started picking up.

From 1995, stainless steel consumption started increasing at 25% a year while production capacity lagged. During this time, policy-makers were focusing on boosting low-end ferrous steel production, ignoring the rapidly increasing import gap of stainless steel.

3.1.2. Steel Policy during the Tenth Five Year Plan

The growing import gap for stainless steel in China, gained the attention of the NDRC during the late 1990's. By 1999, China was importing 80% of all stainless steel consumed. As a result, the reform and restructuring of the stainless steel industry became a major focal point during the Tenth Five Year Plan (2000-20005). The policy relied on 3 modes of investment to expand the industry and improve self-sufficiency ratios.

- Government funded SOE expansion
- JVs with global steel companies
- Private enterprise in China

This strategy provided for the creation of two large SOEs to carry out a massive production expansion program: Shanxi Taiyuan Stainless Steel Company Ltd (TISCO) in the North and Baosteel (Shanghai Baosteel Group Corporation) in the South. TISCO was a minor SOE at the time, while Baosteel was already a sprawling steel giant, but with a tiny stainless capacity.

As part of China's economy wide plan to draw foreign investment and technologies, China created a wide-ranging system of policies. This centred on the Joint Venture and the reduced corporate tax offered to foreign investors. Importantly, China was looking for foreign companies with more than just capital to offer. They wanted expertise and technology transfers. Corporate tax for Foreign Invested Enterprises (FIEs) was 15% while Chinese firms had to pay 33% corporate tax. (This policy remains today, but may be phased out by 2008)

Government wanted to attracted international stainless steel producers to import machinery and technologies without competing with domestic producers. Thyssen Krupps was an early investor, forming Shanghai Krupps Steel (SKS) with Baosteel. (See below: Multinationals)

Favourable policies and export conditions in the general manufacturing sector contributed to a boom of medium and small (SME) private investment (largely from Taiwan and Hong Kong) into the production of downstream stainless products, such as consumer durables, machinery and pipes.

This reform was largely driven by the need to close the import gap and promote self-sufficiency. This was a time in which China was preparing to enter the WTO and there were widespread fears of SOEs unable to stand up to increase foreign competition.

Under the 10th Five Year Plan (2000-2005), authorities set the following ambitious 5 targets of the domestic stainless steel industry. Some of these

have been achieved, while a about-turn in 2004 has meant that some of the more ambitious targets were not achieved.

Stainless steel production capacity will reach 9Mt/a (4.9Mt/a by SOEs, 2.5Mt/a by JVs for foreign investors and 2.5Mt/a of 'private enterprise' production.) This would lay the base for China to become the largest steel producing country in the world, with capacity equal to Europe. The structure of the industry will be more rational. Stainless steel as a % of total steel produced will increase from 0.4% in 1995 to 2.5% in 2005, inline with international standards.

SS flat products will grow from 10% of total stainless production in 1995, to 85% in 2005, with CR flat making up 55% of total stainless products.

Enterprise scale will be expanded to form Asia's 'Big 4' with China at its core. TISCO (2.5-3Mt/a), Baosteel (1.5-2Mt/a), POSCO, (2.6Mt/a) (including POSCO's capacity in South Korea) and Yelian (1.8-Mt/a) (Yelian Steel Company, and including Yelian's capacity in China's Taiwan.) Asia's Big 4 will account for 55% of total production capacity in Asia, echoing Europe's Big Four.

Technological modernization: China's Tisco and Baosteel will have realised modernisation of their technologies and facilities. They should also have developed their own technologies and use their cost-advantages to produce high quality products, to enhance competitiveness, and to produce a wide range of steel grades and sizes (including extra-wide, extra thick, and extra thin plates) as well as pipes and long products to meet special requirements.

Melting and Hot strip rolling will be encouraged in a batch of privately-owned enterprises allowing more rationalisation of the special steel products. For example, Wuhang in Fujian. Qingshan Special Steel, Huashan in Inner Mongolia, Zhouping in Shandong, and South-West Stainless Steel. This 'private enterprises' will adopt home-made electric furnace- AOD technology, matched by continuous casting and hot strip (650mm-850mm) rolling mills to

form a batch of private ‘small-capacity’ enterprises. These ‘privately-owned’ enterprises will need a small amount of investment but will have fast construction phases and make use of new technology to play an increasingly role in China’s future SS production capacity.

This resulted in a de facto substitution policy for stainless steel. WTO accession concessions forced China to rapidly open up its markets, but it kept high barriers on imported steel products using a quota system.

The government also started a policy of creating ‘national champions’ through which it could carry out Government policy in an increasingly marketised economy. These national champions would be given concentrated funding to prepare them for increasing foreign competition. This included aggressive forced consolidation in the SOE steel industry. The emergence of Baosteel into a global giant in the steel industry is a sign of this policy. Authorities also forced the merger of 2 regional giants, Anshan and Benxi into and new steel giant called AnBen.

In the stainless steel melting area, authorities intend to create the Big 2. A few companies in the Baosteel family will be responsible for expanding stainless production and CR capacity. Government’s targeting of TISCO as China’s premiere stainless producer is even more interesting. (See below: Producers)

However, during the past few years, there has been large investment by what CISA refers to as ‘private investment’. This private investment refers to ‘non-state owned’ enterprises. But these enterprises still benefit from unofficial subsidies, soft loans, and close ties to local Government elites. By 2005, CISA reports that this ‘private’ production capacity had reached 1Mt/a. South Korea’s Posco, SKS, Taiwan’s Yelian and YUSCO, and Japan’s JFE Steel Group and Nippon Steel.

Private investment in downstream industries resulted in rapid technological advancements, movement up the value-chain, and an increasing global

market share for stainless products. The development of the Foshan and Wuxi steel markets are evidence of the growing SMEs are playing in leading the industry in much of the downstream technological upgrading. Many of these companies enjoy strong relations with the large SOEs ensuring a stable supply of steel input materials.

The domestic steel pipe industry received particular attention during China's Tenth Five-year Plan (2001-2005). A massive Government and private investment in the Tianjin Pipe Corporation (TPCO), to produce a wide range of pipe and tubes is the focus of this attention. This special status is an important sign of and industries development due to the government's heavy hand in directing investment areas. The steel pipe industry will ride on the strategic 'national interest' repercussions of recent international energy competition. Secure and sustainable access to sufficient oil and gas has received extraordinary attention as China aims to expand networks capable of transferring these two products.

3.1.3. Production Growth to Overcapacity:

From the above 10th Five Year Plan's ambitious targets, we are able to understand why China's stainless production rose rapidly from a mere 480'000t in 2000, to 2.364Mt in 2004. It is also clear how the focus on production growth resulted in the kind of over-capacity and structural imbalances that plagued China's industry since 2004. In fact, in 2005, China had still not reached high self-sufficiency in many stainless areas. But is it they massive scale of projects currently being developed which makes analysts and policy-makers worry.

During the period 2001-2004, global steel prices had been rising as China stainless consumption increased rapidly. However, by early 2004, many of the 10th Five Year Plan's intended facilities were coming online at the same time. In 2004, higher international raw material prices, rising capacity and investor fears that China's construction boom couldn't continue, resulted in a sudden drop in steel prices, including stainless steel.

Analysts looked at the global supply and demand figures and the saw potentially massive overcapacity as China continued to announced capacity expansions.

It was in mid 2004 that the State Council showed signs of changing the direction of economic development. Overcapacity was threatening many industries, and heavy metal industries were being strongly criticised for high levels of pollution and inefficient energy use. The US was urging China to address is ballooning trade surplus and reel in exports.

This policy about-turn resulted in a rapid reduction of incentives for the export of steel products. Government reduced export rebates, imposed export tariffs on some raw materials and set high caps for new private investment projects. By early 2005, as general steel prices started dropping rapidly, raw material prices continued to rise and profits fell, the NDRC and CISA launched a stronger strategy to cope with the problems of irrational investment and over capacity in the steel industry.

The following extract from a CISA report sums up the mood of policy-makers:
"Participants of the executive meeting of the State Council, China's central government, on April 20 2005, acknowledged investment in fixed assets in the industry had already been "rather great" at the moment. The meeting, chaired by Premier Wen Jiabao, deliberated on and adopted in principle China's iron and steel industry development policy. The meeting said the industrial mix of China's iron and steel industry has to be further adjusted to ensure the healthy growth of the industry.

Manufacture of products that consume a very large amount of energy and materials and cause heavy pollution had to be contained, while export of such products would also be put under strict control. The meeting called for an accelerated shift of the growth mode in this sector, improved efficiency in the utilization of energy and resources, and an "appropriate and economical" use of steel products. The meeting also underscored the importance of facilitating

and consolidating China's iron and steel sector, optimizing its geographical distribution, and building a solid resource supply system by tapping both domestic and overseas resources."

Afterwards, authorities announced 'five major measures' improve the market mechanisms in the general steel industry and ensure its sustainability in the medium term.

These five measures are:
1) Pushing forward enterprise merger and acquisition to phase out backward capacities and prevent excessive capacity expansion;
2) Setting up an output-demand coordination group in the medium- and thick-plate and hot rolled wide belt, plate and roll fields on a voluntary basis of the enterprises to strengthen industrial self-disciplines. Such coordination group may be extended to other steel products if necessary.
3) Requiring all members of the association, particularly plate and hot rolled wide belt makers, to control output and reduce their production in the fourth quarter by more than 5 percent so as to ease market pressures.
4) Increasing direct supply and direct sales to reduce intermediate links and prevent stock-piling for speculative purposes.
5) Requiring steel makers to refuse steel products futures trade so as to prevent the negative impact of forward contracts and other electronic transactions.

Government officials urged producers to make production cuts to prop up prices. China's steel industry agreed to cut production by 5 %. JVs and producers in other international regions made significant cuts. However, Tisco continued ahead, showing a 38% production growth in 2005. Nonetheless, a CISA official argued that the drop in steel prices, as well as the very high raw material costs, has been driven by speculation in global futures markets, due to the massive capacity expenditure in China. He argued that while there was increasing production capacity coming online over the next few years, the actual production figures were below full-capacity

and the price drop was therefore unfair and damaging. (In 2005, China produced only 3.16Mt of stainless steel on 4.7Mt of capacity.

3.1.4. Looking ahead:

Even as national-level policy-makers are now, rhetorically at least, focusing on reeling in over-capacity and increasing rationality in the steel sector, it appears their words are not having much effect. According to one TISCO official, if all of China stainless expansion plans are implemented, China's stainless Meltshop capacity will reach over 16Mt/a by 2010.

CISA claims many of these plans have been put on the back-burner. Though its not clear how many of them are being pushed by local governments, and therefore a lot of political engineering will have to be down to set these plans aside.

Nonetheless, even if only currently being built projects are accounted for, China will still have 8.15Mt capacity by 2010, arguably above domestic consumption levels.

The table below shows the impact of projects being built and recently completed. Production capacity planning during the 10th Five Year Plan has focused on CR capacity. (The figures below do not included planned, but not yet built projects.)

Fig 2.1 Forecast of China's stainless steel production capacity by 2010 Mt

	Existing capacity (2003)	**Currently being built or completed since 2004**	**Total capacity in 2010**
Melting capacity	3.3325	4.825	8.15
Hot rolling capacity	3.94	4.71	8.65

Cold rolling capacity	1.705	3.31	5.015

Source: China Small-Capacity Stainless Steel Association

3.2. Implementation:

3.2.1. Banking sector funds development of heavy industries

In 1994, China underwent some degree of banking reform, creating 3 new policy banks. The aim of this reform was to shift the large State-owned banks from development leaning to commerce lending. While it must be said that China's banking sector has undergone hugely successful reforms in recent years, the line between a purely commerce bank, and a state-directed funding bank is not always that clear.

China's 3 main policy banks are:

- China Development Bank (CDB), also called 'State' or 'National' Dev. Bank
- China Agriculture Development Bank
- China Export Import Bank (Eximbank)

The CDB is largely responsible for development in the heavy industry and infrastructure development areas. This is the largest funding institution of the steel industry reform of the past decade. The CDB issues commercial bonds which in most cases are bought by other state-owned banks and securities firms. Because the State is the ultimate owner of all these assets, and therefore carries the final risk of a new project, policy banks are eager to extend soft loans not based on rational risk analysis.

However, despite their commercial focus, the Big 4 continue to provide loans to industrial projects. Again the situation is not set in stone, largely because of the inherent lack of de facto policy direction for the bank credit industry.

The Big 4 are:

- Bank of China (BOC)
- Industrial and Commercial Bank of China (ICBC)
- Agricultural Bank of China (ABC)
- China Construction Bank (CCB)

A steel industry source says that any industrial or infrastructure project sanctioned by National authorities will have all four of the Big 4 banks waiting at the door to extend credit. This has to do with prestige, desire to expand, and the fact that the National Government is a good creditor, as owner of the SOE enterprise.

The situation differs when projects are only provincially approved. In this case, the close relationships between provincial authorities, industrial enterprises, and banks (National and City Banks) means that the extension of credit for such projects is entirely irrational.

Foreign invested JVs and Private stainless steel companies also benefit from this close, mutually beneficial 'triangle relationships'. In some cases, city banks such as the Shanxi City Commercial Bank, (in Shanxi Province where TISCO is based) provide these soft loans, but this is not necessarily the case. The 'guanxi' of the industrial enterprise managers and the provincial authorities is the main determinant of funding for provincially-approved industrial development projects.

This phenomenon has become a major headache for National policy-makers as they start to lose de facto policy control over industrial and infrastructure development in China.

At the end of the day, the Big Four banks pick up the outstanding loans of enterprises and smaller banks. In 2004, China's banking sector was in the red to the tune of US$600 billion.

Under China's banking reform, the Big Four are required to cut their NPL ratio to below 15 percent by 2006. This has been achieved by massive direct

transfers from State coffer onto individual banks balance sheets. Banks have also shifted much of their bad debts onto state-owned asset managers. In 1999, BOC transferred US$167.94 billion worth of bad assets to four specially created asset management firms.

3.2.2. Irrationality in the Stainless Steel sector:

Why are China's Stainless Steel products reasonably priced when raw material prices are so high?

In 2005, stainless steel prices were dropping while raw material prices (Ni, Cr, and Stainless Scrap) climbed higher in global markets.
It is well-known that enterprises in China enjoy low labour costs, a low cost of capital and low municipal rates and taxes. But this does not fully explain the above question.

There are four main explanations why the above phenomenon has occurred. The first has to do with the 'long-term outlook' business models of the industrial enterprises in China, the second has to do with input material and output product price determination, and the third has to do with the irrational decision-making by managers faced with little shareholder activism.

An unusually large percentage of companies in China have been operating near, or even in the red, for the past few years. Many industries, especially in the heavy industries, but increasingly also in the manufacturing sector, are plagued by overcapacity and heavy competition. Prices of many products are dropping rapidly as increased competition causes price wars. This phenomenon goes a long way explain how China's CPI has hovered around 2% despite near 10% GDP growth and growing domestic demand in the cities. (Though is must be said that this consumer spending is still very low)

The stainless steel sector is going through a rapid expansion phase from a low base. During such a time, companies would invest heavily in production

capacity for the purpose of capturing market share, expecting returns once the market matures and a good market share can be leveraged to maximise returns.

It is no secret that during the 90s, large amounts of foreign capital was invested in China with little return on investment. Though some companies are now seeing strong profits, the above phenomenon still exists. SABMiller's expansion plan in the beer industry is a good example of this strategy. This phenomenon goes some way to explain the continued strong investments in the stainless steel sector, from State-owned, Foreign Steel companies, and Private investors, even as profits tumble.

Investors see strong growth in China's stainless steel market looking forward, and want a piece of the action, even though the rewards are initially not forth-coming. Global stainless steel companies, especially in Europe, see China as a new growth potential as maturing Western markets cut growth prospects.

The second point looks at how the different prices are determined in the stainless steel market.

Basically, raw material prices (especially of imported materials, which count for much of the total input materials) are determined by perceptions of future supply and demand in the highly marketised global market for Nickel, iron ore, Chrome and steel scrap.

The price of final stainless steel products in China is also determined by supply and demand constraints in the increasingly marketised markets of Foshan and Wuxi. Baosteel and Tisco do not enjoy effective monopolies, and price often plays second fiddle to the 'market share' objective mentioned above.

The third explanation for the above question has more to do with China's unique industrial funding structures and less to do with standard business development strategy and supply/demand theory.

In a ‘normal’ oversupply situation with rational management decision-making, a feedback mechanism would come back into play; forcing enterprises to cut production until demand caught up to supply and prices rose again.

However, it is the lack of rationality in decision-making that has caused the breakdown of this feedback mechanism. Theoretically, this would cause a vicious spiral of cutting prices to hold market share, and raising capacity to compensate of lower total returns, and utilise economies of scale.

This irrationality is a symptom of China’s unique industrial and infrastructure funding regime.

State-owned stainless steel producers, faced with little shareholder activism, expand capacity without regard for the bottom line. Indeed, it has been part of the State’s stainless steel development policy to improve self-sufficiency levels and upgrade production technologies. The State has been prepared to fund this expansion as ‘infrastructure development’, rather than ‘SOE loans’ because of the strategic nature of steel in a rapidly expanding economy.

The State has an interest in keeping steel prices low as the product is an important input material in other key industries. This helps keep the PPI and CPI figures low, a major achievement for economic policy-makers.

Authorities have are also prepared to invest irrationally in their pursuit of creating stainless steel ‘national champions’ in TISCO and Baosteel.

Add to this the inherent praise of production figures over profit figures in the China’s SOE sector, and the managers of these SOEs have little incentive to cut production to prop up prices. This explains why, during 2005, even as most Private and JV stainless steel enterprises were cutting back on production, stainless steel output at TISCO showed significant growth.

Excessive foreign investor interest in China has allowed both the JV and Private stainless steel enterprises to enjoy some of the benefits of the above phenomenon, though not to the extent that the SOEs have.

The fourth explanation is that Government generally supports the production of products which are important input products of the downstream manufacturing industry. As part of the planned-economy, policy-makers have used SOEs in the heavy industry sector to reduce key costs of production for the export-orientated manufacturing sector. The extent to which this policy objective is driving rapid expansion in the stainless steel sector is open to debate. Policy-makers have been openly urging state and private stainless producers to cut back on production to shore up prices; most producers have cut back on production TISCO and Baosteel have not heeded these calls. Again, many of the production expansions have been driven by in conjunction with local-level politicians, not national policy-makers.

3.2.3. The Processing Trade

55% of China's exports are produced in the 'Processing Trade' sector.

China's processing trade system has been a major driver of its export-orientated growth model. Granting favourable incentives to for export processing, it encourages foreign companies to invest in facilities in China: import most of its raw materials, combine this with domestically some available materials, cheap labour and imported modern technologies, and export the final products. Much of this is done in the so-called Free Trade Zones (FTZ). These processing and industrial parks along China's Eastern Coast are usually situated with easy access to port facilities. The zone authority would offer bonded warehouse facilities which would be monitored by Customs officials.

Foreign companies are attracted by China's low cost base (labour, facilities, input materials), concentrated supply chains in and around these zones and

favourable corporate tax incentives offered to JVs, FIEs or WFOE (Wholly Foreign Owned Enterprises). Corporate tax for FIEs and WFOEs is 15%, while Chinese companies pay 33% corporate tax.

Logistics, shipping and customs facilities are also handled by the zone authorities lowering the general cost of business and making the zone an efficient low-cost processing base.

But another major advantage offered to foreign investors in the processing trade is that they can ‘import’ goods into the zone duty-free and export duty free. They are not liable to pay import tariff rates or VAT on imports. While other business not regarded as the processing trade enjoy similar advantages due to the tax rebate system, it is not as efficient and involves a ‘double’ administrative process.

Most of these FTZs and IDZs are run on a national level. But their success has lead encouraged many local and municipal authorities set up their own Industrial Parks in order to draw investment away from other areas on China and boost regional development. Relaxed National government laws have seen many of these zones start-up around China’s larger coastal cities, and more recently, even on inland cities. In reality, they offer many of the same incentives as the older FTZs and IDZs. And because most of China’s customs, inspection and administrative processes are devolved to the local level authorities, these local Governments have created very favourable conditions for investment and the processing trade, within their regions.

In some cases, the access to low-interest loans and the level of wavering of taxes amounts of unofficial subsidies, in the name of boosting regional economic activity. Local Governments have also been accused of directing local and national banks to
grant soft funding to high-risk enterprises. (See below: Subsidies)

China’s stainless steel Meltshop and rolling mill facilities have relied less on the processing trade and IDZ incentives than other heavy industries. This is

largely because, up till now, most of China's stainless steel production has been consumed locally. However, the stainless steel small-capacity producers and JVs (See below: Multinationals) have benefited from special status and unofficial incentives in the form of reduced municipal rates and taxes, and, in the case of the JVs, lower corporate tax.

For further information, refer to the General Administration of Customs' s (GAC) 'Handbook of the Processing Trade'.

3.3. Trade Discriminatory incentives

As mentioned above, China's steel sector previously showed high levels of trade protectionism and support for domestic producers. This was part of China's steel product import substitution policy during the 10th Five Year Plan. Steel was subject to 'quasi' state-trading system that made use of import quotas on the import of many steel products.

The large SOE dominated steel production and state-trading companies such as Minmetals Corp were responsible for most of the imports of raw materials on behalf of the large SOEs. During this time, China was very dependent on large amounts of flat and long steel imports. Smaller, private enterprises in this sector were forced to work through trading companies such as Minmetals to handle the foreign exchange part of the transactions and this monopoly allowed authorities to exert much control over imports.

However, this direct protectionism was slowly replaced by more indirect control over imports using licensing restrictions and changes to export rebates allowances. Importantly, whereas before 2004, China was trying to protect its steel industry from foreign competition, it is now trying to slow down excessive investment. This has necessitated a move away from 'trade discriminatory incentives' to domestic investment restrictions and raw material export restrictions.

A major part of Chinese steel industry slow-down policy in 2004/05 was to try and combat the rapidly rising prices of steel import materials. These

measures were largely in response to huge rises in steel industry raw material import prices. In April 2005, Rio Tinto, BHP Billiton and CVRD pushed up contract iron ore prices by 71.5%. The Chinese Government, through Baosteel officials, took this ‘contract negotiation’ particularity seriously and tried to force the suppliers into concessions by strong rhetorical threatening.

Nickel, Cr and coking coal prices have also increased rapidly in the past few years. After unsuccessfully using heavy-handed rhetoric to force the global resource firms into concessions on the iron ore price, policy-makers started to makes use of various NTBs to gain some leverage over the import prices and to prevent exports of raw materials which were in short supply domestically.

China uses a tax rebate policy system to encourage exports. (See below: NTBs) Companies may claim back VAT, and various business and consumption taxes paid in making the products, if the final good is exported. On 1 April 2005, China abolished the export tax rebates on the export of stainless steel billets and ingots. In 2004, China’s stainless billets exports had grown to 645t from 332t in 2003. The export to stainless billets had exploded from 57t in 2003, to 449t in 2004. While these volumes are small compared to domestic consumption, their export was unnecessary supported by the rebate system.

Authorities also lowered the rebate rate on stainless steel flat and long products from 13 percent to 11 percent as of May 1, 2005, in a bid to discourage steel export to help reduce steel prices in the country. The rebate on stainless scrap was removed as China’s stainless producers were hit hard by high global scrap prices and shipping costs.

China also implemented a mandatory ‘automatic licensing management’ for a number of steel and raw material products. Government is now using this licensing system to consolidate China’s raw material purchasing power in global markets. It does this by refusing to issue license to contracts in which it believes the price is too high. (See below: NTBs)

In April 2005, authorities also introduced harsh measures to curb excessive investment in the iron and steel industry, including forcing banks to grant less loans to steel projects, and raising the capital requirement on new steel projects from more than 25 percent to more than 40 percent.

According to China's commitment to the World Trade Organization (WTO), MOFCOM abolished this 'authorized management' of steel products imports as of December 11, 2004. Then as of 1 January 2005, authorities put into operation a new system of 'oversight regulation' called the "National Steel Market Price Monitoring Report System". (See Section 9: Pricing regime below)

According to the Directory of Industries for Foreign Investment, which took effect on January 1, 2005, foreign investment is '*encouraged'* in steel (and stainless steel) production in China.

3.4. Considerations

1. China's stainless steel market and industry only started developing in the mid-1990s. Before that, both production and consumption were low by international standards. In China, 'stainless steel' is seen as one of a number of 'speciality steels'. The stainless steel industry is only one part of China's overall steel policy. As a result, the stainless steel industry is subject to the industrial policies of the steel industry, which in turn is part of China's industrial development policy for heavy industries.

2. China's stainless steel policy development can been viewed in 3 distinct phases:

    2.1 Phase 1: Before 2000: China concentrated on reforming and upgrading its core ferrous steel capabilities, ignoring speciality steels. China's stainless steel production hovered around

400’000t until 2000. Imports started growing rapidly after 1995, reducing China’s stainless self-sufficiency to 25% by 1999.

2.2 Phase 2: 2000-2004: The growing import gap came to the attention of authorities and a stainless steel import substitution development plan was put in place for the Tenth Five Year Plan (2000-2005). This was part of China’s national economic re-structuring to prepare for increased domestic competition and global integration within the WTO. For the stainless steel industry, this included import substitution through massive investment, the creation of competitive and profitable national ‘champions’, and technological upgrading through technology transferring foreign investment. The aim of the development was to increase China’s self-sufficiency in stainless steel.

2.3 Phase 3: 2004 onwards: Massive investment (State, Foreign and Private) in heavy industries was deemed largely irrational and resulted in threatening overcapacity. This phenomenon also occurred in the stainless steel industry.

3. Stainless Steel industry development investment would come from 3 sources:
   - State-funding of SOEs
   - Foreign steel company with technology transfers through JVs.
   - Private investment with State ‘support’

4. During this time, Tisco and Baosteel were targeted as the stainless steel SOE ‘national champions’. They received huge State investment and are responsible for most of the recent capacity expansions. Many of the production expansions have been driven in conjunction with local-level politicians, not national policy-makers.

5. Most global stainless steel MNCs have invested in JVs in China since 1998, bringing in massive investment and much needed technologies. Foreign investment was attracted through economy-wide tax and

investment and profit repatriation incentives. Foreign companies pay 15% corporate tax while domestic companies pay 33%.

6. China's IDZ, FTZ and Processing Trade policies encourage the export of stainless steel consumer durables.

7. Government generally supports the production of products which are important input products of the downstream manufacturing industry. Policy-makers have used SOEs in the heavy industry sector to reduce key costs of production for the export-orientated manufacturing sector. The extent to which this policy objective is driving rapid expansion in the stainless steel sector is open to debate.

8. Stainless steel import substitution relied on both investment and a safeguard induced quota system for stainless products imports, and relatively high tariff levels for articles of stainless steel.

9. During this time China's stainless steel production capacity jumped from 480'000t/a to 3Mt/a. Consumption continued to grow at 25% /year during this period. Imports maintained strong growth.

10. During 2004/2005, changing views on environmental degradation, energy-use and China's export-orientated growth model complement higher oil and raw material import costs to force a change in heavy industry policy. At the same time, threatening overcapacity puts downward pressure on stainless prices.

11. China scraps the quota-system on steel products. Tariff rates on steel products are low. Additional stainless steel industry investment and the export of low-value add stainless steel is discouraged. Policy changes include raising investment requirements for new projects and lowering (and scrapping) export rebates.

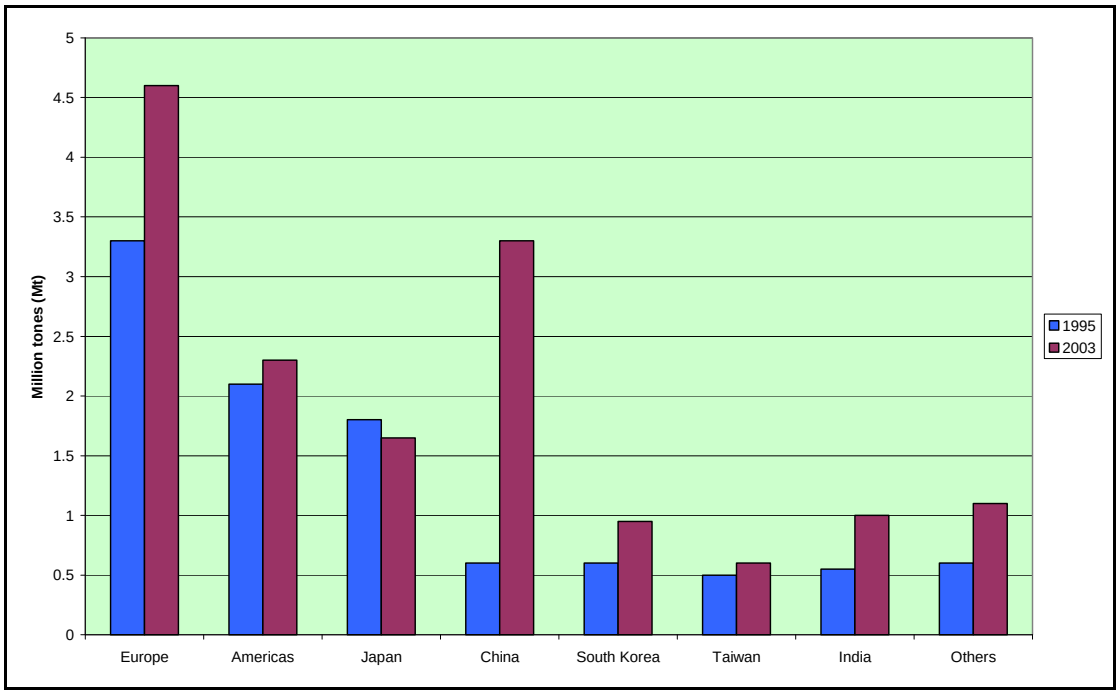
12. Almost all steel industry raw materials are imported through large Chinese agents. Chinese authorities resort to import licensing requirements and consolidation of importers to try and leverage its national purchasing power to force down the cost of import raw materials.

4. OVERVIEW OF MARKETS

Global Stainless Steel consumption has shown impressive growth over the past decade. The global stainless market grew at a CAGR (Compound Annual Growth Rate) of 6.4% between 1990 and 2004. With developed country consumption growth flat over the next decade, analysts are hoping China will keep global stainless growth. Including China, the market is expected to grow at a CAGR of 5.1% until 2010, still a healthy figure. Global consumption of stainless steel was around 26Mt/a in 2005, with analysts forecasting consumption of 31Mt/a by 2010.

The following graph shows the changes in stainless steel flat products (including both HR and CR products) from 1995 to 2003. Note how China and other developing countries have produced most of the growth. While Europe has shown impressive consumption growth over the past decade, most of this has been brought about by substituting stainless steel for other materials, rather than by industrial growth. Europe's stainless consumption is expected to remain flat over the next decade.

Fig 3.1 World stainless steel consumption



Overall world flat stainless consumption grew by 54.8% over the period 1995-2005, largely driven by strong growth in Europe and Asia. Asian growth rates have increased 84.5% over the period, largely driven by China. Consumption in Japan has actually dropped, while consumption in the Americas has been stable. Europe remains the largest market for stainless flat products (and overall stainless steel consumption), showing strong growth of 40% over the period. China's consumption grew by a massive 463.6% over the period, with most growth coming from the period 2000-2003.

4.1. Estimating future Stainless Steel Consumption:

Predicting future consumption patterns for any product is difficult. Forecasting consumption trends in the stainless steel industry is especially difficult.

Stainless steel is both a industrial and a consumer product. It is used as sheets and pipes in infrastructure development and construction. Stainless pipes are preferable to pipes of other metals due to its unique properties. In this sense its future demand is relatively inelastic and estimates can be linked to indicators of China's infrastructure spending. This is a major source of demand for stainless steel in China, relative to other countries.

However, stainless steel demand is also driven by the consumption of consumer products. It is used on the exterior of a range of consumer products for aesthetic purposes. In this sense its demand is highly dependant on tastes and fashion trends. Over the past 5 years, stainless steel has seen a very rapid rise in demand from this sector. However, this side of demand could also fall flat very quickly, were tastes to change.

Perceptions that stainless does not look good on sidewalk handrails and public statues would lead to a rapid and significant dip in demand. Many of the external surfaces of the architectural projects for Beijing's 2008 Olympics will be of stainless steel. The 2004/05 abuse of the 'J4', a low quality CrMn 201 series stainless steel, masquerading as a 300 series, has heightened fears of a loss of faith in stainless steel for auspicious projects.

Stainless steel demand is also driven by kitchen and hollowware. China is a strong exporter of these products. Looking forward, kitchenware export growth is expected to remain strong, complemented by strong domestic demand from China's rising income levels. However, 'consumer durables' is not as large a source of stainless steel demand in China as in other countries, such as India.

The final issue to take into consideration is stainless steel product price.

Firstly, price is dependant on current and perceived future supply conditions. China's integration onto the global market for stainless steel has brought increasing marketisation. However, due to the cost of shipping, trade is still largely dependant on regional markets. The massive investment in stainless steel production capacity in East Asia, and especially in China, has made many steel analysts nervous.

It is more an issue of uncertainty, than of downright overcapacity. One, Chinese officials have announced many new projects, which, if all completed, could take China's stainless Meltshop capacity to 16.3Mt/a in 2010. And two,

the future of stainless demand in China's economic miracle is also uncertain. Some commentators predict annual consumption growth of 6%, while other think 12% is more accurate.

Table 3.1 Estimated new capacity in China ('000 tonnes)

	Meltshop	Cold rolling mills
2005	475	830
2006	1700	830
2007	1800	600
2008	1000	830
2009	480	730
2010	250	590

The above estimations are from steel research group, Steel and Metals Marketing Research (SMR). An analyst from SMR also wrote that this estimation is based on a strong likelihood that the above projects will come online. The above estimation does not include a number of 'planned', which SMR believes will not go ahead given the 2004/2005 policy turn-around.

The scene has changed significantly from 2000 when Government first started rapid capacity expansions; high industrial demand was keeping prices high. Over-capacity and high raw material prices looking forward have suddenly threatened many of these new bi projects. As a result, much uncertainty exists in the global stainless market about how many more of these mega-projects are going to actually come online. These will make an impact of future prices and hence on future demand (through price levels) in China and the world.

Secondly, the reliance on the volatile global markets for Nickel, Cr and stainless scrap mean that, unless there is significant irrationality in stainless steel producers' pricing models, the final price for stainless will also be very volatile. A widely used system of surcharges is added to the 'final' price of steel products to allow for volatility of certain metal prices. Coking coal and iron ore is not as volatile in price, usually built into medium term contracts. In

April 2005, iron ore prices facing Chinese steel industry were raised 71.5% by the large suppliers. The complex nature of different types of stainless and imbalances in steel grades and types in China's capacity expansions, mean that structural shortages and surpluses in an increasingly marketised trading system for steel in China will add to the volatility of price. This volatility may discourage the growth of a wider range of stainless applications in society.

Thirdly, the consumption of stainless steel for aesthetic (exterior) purposes is highly elastic. Many alternatives exist, not only from other forms of specialised alloys, but also from other non-metal construction materials. The world will probably continue to demand stainless steel kitchenware, but whether the next generation of the world's tallest building are coated in stainless steel is a question of taste.

At the end of the day, future stainless steel consumption is difficult to predict. As a result, analysts have used a number of methods on which to base their estimations: (Though it's not always clear which of these have been used)

1. Extrapolating a 5-year average demand and estimating price based on more reliable future supply figures.
2. Per capita consumption in similar countries
3. Linking stainless steel consumption to GDP growth figures
4. Linking stainless steel consumption to global figures for stainless steel as percentage of total steel production and consumption. Stainless steel consumption in developed countries accounted for 2-3% of total steel consumed/produced. In 2003, only 1.3% of total steel consumed in China was of the stainless type.

In the forecasted consumption figures used below, most estimations are based on a lose presumption that current stainless consumption demand will continue along a straight line path linked of around forecasted GDP growth; 9%. This is probably the middle-ground for estimations. Other analysts have commented that the short-term picture for stainless consumption is not as rosy, pointing at the damage done to the 'stainless image' by the low-quality

J4 201 series, the continued high prices of raw materials, and the continued arguments that China's long-term growth path will come down to the 5-7% range.

However, over the longer term, it is useful to also look at a per capita consumption figures to see where China's stainless consumption could be heading. Using these figures as guidelines will probably give a high-path picture of future consumption.

Table 3.2 Per Capita Stainless Steel Consumption (kg/person)

	PRC/HK	USA	Germany	Poland	Turkey	India	Japan	S.Korea	Taiwan	World
1990	0.3	6.2	11.7	0.3	1	0.2	16.5	12.1	15.1	
1996	0.9	8.5	13.9	1	1.3	0.2	19.7	18.8	31.6	
2000	1.5	8.7	17	1.7	1.7	0.3	18	20.9	36.2	
2004	3.5	8.1	14.8	2.4	2	1	17.8	24.3	38.2	4

Looking at the above graph, we see that China's per capita stainless consumption (incl. Hong Kong) has jumped from 0.3kg/person in 1990 to 3.5kg per person in 2004. More interestingly is the jump from 1.5kg per person in 2000 to 3.5kg/person in 2004. Asia's export-orientated economies show much higher per capita consumption figures, even higher than the equivalent figures for Germany and the US perhaps pointing the direction in which China's market might be headed.

According to demand extrapolation-based consumption figures, China's per capita consumption in 2010 will be around 5.5kg per person, still a long way from S. Korea and Taiwan. More reassuringly perhaps to China's stainless market, is the eastwards shift in stainless consumption from Europe to Asia. This is encouraging for Asia's stainless industry as much of the new production capacity is being built in China instead of South Korea, Taiwan and Japan.

The world-wide figure is around 4.0 kg person. (23.0 Mt/a for a population of 5.5bn people)

4.2. China's Apparent Consumption:

Since the 1990s, global consumption growth rate for stainless has accelerated dramatically. Driven by technological advances of stainless production and the promotion of a growing field of application, stainless steel has gained market share on a number of alternative materials. In 1990, global apparent consumption was 9.84Mt but this figure has risen sharply over the past decade to 23Mt in 2004, a CAGR of 6.4%.

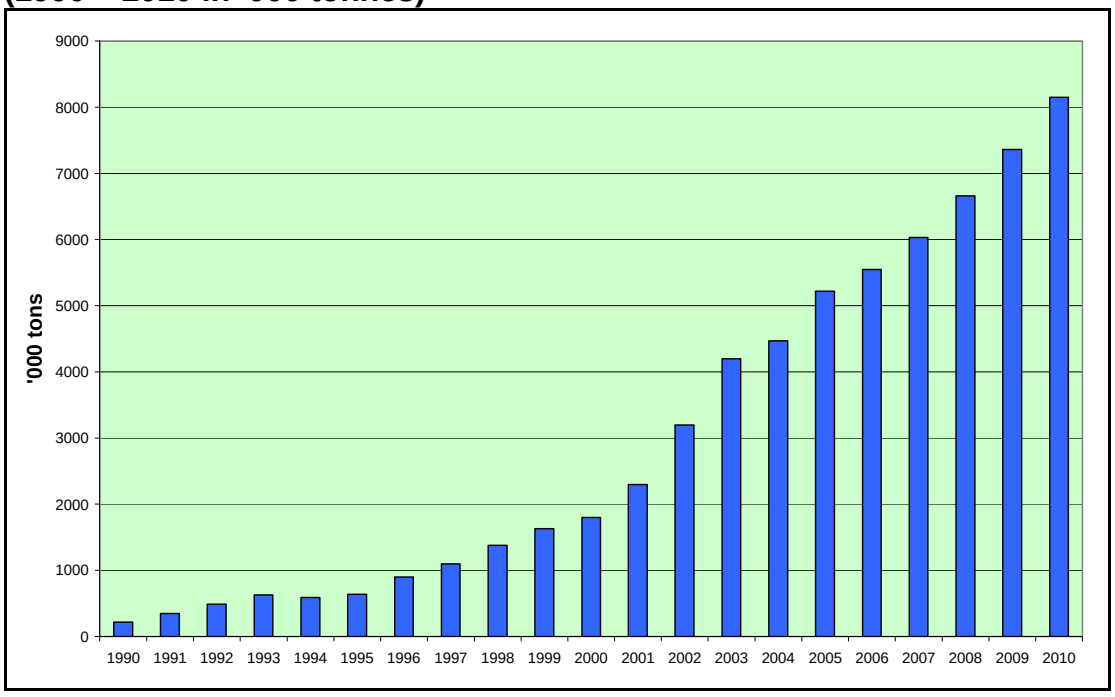
Beginning in the mid 1990s, the shift in SS consumption and demand towards Asia has been strongly shaped by China. The country's share of global consumption increased from about 7% in 1992 to about 19% in 2002, around 24% in 2005. It is predicted this share will reach about 31% or 9.7Mt by 2012. (This figure is highly dependent on continued GDP growth, the extrapolation of current stainless demand trends, and stainless steel prices.)

Growth has not always occurred at the same speed. The slow rate in the 1990s increased remarkably towards the end of the last century. In the year 2000, China recorded 1.7 million tonnes of consumption with a 13% growth rate. In 2001 demand in the country reached 2.25 million tonnes, with a growth rate of 30%, exceeding that of the USA and making China the largest stainless consuming country worldwide. In the following year, 2002, that demand further increased, with a growth rate of 40%, to 3.2 million tons, thus approaching the sum of Japanese and US demand put together. A growth rate of 30% in 2003 kept up strong demand for imports but growth rates started slowing again in 2004 (6.9%), as higher raw material prices forced up stainless prices which pulled back consumption.

The latest figures from CSSC show that China consumed 5.22Mt of stainless steel in 2005. This figure was 750'000t higher than 2004. An increase of 16.78%.

The graph below shows China's total consumption of stainless steel products between 1990 and 2010. These figures include HR and CR products. Consumption started increasing rapidly from 1996, supplied mainly by imports. Again, consumption growth levels in 2001/2002/2003 were very high.

Fig 3.2 China's Total consumption of stainless steel products (1990 – 2010 in '000 tonnes)



Source: CISA

4.3. Stainless Steel Markets Growth Prospects:

Looking at the above figures, it is necessary to extrapolate on the forecasted figures for 2006-2010.

A major Chinese stainless company predicts SS consumptions rates will grow 9.0% from 2005-2008 This company argues that infrastructure spending on the Olympics will support demand. And after 2008, stainless will grow at a long-term average of 7.0%, linked to China's GDP growth. If this prediction holds, Chinese downstream stainless users will demand around 7.2 Mt of stainless in 2010.

However, this estimation has already proved to be too conservative. China's consumption grew only 6. 9% in 2004, but then increased 16.78% in 2005, already above the medium-term forecast. (This is also likely affected by the slow consumption and stock-piling in 2004.)

However, a report from China's Academy of Social Sciences argues that, if the Chinese economy grows at 7% a year until 2010, China's stainless consumption should grow at 10.5% a year until then. (The above graph reflects this estimation) This would lead to a stainless demand of 8.15Mt in 2010.

Depending on how both the demand and supply forecasts pan out, China could become a net stainless exporter in the next year or so. If consumption grows at 9% per year, this will happen in 2007. However, if, as China's Academy of Social Sciences suggest, consumption grows at 10,5 %, this will only occur in 2008/09.

4.4. Present Stainless Steel consumption patterns

As mentioned above, it is difficult to predict the future consumption quantities of stainless steel. SS demand is dependant on both industrial development and demand for consumer products. It is also dependent on the range of applications in general society, as one of a number of similar alloy and non-metal materials.

The table below shows the breakdown of China's stainless steel consumption by product type in 2005. China shows especially high demand for Flat products making up 85% of consumption. This has also been the reason for rapid production expansion in especially CR Flats as in the mid-90s, China's CR flats self-sufficiency ratio was only 20%.

Table 3.3 Total consumption by product type for 2005 ('000 tonnes)

	Amount '000t	% of Total Consumption

Total Consumption	5200	100
Flat products	4440	85
Long products	593	11.4
Pipe and Tubes	187	3.6

Summary of Stainless Consumption patterns up till 2005:

- Gradual slowdown in stainless Consumption from high levels in 2002/03. Consumption growth was 6.9% in 2004 and a robust 16.78% in 2005.
- It is predicted that between 2004-2008, China's stainless steel consumption will average between 9 and 10.5%.
- Consumption in China is dependant on both the for-export consumer durables production and, importantly, domestic industrial and construction development.
- End users in China appear to be relatively price conscious. This is shown by the gain in market share in the (lower quality) 200 series despite stable ratios between various end users
- Rapid growth of consumption of stainless steel pipe in new water, oil, gas pipeline systems.

In order to extrapolate on China's future stainless consumption patterns, we should identify those variables that make up stainless demand in China. Therefore, it is essential to look at the current range of application of stainless products in China. We should comment on which downstream industries utilize stainless products. And, by making some comments on the future developments in these sectors, we are able to have a batter idea of the outlook of China's stainless market.

Broadly, stainless demand in China is based on 4 pillars (See below):

- Consumer durables
- Transport

- Industrial applications
- Construction

The 2 graphs below show the percentage of total stainless steel that each end-user industry consumes. The data below shows an additional category for ‘Pipes and Tubes’. This is because the Pipe producing industry uses stainless steel flats as its major input. The demand for ‘Pipes and Tubes’ is ultimately also driven by the industrial and construction industries mentioned above.

The first graph shows that breakdown of stainless consumption by industry in China. The second shows a equivalent breakdown for India. While China a very large supplier of stainless Kitchenware and other consumer durables to the world, it is the Industrial and Construction industries (incl. Tubes and Piping), which have driven China’s dramatic consumption increases. By comparison, India’s stainless consumption is dominated by the consumer durables industry. Relatively low levels of infrastructure development in India have not provided the additional source of demand that the capital expenditure boom in China has given to its stainless industry.

Fig 3.3 Graph of consumption of stainless steel in China by end-user (2003)

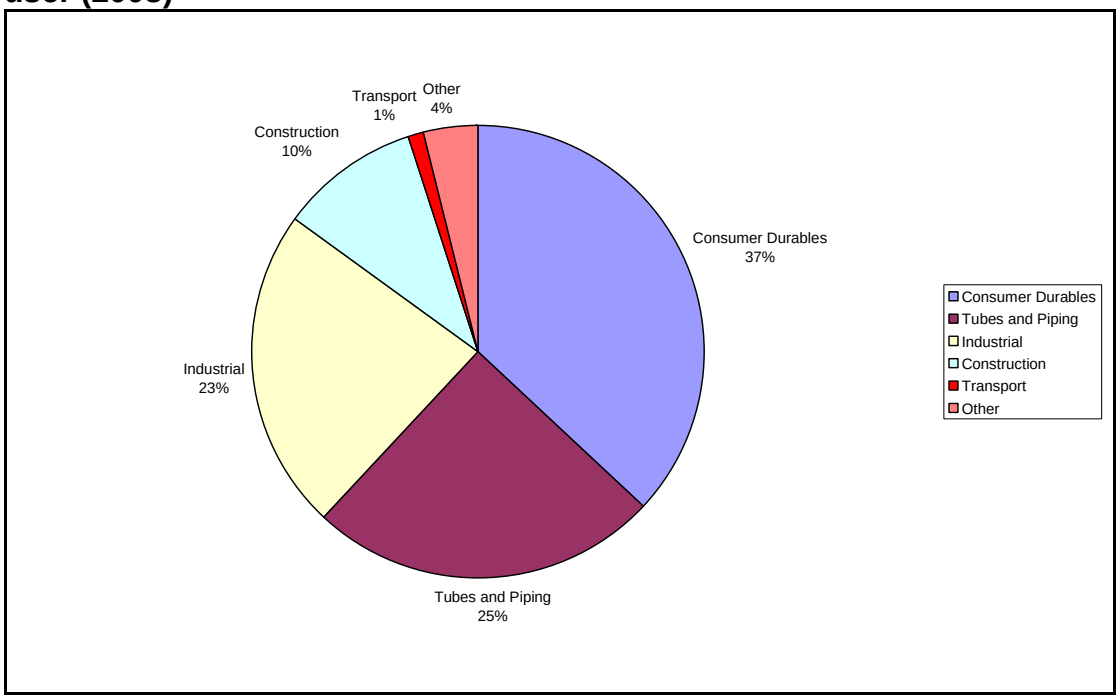
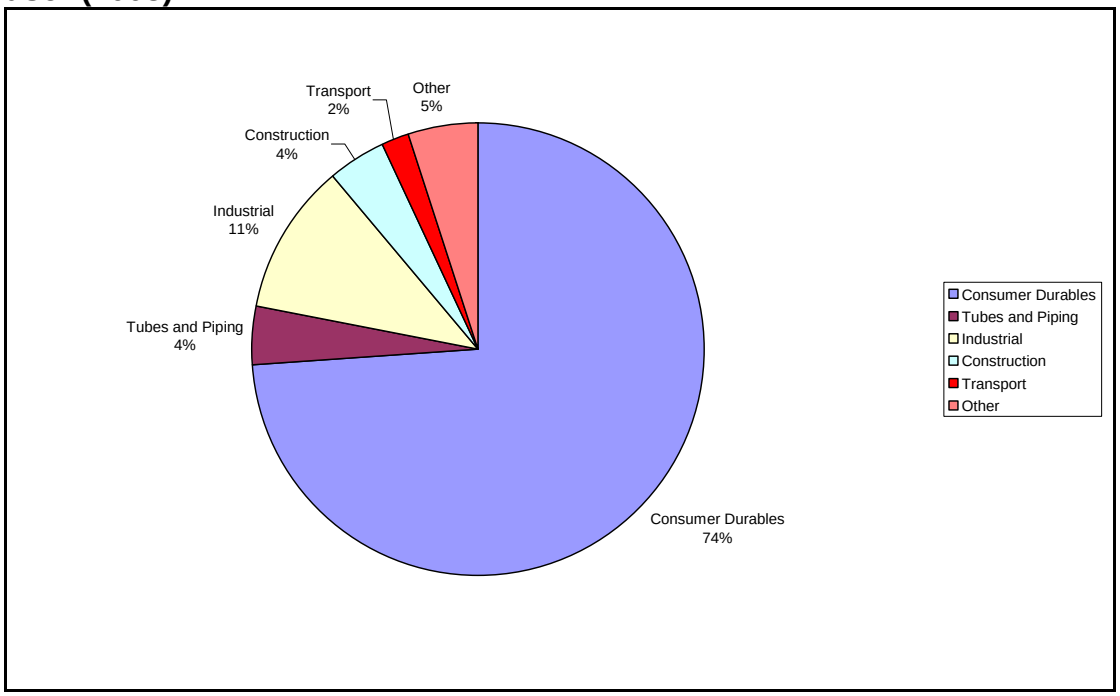


Fig 3.4 Graph of consumption of stainless steel in China by end user (2003)



Consumer Durables

This sector is a major market for China's high-quality stainless sector, consuming 37% of total production (50% if you exclude Tubes and Piping). This includes kitchenware and other white goods. 75% of the volumes produced in China's consumer durables sector are exported. China produces 60% of the world's flatware (cutlery), and last year 90% of the flatware produced in China was exported. This sector equates to around 1 Mt/a of stainless steel exported from China in the form of consumer durables.

The main grade of stainless steel used in this sector is the 400 series (50%). In the balance the 200 and 300 series are substitutable.

Prospects for this sector remain very good as China is increasingly becoming a global player in the production of kitchenware and white goods, even stealing market share from Japan and Taiwanese producers.

Transport

Stainless steel products are also widely used in the automotive sector, both as parts and in the production machinery. By 2010 vehicle production is estimated to reach 10 million units a year from 4 million units per year in 2003. This would lead to a rapid growth in consumption of ferritic stainless steel. (See below: Steel Pipes)

Industrial applications

The main Industrial applications are in the chemicals, petrochemicals, oil refining, and power generation sectors. (Also see below Steel Pipes) Growth in this sector is driven by industrialisation and upgrading of industrial facilities. In the past 15 years Industrial production as a % of GDP in China has increased from 39% to 56%, and continued growth is expected as China builds industrial capacity. This is a major driver of general raw materials consumption. The central government has identified the chemical sector as a key industry. It is expected that this sector will grow at a CAGR of about 10% for, at least, for the next 5 years.

Stainless demand for industrial usage is dominated by 300 series, and the higher Nickel bearing alloys are also in demand here. Use of 200 series is restricted and especially so since the abuse of the J4 200 series by sub-standard products in the last 3 years. Corrosion and thermal resistance are the main failures of the 200 series and these types of malfunctions will not be accepted in the industrial sector.

In a major industrial project the stainless steel cost is only around 5% of the total materials spend. There is also talk of shifting certain stainless usage in this sector to other metal materials due to the high Ni prices looking forward. However, a analyst from BHP Billiton believes that the delta in cost between stainless grades is not large enough to drive substitution to lower grades of steel or other materials. Thus if a sufficient quantity of higher quality Ni-based stainable is available at reasonable prices on the market, industrialisation will continue to be a key growth sector, and substitution will not be significant.

Stainless steel also has applications in the specialised machinery industry. At present, much of China's specialised machinery is imported from Germany, the US, Italy and Japan. However, as China's industrial sector makes technological advances, Government is trying to bring more of the global R&D spend and machinery construction to China.

For example, CISA estimates that the electronics, precision instrument machinery sectors have an annual demand of 5,000t of stainless steel pipe per year, while the light industry, medical care and pharmaceutical sectors consume 20,000t per year.

Construction Industry

The key driver in the construction sector is urbanisation. In China, 10 years ago about 28% of the population were city dwellers. Currently this figure is around 38%. By 2025 this will increase to 65%. We are seeing around 15 million people a year moving from the countryside to cities. This is a trend which is unlikely to halt even if economic growth does slow down. A major issue during the recent National Peoples Congress in Beijing is how to rapidly

increase urbanization and build new cities. This will reduce pressure on the land, build a service economy and assist government in raising rural income levels.

If China does stay on its current high-growth path, it will be a massive boost to stainless consumption. Demand in this sector is driven both by an infrastructure element (stainless pipes in water systems and gas systems) and well as in aesthetic applications (external areas of buildings, public park railings, household non-consumer applications.)

This sector is the major consumer of 200 series. 200 series has already permeated to all applications where it can be used. In fact, in recent years, analysts believe it has been used on far too wide a range of applications. It constitutes over 60% of all stainless for this construction sector. This “substitution” for 300 and 400 series has largely taken place in the last 3 years. It is quite possible that 200 series usage may decline in relative terms in the future as greater awareness about different grades of stainless is established and the non-suitability of 200 series for certain applications becomes “visible”.

The main point here is that 200 series not only has technical limitations for users but also economic limitations for large stainless producers. Its use in the re-smelting of scrap is highly problematic due its high levels of Cr and Mn. It is generally undesirable and wasteful product in the stainless life cycle, but end-user cost considerations and cheap Indian imports have held up demand for the 200 series.

Building China’s new cities is following a very different architectural and construction material route to similar construction booms in the 20th century. Today’s materials did not exist then. China’s architects and designers have modern materials – stainless steel, plate glass, plastics, to create their spaces and realise their visions. Stainless steel is versatile, attractive, strong, recyclable; an ideal material for the 21st century economy.

Stainless steel is attractive not only for its appearance but because of its strength and durability. Experience in other countries has proved that the metal is of high structural value in buildings in costal areas, due to its anti-corrosive properties. Therefore analysts expect strong growth from the construction sector in China's coastal development belt.

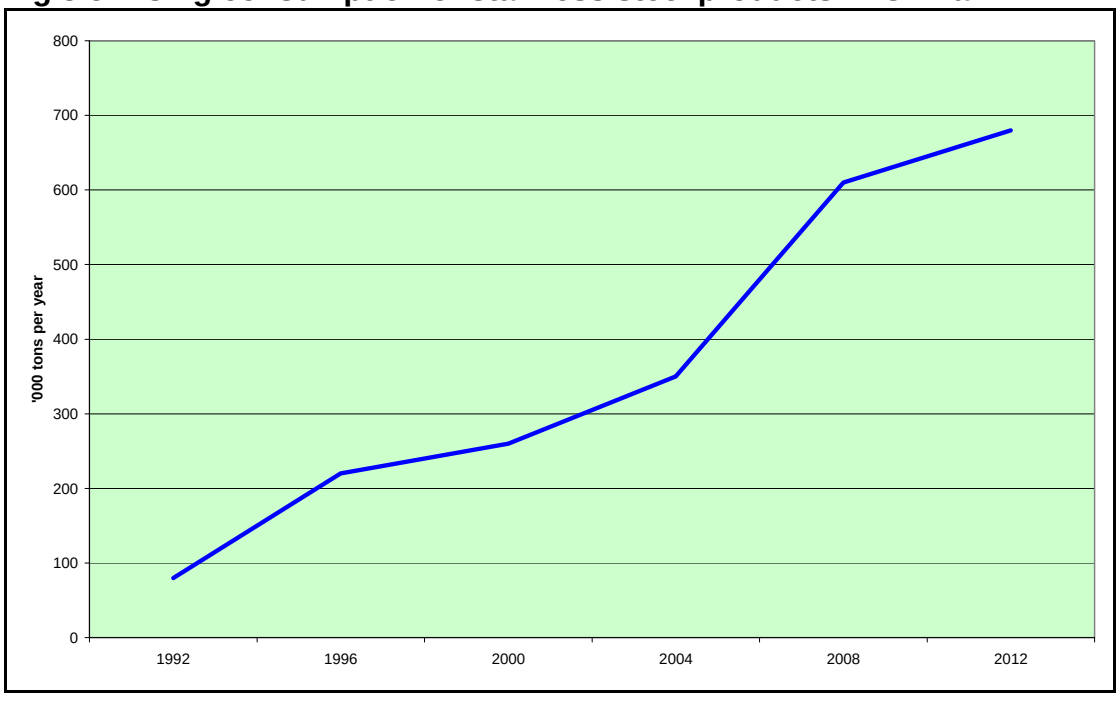
The 300 series has arguably got huge potential in this sector as it has more than just an external use function in architecture. However, it has been plagued by its dependence on the volatile and currently very high prices of Ni on the international market.

4.5. Stainless pipes, tubing and fittings

Stainless pipes and tubing is also a major growth area for the application of flat products. The potential application is in a number of industrial and construction-related areas.

The graph below shows that rising consumption of stainless pipe products in China.

Fig 3.5 Rising consumption of stainless steel products in China



In recent years, domestic application range of stainless pipes has been enlarging. This has lead to higher growth levels for demand of stainless steel pipes relative to other economy growth levels and the steel industry as a whole. The following industries show strong demand for stainless tubes and pipe products:

4.5.1. Chemical fertilizer

The chemical fertilizer and petrochemical industries are the biggest consumers of stainless pipe in China, making up two-thirds of the total consumption. By 2003, China has introduced 28 sets of large carbamide production facilities. There are 56 medium size fertilizer plants and over 1,100 small fertilizer plants. The production will reach 150 million tons of chemical products in 2005. However, the Fertilizer industry still has a 30 million tons supply gap.

The government recently unveiled plans to investment more than $US 1 billion over the next 2 years to build 10 large fertilizer plants and renovate hundreds of mid-sized and small plants. It is calculated that the facilities on a 520,000 ton carbamide and 300,000 ton synthetic ammonia will require 2,018.5 tons of stainless steel pipe. Therefore, the stainless pipe needed by the building, upgrading and maintenance of only China's large fertilizer facilities is around 60,000 tons per year. This does not include the stainless pipe for small and medium fertilizer plants.

Much of the high-quality pipes in this sector have been imported, and imports of these products continue to show string demand. Despite a massive investment in a pipe production facility in Tianjin (TPCO), much of the flat products that will be formed into piping will still be imported.

4.5.2. Petroleum refineries and pipelines

The Petro-chemical industry is in a investment upswing following high prices and worries over future supply and refining capacity.

China’s Petroleum Industry has an even greater demand projection for stainless pipeline piping products in the next 10 years. China's oil companies are also starting to build extensive oil pipelines to deliver crude oil from ports to refineries and carry oil products from refineries to the market. Transportation by pipe is much cheaper. cleaner and safer than rail or road transportation.

Normally Russian oil imports come by rail to the oil centre of Daqing. But recent developments involving the China-Japan tussle over Russian oil appears to be swinging Beijing’s way. Huge infrastructural developments will be needed to move this oil down to the South-Eastern Coastal belt where China economic boom has been focused.

A further trend in the domestic oil industry should make stainless pipeline producers smile. As the nucleus of the oil production sector shifts from the North Eastern fields around Daqing to the recently discovered reserves in the Far North West, oil-industry pipeline producers are predicting huge spending in oil refining and conversion facilities in the Far West. This region is more than 4000km from the South Eastern development zone and currently most of this region’s oil production is transported by rail to refining facilities in Central and North Eastern China.

4.5.3. Petrochemical and Chemicals

The Petrochemical industry development paints a rosy picture for pipe producers. It is estimated that China’s domestic production of for ethylene-derived products would reach approximately 15 million tons by 2005, with synthetic resin products rising to 27 million ton, and organic raw materials (such as acetic acid, phenol, acetone etc.) rising to 5.6 million tons. One polyethylene phenol facility will require 99.1 tons of stainless pipe, of which,

108-630mm large gauge stainless pipe accounts for 53.79% of total pipe consumption.

The rapid development of the petrochemical industry, and the capital investments that are required to sustain this rise, has been a major driver in the demand for stainless steel pipes.

4.5.4. Power-Generation

The Power generation sector has become a major consumer of steel sheet and piping in recent years. As China carries out its plans to reduce its dependence on coal-based power generation to particularly nuclear power, the steel pipe sector is expecting a new source of demand By 2010, China's power-generator capacity is expected to reach 260-300 million kw. 5 million kw of nuclear power plants are already under construction, with 10 nuclear new plants each capable of producing up to 600,000 kw in the pipeline.

A 600,000-kw boiler will require 455 tons of pipes and tubing. A 600,000 kw of nuclear power plant will need 100 tons of U-shaped heat-conducting pipes, and in large quantities of other steel piping. The boilers will need a considerable amount of ultra long stainless pipe. For instance, the annual demand for 16mmx2.11-2.50mm pipe (at a length of 22-24m) will stand at 7,000 tons, and the demand for 16mmx1.2-3.0mm (at a length of 12.5-18.0m) at 7,000 tons. At the moment, all of these products are imported.

4.5.5. Automobile Industry

China's ballooning Automobile production and assembling industry is a minor but increasingly significant consumer of stainless steel piping. For example, the production of a single Santana B5 luxury sedan, produced by the Shanghai/Volkswagen JV, requires 20-25 kg of stainless pipes. The production of a GM BUICK sedan requires 25-30 kg of various specialized steel piping. Facing crippling production costs in most traditional production centres in Europe and the US, GM and Ford are planning to double and triple their production capacity in China over the next 5 years, respectively.

Automobile production in China in 2004 rose to 2.5million vehicles/year. This related to a 21% year-on-year increase which was inline with above 20% growth figures that have been projected until 2010.

4.5.6. Urban Renewal

Recently, a number of Chinese cities have begun to use stainless pipes in water and gas transportation systems. CISA predicts that as more China's cities, facing serious water quality and water shortage pressures, begin to upgrade their existing water supply systems using higher quality steel piping, the domestic steel pipe industry will face significant additional demands. This is over and above new industrial and residential developments. Wuhan City municipality has earmarked considerable sums to invest in the renovation of 13 existing water supply stations.

4.5.7. The East-West Gas Pipeline project

The East-West Gas Pipeline project is an ambitious undertaking to construct a 4,000 kilometre natural gas pipeline linking the recently discovered as fields of the Tarim Basin in the Xinjiang Uygur Autonomous Region and the eastern industrial hub of Shanghai. The project aims to quench some of the ballooning demand for energy in Coastal development belt. It is not only a vital cog in Beijing's strategy to meet China's national energy security, but also is the mainstay in plans to reduce reliance on coal-based power.

Currently, natural gas accounts for less than 3 percent of the country's total energy consumption. But there is a growing appetite for clean fuel, and demand for natural gas is expected to reach 100 billion cubic meters in 2010. This figure is forecast to double by 2020. As a result this project has received special attention from the central government. The increased reliance on gas is a major boost for stainless steel demand and especially for stainless pipes. Stainless pipes are used in the extraction phase, the piping phase, the conversion to electricity and in the distribution to factories and homes.

The pipeline will supply gas to the industrial boom provinces of Henan, Anhui, Jiangsu and Zhejiang provinces as well as Shanghai. PetroChina, the country's biggest oil firm, is the main sponsor of the project, which has a designed annual transmission capacity of 12 billion cubic meters. PetroChina will endeavour to boost the project's annual capacity to 18 billion cubic meters in 2006 by setting up 10 gas-compressing stations along the line. The Tarim Basin, the main gas source of the project, has estimated reserves of 545.7 billion cubic meters and 390.6 billion are already available. Additional gas sources will come from the Changqing, Shaanxi gas fields in North-Central China.

While the first phase of the project has recently been completed, changing circumstances have necessitated the expansion of the project. In the recent release of the 11th Five Year Plan (2005-2010), the government has highlighted the need to expand The East-West project. The prospect of sustained high oil prices and the recent national security concerns in international oil industry has highlighted the need to increase reliance on gas.

The project has, however, faced problems from the demand side. Major industries in the Yangtze River Delta have been slow to develop capacity to utilize this new energy source. While gas-based power generation is still double as expensive as coal-based generation, government has announced incentives to major energy users to increase consumption of gas. The second phase of the East-West project involves the development of an extensive network of subsidiary lines along the trunk-line and constructing urban gas networks to establish a national gas network.

It is estimated that annual steel pipe demand in the Yangtze Delta region will reach around 300,000 tons by 2007. The development of the gas-based power generation and distribution to households will be a major boost for stainless pipe consumption.

4.6. Considerations

1. China's stainless steel market has grown steadily since 1995, show especially strong consumption growth since 2000. Consumption growth was around 30% y-o-y from 2001-2003. Consumption growth slowed to 6.9% in 2004 as prices rose rapidly.

2. China consumed 5.2Mt of stainless steel in 2005, 16.78% more than in 2004.

3. Though forecasts differ and much depends on futures prices, China's stainless market is expected to grow by 9 – 10.5% until 2010.

4. China has lead strong global stainless steel consumption over the past decade. Between 1995 and 2003, global consumption grew at 54.8%, Asian consumption grew at 84.5%, while China's stainless market grew by 463% over the same period. China's consumption growth made up helped alleviate rising global over-capacity.

5. In 2004, China accounted for 19.4% of global production.

6. China's per capita consumption of stainless steel rose to 3.5kg/person in 2004. The equivalent figures for other key countries follow: South Korea (24.3), Japan (17.8), and Germany (14.8). These figures represent the potential for China to develop into a massive stainless steel market over the next 20 years.

7. 37% of China's stainless steel is used to manufacture consumer durables. (i.e. flatware and white goods). 75% of this production is exported. In contrast, 74% of India's stainless steel is used to manufacture consumer durables.

8. Industrial and Construction applications account are strong sources of stainless demand. If the figures for 'Tube and Pipe' consumption are

added, these two industries account for around 60% of China's stainless steel consumption.

9. Strong production growth in the automotive and components manufacturing sector is a new source of demand with significant potential for the stainless steel sector.

10. Looking forward, the market for stainless Tubes and Piping shows especially strong growth. A number of key infrastructure and pipeline projects will create strong demand for stainless pipes, a category which, up till now, has largely been satisfied by imports.

5. FEATURES OF THE INDUSTRY

5.1. Distribution

For much of the 21st century, China's industrial activity was based around the Russian/ Japanese built railways of China's North East. However, since opening its economy in late 1978, the focus of economic development has shifted to China's South East Coastal Belt; more specifically, to the Pearl Delta and the Yangtze Delta regions. These two regions operate as region production/ manufacturing bases, making use of consolidated industry supply chains and network externalities.

This regional distribution of economic activity applies to the steel industry as well. While China's ferrous steel production takes place all around the country, but especially in the North and North East, China's smaller stainless steel production facilities have focused much more on the South. Most of today's facilities are in the two above mentioned regions or Guangdong (South) and Zhejiang, Jiangsu and Shanghai (East). The exceptions are the TISCO facilities which are based in the coalfields of North Central Shanxi province, and the new steel pipe development in Tianjin.

This regionalisation becomes more obvious as we move into downstream stainless products. China's two steel 'markets' are based in Wuxi (Jiangsu province just outside Shanghai) and Foshan (Guangzhou, Guangdong province).

What started out as a collection of similar steel manufacturing industries, has now grow into two fully-functions, highly marketised steel markets. Their prices feature on global steel price indices. Based around these 'markets' are hundreds of stainless steel SMEs producing speciality steels, piping, and kitchenware sourced from the few large producers. The 'markets' are developing into more integrated 'trading markets', with a new, fully electronic trading platform being developed for steel products, in Foshan.

The table below shows the numbers of stainless steel (and other metal-based0 manufacturers of consumer durables. Note the national total of 1647 enterprises. There is little consolidation or monopoly power in the downstream stainless industries. Producers are based on Zhejiang and Jiangsu provinces (in Yangtze Delta cities of Ningbo, Hangzhou, Suzhou, Wuxi, Nanjing, Wenzhou and Shanghai) and around Guangzhou in the pearl River Delta. Rising material costs and labour wages in these areas has been forcing some low-end manufacturing into less developed provinces. Shandong province has become a new, low-cost manufacturing base for many industries, with close access to Qingdao and Tianjin port facilities.

Table 4.1 China's Stainless Steel (and 'other metal' based) consumer durables enterprises

Region	Number of Enterprises
National Total	1637
Beijing	11
Tian Jin	43
He Bei	31
Shan Xi	4
Inter Mongolia	1

Liao Ning	31
Ji Lin	5
Hei Long Jiang	6
Shang Hai	125
Jiang Su	115
Zhe Jiang	297
An Hui	7
Fu Jian	46
Jiang Xi	4
Shan Dong	98
He Nan	31
Hu Bei	19
Hu Nan	14

2006 sees the establishment of a new, advanced metals trading center to improve the marketisation of the steel industry in the Pearl River Delta. Some large steel producers in China have already singed into the Lanshi International Metal Trading Center which is expected to start operation in Foshan City of Guangdong Province in June this year.

Not far from Foshan City is Jiangmen. Jiangmen, located in southern Guangdong province, has been attracting investment from stainless steel cookware manufacturers for many years. Today, the city stands as one of China's top three manufacturing centres of the product.

Jiangmen’s 80 kitchenware producers produce about US$ 300 million worth of stainless steel cookware annually, 85 percent of which is exported. The city accounts for 25% of China's total cookware output. Yangjiang, another city in Guangdong province, and Yongkang of Zhejiang province are the country's other major production centres. (Yongkang is close to Jiangsu’s Wuxi Steel Market).

The main export markets of Jiangmen suppliers are the United States and Europe. Producers also see the Middle East and Southeast Asia as fast growing markets.

OEM orders dominate production. Jiangmen suppliers make stainless steel cookware for such well-known companies as Wal-Mart, Kmart, Texsport, Bergner, Fagor and Update.

Jiangmen, a city of 4 million, has 80 manufacturers of stainless steel cookware, with many of them located in the Xinhui area. Of these suppliers, 10 have an annual export value of more than US$10 million each. These include Hong Hua Metal Products Co. Ltd and Jiangmen Ruixing Stainless Steel Products Co. Ltd. One of the city's largest suppliers, Xinhui Rixing Stainless Steel Products Co. Ltd, has sales of $30 million per year. (See below: Stainless Products producers)

With more than 20 years of experience in the stainless steel industry, Jiangmen’s producers have access to well developed supply and processing networks. The city is home to many stainless steel importers, box printers, and moulding and coating companies. There are also companies in the area that specialize in the production of glass lids and silicon handles, used in making the final kitchenware products.

The hub benefits from the local government's establishment of professional organisations that provide testing and certification services for products and companies. This is in addition to municipal policies that extend tax and labour-related incentives to metal product producers.

Jiangmen's development as a major stainless products production center has been spurred by its convenient location. The city is not far from the major international ports of Hong Kong, Shenzhen and Guangzhou. It is also largely financed by Hong Kong and Taiwanese investors.

While it is impossible to get accurate information on the extent of these incentives, it is widely accepted that these include various municipal rates and taxes, as well as some more significant corporate tax – related benefits.

On the labour side, SOEs have been known to abuse the minimum wage limit rules as well as receiving support from local governments on labour related issues. At the end of the day, hassle-free labour relations contributes to stability and labour costs in many politically connected companies in China.

5.2. Production

“By 2010, if all planned projects are completed, capacity could reach 16.3 million tons, and we feel that’s conservative,” said Chai Zhiyong, president of TISCO, China’s largest stainless steelmaker, at the 4th China International Stainless Steel Conference in 2005.

As mentioned above, even though not all of these planned facilities may actually be built, China’s recent production capacity has already been increasing at more than 30% for the last 5 years.

Globally, of the 4.2Mt of CR capacity to be added between 2004 and 2008, much of this will be in China and Taiwan. China SS (Taiwan) will expand capacity by 1.1Mt/a, Ningbo will expand by 450’000t, TKS-SKS 320’000, Yieh United (Taiwan), ZPSS (Posco) by 80’000t, Nanjing 80’000t. Only Posco (300’000) and Outokumpu (100’000) have significant projects.

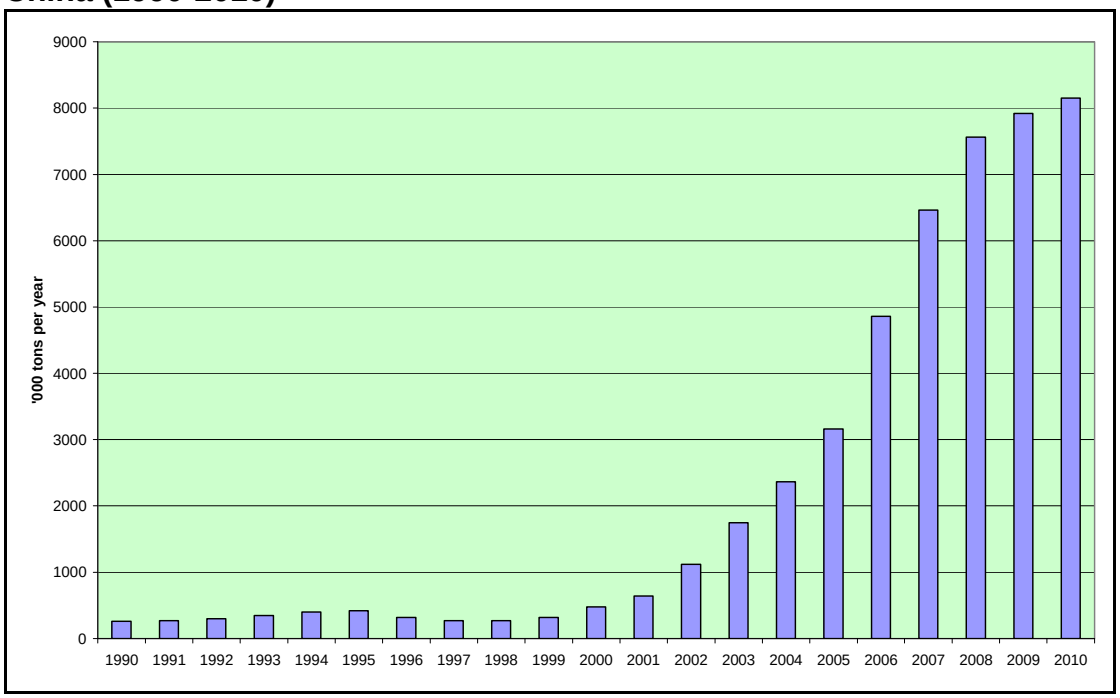
Of the 6.2 Mt/a new global stainless Meltshop capacity, 5 of the top 10 biggest projects worldwide will be in China. Baosteel No.1 and Tisco will each bring online more than 1.2Mt/a in new Meltshop capacity. ZPSS (350’000) and TKS-SKS (300’000) also have major capacity expansions.

The table and graph below shows China’s stainless steel production capacity since 1990. It also shows estimated future production until 2010, taking account of widely quoted figures for productions expansions that are busy being built, or will definitely be built. The data used came from the following estimations by Steel and Metals Marketing Research Group (SMR).

Table 4.2 China's stainless steel production capacity since 1990

Year	Being Built and To Be Built melt shop capacity
2005	475
2006	1700
2007	1800
2008	1000
2009	480
2010	250

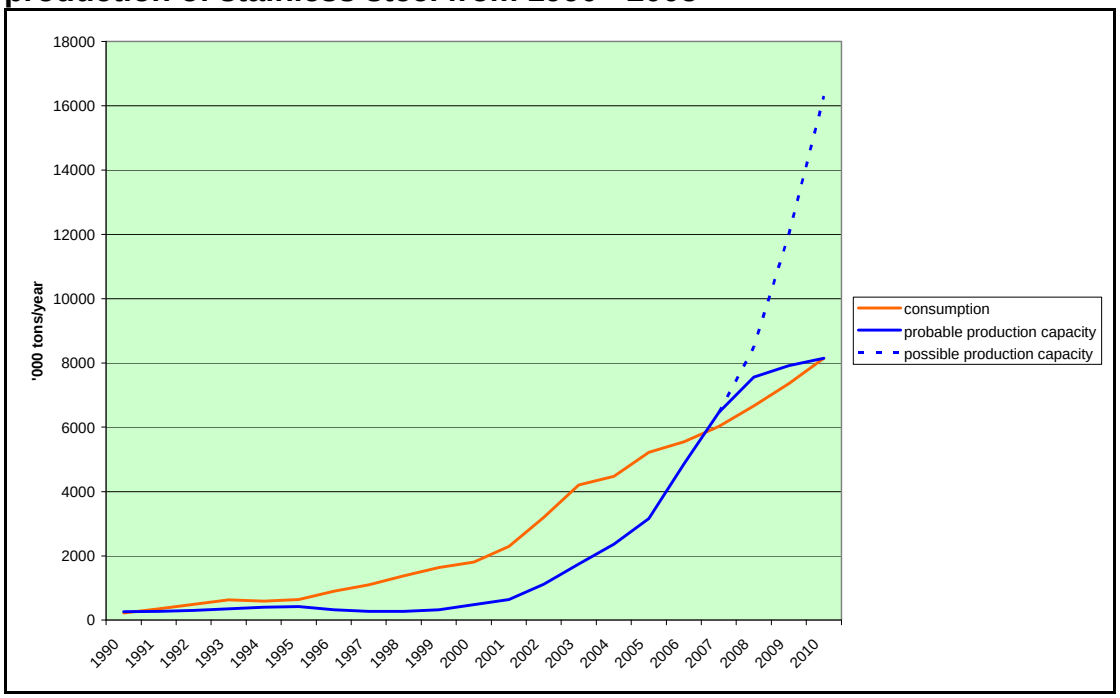
Fig 4.1 Graph of past and forecast stainless steel production in China (1990-2010)



However, taking into consideration Mr. Chai's comments above, and information published on TISCO's website (www. tisco.com.cn), we see a different production picture to the one. Many more projects are being planned for the next 5 years and, assuming all of these are given the go-ahead by the NDRC, China could become a significant exporter of stainless steel in the next few years. This is the scenario that global steel giants are fearing.

The graph below compares China's consumption and domestic production of stainless steel from 1990-2005. It also shows the difference between the being built, and the planned production expansions. Whether the NDRC allows all these planned projects to go ahead will make the difference between having balanced imports and exports in 2010, to China being a 8Mt/a exporter by 2010. There is much uncertainty about what actually happens. But judging from Chinese policy-makers 2004/2005 policy shift and strong calls for capacity reduction, it is likely that true capacity reaches the 8.5Mt- 12Mt by 2010.

Fig 4.2 Comparison between China's consumption and production of stainless steel from 1990 - 2005



5.3. 2005 Stainless Steel Production figures

- In 2005, China output of stainless crude steel (incl. ingots and billets) was 3.16mt, up by 796,000 tons or 33.7% y-o-y
- This production was on an actual capacity of 4.7Mt/a in 2005.

- Stainless products production was 2.66Mt, up by 640,000 tons or 31.7% y-o-y. This included 1.514mt CR sheet/coil (with width of 600mm or above), up 424,000 tons or 38.9%.
  In 2005 China produced 2.3Mt of 'Nickel series' (of this 750,000t was 200 series), representing 72.8% of total stainless production. This showed a decrease of 8.2%.
- 2005 saw increased production of the 'Cr series' at a total of 858,000t. This production represented 27.2% of total steel product production, up 8.1% from 2004.
- Apparent consumption of stainless steel posted 5.22mt for 2005, up by 750,000 tons or 16.78% y-o-y.
    1. Out of the total consumption,
    2. Flats made up 4.44Mt, up by 750,000 tons or 85%;
    3. Long products 593,000 tons, 11.4%;
    4. Seamless pipe 187,000 tons, a proportion of 3.6%.

5.4. Types of products

5.4.1. Flats, Long, Pipe

Table 4.3 Total consumption by product type for 2005 (‘000 tonnes)

	Amount '000t	% of Total Consumption
Total Consumption	5200	100
Flat products	4440	85
Long products	593	11.4
Pipe and Tubes	187	3.6

Flat products:

Flat products make up the majority of domestic production and consumption. 90% of production volumes in China’s stainless sector are in the form of CR flat plates and strips.

In 2005, 85% of China’s SS consumption was of flat products

The production growth in this area has been significant in the past few years. In the mid-90s, China produced on 40’000t of flat products. In 2005, China produced 2.394Mt of flat products. China’s production structure is starting to reflect domestic consumption patterns and production structure in other countries.

China’s cons grew by a massive 463.6% over the period, with most growth coming from the period 2000-2003. China now consumes 72% of the global production of CR flat products

China now meets 80% of its flat stainless consumption. This figure is higher for CR flats than HR flats.

Long products: Wire, Bar, and Rod

Demand for wire and bar products have increased rapidly in recent years. Demand for wire and bars have been driven largely by industrial and construction side of stainless steel demand. This sector has seen global over capacity in recent years and global prices have thus been relatively low. China continues to be a major importer of stainless wire and bars.

In 2005, 11.4% of China's stainless steel consumption was of wire, rod and bar products.

During this period 2000-2003, an increase in domestic production of bar/rod has steadily increased the domestic production to stainless long products. According to CISA, China's self-sufficiency ratio (domestic production as % of total consumption) for long products increased from low levels to around 50% in 2005. However China still relies on imports to meet 60% of its steel wire imports.

Tubes and Pipes

In anticipation of the strong growth in demand for stainless pipe products over the next 5 years, increasing China's stainless pipe production capacity has featured very strongly in steel industry development plans. In the past, this area of demand has been strongly supplied by imports. However, a major focus of the 10th Five Year Plan was building steel pipe production facilities at Tianjin, under TPCO. (See above)

According to CISA, China has over 300 stainless seamless steel pipe producers. The sector is largely fragmented with most producers producing less than 5000 tonnes per year. However, the government has been focusing on a few super-producers with the aim of meeting some of the massive demand of gas and petroleum pipeline developments coming on line in the next 5 years.

The Tianjin Pipeline Corporation (TPCO) is an example of this. Based in the Industrial Development Zone at Tianjin, TPCO currently has a capacity to produce 1,200,000 tons of quality seamless pipes per year. Production is mainly composed of casing, tubing, line pipe – including high / medium / low-pressure boiler tubes, high-pressure cylinder tube, hydraulic support tube, structural pipe and pipes for various fluid transmission purposes. TPCO's products have been used in more than 24 domestic oil-fields onshore and offshore in China, representing a market share over 40% of the domestic market. TPCO's pipe has also been exported to over 60 countries. TPCO is now the largest exporter of seamless pipe in China and is regarded as the industry leader.

In 2005, 3.6% of China's stainless consumption by weight went to pipe and tube products.

5.4.2. Different Stainless Steel Grades

The 200 series

According to Dr. Staffan Malm, Secretary General of ISSF (International Stainless Steel Forum), the 200 series in China has already permeated to all applications where it can be used. It has also gained market share in the CR flat sector, a form which it does not traditionally have a high presence in. This substitution of 300 series has largely taken place in the last few years. In 2002, the 200 series represented 3% of CR flat consumption. But by 2003 this figure increased to 15%. In 2005, 23% of China's production was 200 series. (0.75Mt of 3.16Mt.) Undoubtedly, this rise in consumption has been driven by price consciousness of Chinese end-users. The 200 series requires lower levels of Nickel than the 300 series, helping it to withstand high Nickel prices.

Much of the 200 series has been produced locally or imported from India. Starting in 2000, China started importing large amounts of a CrMn 200 series

product called J4. This was produced by Indian Ss giant Jindal. It had the following properties:

- Cr < 0.1%
- Mn 8.5-10%
- Cr 15-17%
- Ni 1-1.5%
- P< 0.9%
- Cu 1.5-2%

Producers in China also started producing the 200 series. In 2004, it is estimated that sub-standard Series 200 production reached 500’000t. It was very competitively priced and J4 quickly grabbed market share. Up to 20% in 2004, and then dropping down to 15% in 2005. There was widespread passing off J4 as a 300series product resulting in a disturbance of the markets as it was then very cheap.

J4 showed poor rust resistance (due to low Cr and N content but high Mn) damaging the reputation of the 200 series and stainless steel in general. It is also problematic to re-use and thus a waste of precious nickel and molybdenum resources. CISA is investigating whether sub-standard 200 series used in kitchenware causes harm to human health.

Analysts argue that it is quite possible that 200 series usage may decline in relative terms in the future as greater awareness about different grades of stainless is established and the non-suitability of 200 series for certain applications becomes “visible”.

The technical limitations of the 200 series and the continued circulation of sub-standard stocks mean that the 200 series is unlikely to become the dominant grade in China.

200 series has featured heavily in flat and pipe production and in construction, areas better suited to the more austenitic grades and the properties of the 300 series.

The 300 series

According to CISA, the 300 series currently constitutes 45% of total stainless consumption in China and is expected to retain that share for the next two decades. This steel grade shows high levels of application in the industrial and construction sectors, especially where its superior heat-resistant qualities are in demand. These industries include the construction of power plants, in the automotive sector. Analysts see growth potential in China's future plans for the Aerospace and nuclear industries.

However, many supporters point that demand for the 300 series is more inelastic than for the 200 series. The 300 series has properties, which has alternatives, such as titanium which are also experiencing high global prices. In 2001, titanium price was about $4,500 a ton. It is currently at over $45,000 a ton (a multiple of about 10). In comparison, Nickel is currently trading at three times its 2001 price ($16,000/t vs $6,000/t), and the 300 series stainless steel is trading at twice its 2001 price ($1500/t vs $3000/t)

5.4.3. Austenitic v Ferritic

China's stainless production is dominated by austenitics. In 2003, 85% of CR flat production was for austenitic, with only 15% of ferritic steel. Of this, the AISI 304 grade dominates the CR flat market with 70% of the total production, with the AISI 430 claiming much of the remaining share. This situation shows a slightly stronger position for Austenitic grades than in the rest of the world. Global Austenitic to Ferritic ratios have remained largely flat at around 70% since the 1980's, showing a slight recent drop in the US and Japanese markets due to higher global Nickel prices.

This reliance on Nickel has left China industry in a difficult position as Nickel prices have soured since 2001. Chinese policy-makers have been trying to

ameliorate the negative effects of China's exposure to what it calls 'speculation' on global metal prices. This forms part of its strategy to promote massive 'national champions', capable of market power in pricing negotiations in global markets. It hopes Baosteel and TISCO will be able to put some pressure on Nickel producers, though the already massive increase in capacity means that the Nickel producers already have monopoly power position in this market.

That said, the strong presence of construction and construction and industrial end users means that austenitic steel will continue to show higher demand in China in the next few years.

According to the CSSC - , China produced 2.3Mt of 'Nickel' Stainless steel in 2005. This made up 72% of all production. This showed a marked drop from 2004, when Nickel prices had less of an impact and 81% of production was of Nickel steel.

In contrast, Cr-based stainless steel has been making up ground on Nickel. In 2004, 19% of stainless steel produced was Cr based. This figure grew to 27% of all production as China produced 0.858Mt in 2005.

5.4.4. CR v HR:

Much of China's earlier production capacity expansion was directed at CR flat products. As a result, the total supply of CR flat stainless steel first overran the total demand in 2004, allowing for a small net export of CR flat steel. A huge increase in domestic production has resulted in a gradual decrease in CR flat imports from around 1Mt in 2002 to around 0.2 Mt in 2007 (estimated), and restricted to supplying high-tech structural shortages thereafter. China expects to export around 1 Mt of CR flat in 2007, possibly the year in which it first reports a net export in stainless products in general.

Investment in HR capacity has not been as large. As a result, Western European exporters expect Chinese demand to stay strong for the next few

years, with the market possibly only turning into a net HR exporter, possibly in 2008. Even then, China's continued demand for high-tech and specialised HR imports will support Meltshop production in Western Europe. Demand for HR will not drop off as quickly as for CR flat products, possibly only becoming insignificant around 2012 as all of China's planned Meltshop projects come online.

5.5. Number of producers in the Stainless Steel industry

There are 12 stainless steel producers in China which have annual production of more than 50'000 tons.

Looking at the downstream industries using stainless steel, the figures become less meaningful. CISA reports that China had 1637 enterprises in the 'Stainless Steel and Other Similar Daily Use Metal Products Industry'. This most certainly refers to the number of enterprises producing 'consumer durables' of stainless steel and other metals. This figure is only of use to the extent that the table above shows the distribution of these 1637 enterprises in various regions of China.

However, interpreting this figure in more complicated. This section covers a supply chain rather than the market of a single product. The stainless supply chain has a few distinct phases. Firstly, raw materials are processed at the Meltshop into stainless steel ingots, sheets, rods, bars and wire. At this point HR steel is also produced. This stage of the stainless supply chain is heavy industrial and only around a dozen companies have this form of facilities.

TISCO and Baosteel are the major producers. They are also SOEs. Baosteel does have a number of smaller stainless JVs with international investors under its umbrella (such as TKS-SKS), but these two companies remain the most important tools for the NDRC to carry out national industrial policy in the steel sector.

While Baosteel is China's largest general steel industry group, Tisco is much more focused on stainless steel production. Additionally a number of global steel firms have entered into JVs since 1998, establishing a number of Meltshops and CR capacity in China. These firms were attracted by the favourable incentives given by Government, as well as to meet the large supply gap of stainless steel and stainless products caused by rising demand in China.

In the next phase Cold Rolling, cutting and treating of sheets takes place. In this phase sheets (coils) are also formed into pipes and tubes, fittings and other stainless products. This industry is highly fragmented in China. The machinery lines needed to perform these functions are imported from Germany, Italy, the US and Japan.

According to the table below China has 12 large and medium stainless producers, together holding 82% of market share of China's Meltshop capacity. However, the rolling capacity is much more fragmented.

Table 4.3 No. of Stainless Steel Meltshop Enterprises in China

Production capacity '000 tons	0-50	50-100	100-200	200'00-300'000t	0.5-1.0Mt
No. of enterprises	Numerous	5	3	2	2
Total production capacity of bracket ('000 tons)	700	490	540	540	1660
% of Total national production capacity	18%	12%	14%	14%	42%

CSSC of the Special Steel Association has over 150 members. It is unclear how many of these companies actually have the fall into the CR, cutting and pipe making phase and how many of them are focused on making 'articles of steel'.

According to CISA, China has over 300 stainless steel pipe producers each with a capacity of over a ton per year. The sector is largely fragmented with most producers producing less than 5000 tonnes per year.

While accurate information is hard to come by, it is clear that after the initial Meltshop and HR phase, the Chinese stainless industry is highly fragmented. The production of pipes and tubes, consumer durable and construction forms of stainless steel is carried out largely by China's growing 'privately invested' manufacturing sector. However, Government is adamant to maintain Meltshop market share in order to achieve some policy control in a rapidly expanding ss sector and also as part of its general steel sector industrial policy.

5.6. Stainless Steel industry Consolidation

According to Xu Le Jiang, President of Shanghai Baosteel Group, argues that that the degree of industrial consolidation in China's Stainless Steel industry is low. In 2003, the degree of consolidation of the global stainless industry was much higher, at around CR10 83.4% in 2003. In contrast, the rapid increase of 'small-capacity' producers in since 1998 has eroded the Big 2's market share and resulted in a relatively fragmented industry. The CR10 figure for China is around 75, while the Big 2 have 42% of the national Meltshop production capacity.

China's stainless industry is dominated by Tisco and Baosteel, but has recently been joined by a dozen 'small-capacity producers'. Government has been trying to promote consolidation in the industry in the past 2 years and will continue to do so as part of the mergers policy in the general steel industry. Xu says he hopes the implementation of large projects by the BIG 2 will further promote rationalization of the industrial structure, allow for sufficient investment in technological advancements which will assist the sustainable development of China's stainless steel industry.

5.7. Major Stainless Steel companies

5.7.1. TISCO - Shanxi Taigang Stainless Steel Company Co. Ltd (Taiyuan Iron & Steel Group)

TISCO, headquartered in north China's Shanxi province and currently China's largest integrated stainless maker, produced 720,000 tonnes of stainless steel in 2004, and aims to produce 900,000 tonnes in 2005.

TISCO, founded in 1934, is the largest special steel production enterprise in China, with assets worth RMB 23.711 billion. Its main products are plates and include cold-rolled stainless steel strip (coils), hot-rolled strip (coils) and several grades of special steel.

From 1992 until 1996, production was stagnant; amounting to around 50,000 tonnes per year. Then capacity expanded to 330,000 tonnes by 2002. 154,000 tonnes of this production was CR plates (51%), 73,000 tonnes (24%) medium and thick plates, 57,000 tonnes HR coils (19%) and 19,000 tonnes bars and wires (6%).

TISCO is also busy examining further approaches for becoming one of the most competitive enterprises in the world.

It is estimated Tisco's Meltshop capacity will reach 3Mt/a in 2010, rocketing it into the top 3 meltshops in the world, only 0.2Mt/a behind Acerinox and Arcelor. By 2010, its CR capacity is expected to hit 2Mt/a, from 350'000 in 2004. This will make it the 2nd largest CR coil producer after ThyssenKrupp Group.

Tisco is also been a beneficiary of huge state expenditure in CR flat capacity in the last few years and this production trend will extend. Tisco is taking up most of the China's capacity expansions in the CR section of the next few years.

The mill is now operating nine CR lines - of which five were newly installed in 2005. Tisco produced 343,000 tonnes of stainless sheet in 2005, down 14% year-on-year. This decrease in 2005 was in line with Government policy to substantially reduced actual production to help prop up the sharp drop in prices in 2004/05.

TISCO's stainless hot rolled coil output will increase sharply. The company currently produces about 840,000 - 960,000t per year of 300 and 400 series stainless finished products, including hot rolled and cold rolled coil and sections.

According to Tisco's President, Mr Chai, Tisco intends to raise the proportion of 400 series production to one-third of total production in 2006 from one-fifth in 2005, to substitute for imports.

Tisco has also been involved in developing a new type of steel product used in cargo train manufacturing. This product is to be used in manufacturing 3000 cargo trains for Chinese Railway Bureau this year.

5.7.2. Baosteel – Shanghai Baosteel Group Corporation

Baosteel is China's steel industry 'national champion'. It is a sprawling conglomerate involved up-stream and downstream in the steel industry. It is not only a spokesperson for the industry, but as a major SOE, it in part of the national policy-making process and thus a front for carrying out NDRC steel policy.

Baosteel was never well-known for its stainless production. In 2004, it produced only 0.5Mt. However, many of the large stainless projects put forward during the 10th Five Year plan are now starting to come on-stream. (See the list of major Baosteel projects below.)

By 2010, Baosteel Meltshop capacity will reach1.5Mt/a, putting it in 7th place internationally. It would have increased its CR coil production from 300'000t in 2004 to 1.2Mt by 2010, through its Ningbo Baoxin venture.

Baosteel's late entry into the stainless industry has meant it has been able to build brand new facilities utilizing the latest international steel-making technology. As a relatively low cost producer, foreign companies have been very interested in establishing SS JVs with Baosteel. Baosteel's Stainless Steel and Speciality Steel groups are grouped together, alongside Baosteel's massive carbon-based steel production department.

Alongside the already completed projects below, the following projects are in the pipeline:

1. Baosteel No. 1

In May 2004, a HR project was commissioned which was completed in June 2005.

In this state-of-the-art HR facility, a serious of new technologies were added to China's HR capacity. These include a 100t furnace, a 120t converter, a 120t refining furnace, a slab continuous caster and reheating furnaces. These facilities will be able to produce different types of austenitic martenistic and ferritic steels. The new facility will has a capacity of:

- Liquid stainless steel 0.75Mt/a
- Stainless slabs 0.72 Mt/a
- Strip coils 0.587 Mt/a

2. Ningbo Baoxin Stainless Steel Company

The IV phase of a large expansion was commissioned in 2005. This will be a CR strip coil facility with a capacity of 0.6Mt/a. (See below prior phases at Baoxin)

3. Baosteel No. 5

This company focuses on long products and sections. Total long product production for 2004 was 53'000t, additional expansion in 2005 will allow for 88'000t long product capacity in 2006. Additional projects currently in the design phase will raise long product HR capacity to 0.15Mt/a by 2010.

Major Baosteel projects of the 10th Five Year Plan (already completed)

1. Baosteel No. 1 Steel Continuous Stainless Steel Hot Strip Coil Rolling

Execution of this project began in January 2000 and it will go into operation this year. Equipment includes modern production lines such as new steel making, refining, continuous casting and hot continuous rolling facilities that follow internationally advanced three-step production technology, which is highly efficient and cheap. In addition to austenitic steel, the project produces ferrite and dual-phase steel, a radical development in the Chinese stainless steel upgrading.

The major equipment of the plant includes two hot-metal vessel top-blow de-sulpherising units, one 100t AC arc furnace, one 120t AOD stainless steel making converter, one 120t VOD refining furnace, one single-strand/per machine stainless steel slab continuous casting machine, slab running-out, repairing/grinding, thermal, marinating facilities and one set of 1780mm hot strip rolling mill.

The designed capacity is 720,000 tonnes of stainless steel slab and 600,000 tonnes of hot-rolled strip coils, in grades 304, 316, 409, 410, 420 and 430, with austenitic steel accounting for 70%, ferrite stainless steel 25–27% and martenistic stainless steel 3–5%. In addition 201, ultra-martenistic, dual-phase and ultra low carbon nitrogen/ferrite stainless steel are to be produced. Product thickness covers 2.0–10.0mm; with widths 17 ranging from 750mm to 1600mm. Shanghai No. 1 will form the base of Baosteel Group for stainless steel making and hot-rolled fine stainless steel products.

2. Shanghai No. 5 Steel Stainless Steel Long Profile Product

This project constitutes the future basis for Baosteel Group to make fine products of stainless steel bars and wire rods. It was approved in September 2002, with completion planned for 2003. The range of major equipment includes one 60-tonne AC arc furnace, one 60-tonne AOD furnace, one 60-tonne VOD furnace, one 60-tonne LF furnace, one set of three-machine three-strand, four pre-finishing stands, eight finishing stands and four

reducing/finalizing stands, backed up by on-line wire rod diameter measuring and defect detecting devices, finishing, heat-treating and pickling facilities. All this machinery is of an advanced, international standard of technology.

The designed capacity is 300,000 tonnes per year, 125,000 of which is stainless steel. The product range includes stainless steel valves,
stainless steel bearing, cold heading steel, free machining steel and spring steel, with sizes ranging from 5-20mm (wire rods) and 18-40mm (wire rod coils). Of the 125,000 tonnes of stainless steels, 95,000 tonnes are austenitic, 11,000 tonnes are ferrite and 19,000 are martenistic stainless steel.

3. Ningbo Baoxin Stainless Steel Co.

The second phase came into operation in April 2003. The plant was expanded raising the designed capacity of the company to 160,000 tonnes per year including the top-surface quality-grade BA products. The third phase, which came into operation at the end of 2003, includes installation of one 20-high Sendzimir mill, one dressing/grinding line and one tension leveller. This phase makes the capacity of Ningbo Baoxin 240,000 tonnes per year of cold-rolled stainless steel strip coils, leading to significant reduction in costs with products of improved quality

4. TKS- SKS Stainless Steel (Baosteel JV with Thyssen Krupp)

The first phase of this project was put into operation in 2001. In 2002, as reported earlier, the production was 64,400 tonnes of stainless steel or 90% of the designed capacity (72,000 tonnes per year). Currently the second phase is under construction. The main equipment includes one cold-rolled strip annealing/pickling line, two 20-high Sendzimir mills and two recoiling machines. Upon completion in the spring of 2005, the company will reach a capacity of 290,000 tonnes per year.

5. Pudong Steel Cold-Rolled Stainless Steel Strip Coil (Baosteel subsidiary)

This project was started recently and will be completed towards the end of 2005. Using state-of-the-art direct rolling/annealing/pickling technology, one

production line will replace the hot-rolled strip pickling line, cold-rolling line, cold-rolled strip annealing/pickling line and levelling line required in traditional production technology. Adjustments include one direct rolling-annealing-pickling line, one grinding polishing line, one levelling line, one slitting/recoiling line, one coil dividing recoiling line and one crosscutting line. The production capacity of the project is 450,000 tonnes per year of cold-rolled stainless steel strip coils, including grades AISI 300 (80%) and AISI 400 (20%) with a thickness range of 1– 3mm, width 1000–1550mm besides surface quality grades 2B (93%), and No. 3, No. 4 and HL strips

5.7.3. Jiugang (Jiuquan Steel)

In 2006, Jiugang will become China's 3rd largest integrated stainless steel production facility. Jiugang, a large steel SOE based in western China's Gansu province, has recently received official approval from the NDRC, to build a 530,000t/a stainless Meltshop.

The steelmaking investment turns Jiugang into China's third largest integrated stainless mill, behind Tisco and Baosteel.

In 2005, Jiugang completed the installation of a 600,000 t/a stainless hot rolling mill. Although the company began producing HRC, it stopped shortly afterwards due to poor market conditions and the high cost of slab purchases.

Additionally, Jiugang plans to bring another 600,000 stainless cold rolling line into production by the first quarter of 2007.

5.8. Presence of Multinationals

During the 10th Five Year Plan, attracting steel MNC’s was an major aim of policy-makers. MNCs would bring both investment and desperately needed technologies to China’s industry. However, these investments were subject to China’s strict foreign investment restrictions. Foreign companies would have

to invest in JVs with domestic companies, and be forced to make certain technology transfers.

However, due to favorable corporate tax rates and other investments incentives, steel MNCs showed great interest in the Chinese industry. This interest was driven been China's low-tech domestic production facilities and low stainless self-sufficiency.

Most global MNC's have invested in JVs in China over the past 5 years.

Acrcelor, Acerinox, Thyssen Krupp, Outokumpu Group from Europe all invested in JV to produce stainless in China. Posco, of South Korea has also recently invested in 2 JVs. Japan's JFE Steel and Nippon Steel, as well as Taiwan's Yelian Group, Yusco and China Stainless Steel all joined the party.

The following is a list of MNC investments China's stainless industry

1. SKS (Shanghai Krupp Stainless) - with Baosteel
   The TKS-SKS JV is building a stainless steel expansion project, which is scheduled for completion in August 2006. SKS total produce will be 1.5Mt tons of stainless steel per annum. The company produced 90'000t of CR flat in 2005, hoping to produce 100'000t in 2006. ThyssenKrupp controls 60 per cent of the joint venture with a total investment of US$1.4 billion in 2001.
2. Posco has 2 JVs: Zhangjiagang Pohang (ZPSS) and Qingdao Pohang (QPSS)
   These two companies are aiming to raise their 2006 production by 12% and 33% y-o-y to 370,000t and 160,000t, respectively.
3. Taiwan's Yieh United's JV, Lianzhong Stainless Steel Company, based in southern Guangdong province, could raise 2006 CRC output to around 138,000t, compared to roughly 130,000t in 2005. The company is scheduled to start its new US$790 million, 800,000t/a HR mill in May 2006.
   Lianzhong is China's first overseas-invested HR producing company as well as the largest stainless steel production base in South China.

The first phase of the project will be capable of an annual cold rolled stainless steel slab production of 300,000 tons; and the second phase, set begin operation in late 2006, will contribute another 800,000 tons of stainless steel billets, hot rolled and cold rolled stainless steel slabs.

4. Taiwan's Chien Shing Stainless Steel invested in a 600,000t/a stainless steel plant in East China's Fujian Province.
5. Jiangsu Nanjing Ganglian Stainless Steel
   The Nanjing Ganglian Precision Stainless Steel Sheets Company, a joint venture established in November 2001 by the Nanjing Ganglian Metallurgical Group and the Hong Kong-based Xinhua International Co. produces 300'000t of CR flats a year.
6. Changchun Stainless Steel Industrial Zone
   Located in Changchun city, the capital of Northeast China's Jilin Province, the project was initiated and invested by Taiwan Walsin Lihwa and Tang Eng Stainless Steel Plant.

5.9. Downstream Stainless Products Industries

5.9.1. Catalytic converters:

China has recently developed a gasoline vehicle catalytic converter technology capable of meeting EU 3 emission standards.

Beijing Greentec Environment Group has successfully developed a gasoline vehicle catalytic converter adapted to the EU 3 emission standards. The successful evaluation of the product was completed on 28 December 2005. The company is capable of manufacturing 20,000 gasoline catalytic converters annually.

The newly-developed catalytic converter technology symbolizes Chinese first independent technological breakthrough on automobile emissions field, and it's a breakthrough on Chinese automobile catalytic converter industry. This market has previously been supplied largely by imports.

In 2003, Beijing Greentec Environment Group undertook the research and scale production project of gasoline catalytic converters adapted to EU 3 emission standard. After the two-year research, support tests were successful and two production lines was constructed which will manufacture 20,000 gasoline vehicle catalytic converters a year.

Currently, China has three national automobile catalytic converter enterprises: Beijing Greentec Environment Group, Wuxi Weifulida Catalytic Converter Co. and Kunming Institute of Precious Metal, with a total production capacity of 300,000 to 500,000 sets.

5.9.2. Food machinery

Between January and December 2005, China imported 412 sets of bottling or canning machinery for beverages or liquid food valued at US$152.713 million. In 2004 China imported 454 sets of food machinery, valued at $US 102.809 million. These figures how that China imported less sets of machinery of a higher value in 2005 than 2004.

The following companies are major producers of food machinery in China in 2005:

1. Changzhou Boiler Equipment Co.,Ltd.
2. Gaoming Songzhan Metals Co., Ltd.
3. GUANGDONG NANFANG METAL WORKS FACTORY
4. Guangzhou Ital Enterprise Co., Ltd.
5. Hebei Gaobeidian Guanglei Cooker Industry Co., Ltd.
6. Jiangmen Baolin Cooking Utensils Factory Co., Ltd.
7. Jinan Taidao Cooking Machine Co., Ltd.
8. Shandong Jinding Industrial Stock Co., Ltd
9. Shanghai Xinghe Electromotive Co., Ltd.
10. Shangmingtang (Guangzhou) Electric Apparatus Co., Ltd.

11. SHENYANG NO.3523 MACHINERY FACTORY
12. Shiu Cheung Metal Works Limited.
13. TAI SHAN CITY QIANLI HOUSEHOLD HARDWARE CO., LTD.
14. Tianjin Bailifu Industry Co., Ltd.
15. Tianjin Dakang Electric Apparatus Co., Ltd
16. Xiamen Aigesheng Metals Co., Ltd.
17. Yiqiang Kitchen Equipment & Engineering Co., Ltd.
18. Zaozhuang Duole Heating Equipment Co., Ltd.
19. ZHANGQIU COOKING MACHINE GENERAL FACTORY
20. Zhejiang Tianxi Industry Co., Ltd.
21. Zhongshan Jinbo Chubao Electric Appliance Co., Ltd.
22. Zhongshan Lihui Metal Products Co., Ltd.
23. Zhongshan Nanguang Electrical Appliance Co.,Ltd.
24. Zhuhai Double Happiness Pressure Cooker Ltd.
25. Zhuhai Guanzhong Metal Products Co., Ltd.
26. Zhuhai Herald Metal Products Co., Ltd.

5.9.3. Consumer Durables of Stainless Steel

China is a major producer of flatware, hollowware and other stainless steel kitchenware. 75% of the volumes produced in China’s consumer durables sector are exported.

China accounts for 55% of the world's flatware production. In 2005, 90% of the flatware produced in China was exported. In 2004, flatware exports amounted to 8.4 billion pieces, valued at US$882 million. Total output for flatware in 2005 is projected to reach 9 billion pieces, roughly 12% higher than 2004. Most of the increase will be for all-stainless steel flatware. This sector equates to around 1 Mt/a of stainless steel exported from China in the form of consumer durables.

China's cookware manufacturing industry is grappling with soaring prices for both stainless steel and aluminium. These rising material costs have resulted

in a dramatic drop in export growth rates. While exports rose by 20% in 2003, they slowed to a mere 6% in 2004.

In 2004, China exports 306,599 tons of stainless steel kitchenware products at a value of US$1.159 billion. Imports dropped slightly in 2005 with only 285,723 tons exported at a value of US$ 1.280 billion.

Significant Producers of Consumer durables (SS) in China:

1. Beijing Kohler Kitchen & Bath Products Co., Ltd.
2. Belief Stainless Steel Products Co., Ltd.
3. Dongguan Jianxing Plastic Hardware Products Co., Ltd.
4. Franke (Heshan) Kitchen Equipment Co., Ltd.
5. Gaoming Chengde Industry Co., Ltd.
6. Gaoming Xiejin Stainless Steel Products Co., Ltd.
7. Hebei Jing County Kitchen Equipment Factory
8. Huizhou Hongli Hardware & Plastic Products Co., Ltd.
9. Jiangmen San Han Nga Kitchen Equipment Ltd.
10. Jiangsu Jintian Kitchen Utensils Co., Ltd.
11. Meyer (Zhaoqing) Metal Products Co., Ltd.
12. Nanhai Guanyi Stainless Steel Products Co., Ltd
13. Nanhai Yuexiufeng Stainless Steel Products Co., Ltd.
14. Ningbo Fotile Kitchenware Co., Ltd.
15. Panyu Seagull Kitchen & Bath Products Co., Ltd.
16. Puxin Stainless Steel Co., Ltd.
17. Qingdao Chengjin Stainless Steel Products Co., Ltd.
18. Sakura Bath & Kitchen Products (China) Co., Ltd.
19. Shanghai Jiading Jinrong Stainless Steel Material Factory
20. Shanghai Sihe Stainless Steel Products Co., Ltd.
21. Shanghai Tigerborn Electric Apparatus Co., Ltd.
22. SHANGHAI XING XIN COOKWARE CO., LTD.
23. THERMOS (CHINA) HOUSEWARES CO., LTD.
24. Wuxi Guangren Stainless Steel Co., Ltd.
25. Wuxi Hengshan Stainless Steel Products Co., Ltd.
26. Wuxi Xinde Stainless Steel Co., Ltd.

27. Xinhui District Rixing Stainless Steel Material Factory Co., Ltd.
28. Xinhui Ri Xing Stainless Steel Products Company Limited
29. Xinxing Master Stainless Steel Products Co., Ltd.
30. Xinxing Xingangcheng Stainless Steel Products Co., Ltd.
31. Xinxing Yinfeng Stainless Steel Products Co., Ltd.
32. Yangjiang Stainless Steel Ware General Factor
33. Yantai East Stainless Steel Products Co., Ltd.
34. Yingkou Daming Tableware Co., Ltd.
35. Yiqiang Kitchen Equipment & Engineering Co., Ltd.
36. Zhejiang Nanlong Trade Co.,Ltd

Knife and Scissor producers in China:

1. Hangzhou Zhang Xiaoquan Group Co., Ltd
2. Jiang cheng Deli Knife & Scissor Factory
3. Nanhai Paiyi Daily-Used Hardware Co.,Ltd
4. Ningbo Xingwei Plastic Product Co., Ltd.
5. Ruifeng Steel Co., Ltd.
6. Shanghai Shell Knife Co., Ltd.
7. Shanghai Zhaojiajiao Industry Co., Ltd.
8. Sihui Jinda Hardware Factory
9. Wendeng Daxing Metal Products Co., Ltd.
10. Wenzhou Chinalight Hardware Knife Co., Ltd
11. Xinxiuli (Shenzhen) Co., Ltd.
12. Xunda Kitchenware Factory
13. Yangjiang Jiangcheng Yinying Knife Co., Ltd.
14. Yangjiang Jinping Knife Factory
15. Yangjiang South Hardware & Plastics General Factory
16. Yangxi Yusha Xinxing Hardware Factory
17. Zhangshi Yongguang Knife & Scissor Factory Co., Ltd.
18. Zhejiang Kingstone Knife Co., Ltd.
19. Zhongshan Qinglian Metal Products Co., Ltd.
20. Zwillng J.A.Henckels Shanghai Co., Ltd.

5.10. Employment

From a labour perspective, the products included in the 'Stainless Steel' section are all produced within the 'General Manufacturing' sector. Guangzhou, Jiangsu and Zhejiang are all industrial bases for general manufacturing and have especially strong Stainless Steel products industries.

Labour wages in China vary according to the region. Traditionally, low-cost manufacturing has taken place in Guangdong. But many labour intensive industries are now moving their factories to more low cost regions such as Shandong, Chongqing and Sichuan.

Manufacturing sector wages in these poorer areas can start from anywhere around RMB7500/year for an unskilled worker.

According to China's National Bureau of Statistics China Statistical Yearbook 2005 the average Guangdong manufacturing worker now earns RMB17,007/year (RMB1500/month) compared to RMB16,140/year in Jiangsu and RMB14,722/year in Zhejiang (the Shanghai average is RMB27,456/year).

An industry source thought that these figures were perhaps 15% higher than what his company took as the average 'manufacturing' worker's wage. (Unfortunately the National Bureau of Statistics does not adequately extrapolate on what a 'manufacturing worker' means).

Skilled technicians and machine operators will earn between RMB18,000-RMB24,000 per year depending on the region

Rural Jiangsu and Zhejiang, now have many privately-owned SMEs which produce many of the products in these stainless steel products. They benefit from the close proximity to the Wuxi market, Baosteel meltshops and ports in these two provinces. Industry sources say that wages in the manufacturing sector start from around RMB7500 per year in general manufacturing industries outside China's major cities.

All workers in China belong to a single trade union; “The All-China Federation of Trade Unions (ACFTU) is a mass organization of the working class formed voluntarily by the Chinese workers and staff members. Founded on May 1, 1925, it now has a membership of 134 million in more than 1.713 million primary trade union organizations.” (www.acftu.org.cn). However, all respondents spoken to said that this trade union had no real power in wage negotiations within China’s government structures. On a national level, it forms a useful part of the bureaucracy of the state through which the CCP rules. On a city-level, it organizes conferences and functions. And on a factory level, it is widely said to organise cakes on birthdays and take visiting dignitaries on factory tours.

There has been little reported labour action against employers in China. However, their have been signs of an increasing number of pay-related strikes in the Guangdong province in the last few year. In November 2004, there was a five-day strike over wages by 3,000 workers at the Haiyan Electronics factory in Shenzhen. A representative of a large SOE textile trading company said he believed the problem of exploitation of labour lay in the private sector. He mentioned that in most cases the issue was that promised wages were not paid, rather than worker’s being unhappy with working conditions.

The attitude of many Chinese industry sources was that the issue of wage and working conditions should be viewed in the light of China’s 150 million-strong ‘floating population’. China is still a poor, developing country and Chinese farmers migrating to the cities are very willing to accept for any opportunities available to them.

5.11. Cost of Capital

Determining the real cost of capital facing China’s stainless producers is difficult. At best, we can make some assumptions about the form that investment in the industry is taking.

SOEs are funded by government, either through direct injections in the national budget, or through Government's use of policy banks to give soft loans to favourable companies. While Beijing has been trying to reduce this phenomenon and clean up China's banking balance sheet, this practise continues widely. Analysts now think it takes place mainly on the local level as provincial authorities direct local banks to give credit lines to industrial projects with little regard for risks. Often these loans are not repaid, hence the US$600 billion collective bad loans of China's banking sector.

JVs and SMEs also benefit from these 'local government directed' loans. China's nominal interest rate is low and the cost of capital is generally accepted to be very low in China.

5.12. Cost structure

Labour is generally cheap. Unskilled wages start at RMB7500/ year outside the cities. The average manufacturing labours wage in the stainless steel producing regions is around RMB17,000 per year. Skilled technicians and machine operators will earn between RMB18,000-RMB24,000 per year depending on the region.

Municipal rates and taxes are usually very low for larger enterprises if their initial investment has allowed them to gain concessions and financial incentives from local governments. The cost of electrical energy is low. It is again difficult to provide data to make assessments of what the cost of electricity in the 'Stainless Steel sector' is. Electricity prices are, in theory managed by the NDRC, though in reality, electricity prices facing large manufacturers is only one of the 'negotiated' issues/costs/prices that come into initial investment agreements between company managers and local-government officials.

Electricity prices in China are widely regarded as 'subsidised'. Keeping energy prices low is not achieved through traditional state-trading systems, but rather that electricity prices are set on a national level and the power industry must faces the loses that results from selling at this price. For

example, the power industry has been facing heavy losses over the last two years due to higher coal and oil prices which they have been unable to pass on to consumers. However, in reality, many SOE's have their own coal-based power-generation facilities on-site and many others enjoy discount electricity from local-government officials who control the local electricity production and grid facilities.

In mid-2005, the NDRC announced that is was raising the price of electricity by an average of US$0.00175 per kilowatt/hour to an average of US$0.0625 per kilowatt/hour. Again, the relevance of these figures for comparative analysis is complicated by additional NDRC comments that there will differential pricing policies for electricity prices. High energy-consuming heavy industries, including the steel industry, will be forced to pay higher prices for electricity, and local governments are not allowed to offer discounted energy prices. It is widely regarded that national-level comments such as those made above, often carry little weight at local government level where officials continue to use control over taxes and input prices to create greater incentives for local investment. A further issue is that China is set to face an energy glut by 2007 as current over-investment in the coal power generation sector (both state and private) comes on-stream. Finally, it is uncertain whether state investment in the national power-grid will be able to match the power-generation increases creating further uncertainty as to the future of China's energy sector.

A company such as Tisco, at the centre of Shanxi's coal fields will benefit hugely from low-cost coal-energy sources. Energy costs will be higher in other areas but still much lower than international standards.

Growing raw materials costs over the past few years has become a key feature of stainless steel producers balance sheets. An industry analyst says raw material costs now account for about two thirds of mill operating costs. Nickel (as a primary metal and in scrap) is the dominant element, dwarfing other inputs like energy and employment. In 2003 raw materials accounted for less than 55% of the cost structure of stainless steel producers.

Global resource firms raised iron ore prices 71.5% in April 2005. Although the volatile raw material costs are most often passed onto consumers through surcharges, they impact general stainless demand and therefore force producers to cut back on production.

As China imports most of its iron ore, quality coking coal, Nickel, Chrome, Molybdenum and Manganese, it is highly dependant on global raw material prices.

Stainless scrap

Scrap is an integral raw material in the production of stainless steel. China's demand has been raising global scrap prices over the past few years.

According to an industry source, Chinese stainless steel scrap needs will increase fivefold to 4.5m tons by 2015, about 27% of global availability. A local supply base of 2.9m t/y will mean imports of 1.6m t/y will be required. This scenario assumes an average stainless scrap ratio of 45-46%.

Chinese demand for stainless scrap in 2005 was 1.02Mt tons, Japan consumed 893,000t and Korea 799,000t.

See below the figure of LME Nickel price and the Rotterdam Chrome surcharge between March 2005 and March 2006.

Fig 4. Comparison between the raw material prices with the steel prices

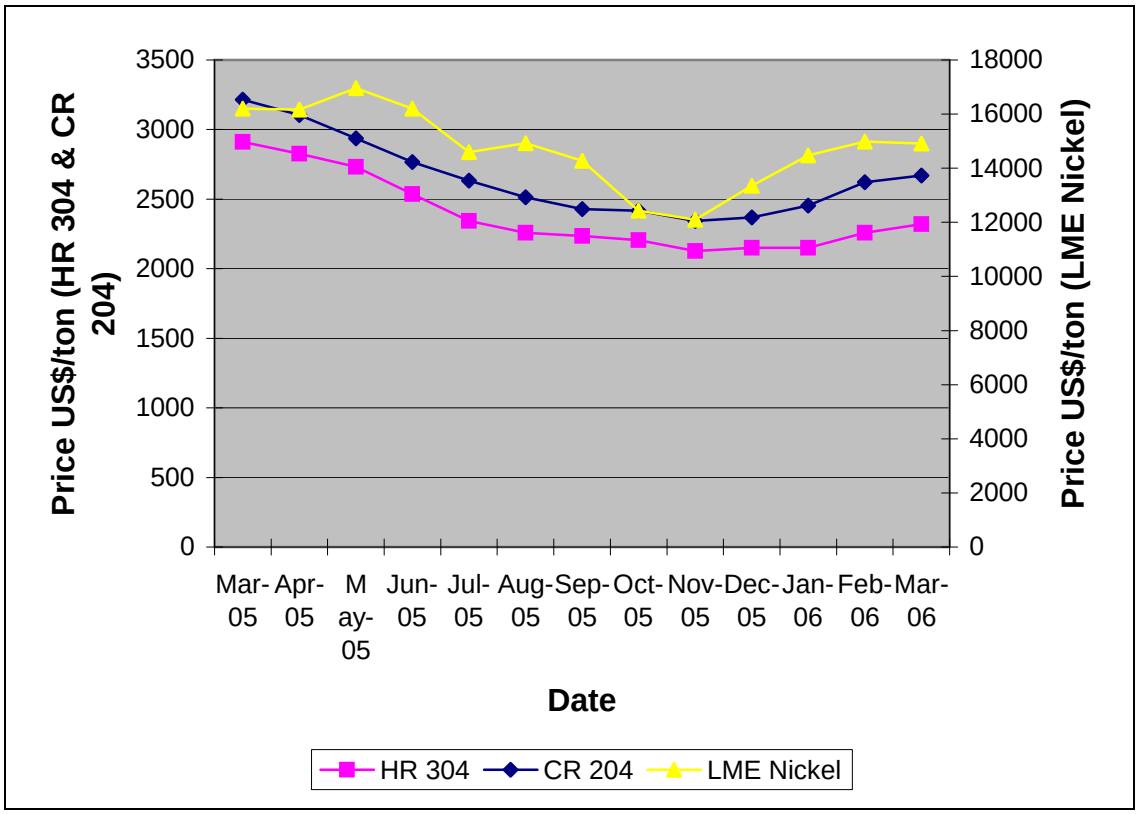


Table 4.4 Stainless Steel Raw Material prices

Date	LME Nickel cash seller & settlement US$/t	Charge Chrome FeCr CIF US$/kg – Rotterdam
Mar-05	16205	161 - 161
Apr-05	16162	172 – 172
May-05	16964	172 – 172
Jun-05	16203	172 – 172
Jul-05	14594	159 – 163
Aug-05	14922	159 – 163
Sep-05	14278	159 – 163
Oct-05	12431	143 – 148
Nov-05	12102	143 – 148
Dec-05	13349	143 – 148

Jan-06	14480	132 – 139
Feb-06	14988	132 – 139
Mar-06	14917	132 – 139

5.13. Current Stainless Steel Prices in China

Key Stainless Steel Flat prices in Foshan Market (March 05- March 06)

Table 4.5 Key Stainless Steel prices (March 05 – March 06). price US$/ton – 17% VAT included

Date	HR 304 - FOB Foshan Bottom of Form	CR 204 2B FOB Foshan	CR 202 2B Foshan
Mar-05	2839 - 2912	3129 - 3214	2658 - 2755
Apr-05	2743 - 2827	2924 - 3105	2586 - 2658
May-05	2561 - 2731	2779 - 2936	2549 - 2586
Jun-05	2211 - 2537	2404 - 2767	2271 - 2477
Jul-05	2259 - 2344	2513 - 2634	2151 - 2296
Aug-05	2235 - 2259	2441 - 2513	2054 - 2151
Sep-05	2211 - 2235	2416 - 2429	2090 - 2102
Oct-05	2139 - 2205	2320 - 2416	2018 - 2066
Nov-05	2006 - 2127	2187 - 2344	1994 - 2006
Dec-05	1994 - 2151	2175 - 2368	1885 - 1969
Jan-06	2127 - 2151	2392 - 2453	1873 - 1885
Feb-06	2175 - 2259	2465 - 2622	n/a

Stainless Steel Wire/Rod prices: January 2006

Table 4.6 Stainless Steel Wire/Rod prices: January 2006

Shanxi Taigang Stainless Jan 2006 Ex-works Selling Price of Wire Rod to Contractual Dealers. [Unit: RMB/ton (with VAT of 17% incl.)]											
product	spec.	0Cr18Ni9	304H	SUS304HC	SUS304HC-T	304HCM	SUS304M	304L	304S	302HQ	SUSY308
wire rod	standard	Q140000 TB3306-2003	Q/044-2004	Q140000 TB3306-2003	Q/TB3013-2003	Q/044-2004	Q140000 TB3306-2003	Q/034-2004	Q/034-2004	Q/007-2005	Q/TB3037-2005
	Ø5.5-20mm	19500	19500	19800	20000	19800	20400	20400	21600	23800	21300
product	spec.	ER308LSi	H308L	0Cr17Ni12Mo2	00Cr17Ni14Mo2	ER316L	H316L	304ES	0-3Cr13unpickled coil	1Cr17unpickled coil	SUSY308L
wire rod	standard	Q/034-2004	Q/014-2005	Q/TB3037-2005	Q/TB3037-2005	Q/034-2004	Q/014-2005	Q140000 TB3306-2003	GB/T4356-2002	GB/T4356-2002	Q/TB3037-2005
	Ø5.5-20mm	21600	21600	38900	42500	40900	40900	17400	8500	9900	23600

Table 4.7 China's stainless steel tube prices in February 2006

Baosteel Special Steel Branch Tube plant adjusted the ex-works price of seamless pipe Feb 8 2006 RMB/ton										
0Cr18Ni9(304)										
external diameter/thickness	0.6-0.8	0.81-1.2	1.21-1.6	1.65-2.2	2.3-2.9	3.0-4.5	4.6-5.5	5.6-7.5	7.6-9.0	9.1-12
5.1-7	102925	84556	74435	61975	□□	□□	□□	□□	□□	□□
7.1-10	91049	73769	64058	55072	53294	□□	□□	□□	□□	□□
10.1-16	77548	62969	57576	52615	49608	50954	□□	□□	□□	□□
16.1-25	72762	57213	55400	46274	45443	44425	44027	□□	□□	□□
25.1-35	□□	58289	56324	46215	44905	43688	43910	46601	49023	□□
35.1-45	□□	□□	57435	46653	43466	42494	40646	42155	43688	47455
45.1-56	□□	□□	58559	48450	42155	40751	39581	41067	41664	44858
56.1-65	□□	□□	□□	50486	43852	38236	39020	40751	41090	42611
65.1-76	□□	□□	□□	□□	47163	40927	40026	40634	42810	44413
77-100	□□	□□	□□	□□	□□	42050	41535	41828	42611	43676
101-114	□□	□□	□□	□□	□□	44296	43676	45314	45759	47327
133-140	□□	□□	□□	□□	□□	47327	46215	46766	47327	48684
141-159	□□	□□	□□	□□	□□	48450	47900	47327	47900	49690
160-180	□□	□□	□□	□□	□□	□□	48684	48227	48684	50135
181-219	□□	□□	□□	□□	□□	□□	51819	50696	52393	53516
220-273	□□	□□	□□	□□	□□	□□	□□	□□	56324	58009

00Cr17Ni14Mo2(316L)										
external diameter/thickness	0.6-0.8	0.81-1.2	1.21-1.6	1.65-2.2	2.3-2.9	3.0-4.5	4.6-5.5	5.6-7.5	7.6-9.0	9.1-12
5.1-7	183327	163092	137171	116789	□□	□□	□□	□□	□□	□□
7.1-10	163695	136106	121259	105990	103229	□□	□□	□□	□□	□□
10.1-16	140880	118720	108003	101942	97075	98456	□□	□□	□□	□□
16.1-25	131871	108529	106938	91553	90172	88908	93038	□□	□□	□□
25.1-35	□□	110647	107687	90815	89423	87844	89423	93670	98339	□□
35.1-45	□□	□□	109266	91880	88370	86990	85188	86030	89423	95273
45.1-56	□□	□□	111185	94957	86241	83070	82649	84228	85188	90710
56.1-65	□□	□□	□□	97917	88370	80625	79888	82111	84228	87305
65.1-76	□□	□□	□□	□□	92196	83608	82532	83164	86241	90500
77-100	□□	□□	□□	□□	□□	86241	85609	86147	86884	89423
101-114	□□	□□	□□	□□	□□	90067	89423	91553	92196	93038
133-140	□□	□□	□□	□□	□□	93670	91553	92091	93670	94735
141-159	□□	□□	□□	□□	□□	95800	94208	93670	74735	96338
160-180	□□	□□	□□	□□	□□	□□	95273	94735	95800	97590
181-219	□□	□□	□□	□□	□□	□□	101100	100035	102164	106400
220-273	□□	□□	□□	□□	□□	□□	□□	□□	109582	120194
00Cr18Ni10(304L)										
external diameter/thickness	0.6-0.8	0.81-1.2	1.21-1.6	1.65-2.2	2.3-2.9	3.0-4.5	4.6-5.5	5.6-7.5	7.6-9.0	9.1-12
5.1-7	129074	104352	89915	72844	□□	□□	□□	□□	□□	□□
7.1-10	108962	85714	72575	60688	58570	□□	□□	□□	□□	□□
10.1-16	92863	73979	65274	59974	56265	58910	□□	□□	□□	□□
16.1-25	85433	66339	64221	52018	50965	50427	53083	□□	□□	□□
25.1-35	□□	68995	65602	51702	49362	48836	49901	52814	55727	□□
35.1-45	□□	□□	66444	52545	48298	46180	45665	46718	48836	54674
45.1-56	□□	□□	68457	53609	46718	44062	42998	45115	46180	50427
56.1-65	□□	□□	□□	56570	48298	40880	41945	44062	45338	47455
65.1-76	□□	□□	□□	□□	52545	43641	43103	43641	47245	49901
77-100	□□	□□	□□	□□	□□	46180	45665	46180	47783	49362
101-114	□□	□□	□□	□□	□□	49362	48836	49585	51808	53925
133-140	□□	□□	□□	□□	□□	52545	51492	52018	60512	62888
141-159	□□	□□	□□	□□	□□	53609	53083	42545	60512	62888
160-180	□□	□□	□□	□□	□□	□□	57330	57330	60512	63695
181-219	□□	□□	□□	□□	□□	□□	60512	58910	60512	63695
220-273	□□	□□	□□	□□	□□	□□	74833	71639	70060	70855
1Cr18Ni9Ti(321)										
external diameter/thickness	0.6-0.8	0.81-1.2	1.21-1.6	1.65-2.2	2.3-2.9	3.0-4.5	4.6-5.5	5.6-7.5	7.6-9.0	9.1-12
5.1-7	105019	86650	88327	70855	□□	□□	□□	□□	□□	□□
7.1-10	88932	71651	61940	50954	54171	□□	□□	□□	□□	□□
10.1-16	79934	63859	60969	53504	50497	51831	□□	□□	□□	□□
16.1-25	73640	58091	56289	47151	46320	45302	44916	□□	□□	□□
25.1-35	□□	59179	57201	47093	45794	44577	44799	47490	49901	□□
35.1-45	□□	□□	58325	46531	44355	43384	41523	43044	44577	48333

45.1-56	□□	□□	59448	49339	43044	41640	40470	41956	52541	45747
56.1-65	□□	□□	□□	51363	44741	39113	39909	41640	41980	43501
65.1-76	□□	□□	□□	□□	48040	41816	40915	41512	43700	54291
77-100	□□	□□	□□	□□	□□	42939	42424	42717	43501	44565
101-114	□□	□□	□□	□□	□□	45185	44565	46192	46648	48216
133-140	□□	□□	□□	□□	□□	48216	47093	47654	48216	49561
141-159	□□	□□	□□	□□	□□	49339	48789	48216	48789	50579
160-180	□□	□□	□□	□□	□□	□□	49561	49117	49561	51024
181-219	□□	□□	□□	□□	□□	□□	52709	51585	53270	54393
220-273	□□	□□	□□	□□	□□	□□	□□	□□	57201	58898

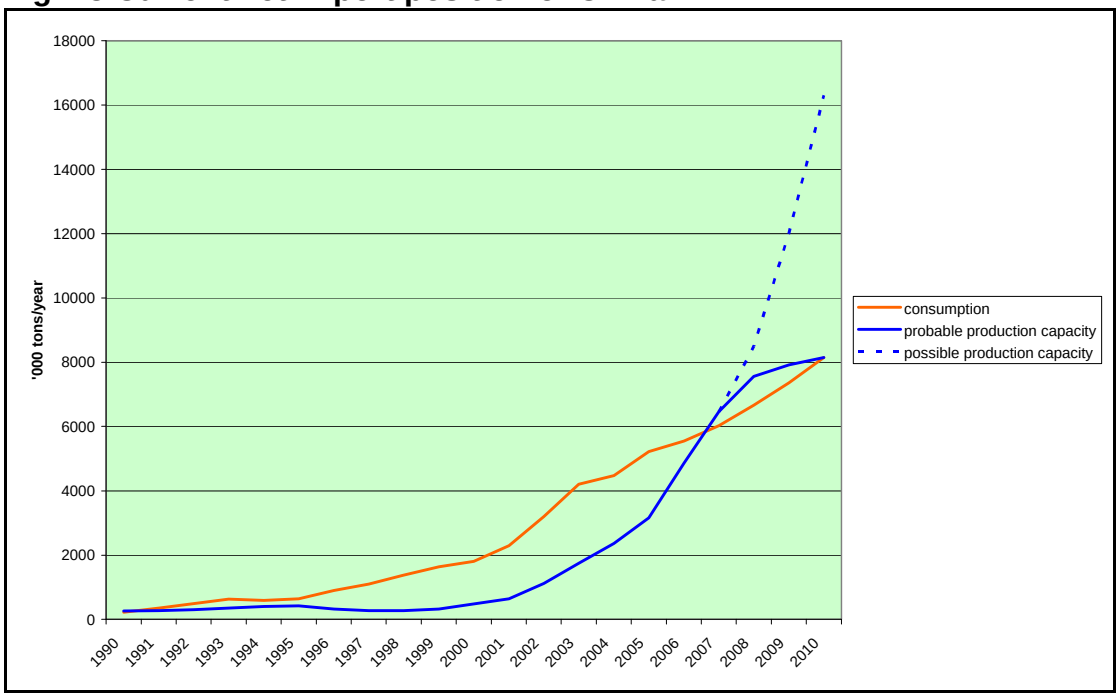
5.14. China's Import and Export scenario

According to China's Academy of Social Sciences, if the Chinese economy grows at 7% a year until 2010, China's stainless steel consumption should grow at 10.5% a year until then. This would lead to a demand of 8.15Mt consumption in 2010.

As explained above, China's 2010 production scenario paints the picture of China as a net exporter. Whether the volume of these exports will be 1Mt/a or 8Mt/a depends on how much of the planned capacity will actually be built. It also depends no how much of this new capacity is used to the full. In 2005, China produced 3.16Mt of stainless steel on 4.7Mt of capacity.

The graph below, the same as above, shows the current net import position that China has been in since the early 90's. This gap started closing in 2004 as China racked up production capacity. The graph also shows that China will become a net stainless steel exporter in 2007/2008.

Fig 4.3 Current net import position of China



5.14.1. Import position

Mr. Xu, President of Baosteel, forecasts that China's stainless imports will continue to hover between 1-2Mt/a until 2010, largely making up for structural shortages which are inevitable considering the volatility of specific steel prices and resulting demand, and the long time lags on building new capacity. He said that although China was making significant technological advancements, high-quality and special steels would continue to see strong import demand.

Different scenarios for different products.

CR: CR capacity increases has rapidly reduced reliance on CR sheet imports. Self-sufficiency reached 72% in 2004, relying on imports for 28% (700'000t) of cons. Imports include mainly CR wide thin-gauge (<1mm) which accounts for 65% of CR wide strips and 28% of imported CR plates.

HR: In 2005, a large portion of imports was in the form of HR steel plates and strips. This made up 62% (or 1.265Mt) of all stainless steel imports between Jan and July 2005. However, when Tisco and Baosteel's new HR facilities

come on-stream in 2006, imported HR stainless feeds will gradually be replaced by domestic production.

High-end steel still imported

The main market of imported products remains in the small-volume, high-tech, speciality steels. Stainless steel required by high-end fabricated products, such as special finishes for decorative purposes, homes appliances and in the IT industry will still largely be supplied by imports.

- In 2003 China had net imports of 1.1Mt of CR flat products. This figure will drop to a balanced net position for CR flat in 2007/2008.
- In recent years, China's stainless imports have been around 3.00 Mt/a, with 90% of imports being plates and strips.
- China imported US$332 million of food processing machinery in 2004, this dropped to US$250million in 2005.

The table below shows China China's imports as a % of total consumption has dropped steadily since 2000.

Table 4.8 Imported steel as % of Total Consumption

Year	2000	2003	2004	2005
Apparent Consumption	1.7	4.2	4.447	5.22
Production	0.6	1.8	2.365	3.16
Imports	1.237	2.962	2.903	2.860
Imports/apparent cons %	72.80%	70.40%	65%	55%

5.14.2. Export position

China exported 94,222 tons of stainless flat products during the first four months of 2005, a jump of 212.2% compared to the same period last year. Flat imports during the period amounted to 1,166,937 tons, up 30.8% year-on-year.

An industry source said that China will keep exporting more stainless steel,

though the growth may be affected by the April 2005 VAT rebate cut on steel exports.

During the first 4 months of 2005, of the total stainless exports, stainless medium plates had the highest annual growth rate of almost 600% to 12,663t. However the increase was from a low base of 1,820 tons in the first four months of 2004. Simultaneously, China imported 147,524t of stainless medium plate, up 10% y-o-y.
Exports of CR stainless sheet amounted to 48,613 tons from January to April 2005, a rise of 250% y-o-y. At the same time imports of CR stainless were still as high as 348,757t in the same period. However, the growth rate in CR imports slowed to 53.2% y-o-y.

Meanwhile, China still imported more hot rolled stainless than it exported. Exports were higher by 251.4%, while imports grew by only 30% y-o-y.

5.14.3. China as a Net Exporter, but Imports remains strong

From the information above and the data below, we see that China will soon become a net exporter of stainless steel, after sustaining global producers demand for the last decade, the global stainless steel giants will not have accept that they will soon compete with China at home and in third country markets.

China will become a net exporter of CR sheets next year, but may only reach this position for HR coil in 2009. The demand for imports will remain between 1-2Mt/a until 2010, but this will be in low volume, high-end and special stainless steels.

For a more in-depth account of China's stainless steel Import/Export position over the last 2 years, see the tables below.

Table 4.9 Exports of stainless steel products from China in 2004 and 2005

Product name	2005 volume (ton)	2005 value (US$ 10,000)	2004 volume (ton)	2004 value (US$ 10,000)	volume(%)change	value(%)change
I. Total steel products	20522629	1307968	14227319	833375.9	44.25	56.95
SS bar and wire rod	32691.72	8234.94	26504.7	5177.53	23.34	59.05
SS sheet/plate/strip	245368.7	51488.34	215905.8	37689.61	13.65	36.61
4 tube & pipe	3506084	293821.7	2081048	148476.7	68.48	97.89
4.1 seamless steel tube	1392408	148736.9	754977.8	63126.96	84.43	135.62
4.2 welded steel tube	1651300	121265.3	927169.1	65565.01	78.1	84.95
1.2 HR SS bar	5365.34	1086.89	3501.9	510.1	53.21	113.07
1.2-1 HR SS round	3484.93	745.24	2676.42	335.79	30.21	121.94
1.2-2 other HR SS bar	1880.41	341.65	825.49	174.31	127.79	96
2 CR bar	48672.26	8021.14	28546.87	4725.88	70.5	69.73
2.2 CR SS bar	12745.34	4115.88	7360.28	1991.8	73.16	106.64
2.2-1 CR SS bar	7772.36	2665.4	4838.33	1278.18	60.64	108.53

2.2-2 other CR SS bar	4972.98	1450.48	2521.95	713.62	97.19	103.26
2 HR SS rod	14581.04	3032.18	15642.52	2675.64	-6.79	13.33
1.2 HR SS medium plate	16881.95	4138.13	15139.44	3509.54	11.51	17.91
1.2-1 T>=3,<4.75mm W>=600mm HR SS medium plate	498.47	111.26	311.09	106.7	60.23	4.28
1.2-2 T:4.75-10mm W>=600mm HR SS medium plate	4744.84	1074.77	4193.81	820.88	13.14	30.93
1.2-3 T>10mm W>=600mm HR SS medium plate	11638.65	2952.1	10634.53	2581.97	9.44	14.34
2.2 CR SS medium plate	7312.4	1704.26	4131.35	905.71	77	88.17
2.2-1 T>=3,<4.75mm W>=600mm CR SS medium plate	7184.43	1679.74	4035.93	885.25	78.01	89.75
2.2-2	127.97	24.53	95.41	20.47	34.12	19.84

T>=4.75mm W>=600mm CR SS medium plate						
2 HR SS sheet	233.75	45.83	173.71	30.63	34.56	49.59
2.1 T>1, <3mm W>=600mm HR SS sheet	156.88	29.04	115.72	21.48	35.57	35.2
2.2 T:0.5-1mm W>=600mm HR SS sheet	76.78	16.75	46.96	6.22	63.49	169.13
2.3 T<0.5mm W>=600mm HR SS sheet	0.1	0.04	11.04	2.93	-99.09	-98.73
3 CR SS sheet	146823.6	34041.16	112261.2	24853.78	30.79	36.97
3.1 T>1,<3mm W>=600mm CR SS sheet	83412.9	19360.48	55880.6	12253.36	49.27	58
3.2 T: 0.5-1mm W>=600mm CR SS sheet	45877.17	10462.15	39145.81	8737.1	17.2	19.74
3.3 T<0.5mm W>=600mm CR SS sheet	7765.04	1768.5	5303.63	1179.58	46.41	49.93
3.4	9768.49	2450.03	11931.14	2683.74	-18.13	-8.71

W>=600mm other CR SS sheet						
1.3 HR SS wide and medium strip	28294.78	4813.19	24446.94	2021.95	15.74	138.05
1.3-1 T>10mm W>=600mm HR SS medium plate/coil	2793.92	151.14	855.28	63.07	226.67	139.63
1.3-2 T: 4.75-10mm W>=600mm HR SS medium plate/coil	2294.66	346.77	1632.14	83.65	40.59	314.54
1.3-3 T>=3mm,<4.75mm W>=600mm HR SS medium plate/coil	23206.2	4315.28	21959.52	1875.23	5.68	130.12
including T>=3mm,<4.75mm HR SS coil (black skin)	2215.72	458.67	0	0	***	***
T>=3mm,<4.75mm HR SS	20990.48	3856.61	0	0	***	***

coil (white skin)						
2 HR SS thin and wide strip	1198.12	81.65	34343.31	2412.09	-96.51	-96.61
2.1 T<3mm W>=600mm HR SS coil	1198.12	81.65	34343.31	2412.09	-96.51	-96.61
including T<3mm HR SS coil (black skin)	1122.96	70.48	0	0	***	***
T<3mm HR SS coil (white skin)	75.16	11.18	0	0	***	***
3 HR SS narrow strip	29415.51	3185.42	14782.92	1976.26	98.98	61.18
3.1 T>=4.75 W<600mm HR SS strip	7160.29	1056.1	3168.07	428.55	126.01	146.43
3.2 T<4.75mm W<600mm HR SS strip	15156.17	933.94	1404.5	250.46	979.11	272.89
3.3 other W<600mm SS strip	7099.06	1195.39	10210.35	1297.25	-30.47	-7.85
3 CR SS narrow strip	15208.62	3478.7	10626.93	1979.64	43.11	75.72
3.1 W>=300,<600	5039.35	793.54	5775.32	753.8	-12.74	5.27

mm CR SS strip						
3.2 W<300mm CR SS strip	10169.27	2685.16	4851.61	1225.84	109.61	119.05
(XX) seamless steel tube	1392408	148736.9	754977.8	63126.96	84.43	135.62
4.3 SS cold-drawn boiler tubes and pipes	351.7	226.82	102.7	39.48	242.44	474.47
4.4 other SS boiler tubes and pipes	86.91	35.58	74.41	8.13	16.79	337.46
5.3 other SS cold-drawn seamless steel tube	34673.16	18607.63	25934.73	10307.13	33.69	80.53
5.4 other SS HR seamless steel tube	493.93	213.46	279.88	93.16	76.48	129.13
(XXI) welded steel tube and pipe	1651300	121265.3	927169.1	65565.01	78.1	84.95
3.5 outer D:<406.4mm SS welded steel tube and pipe	45135.25	13719.44	33849.55	8891.26	33.34	54.3

(XXVI) steel wire	641171.1	50280.82	564199.6	39923.16	13.64	25.94
2 SS wire	35063.75	10852.52	24301.46	7093.23	44.29	53
3 SS ingot	248.33	59.44	642.56	80.88	-61.35	-26.51
5 SS slab	23.76	6.53	448.66	38.68	-94.7	-83.11
6 other SS billet/slab	1519.64	1056.23	5638.93	2781.35	-73.05	-62.02
XII. Scrap steel	1939.93	97.01	5812.47	220.62	-66.62	-56.03
2 SS scrap	227.81	34.68	1582.17	126.94	-85.6	-72.68

Table 4.10 Imports of stainless steel products from China in 2004 and 2005

Product name	2005 volume (ton)	2005 value (US$ 10,000)	2004 volume (ton)	2004 value (US$ 10,000)	Volume (%) change	Value (%) change
I. Total steel products	25816227	2460845	29303311	2078471	-11.9	18.4
SS bar and wire rod	81974.78	23773.6	86462.11	22271.11	-5.19	6.75
SS sheet/plate/strip	2896516	576096.3	2689853	459424.4	7.68	25.4
4 tube & pipe	1088103	229190.9	1322804	158600.5	-17.74	44.51
4.1 seamless steel tube	678218.2	170216.2	692242.2	102734	-2.03	65.69
4.2 welded steel tube	405698.2	58594.44	626458	55458.94	-35.24	5.65
1.2 HR SS bar	9399.8	3126.44	8631.9	2608.03	8.9	19.88
1.2-1 HR SS round	7315.53	2591.68	6460.52	2060.05	13.23	25.81
1.2-2 other HR SS bar	2084.27	534.76	2171.38	547.99	-4.01	-2.41
2 CR bar	145664.3	22579.11	157565.3	20372.93	-7.55	10.83
2.2 CR SS bar	31396.68	10143.2	31108.51	8852.78	0.93	14.58
2.2-1 CR SS bar	15376.44	5297.21	13763.56	4289.65	11.72	23.49
2.2-2 other CR SS bar	16020.24	4845.99	17344.95	4563.13	-7.64	6.2

2 HR SS rod	41178.31	10503.96	46721.7	10810.3	-11.86	-2.83
1.2 HR SS medium plate	31747.5	12098.11	32635.32	8449.52	-2.72	43.18
1.2-1 T>=3,<4.75mm W>=600mm HR SS medium plate	2835.59	665.38	2286.67	414.6	24	60.49
1.2-2 T:4.75-10mm W>=600mm HR SS medium plate	14196.32	5100.44	8582.57	2091.35	65.41	143.88
1.2-3 T>10mm W>=600mm HR SS medium plate	14715.6	6332.29	21766.08	5943.57	-32.39	6.54
2.2 CR SS medium plate	41148.3	12765.3	40466.82	10632.82	1.68	20.06
2.2-1 T>=3,<4.75mm W>=600mm CR SS medium plate	32353.14	9410.94	29696.81	7512.91	8.94	25.26
2.2-2 T>=4.75mm W>=600mm CR SS medium plate	8795.16	3354.37	10770.01	3119.91	-18.34	7.51
2 HR SS sheet	2982.78	703.97	3897.11	584.19	-23.46	20.5
2.1 T>1, <3mm W>=600mm HR SS sheet	2301.73	567.25	2799.95	447.19	-17.79	26.85
2.2 T:0.5-1mm W>=600mm HR SS sheet	661.5	128.74	963.28	123.03	-31.33	4.65
2.3 T<0.5mm W>=600mm HR SS sheet	19.55	7.98	133.89	13.97	-85.4	-42.91
3 CR SS sheet	716552	131098.8	692037.3	115904.5	3.54	13.11
3.1 T>1,<3mm W>=600mm CR SS sheet	212037.1	36505.11	199781.2	29376.84	6.13	24.26
3.2 T: 0.5-1mm	405133.9	75383.58	393526.9	68106.96	2.95	10.68

W>=600mm CR SS sheet						
3.3 T<0.5mm W>=600mm CR SS sheet	83585.65	16279.55	75893.4	14487.85	10.14	12.37
3.4 W>=600mm other CR SS sheet	15795.3	2930.57	22835.78	3932.88	-30.83	-25.49
1.3 HR SS wide and medium strip	1419308	287306	1304121	221073.9	8.83	29.96
1.3-1 T>10mm W>=600mm HR SS medium plate/coil	32272.15	8331.27	39899.38	8061.11	-19.12	3.35
1.3-2 T: 4.75-10mm W>=600mm HR SS medium plate/coil	329134.6	75146.93	261718.3	51223.85	25.76	46.7
1.3-3 T>=3mm,<4.75mm W>=600mm HR SS medium plate/coil	1057901	203827.8	1002504	161788.9	5.53	25.98
including T>=3mm,<4.75mm HR SS coil (black skin)	263198.6	45127.19	0	0	***	***
T>=3mm,<4.75mm HR SS coil (white skin)	794702.8	158700.6	0	0	***	***
2 HR SS thin and wide strip	427742.2	59286.92	371759.1	43221.68	15.06	37.17
2.1 T<3mm W>=600mm HR SS coil	427742.2	59286.92	371759.1	43221.68	15.06	37.17
including T<3mm HR SS coil (black skin)	219735.7	24552	0	0	***	***
T<3mm HR SS coil (white skin)	208006.5	34734.92	0	0	***	***
3 HR SS narrow strip	83330.88	23274.38	94194.73	20669.3	-11.53	12.6
3.1 T>=4.75 W<600mm HR SS strip	4668.52	1794.64	3083.79	1062.01	51.39	68.98

3.2 T<4.75mm W<600mm HR SS strip	29054.22	6240.88	32267.19	5533.35	-9.96	12.79
3.3 other W<600mm SS strip	49608.15	15238.86	58843.76	14073.94	-15.7	8.28
3 CR SS narrow strip	173704.4	49562.81	150741.6	38888.49	15.23	27.45
3.1 W>=300,<600mm CR SS strip	67468.57	17606.55	62521.26	15413.19	7.91	14.23
3.2 W<300mm CR SS strip	106235.9	31956.26	88220.29	23475.3	20.42	36.13
(XX) seamless steel tube	678218.2	170216.2	692242.2	102734	-2.03	65.69
4.3 SS cold-drawn boiler tubes and pipes	5193.47	3885.88	3720.04	1895.68	39.61	104.99
4.4 other SS boiler tubes and pipes	862.72	605.09	336.01	253.99	156.75	138.23
5.3 other SS cold-drawn seamless steel tube	15495.87	6253.29	4063.09	3944.64	281.38	58.53
5.4 other SS HR seamless steel tube	2479.82	2063.47	3713.42	3028.84	-33.22	-31.87
(XXI) welded steel tube and pipe	405698.2	58594.44	626458	55458.94	-35.24	5.65
3.5 outer D:<406.4mm SS welded steel tube and pipe	23742.18	12869.22	20883.07	9349.59	13.69	37.64
(XXVI) steel wire	373425.1	41970.54	467751.1	40323.92	-20.17	4.08
2 SS wire	27496.43	9807.72	27352.5	8511.07	0.53	15.23
3 SS ingot	17238.12	4062.26	23674.89	4969.08	-27.19	-18.25
5 SS slab	28792.86	7676.06	32618.43	6905.49	-11.73	11.16
6 other SS billet/slab	27618.12	7827.11	11100.88	2751.17	148.79	184.5
XII. Scrap steel	10143260	261048.6	10221793	223040.1	-0.77	17.04
2 SS scrap	201104.7	24796.54	137992.5	12683.48	45.74	95.5

The tables below show China imports of key flat stainless steel products by country in 2005:

Table 4.11 China Stainless Steel import from different countries (Jan-Dec, 05)

Country/Region	Import volume in Nov (ton)	Import value in Dec (US$)	Import volume during Jan-Dec (ton)	Import value during Jan-Dec (US$)
HR stainless steel medium plate				
Total	**2931.344**	**11474990**	**31779.99**	**121025034**
Sweden	810.554	3939848	7921.259	43952995
India	0	0	791.17	997029
Mexico	0.484	702	98.508	271895
Australia	0	0	0.214	1504
France	89.009	737311	1469.404	7853246
Spain	0	0	280.751	980574
Finland	87.767	345259	850.506	2079444
Swiss	0	0	28.512	121967
Italy	0	0	12.793	184770
Brazil	0	0	20.735	27788
N/A	7.134	38262	12.939	48195
Japan	409.839	1270436	4000.643	14543793
South Korea	26.749	87434	529.857	1248739
New Zealand	0	0	16.245	31191
Taiwan Province	670.033	1467580	11420.964	29405941
Romania	0	0	10.88	41853
Turkey	1.413	5224	2.719	11787
Austria	29.039	167424	142.854	1006365
Singapore	0	0	14.565	16846
Slovenia	0	0	1.219	6705
P. R. China	22.233	54516	87.225	201376
Germany	31.663	592860	628.334	3783226
Holland	0	0	0.482	1100

Luxemburg	0	0	3.938	12343
Thailand	0	0	9.588	9588
UK	21.284	53370	89.127	289384
Hong Kong	0	0	18.414	21808
Belgium	286.572	1024375	1074.236	4498859
South Africa	132.103	407678	842.908	3108275
US	305.468	1282711	1399.001	6266448
CR stainless steel medium plate				
Total	**3537.967**	**10521631**	**41150.777**	**127632167**
Sweden	59.749	763175	928.857	5966760
India	0	0	189.696	300794
Mexico	15.048	18523	76.173	80961
Australia	0	0	0.355	1023
France	0	0	14.316	23309
Norway	0	0	406.554	1292569
Spain	0	0	77.448	131273
Finland	509.917	1584295	7916.238	29239816
Swiss	0	0	3.407	15147
Italy	0	0	328.008	662768
Brazil	133.422	188813	532.129	868017
N/A	0	0	1	3036
Japan	241.797	591960	2587.56	5734082
South Korea	686.918	1548356	1128.911	2476761
Taiwan Province	1137.384	2707746	9334.902	20242850
Singapore	0.326	379	10.021	11626
P. R. China	7.257	19324	1164.801	2884699
Germany	40.252	86068	2446.39	7067546
Holland	0	0	45.79	56171
Thailand	3.776	3441	113.007	283731
UK	0	0	308.677	775218
Hong Kong	0	0	22.604	52105
Belgium	517.658	2373887	7096.745	32020579

South Africa	166.79	592636	5727.712	15421704
US	17.673	43028	689.476	2019622
HR stainless steel sheet				
Total	**247.463**	**610652**	**2983.509**	**7040093**
Sweden	0	0	18.74	140719
India	0	0	3.14	18212
Australia	0	0	47.558	75311
France	0	0	16.987	81069
Spain	0	0	0.63	2560
Finland	0	0	35.512	79944
Italy	0	0	2.447	4987
Japan	2.089	7495	391.278	1460430
South Korea	15.567	40427	314.757	657093
Taiwan Province	206.742	461190	1759.667	3660851
Romania	0	0	1.75	4500
Denmark	0	0	9.964	45339
Austria	0	0	1.86	20549
Singapore	0	0	4.649	6217
P. R. China	19.64	65748	76.262	253626
Germany	0	0	20.179	133500
Holland	0.132	3338	0.672	7724
UK	0	0	0.872	3924
Hong Kong	1.611	23886	14.588	100825
Belgium	0	0	0.792	635
US	1.682	8568	261.205	282078
CR stainless steel sheet				
Total	**48686.146**	**82826230**	**717320.26**	**1312639672**
Sweden	65.76	546450	1092.671	8809921
India	1697.254	1599234	29503.51	39958883
Mexico	1382.533	1466637	5184.021	5036587
Australia	76.61	140340	527.556	970476
France	394.161	457517	1595.721	2193526
Spain	231.818	223189	4061.967	4758683

Finland	327.586	1073383	9151.829	28131160
Malaysia	0	0	1.94	7177
Swiss	0	0	15.48	63868
Italy	0	0	1015.999	1492172
Brazil	963.169	1176910	12880.226	17383585
N/A	0	0	89.247	216369
Japan	11462.58	21153335	144317.014	287008832
Indonesia	678.406	663787	18049.568	23409847
South Korea	11007.072	21346564	141753.425	291886139
Canada	0	0	0	28
Taiwan Province	16383.605	26322490	268883.891	460153583
Romania	15.895	62259	1741.867	3558333
Denmark	1.165	9903	7.094	60300
Austria	7.318	383516	40.989	1050409
Singapore	3.377	7233	68.507	179116
P. R. China	246.987	514153	6631.067	16047047
Germany	945.769	2301935	18784.925	42997293
Holland	25.475	31543	661.133	813136
Thailand	1030.512	1412339	11170.367	19986801
UK	0.068	3635	718.617	1800140
Hong Kong	0.018	36	353.634	592761
Belgium	20.342	40846	805.099	2139766
South Africa	1462.807	1490212	24705.938	35440613
US	255.859	398784	13506.958	16493121
HR wide and medium-thick stainless strip				
Total	**85251.399**	**140028049**	**1420614.16**	**2875300351**
Sweden	538.085	2486723	17936.181	61289584
India	264.338	232538	27233.725	34317917
Australia	0	0	10.376	12866
France	0	0	0.934	363
Spain	0	0	18688.854	47149685
Finland	1517.398	4881230	73649.463	207199888
Malaysia	0	0	0.75	5030

Italy	6013.746	9100522	95918.988	161411057
N/A	0	0	0.732	587
Brazil	171.573	265960	6039.743	8368535
Japan	4965.138	9017126	140663.894	260986694
South Korea	52530.864	81145184	671049.915	1340623549
Taiwan Province	15055.709	19530089	195432.416	326434583
Romania	0	0	22.83	18264
P. R. China	0	0	44.16	138030
Germany	631.155	2432874	46159.239	116381854
Holland	0	0	14.74	44407
Thailand	11.471	19341	91.306	158742
UK	0	0	9260.539	26150037
Hong Kong	0	0	3.02	4654
Belgium	1425.774	3851289	16688.486	40835829
South Africa	880.945	2472782	57293.236	135610192
US	1245.203	4592391	44410.628	108158004
HR wide and thin stainless strip				
Total	**28428.461**	**29035489**	**426433.489**	**591590613**
Sweden	0	0	786.225	1898982
India	7218.751	5740284	160625.002	182713453
Australia	0	0	507.596	751054
Norway	0	0	120.419	130224
Finland	61.75	190384	8233.767	21071580
Malaysia	51.32	118036	51.32	118036
Italy	3965.954	6189250	64513.356	119777061
Swiss	0	0	2.695	3504
Brazil	8649.605	6757818	22969.427	20097810
N/A	0	0	0.48	385
Japan	109.028	274037	1358.643	3022056
South Korea	18.854	24510	157.798	441341
Taiwan Province	8272.342	9669497	130523.245	185383222
Austria	0	0	14.21	167140

Singapore	0	0	40.775	152725
P. R. China	14.745	22639	133.255	193546
Germany	1.188	4721	24698.972	43419639
Thailand	0	0	9.593	4797
Hong Kong	0	0	9.326	14959
Belgium	0	0	2290.604	3762945
South Africa	0	0	33.758	38760
US	64.924	44313	9353.023	8427394

The tables below show China's imports of key stainless steel products per country of origin during 2004.

Fig 4.12 China Stainless Steel import from different countries

Country/Region	Import volume in Dec, 04(ton)	Import value in Dec, 04(US$)	Import volume in Jan-Dec, 04(ton)	Import value in Jan-Dec, 04(US$)
Flat-rolled products of stainless steel				
Total	**269634.59**	**499577218**	**2683355.36**	**4577909244**
Sweden	1512.127	7269775	16620.068	63308223
India	24630.162	27079535	214761.98	216041711
Mexico	1014.566	1529979	10569.395	10578119
Australia	184.718	220464	1626.436	2256141
France	221.921	692745	9360.18	13195201
Norway	2.092	5449	483.947	1322552
Spain	901.495	1533247	9021.378	11610991
Finland	12343.423	35818000	55598.071	133118874
Malaysia	586.757	2088816	5370.763	17732870
Italy	16188.54	27402029	98708.001	145782878
Swiss	2.584	8823	97.224	343805
Poland	0.184	168	0.184	168
N/A	0	0	25.656	54609
Brazil	10229.162	9436498	74903.58	71038911
Japan	44769.101	83123207	411536.092	713132551
Indonesia	219.441	622845	953.232	1858484

South Korea	65118.992	137249818	870755.214	1608012402
New Zealand	1.8	3456	3.308	6431
Canada	0	0	84.359	60439
Taiwan Province	67297.612	117911450	646088.333	1095644945
Vietnam	0	0	10	12788
Romania	397.188	858783	2362.71	3696256
Philippines	0.689	3425	9.238	41663
Denmark	0.528	24396	0.788	24916
Austria	32.824	226566	154.83	1072222
Singpore	55.774	130683	562.993	1289769
Slovenia	240.93	699929	430.962	952749
P. R. China	784.47	1940176	9328.472	21160056
Germany	1755.242	4019342	49412.727	89685806
Egypt	20.666	21906	20.666	21906
Thailand	2574.625	4514116	16948.168	28227724
Holland	117.31	125058	511.504	676255
Israel	0	0	55.437	564600
UK	3344.781	7238151	4736.614	11022851
Hong Kong	191.664	362702	1947.291	3925865
Belgium	3439.255	8340988	31605.824	74610363
Ireland	0	0	12.45	159064
South Africa	8459.072	13774482	72998.5	129876981
US	2994.89	5300211	65678.787	105787105
Stainless steel medium plate/strip				
Total	**25420.983**	**64212707**	**346186.998**	**715062950**
Sweden	1272.948	5699869	14358.133	50619165
India	362.59	457408	1872.638	2839467
Mexico	0	0	4.866	2482
France	11.989	82250	1045.706	3049624
Australia	15.506	17661	39.013	74169
Spain	161.878	308622	1288.825	2417853
Malaysia	0	0	384.784	925043
Finland	4716.179	14210653	22551.001	54908387
Swiss	0	0	86.295	320816
Italy	416.801	862431	4545.113	6353636
Brazil	528.19	517492	1148.925	1025108

Japan	2459.602	4468373	29276.237	48189046
South Korea	8165.718	19303764	147287.663	290845381
Canada	0	0	43.147	24819
Taiwan Province	3092.834	6742029	45099.595	89381870
Vietnam	0	0	10	12788
Romania	0	0	0.032	123
Austria	28.106	185992	140.836	874603
Singpore	0.428	495	43.54	134961
Slovia	240.93	699929	267.426	833828
P. R. China	4.418	5101	82.392	195254
Germany	262.674	634899	3170.262	7801840
Israel	0	0	15.84	169000
Holland	0	0	13.176	33733
Thailand	0	0	11.61	22247
UK	812.583	2314570	1047.446	2915277
Hong Kong	13.437	23013	49.269	69929
Belgium	1564.972	4094802	14545.018	33611509
South Africa	733.952	2065444	23585.728	53849513
US	555.248	1517910	34172.482	63561479
HR stainless steel sheet/strip				
Total	**135778.85**	**227429248**	**1406696.92**	**2101563183**
Sweden	17.536	49984	324.864	896220
India	19669.613	20956395	180366.691	179984678
Australia	76.391	112361	878.696	1347939
France	0	0	6067.814	4397165
Spain	0	0	689.453	1123617
Finland	5853.734	16461397	21832.554	49371627
Malaysia	204.384	648693	1012.178	2781836
Italy	14545.63	24783421	89599.415	132913563
Brazil	7205.77	5921938	51381.44	43599465
Japan	21559.798	35161280	165804.334	238601088
South Korea	41743.956	82456318	578290.587	1016172280
New Zealand	1.8	3456	3.15	6048
Canada	0	0	0.48	486
Taiwan Province	14574.399	23242814	224503.096	299467786
Romania	0.21	540	1.945	4989

Denmark	0	0	0.26	520
Austria	4.655	40213	10.171	75009
Singpore	0.651	766	72.87	232660
P. R. China	75.57	129029	616.648	1056480
Germany	484.626	886833	20030.937	28752977
Holland	0	0	107.25	125195
Thailand	77.743	124389	2442.909	4225038
UK	1472.909	3528538	1606.242	3832619
Hong Kong	10.421	29030	291.204	453124
Belgium	1381.315	2515548	8495.982	13418592
South Africa	6440.972	10102510	41850.983	67047354
US	376.769	273795	10414.765	11674828
CR stainless steel sheet/strip				
Total	**81918.47**	**143550567**	**698107.565**	**1192419805**
Sweden	157.77	958824	1156.886	5330186
India	2861.138	3716099	22512.303	24130337
Mexico	447.751	706424	3893.598	4626620
Australia	85.697	83397	573.247	621940
France	58.085	86513	900.942	1580885
Norway	2.092	5449	483.947	1322552
Spain	493.147	789133	4291.127	4883836
Finland	1223.498	4008933	8189.196	22771116
Swiss	0	0	1.935	2516
Italy	1173.728	1698827	3823.418	5204620
N/A	0	0	25.005	51439
Brazil	2074.233	2549913	20384.385	23928468
Japan	16264.497	27925403	172106.05	278536627
Indonesia	210.831	588530	586.697	1333166
South Korea	12945.307	28456285	120892.893	236367958
New Zealand	0	0	0.088	203
Taiwan Province	37062.069	59267239	271459.891	462707145
Romania	377.188	792401	2306.18	3510739
Singpore	13.213	38322	33.133	106027
P. R. China	393.547	941093	5686.538	11374783
Germany	519.325	1074405	18101.129	31918833
Egypt	20.666	21906	20.666	21906

Holland	104.586	106372	244.391	318020
Thailand	2408.689	4270590	13215.172	22015679
Israel	0	0	39.597	395600
UK	941.86	1254324	1562.344	2643656
Hong Kong	13.455	10764	491.729	1022665
Belgium	467.292	1676787	8267.662	26872463
South Africa	586.328	1311967	5277.593	7285624
US	1012.478	1210667	11579.823	11534196

The table below shows the import and export volumes and values for China for 2005 and 2004 for a number of key products included in this 'Stainless Steel' market research:

Fig 4.13 Import and export volumes and values for China for 2005 and 2004.

		Imports			Exports		
		2005 by Value US$	**2004 by Quantity kg**	**2004 Imports by Quantity kg**	**2005 by Value US$**	**HS CODE**	**Description**
7221	Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel.	108,103,028	46089055	76,060,563	26,756,380		
7222	Other bars and rods of stainless steel; angles, shapes and sections of stainless steel.	125,510,578	38,577,887	94,828,414	49,930,134	8,518,818	15,846,875
7223	Wire of stainless steel.	85,110,723	24,598,845	68,362,007	70,932,292	12,379,464	28,605,734
7304	Tubes, pipes and hollow profiles, seamless, of iron	1,027,340,194	474,589,462	578,982,997	631,269,405	560,753,319	350,466,548

	(excluding cast iron) or steel.						
7306	Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel.	318,988,251	337,684,304	248,808,244	636,318,423	540,539,000	315,827,370
7307	Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel.	288,843,133	23,341,717	164,052,553	842,793,059	543,137,003	517,742,381
7323	Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.	15,829,603	3,483,677	17,970,260	1,875,707,305	776832951(Q)	1,721,013,898
7324	Sanitary ware and parts thereof, of iron or steel.	11,436,704	3,735,463	9,848,430	233,634,639	59,925,689	140,569,413
8211	Knives with cutting blades, serrated or not (including pruning knives), (excluding knives	13,980,096	2,169,278	8,656,525	396,617,496	755525723(Q)	336,234,012

	of heading no.82.08), and blades therefor.						
8212	Razors and razor blades (including razor blade blanks in strips).	75,484,217	560709509(Q)	104044549(Q)	210,258,251	2441482048(Q)	185,776,362
8213	Scissors, tailors' shears and similar shears, and blades therefor.	4,104,136	651,457	3,640,761	147,938,225	42,894,551	127,057,448
8214	Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files).	5,849,654	1,051,103	5,191,004	193,126,999	53,189,889	162,347,403
8215	Spoons, forks, ladles, skimmers, cake- servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware.	6,441,116	1,251,409	3,572,685	881,821,792	208174445(Q)	678,031,637
8434	Milking machines	42,642,569	1240 (Q)	40,893,518	17,034,50	1,027,885	10,113,319

	and dairy machinery.				6		

5.15. Key Government bodies and Associations

1. China Iron & Steel Association – CISA
Address: No.46.Dong Si Xi Da Jie, Beijing, 100711
Tel: +86-(10)-65133322-1146
Email: info@chinaisa.org.cn
Website: http://www.chinaisa.org.cn/en/index_en.htm

2. China Steel Pipe Association (CSPA, originally called Steel Tube Council of the China Steel Construction Society)
Tel: +86-10-65133322
Fax: +86-10-65136301-512
Email:info-cpi@cpi.org.cn
Website: http://www.cpi.org.cn (only available in Chinese)

3. China Cold Roll-Forming Steel Association
Address: 4-26-301 Chunguangli Hongjiayuan, Shuangqiaomen, Nanjing 210012
Tel: +86 25 52616203
Fax: +86 25 52616802
E-mail: admin@chinalw.org or chinalw@e165.com
Website: http://www.chinalw.org/zl_En.htm

4. China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters (CCCMC)
Address: 17th Floor, Prime Tower, No. 22 Chaowai Dajie, Chaoyang District, Beijing 100020,
Tel: 86-10-65882823
Fax: 86-10-65882825
E-mail: webmaster@cccmc.org.cn
Website: http://www.cccmc.org.cn/EnglishWeb/Company/CmcBrIntro.aspx

5. The Chinese Society for Metals – CSM
Tel: +861065270210
Fax: +861065214122
Email: webmaster@csm.org.cn
Website: http://english.csm.org.cn/

6. Stainless Steel Council of China Special Steel Enterprises Association (CSSC)
Address: No. 46, Dongsixidaije Beijing China 100 711
Tel: +86 10 652 36395
Fax +86 10 652 36395

7. China Steel Construction Society (CSCS)
Address: 33 Xitucheng Road. Beijing 100088
Tel: 86 10 62275342
Fax: 86 10 82227105
E-mail: csc@cncscs.com
Http:// www.cncscs.com

8. China Metallurgical Mining Association
Website: www.miningchina.org
Metallurgical Council of China for the Promotion of International Trade (CCPIT)
Address: 46 Dongsi Xidajie,Beijing,China 100711
Tel: 86-10-65227956
Fax: 86-10-65131921
Email: webmaster@mc-ccpit.com
Website: http://www.mc-ccpit.com/english/about.asp

9. China Food and Packaging Machinery Industry Association
Add: No.46, Sanlihe Rd., Beijing 100823
Tel: (86-10) 6859-6475
Fax: (86-10) 6853-3077

5.16. Considerations

1. In 2005, China produced 3.16Mt of stainless steel from a total capacity of 4.7Mt/a.

2. China's production capacity was around 400'000t for much of the 1990s. Starting in 2000, huge investment increased capacity at 35% a year. Meltshop capacity increased by 33% in 2005 and is forecast to expand a further 50% this year.

3. Global production has been driven by Asia, notably in S. Korea, Taiwan and China. In 2005, China accounted for 14% of a global capacity of 23Mt.

4. China's investment in upgrading old and building new facilities is set to continue, though there is widespread debate about how large the expansion will be. In terms of projects already passed by the State Council, China will install 3.3Mt more Meltshop capacity by 2010 for a total of 8.15Mt. However, if all China's currently planned projects are completed, China will have an installed capacity of 16.3Mt by 2010. In the difference between the two scenarios lies the key to the global stainless steel industry for the next decade.

5. A range of incentives apply. While it is impossible to get accurate information on the extent of these incentives, it is widely accepted that these include various municipal rates and taxes, as well as some more significant corporate tax – related benefits. On the labour side, SOEs have been known to abuse the minimum wage limit rules as well as receiving support from local governments on labour related issues. At the end of the day, hassle-free labour relations contributes to stability and labour costs in many politically connected companies in China.

6. Electricity prices in China are widely regarded as ‘subsidised’. Keeping energy prices low is not achieved through traditional state-trading systems, but rather that electricity prices are set on a national level and the power industry must faces the losses that results from selling at this price. Many SOE’s enjoy discount electricity from local-government officials who control the local electricity production and grid facilities.

6. Since 2005 heavy industry, including the steel industry, is expected to pay higher prices for electricity, and local governments are not allowed to offer discounted energy prices. It is widely regarded that national-level comments such as those made above, often carry little weight at local government level where officials continue to use control over taxes and input prices to create greater incentives for local investment.

5. China’s has two well developed and highly marketised steel markets. One at Wuxi in the Yangtze River Delta and the major steel market at Foshan in the Pearl River Delta. Of China’s 1637 stainless steel-related enterprises, 700 are based in Guangdong around Foshan market. Zhejiang, Jiangsu and Shanghai are other major stainless steel provinces, based around Wuxi market in Jiangsu. Tisco is based in North-Central Shanxi while Baosteel’s facilities are around Shanghai. Shandong is an up-and-coming low-wage manufacturing centre.

7. Most of China’s recent production expansion has been devoted to CR flats, currently accounting for 90% of total steel product production. China is 80% self-sufficient in this category.

8. China relies heavily on imports to cover long and pipe product demand. This may change when a huge new pipe production facility in Tianjin is completed this year.

9. Over the past few years, a low-quality, high CrMn 200 series grade, masquerading as a 300series, has been expanding market share, growing to 23% in 2004. Analysts are very worried about the damage

this product has done to stainless steel's reputation as an exterior material in the construction sector. Authorities have strongly clamped down on the abuse.

10. Austenitics accounted for 85% of total production in 2004. This was higher than the global norm and reflects China exposure to high Nickel prices. This ratio dropped last year as the low-Nickel 200 series gained market share.

11. Tisco and Baosteel account for 42% of total production. 10 other companies each have a capacity of greater than 50'000t/a.

12. According to Chinese Government statistics, a average manufacturing wage in Guangdong (stainless steel centre of China) earns US$2125 /year. In Shanxi, were Tisco is based, unskilled wages start around US$ 937.5/year.

13. In 2005, raw materials, largely imported, made up 66% of stainless steel companies cost structure. This figure increased from 53% in 2003. Industrial operations in China face low labour costs, low cost of capital (often artificially low due to non-repayment of loans), and low rates and taxes. Corporate tax for Chinese companies is 33%, while FIEs face 15% corporate tax.

14. High global Nickel and stainless scrap prices are forcing many producers to cut back on production. Authorities have encouraged this practise to support prices.

15. In March 2006, the price of HR 304 on the Foshan market was U$2300/ton.

16 China's stainless steel imports have hovered between 2-3Mt/a since 2001; although this gap has been rapidly closing since 2005. HR flats, wire/rods and pipes make up a disproportionately high ratio of imports.

17 China will be a net CR flat exporter by 2007, while HR exports should surpass imports by 2009.

18 Opportunities for imports still exist for HR flats, pipes, special steels and high-end niche products. Due to the general irrationality in China's production expansion, China will still demand around 1Mt/a of imports making up for structural shortages beyond 2010.

6. PROTECTION AND ASSOCIATED ASPECTS.

6.1. Tariffs

6.1.1 Bindings and bound rates

Bound rates are the maximum rates a country is allowed to apply under its WTO commitments. Countries generally increased the coverage of their tariff bindings substantially during the Uruguay Round. In the case of most developing countries there are substantial differences between bound and applied rates. This has the implication that countries are allowed to increase current rates of duty up to the level of bound rates without transgressing their WTO commitments. In the words of the WTO (Trade Policy Review of Brazil, 2004): "--the average bound rate considerably exceeds the average applied rate, thus imparting a degree of uncertainty to the tariff and providing scope for the authorities to raise applied MFN rates".

5.1.1.1 South Africa

All South African tariff lines are bound with the exception of Chapters 3 (fish), 27 (mineral oil and fuels) and 93 (arms and ammunition) and a few lines in chemicals. The binding coverage is 96.4%.

The average bound rate for industrial products is 16.6%. The highest bound rate is 30% with the exception of two product groups, namely clothing (45%) and motor vehicles (50%).

South African bound rates in respect of stainless steel and the products included in this study are shown in Table 5.1.

Table 6.1 South African Bound Rates in respect of Stainless Steel and Certain Articles Thereof

Chapter/Tariff Heading	RSA Bound Rate
Chapter 72	10%
HS73.04	15%
HS82.11 to 82.14	20%
HS82.15	30%
HS84.21	15%; certain automotive products 30%; catalytic converters 15%
HS84.34	Free
HS84.38	Free, except machinery for the preparation of meat and poultry at 15%

Generally, South Africa's bound rates show a distinct structure with an escalation from primary products to final products in most chapters.

China

Under the terms of its WTO accession, China submitted a schedule of tariffs and tariff reductions, prepared in 2001, which is China's binding schedule. It covers all tariff lines (100% binding coverage). The schedule shows

- The HS code
- Description
- The bound rate at accession
- The final bound rate
- Implementation (meaning the year in which the final bound rate would be implemented)
- The rates for each year in columns from 2002 to 2010.

China committed to substantial annual reductions in its tariff rates, with most of them taking place within five years of China's WTO accession. The largest

reductions took place in 2002, immediately after China acceded to the WTO, when the overall average tariff rate fell from over 15 percent to 12 percent.

In the case of stainless steel and the products included in this study, some of China's final bound rates came into effect immediately upon accession but in most cases the final bound rates were phased in. In those cases, the phasing took place over a short time, between 2002 and 2004. All China's final bound rates on the relevant products have been implemented. For details of China's bound rates, see 6.1.3. China's applied rates and bound rates are the same.'

6.1.2 Applied tariffs

6.1.2.1 South Africa

South Africa's tariffs are applied on the FOB value of imports.

The simple average tariff rate for industrial products is 11.4% according to the recent exercise of compiling the bound rates of the tariff lines as at 1 January 2005, and the applied rates, for the purpose of the Doha Round NAMA analysis.

A comparison of the South African and China's applied rates in respect of the tariff lines under the chapters covered by this study follows in par 5.1.3.

6.1.2.2 China

China's customs duties are applied on a CIF basis. This means that the value for calculation of the basic duty is up to 20% higher than South Africa's FOB value basis. This has the following affect:

	Basic customs duty	Effective customs duty
South Africa	15%	15%
China	15%	18%

In addition to the basic duty, China applies import VAT of 17% compared to South Africa's 14%.

6.1.3. Comparison

Table 5.2 shows summary comparisons of the customs duties of China and South Africa, as in January 2006, per 4-digit tariff heading for stainless steel and the products covered under this study.

It should be kept in mind that the applied rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. The implications cannot be evaluated before the NAMA modalities have been finalised. The agreed modalities will have different effects on the applied rates of the two countries depending on the current bound rates and the difference between the bound and applied rates.

Table 6.2 Comparison of China and SA Applied Tariffs on Stainless Steel and Certain Products as at January 2006

HS4	Description	China: % (Frequency)	RSA: % (Frequency)
7219	Flat-rolled products of stainless steel, of a width of 600 mm or more	4 (6) 10 (12)	5 (14)
7220	Flat-rolled products of stainless steel, of a width of less than 600 mm	10 (5)	5 (4)
7221	Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel	10 (1)	0 (1)
7222	Other bars and rods of stainless steel; angles, shapes and sections of stainless steel	10 (5)	0 (5)

7223	Wire of stainless steel	10 (1)	0 (1)
7304	Tubes, pipes and hollow profiles, seamless, of iron (excluding cast iron) or steel	4 (14) 5 (5) 8 (1) 10 (4)	0 (5) 10 (3) 15 (5)
7304.10	Line pipe of a kind used for oil or gas pipelines:	5(4)	
7304.10.20	Of stainless steel		0 (1)
7304.4	Other, of circular cross-section, of stainless steel:		
7304.41	Cold-drawn or cold-rolled (cold-reducing)	10(2)	0(1)
7304.49	Other	10(2)	0(1)
7306	*Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel*		
7306.40	Other, welded, of circular cross-section, of stainless steel	6 (1)	10 (1)
7323	Table, kitchen or other household articles and parts thereof…. :		
7323.93	Of stainless steel:	12(1)	
7323.93.20	Hollowware for kitchen or table use (excluding those plated with precious metals)		30
7323.93.90	Other		20

7324 7324.10	Sanitary ware and parts thereof, of iron and steel: Sinks and wash basins, of stainless steel	 18(1)	 20(1)
8213	Scissors, tailors' shears and similar shears, and blades therefore*	12 (1)	0 (1)
8214	Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files)*	12 (1) 18 (3)	0 (2) 15 (2) 20 (1)
8215	Spoons, forks, ladles, skimmers, cake-servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware*	18 (4)	30 (4)
8421	Centrifuges, including centrifugal dryers; filtering or purifying machinery and apparatus, for liquids or gases * ** ** China's rate in respect of 8421.39.90 - catalytic converters – is 5%	0 (3) 5 (11) 8 (1) 8.4 (1) 10 (8) 12 (1) 15 (1) 17.5 (1) 25 (1)	0 (13) 15 (4) 16 (1) 19 (1)
8434	Milking machines and dairy machinery*	5 (1) 6 (1) 10 (1)	0 (3)

8438	Machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink (excluding machinery for the extraction or preparation of animal or fixed vegetable fats or oils)*	5 (1) 7 (4) 8 (1) 8.5 (1) 10 (2)	0 (8)

* Products of stainless steel not separately specified

China's tariff rate in respect of the stainless steel products of Chapter 72 is in almost all cases 10% while South Africa applies a rate of 5% on flat-rolled products and a rate of free on bars, rods and wire.

China's rates in respect of products of Headings 82.11 to 82.15 are 12% to 18%, compared to South Africa's rates of 15% to 30%. In respect of centrifuges China's rates range mostly from 5% to 25% compared to South Africa's free to 19%. On food machinery China's rates are from 5% to 10% while the South African rates are free.

6.1.4 Consideration

1 All South Africa's stainless tariff lines were bound in the Uruguay Round. China submitted a tariff binding schedule under its WTO accession agreement. Some lines were subject to a phase-in. All the final binding rates have been implemented.

2 South Africa's tariffs are applied on a FOB basis while that of China are on a CIF basis. This means that the same applied rate will in the case of China amount to an effective rate of up to 3 percentage points higher than South Africa's effective rate.

3 China's tariff rate in respect of the stainless steel products of Chapter 72 is in almost all cases 10% while South Africa applies a rate of 5% on flat-rolled products and a rate of free on bars, rods and wire.

4 China's rates in respect of products of Headings 82.11 to 82.15 are 12% to 18%, compared to South Africa's rates of 15% to 30%.

In respect of centrifuges China's rates range mostly from 5% to 25% compared to South Africa's free to 19%. On food machinery China's rates are from 5% to 10% while the South African rates are free.

5 The NAMA negotiations under the Doha Round have implications for the future level of tariff rates that may render bi-lateral concessions premature.

See Appendix 1 for complete tariff tables

6.2. Non tariff barriers

6.2.1. Import quotas

China previously ran a state-trading system for steel trade. The large SOE dominated steel production and state-trading companies such as Minmetals Corp were responsible for most of the imports of raw materials on behalf of the large SOE end-users. During this time, China was very dependent on large amounts of flat and long stainless steel imports. Smaller, private enterprises in this sector were forced to work through trading companies such as Minmetals to handle the foreign exchange part of the transactions and this monopoly allowed authorities to exert much control over imports.

Under the WTO, the state-trading system and import quota system were dropped. Today, many companies still work through Minmetals to handle their foreign exchange transactions and be issued with a Letter of Credit.

MOFTEC implemented as safeguard measures (import quotas and above-quota raised tariff levels) in November 2002 (MOFTEC Notice No. 48/02). The measures quotas covered five categories of steel products, including: non-alloy hot rolled sheets and coils, non-alloy cold rolled sheets and coils, organic coated sheets, silicon-electrical steel, and stainless cold rolled sheets and coils. South Africa was part of a list of developing countries that was excluded from all quotas and safeguard measures. From 26 December 2003

(MOFCOM Notice No. 76/2003), these remaining quotas were terminated as higher global steel prices put pressure on domestic users of steel and steel products.

However, currently, there is no quota system on stainless steel products, other products in this section.

6.2.2. Prohibited imports for processing trade

(See: Processing Trade above)

Due to overinvestment in production capacity in certain metals processing sectors, MOFCOM has implemented import and export restrictions on a number of metals in the 'Processing Trade'. More specifically, they are trying to target overinvestment by restricting (controlling) the trade of the raw materials and 'for-export' processed products. This does not mean that trade in these products is always restricted. It only means that if you want to import a specific raw material solely for the purpose of exporting the processed metal, this is not allowed. The regulation includes both import restrictions on the raw material and export prohibition on the processed metal. As the 'export processing sector' contributes 55% of all China's exports, this is well established and regulated area and is controlled largely by the on-sight customs houses of the special development/trade zones. Hence, no foreign company representatives spoke of problem areas with regard to this regulation.

Nonetheless, the intention of MOFCOM is very clear on this issue: Because of the large number of applicable tariff lines, the general sections subject to this regulation and the applicable HS codes are listed below. MOFCOM, The General Administration of Customs and SEPA (State Environmental Protection Agency) jointly promulgated the notice concerning the 'Catalogue of Prohibited products for processing trade' on 11 December 2005. The notice 105/2005, took effect on 1 January 2006.

The ‘Catalogue of Prohibited products for Processing Trade’, includes:

a) Various Ferrous waste and scrap (7204490010, 7204490020)

b) Various products under HS code 72: Iron and Steel (7201100000,7201200000,7201500010,7201500090,7204100000,7204210000,7204290000,7204300000,7204410000,7204490090,7204500000,7205100000,7205210000,7205290000,7206100000,7206900000,7207110000,7207120000,7207190000,7207200000,7218100000,7224909000)

c) Various Ferro-alloys (7202110000,7202190000,7202210000,7202290000,7202300000,7202410000,7202490000,7202500000,7202600000,7202700000,7202801000,7202802000,7202910000,7202921000)

Steel products were previously able to draw benefits from processing trade incentives. However, on 19 May 2005 the NDRC removed benefits giving to steel processing trade, such as import VAT and tariff waiver benefits. The motivation is to reduce exports of products needed for domestic downstream industries, giving preference to domestic industries and thus push down their prices. This will also reduce the use of expensive raw materials, iron ore and coking coal imports.

Stainless steel is not viewed by policy-makers a separate industry on this issue, rather forming part of the general steel industry.

6.2.3. Dual Purpose Use/ Double Functions restrictions

Trade in various steel products and articles thereof are restricted due to their potential use in non-civilian industries and well as civilian industries. ‘Administrative Measures on Import and Export License of Substances and Technologies of Double Functions’ took effect as from 1 January 1 2006,

promulgated by Decree No.29/2005 of MOFCOM and The General Administration of Customs. Both importers and exporters should apply to MOFCOM for a special import/export permit relating to any products which fall under the following tariff codes. Imports and exports for non-civilian use are prohibited; hence the trade in these products, for civilian use, needs specific permission from MOFCOM.

The regulations contain a long list of products, from toxic chemical and nuclear material, to everyday, widely used products that could potentially be used in non-civilian ways. It is important to know that this regulation exists and could possibly lead to disputes at customs over the nature of the import. There are no reported cases of this happening to stainless steel products.

The following products applicable to this research are in the above Catalogue:

- Other tubes and hollow profiles of Iron or Steel (7306900010)
- Catalytic converters (8421399011, 8421399012, 8421399013, 8421399014, 8421399015)

6.2.4. Export duty rate (export tax)

Waste of Stainless steel (72042100) and Other Ferrous waste (72044900) carry a export duty rate of 40%. These regulations are enforceable from 1 January 2006.

6.2.5. Export Subsidies

China does not have a export subsidy system for stainless steel exports. However, formal and informal subsidies play a large role in China's industrial policy and export-orientated growth model.

China has used the tax rebate system and FTZ/IPZ system (See above) to promote exports. These 2 systems are complemented by Governments use of state assets as policy tolls in carrying out industrial policy. However, in the

steel industry, in contrast to the Automotive industry, policy-makers have used SOE to promote import substitution, reducing dependence on expensive imports, and to prepare China's domestic companies for increased competition in the domestic market as WTO-induced barriers to trade come down.

As mentioned above, China had very low self-sufficiency ratios for stainless steel products. In order to repair this, the Chinese Government has used tax and investment incentives to attracted foreign companies into establishing JV operations in China. But Government has also investment public funds into massive new stainless steel production capacity. This direct expenditure has been directed largely at TISCO and Baosteel. However, as part of China's stainless steel import substitution policies, Government has also bank-rolled new 'small-capacity' facilities, even though these are deemed 'private enterprises'.

Most companies in the stainless steel industry, downstream from the Meltshops and rolling mills, are private enterprises. They have not received direct Government funding. They have however benefited from the general tax incentives favourable policies of local and municipal government Industrial Parks, which have been driving the export-orientated manufacturing sector.

Then there is the issue of 'soft loans', or the 'irrational loans' that most of China's state-owned banks have been accused of. Both SOEs and private companies have been accused of benefiting from these soft loans. This is not an official Government policy, but rather a legacy of China's Communist economy past, which now exists in the massive 'grey zone' between planned economy and market economy. At the end of the day, this amounts to significant support for entrepreneurs and private enterprise and significantly lowers the cost of capital.

However, from a trade or WTO perspective, there is nothing illegal or unfair about this phenomenon. Many countries in the world have a de facto system

of soft loans to politically favoured companies which ultimately gets paid off when Government uses public funds to bail out the banks. Direct export subsidies are illegal under the WTO, and each member should give an account of its official subsidy program. While China has been harshly criticized from not delivering a report on its subsidy program to the WTO, this is more of an issue in the agriculture and petrochemical industries.

China's steel industry, including its stainless steel industry, has benefited from huge direct Government investment and indirect conditions that reduce the cost of production and cost of capital. At the upstream end of the stainless steel industry, this has been a import substitution policy which will soon boil over into exports as a result of meeting its self-sufficiency targets. At the downstream stainless steel products end, producers benefit from China's favourable conditions for export of manufactured goods.

Importantly, China has been trying to reduce its exports in the upstream side of the steel industry. Firstly, it is genuinely worried about its growing trade surplus and the resulting imbalance on the global economy. Secondly, its has put in place many measures over the past 2 years to meet the problem of over-capacity and resulting downward pressure on steel prices. Thirdly, in a about-turn on previous 'GDP growth at all costs' national economic strategy, China is now very aware of the environmental and energy costs of its exporting of processed metal products. It does not want to export steel products that are, one, energy-consuming and polluting to produce, and two, needed as input materials to continue China's infrastructural development.

As a result, China has made some changes to its 'Export Rebate system' of the past few years. This system allows producers to claim back previously paid taxes when a good is exported:

6.2.6. Export Rebate System

Since 1985, China has had in place a tax rebate system designed to support the export trade in key industries.

After a product is exported, a producer may apply to the State Administration of Taxation for a rebate on taxes previously paid on the production of the exported product. Such taxes should be incurred during the processes of domestic production and circulation.
Generally speaking, the rebate is on VAT (on imported or domestically consumed goods and services), business tax and special consumption taxes. However, for foreign invested enterprises export tax, such rebate only refers to VAT rebates due to the Chinese government current stipulation of 0% rate of consumption tax for these enterprises.

For implementation measures, refer to 'Measures for the Administration of tax refund (Exemption) of Exported Goods", which cam into operation on a trial basis on 1 March 2005.

The standard VAT in China is 17 %, though many special/staple products enjoy 13% VAT, policy set by The State Council. Most Stainless Steel products carry a 17% VAT (also for import VAT). (See Appendix: Tariff Tables)

Table 6.3 Export Rebate rates for this section

Product	Export Rebate %
stainless steel scrap	0
stainless steel ingots and billets	0
Stainless steel flat, long products	13
Stainless steel pipes, tubes and sections	13
Kitchenware and other articles of stainless steel	13
Food machinery	13
Catalytic converters	13
Exhausts and silencers	17

6.3. Customs procedures

6.3.1. Import License

General Distribution and Trading

The new 'FICE' (Foreign Invested Commercial Enterprise) regulations:

It is necessary for FIEs, WFOEs and JVs to have a specific trading and distribution license to trade in any products in China. This covers both the handling of customs procedures and running a domestic product distribution network for imported goods.

11 December 2004 was supposed to mark the date by which China would fully implement a system to grant trading and distribution rights to foreign investors in accordance with its WTO accession protocol. But it was not until mid-2005 that the PRC government fully clarified application procedures for foreign investors to obtain such rights, thereby paving the way for an increase in the rate and number of approvals issued to foreign companies.

Before foreign companies are issued with this *FIE Approval Certificate*, they are not able to handle customs procedures on their own name and have been forced to work through Chinese (or Hong Kong) agents or in the 'grey areas' that have existed for sometime around foreign companies operating in China.

Existing FIEs who want to expand their business scope into trading/distribution and new companies to China face similar application procedures though there are a few minor differences. Most applicants spoken to thought the procedures were fairly bureaucratic though they are happy to be able to expand their business scope. All foreign companies spoken to, have worked through professional consultants.

Essentially, there is a two-tier application process both at Provincial and National level. The FIE shall make the required submissions to the competent local commerce authority where the FIE is registered. This authority shall then make a preliminary review of submissions before forwarding them to the

provincial commerce authority. The provincial authority will then make a decision on based on the FIEs articles of association, seeking the consent of the authority where the FIE operates (if these are in different jurisdictions). Upon a affirmative preliminary review result, the provincial authority shall forward the submissions to the National MOFCOM for a one-off approval. In the case of a Chinese distribution/trading enterprise intends to establish a FIE or a JV with a foreign investor, the application may be made directly to national MOFCOM.

However, certain products carry additional registration requirements and trading/distribution restrictions: Auto distribution; proceed oil; pharmaceutical products; audiovisual products; books/newspapers/periodicals. The case of a Chinese company with existing trading/distribution operations intends to merge, or be acquired by a foreign investor, certain additional requirements exist.

The process should take around 6 months from initial submission until the successful registration of a Foreign Invested Commercial Enterprise with full trading and distribution rights.

This new policy is a great step for China towards opening up its services sector and is seen as a great opportunity for importers to have more *de jure* control over their business scope over distribution side of their business in China.

Product-specific import license

Apart from the mandatory licenses issued as part of the above ‘NTB’ restrictions/regulations, product-specific licenses are necessary for each shipment of goods to pass through Customs. (This legal requirement is often wavered and importers may be issued with 3-month or one-year import licences). The applicant must prove that the import is "necessary” and that there is sufficient foreign exchange available to pay for the transaction. In reality the application of import licenses for most steel products is straight

forward and can be handled by an agent. (Without a FICE license, a foreign company would not be able to trade under its own name anyway.)

Automatic Import License (AIL)

The import of many metal and articles of metal products require a AIL. Applicable products are found in the *Catalogue of Commodities under Administration of Automatic Import Permission of 2006*, promulgated by Announcement No.101/2005 of MOFCOM and The General Administration of Customs. This regulation covers a wide range of goods under most two-digit HS code sections and is therefore not only applicable to metal products.

Applications for AIL may be submitted online or in writing. Licenses should generally be issued within 10 days of the receipt of application and complete applications. An AIL is valid for 6 months within a calendar year. Although MOFCOM generally requires a single import license for each shipment, for certain products, MOFCOM will permit entry of up to 6 shipments based on a single AIL.

AIL are not required for products processed for export in the processing trade.

Products include; (See Appendix 1: Tariffs Table)

- Flat Rolled Steel products (incl. stainless steel)

(7219110000, 7219120000, 7219131100, 7219131900, 7219132100, 7219132900, 7219141100, 7219141900, 7219142100, 7219142900, 7219210000, 7219220000, 7219230000, 7219241000, 7219242000, 7219243000, 7219310000, 721932000, 7219330000, 7219340000, 7219350000, 7219900000, 7220110000, 7220201000, 7220120000, 7220209000, 7220900000)

- Bars, Rods of steel (incl. stainless steel)

(7221000000, 7222110000, 7222200000, 7222190000, 7222300000, 7222400000,

- Steel wire (incl. stainless steel)

(7223000000)

- Tubes and Pipes

7304101000, 7304102000, 7304103000, 7304109000, 7304211000, (7304219000, 7304290000, 7304311000, 7304312000, 7304319000, 7304391000, 7304392000, 7304399000, 7304411000, 7304419000, 7304491000, 7304499000, 7304511000, 7304512000, 7304519000, 7304591000, 7304592000, 7304599000, 7304900000, 7306100000, 7306200000, 7306300000, 7306400000, 7306500000, 7306600000, 7306900010, 7306900090)

- Dairy machinery

(84342000)

6.3.2. Certification and Inspection of Used Electro-mechanical Products

The State General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) promulgated the "*Procedures on the Inspection and Supervision of Used Mechanical and Electrical Product Import*" on 18 August 2003, which took effect from 1 October 2003. The Procedures set out the administration of inspection and supervision of used mechanical and electrical product import, including filing a record before arrival of the products, pre-shipment inspection before packing, post-shipment inspection and supervisory control.

According to the *Administrative Rules on the Inspection and Supervision of Used Mechanical and Electrical Product Import* of 2003, ‘consignees or agents who import used mechanical and electrical products should report to the AQSIQ or its regional authorities after the contracts or agreements have been effective, but no later than 90 days before the arrival of the import. The Notice also sets out the conditions under which pre-shipment inspection should be applied.’

The above regulation applies to the silencers and exhausts (8708 9200) under this section.

6.3.3. Certificates of Origin

Importers should show a certificate of origin to Customs at the port of entry. If the importers cannot present the certificates of origin, the Mainland Customs will inspect other supporting documents such as contract, invoice, bill of landing, etc. to substantiate the origin of the steel imports. If the Customs cannot verify the origin of the goods based on the above documents, they may refer the case to the tariff department for a professional assessment. Additional duty will be levied on imports where origin cannot be verified.

An industry source said there were no abnormal issues relating to certificates of origin in the metals and metal products sector which can be viewed as a barrier to trade.

6.4. Standards

6.4.1. Mandatory cargo inspection by AQSIQ:

The import of most of the ‘Stainless Steel’ products in this section requires mandatory cargo certification by officials from AQSIQ (Administration of Quality Supervision, Inspection and Quarantine). This will occur at the port of entry. This applies to both imports and exports of certain products. This ‘inspection certificate’ is essential in order to clear customs, both ways. (See Appendix: Tariff Tables, to see which products in this section require a import inspection certificate.)

An industry analyst said thorough inspections are not common, as AQSIQ does not have the capacity to inspect all cargoes. But, they are occasionally

used on a discretionary basis to cause deliberate delays at Chinese ports. These cases are often politically motivated actions against the imports of certain products from certain countries to gain negotiating leverage or are vendettas against a particular company. These occurrences are not common but do occur, and are occasionally mentioned in official submissions under the Feasibility Study for the Australian FTA with China.

6.4.2. Certification: The CCC Mark

AQSIQ has launch a national certification programme to replace the old 'Great Wall' certification programme. This is called a CCC Mark. AQSIQ has authorised a number of bodies to conduct this testing and certification outside of China.

No Stainless Steel products are by law required to have a CCC Mark, but it is widely used and regarded as business practise.

However, Automotive components are require to pass special certification and testing. Catalytic converters and exhaust systems will therefore require AQSIQ certification and the CCC Mark before importing into China. Automotive components and many types of machinery and appliances are also subject to mandatory AQSIQ inspection and the CCC Mark may be checked when products pass through Customs.

Therefore, catalytic converters and exhausts and silencers will be subject to both the CCC Mark testing and certification, and the mandatory port inspection.

An steel industry analyst commented that no customs related standards exist, though there are occasionally issues relating to which HS category a product fits into. He said however that this was not a significant issue and is not specific to importing into China.

The steel industry analyst also mentioned that International Technical Standards were widely used by importers and exporters of steel products in China. He mentioned product quality was an issue in selling the product in China, not in handling the customs procedures.

6.5. Trade Actions issues

6.5.1. China’s Trade Remedy Laws

China has a Anti-Dumping Law, an Anti-Subsidy law, and a Safeguard Measures Law. These regulations were constructed under China’s acceptance to the WTO. In terms of content, they comply with WTO provisions and contain no extraordinary provisions which may be deemed unfair or exceptional.

- Anti-Dumping Regulation of the People's Republic of China
- The Anti-Subsidy Regulation of the People’s republic of China
- Regulation of the People's Republic of China on Safeguard Measures

6.5.2. Trade Actions by China

Quota system on steel products

China previously used safeguard measure action to slow a wide range of steel imports using a quota system. This has since been dismantled.

According to an MOFTEC (now MOFCOM) document on 12 May 2002 the Customs General Administration announced it was investigating safeguard measures against steel products.

“Steel products subject to the provisional safeguard measures are divided into 9 categories, 17 subcategories and 48 tariff lines. Implementation of the measures are based on the 17 sub-categories, which are non alloy plates,

non alloy hot rolled sheets and coils, non alloy cold rolled sheets and coils, tin mill products, galvanized sheets, organic coated sheets, silicon-electrical steel, stainless plates, stainless hot rolled sheets and coils, stainless cold rolled sheets and coils, non alloy wires, non alloy hot rolled bars and rebars, non alloy cold rolled bars and rebars, non alloy hot rolled sections, non alloy cold rolled sections, seamless pipes, and slabs.

“Enterprises should present import licenses and certificates of origin during importation of the steel products concerned. If the importers cannot present the certificates of origin, the Mainland Customs will inspect other supporting documents such as contract, invoice, bill of lading, etc. to substantiate the origin of the steel imports. If the Customs cannot verify the origin of the goods based on the above documents, they may refer the case to the tariff department for a professional assessment. Additional duty will be levied on imports where origin cannot be verified.”

Then on 19 November 2002, MOFCOM announced the final result of safeguard investigation on imports of certain steel products.
“The investigation confirmed that the sudden increase in import of 5 steel products has caused serious injury to the domestic and causal link existed. The 5 steel products are non alloy hot rolled sheets and coils, non alloy cold rolled sheets and coils, organic coated sheets, silicon-electrical steel and stainless cold rolled sheets and coils. The other 20 steel products under investigation did not meet the legal requirements to apply safeguard measures. “

“The safeguard measures take the form of tariff quota implemented on a first-come-first-served basis. Imports of the above steel products within the quotas are subject to normal tariff rates, while imports
exceeding the quotas are subject to an additional duty. The safeguard measures will last for 3
years (including the provisional safeguard period), i.e. from 24 May 2002 to 23 May 2005. The
measures will be lessened during the implementation period.”

Quotas did not apply to RSA. “The safeguard measures will not apply to imports from developing countries or regions which make up less than 3 % of China’s total import. In this connection, the importers should present certificates of origin as a supporting document during importation. *(Note: South Africa is included in the list of developing countries not subject to the above safeguard*
measures)

Quotas terminated in December 2003. “In the view of the development of steel trade, the Ministry of Commerce issued Notice No. 76/2003 on 26 December 2003, deciding to terminate the safeguard measures and stop levying additional duty on the 5 steel products from 26 December 2003.”

CR strip imports from Japan and Korea

China has been levying anti-dumping duties on all sizes of cold rolled stainless sheet/strip originating from Japan and Korea since 13 April 2000. The duties were due to expire on 13 April 2005.

In early February 2005, Chinese companies TISCO, Shanghai Krupp Stainless and Shanxi Jinzhong Wanbang Industrial Trading requested a further anti-dumping investigation, citing potential injury to China’s domestic stainless CR industry.

China imported 0.86m tonnes of stainless CRC in 2004, up 6.36% from the previous year. Cold rolled products made up 32% of total stainless imports of 2.9m tonnes in 2004. This total was down by around 2% year-on-year, in a sharp contrast with 2003's growth rate of 23.4%.

South Korea remained China's largest stainless supplier last year, with 2004 volumes hitting 877,000 tonnes, giving the country a 32.6% share. Japan sold some 412,000 tonnes last year, constituting 15.3% of China's total imports.

Investigations are due to run for a year, starting from 8 April 2005. During this time, the existing anti-dumping duties will remain in place. Following results from the investigation, the existing anti-dumping duties will either be removed or remain in line with before.

6.5.3. Trade actions against China

1. In the US, tube-makers have been on a 3-year campaign seeking safeguard measure protection in the form of quotas against imports of Chinese welded non-alloy steel pipe. In January 2006, the Bush Administration again turned down this action.

2. In December 2005, the Brazilian tube-makers association, ABITAM, threatened to apply AD action against the imports of Chinese steel tube and pipe. It claimed China was selling in Brazil at 30% below the domestic market price.

3. In 2005, Argentina opened a AD case against Chinese stainless welded tube imports. The tubes under investigation are circular 19.05-114.3mm diameter, square 15-90mm and rectangular 22-146mm. This AD action is still in the investigation stage.

4. In 2005, The European Union Council of Ministers has approved the imposition of definitive anti-dumping duties on imports of certain stainless steel fasteners and associated parts (bolts, nuts etc.) from Taiwan (23.6 percent), China (27.4 percent), Indonesia (24.6 percent), Thailand (14.6 percent) and Vietnam (7.7 percent), with lower duties for some companies co-operating with a European Commission inquiry into the problem.

6.6. Pricing regime

6.6.1. Price watching regime

As mentioned above, steel products were previously subject to state-trading, dominated by Minmetals Corp. This quota and state-trading system was slowly dismantled under China's WTO admission requirements.

Due to the strategic nature of steel industry and its importance in China's continued infrastructure development boom, the Government has been reluctant to see it exposed to global forces.

On 1 January 2005, China then put into trial operation a new system known as, the "National Steel Market Price Monitoring Report System". This object of this system was to monitor general prices in the industry, both steel industry raw materials and final steel products prices.

First of all, the new system has expanded the scope of prices that have been monitored. Besides the existing 11 conventional products, 46 more new products will have their prices being monitored.

Then, it has reformed the way of monitoring, from monitoring at all levels to by monitor stations. Meanwhile, a weekly price monitoring report system has been established.

Third, the new system stresses pre-warning function of monitoring and has listed pre-warning function as an important part of the work of monitoring.

However, the regulation did not extrapolate on what specific remedial mechanisms were in place if steel prices were to move to levels which did not fall in China's steel industry plans.

Officials stated it was in China's national interest to have a healthy, profitable and rational steel industry that could compete in the fiercely concentrated global steel industry. He also said however that, as steel was so important in China's infrastructure boom, it was important the Government developed the

industry to increase national steel self sufficient and ensure the steel end-users were supplied with sufficient quantities of high-quality steel products at reasonable prices.

6.6.2. Pricing Control of raw materials imports through import licenses

In the past, there was strong control over issuing product-specific import licenses; most heavy industry import licenses were issued only to large SOE trading companies. Under China's WTO accession agreement, China promised, and did, allow create a more open and non-discriminate import licensing system. However, the reliance on discriminatory import licensing appears to be returning again as government looks to use informal cartel-buying to control the long term price of imported raw materials. This is particularly evident in the copper and aluminium markets and there are signs its use is spreading to iron ore, coking coal and other ferrous and non-ferrous raw material imports.

In a recent policy release, Government explained its registration scheme for importers of raw materials. Importers need to apply for a product-specific import license for all metal product raw materials imports. In restricting which companies are successfully issued these import licenses, Government holds potential control over China's buying power on international markets. It hopes to use this leverage to put downward on high and rising global metals and raw materials prices. Companies will be encouraged to form alliances to negotiate collectively with large global suppliers, like BHP Billiton, Anglo-American, CVRD and Rio Tinto.

China has already introduced this registration scheme for copper cathode, aluminium and iron ore importers. It plans to introduce this scheme for copper concentrate and alumina importers. It will also continue consolidating importers in 2006. I.e., it will reduce the number of companies granted import license and so exercise more effective control over contract prices of imports.

A representative from a major global resource firm explains his company's experience: Up until now, foreign companies were not allowed to import goods themselves (without a FICE license, see above). They worked through large SOE trading companies (e.g. Minmetals Corp) or the large Chinese end-users themselves (e.g. Baosteel Corp). Each time a new supply/ sales contract is signed with the Chinese trader, this sales contract needs to be included in the application for a import license from MOFCOM. (The Chinese trading company would handle this procedure itself.) Often, MOFCOM has refused to issue licenses if the contract price was too high or the contract term was too short.

Even under the new FICE regulations, his company would continue to use Chinese trading companies. His company held the view that even after the have a FICE license, MOFCOM may not grant them product-specific import licences under its new registration scheme. The representative noted that this worrying trend was especially evident in the granting of import licenses for copper and aluminium. He said that, whereas MOFCOM previously issued copper import licenses to around 600 importers, only around 100 companies now had licenses to import copper.

China has recently been very vocal in its opinion that it should have a larger say in the determination of global iron ore prices. It was subject to humiliation by BHP Billiton, CVRD and Rio Tinto in 2004, and feels that the drop in finished steel prices last year should pass through to downward pressure on iron ore prices. It has publicly expressed its intention to use the registration scheme to advance realize these intentions. (A further point of interest is that Baosteel Corp representatives play a large role in the Chinese Government negotiating and decision-making process on steel and iron ore issues.)

6.7. Labels

All products which require mandatory certification by AQSIQ prior to importing, and therefore require the CCC Mark, are required to physically label the product or container with the official CCC Mark labels. (See Standards above)

6.8. Environmental regulations and imports

6.8.1. Scrap metal import license and supplier registration

China's stainless steel industry consumed 900'000 million tonnes of scrap in 2004. Most of this was imported. (See Scrap above)

Alongside the Automatic Import Licences (AIL) issued by MOFCOM, since 1 January 2004, the import of scrap metal requires an additional import license and supplier registration with AQSIQ. This measure applies to the import of Iron and Steel scrap, copper scrap and aluminium scrap. This is in line with China's policy to prevent it being used as a dumping ground for harmful waste products, as been the case previously. The 'Registration Scheme Concerning Overseas Suppliers of Waste Material Imports' covers a number of other non-metal products.

The AQSIQ regulations apply to the import of the following products:
Ferrous scrap: (72041000.00, 72042100.00, 72042900.00, 72043000.00, 72044100.00, 72044900.10, 72044900.90, 72045000.00)

AQSIQ's scrap metal regulation contains two problematic issues which have been viewed as barriers to trade:

Firstly, all importers (and exporters from foreign countries using Chinese agents to handle customs procedures) of metal scrap have to register with AQSIQ. The implementation of the Registration scheme has been highly criticized by the global scrap industry. Initially, there were some problems around the short registration window and the lack of remedy for major scrap dealers who were not granted import licenses due to minor technical problems relating to their application. After much pressure, AQSIQ created further opportunities for registration but has still taken up to 6 months to issue licenses to successful applicants.

Also, all documents for this application have to be the originals and in Chinese. According to the Institute of Scrap Recycling Industries (ISRI) in the US, the short warning and registration periods, AQSIQ's poor communication and confusion over which foreign agents were legally authorised by AQSIQ to assist in the application process has lead to significant trade disturbances.

Secondly, as part of the application for an AQSIQ import license, AQSIQ now requires pre-shipment inspection of the metal scrap by an AQSIQ official or a authorised by AQSIQ. This new rule is believed to ensure that imported wastes will comply with the environmental protection standards as well as other mandatory requirements and technical regulations of China. Industry analysts say China has recently stepped up efforts to verify that the import license information actually matches the cargo shipped. Industry analysts have complained that these additional inspection measures, the lack of capacity to administer them efficiently, and the language difficulties, hinders the export of scrap to China.

AQSIQ has responded on its 'scrap metals' website. <http://scrap.eciq.cn> It "reminds all applicant enterprises that they can check their own application status on the website: In order to avoid the losses on the time and cost, the applicant enterprise should not go through the non-standard agents who can not or refute to provide online status tracking service, or promise to pass the registration evaluation in a very short time. The actions and promises from these agents can not be supported or guaranteed by AQSIQ."

Based on the 2005 scrap supplier registration application results, about 40% of applicants worked through unauthorised, private agents. AQSIQ claims that most enterprises going through agents had been rejected by AQSIQ. These rejected enterprises need to wait for 6 months to be qualified for re-application. AQSIQ has also warned that most of these 'AQSIQ agents' do not have the experience or capability to assist the enterprise to pass the AQSIQ registration evaluation.

It appears most of the confusion around the initial registration has now been sorted out. Some scrap analysts have commended AQSIQ for extending the registration windows and authorising foreign Qualified Inspection Companies to carry out the inspection. However, scrap dealers will still need to apply annually to re-new their import licenses.

An industry analyst suspects that the above administrative difficulties have less to do with China deliberately using Technical Barriers to Trade (TBT), as with the AQSIQ's lack of international experience. He believes that, while AQSIQ has become more efficient over the last year, there are greater political issues around the future role of AQSIQ in China. There are rumours that the SEPA will assume all of AQSIQ's current functions in the not too distant future.

No other environmental issues relating to the import of metals and metals products. Hence, importers do not have to deal with the State Environmental Protection Agency (SEPA) regarding imports of metals and metals products.

6.9. Labour aspects

(See above: Employment)

6.10. Important government departments (Trade-related)

1. Ministry of Commerce (MOFCOM)
Address: No.2 Dong Chang'an Avenue, Beijing, 100731
Post Code: 100731
Tel:+86 10 67184455
Fax: +86 10 67081513
Website: www.mofcom.gov.cn
Bureau of Fair Trade for Imports and Exports
Tel: +86 10 65198924
Fax: +86 10 65198915

Bureau of Industry Injury Investigation
(both involved in Trade Actions)
Quota License Affairs Bureau

2. General Administration for Quality Supervision, Inspection and Quarantine (AQSIQ)
Responsible for port cargo inspection and special scrap metal import licenses
Address: No. 6 Madian Road, Haidian District, Beijing, 100088
Email: webmaster@aqsiq.gov.cn
Website : http://www.aqsiq.gov.cn (Chinese only)

3. State Environmental Protection Agency (SEPA)
Address: No.115 Xizhimennei Nanxiaojie, Beijing (100035)
Tel: +86 10 66556006
Fax: +86 10 66556010
Website: http://www.zhb.gov.cn (English and Chinese)

4. General Administration of Customs
- Foreign Affairs Division
No. 6 Jianguomenwai DaJie, Beijing
Tel: +86-10-6519-5263 or 6519-5246
Fax: +86-10-6519-5394
Website: http: // www.customs.gov.cn (currently under construction)

5. Metallurgical Council of China for the Promotion of International Trade (MC-CCPIT)
Address: 46 Dongsi Xidajie,Beijing,China 100711
Tel: 86-10-65227956
Fax: 86-10-65131921
Email: webmaster@mc-ccpit.com
Website: http://www.mc-ccpit.com/english/about.asp

6. China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters (CCCMC)

Address: 17th Floor, Prime Tower, No. 22 Chaowai Dajie, Chaoyang District, Beijing 100020,
Tel: 86-10-65882823
Fax: 86-10-65882825
E-mail: webmaster@cccmc.org.cn
Website: http://www.cccmc.org.cn/EnglishWeb/Company/CmcBrIntro.aspx

6.11. Provinces and trade discrimination

No official regulations or barriers to trade exist, relating to the trade of steel or stainless steel products between provinces. No industry players knew of any other issues with provincial trade discriminations in this sector.

However, Shanxi province, China's largest coal producing region has implemented a 'export tariff' on moving coal products out of the province. This aims to promote the beneficiation of coal inside the province, a economically under developed region. TISCO is based in Shanxi province and will benefit from this regulation, relative to other coal users in China.

6.12. Considerations

1. China previously used a quota-system to protect the local steel industry. This quota system was scrapped in 2004. No quotas exist in the products under study.

2. China's general tariff rates have decreased dramatically under its WTO accession program. The products in this section carry generally low tariffs. The need to protect local industry has been negated by China's rapid turn-around to a net exporting position.

3. The tariff rates on products regarded as raw materials for a manufacturing industry are very low. Scrap (0%); Flats and Longs (10%); Pipes (>10%); catalytic converters (5%); food machinery and

auto components (>10%). Only stainless steel flatware and white goods enjoy higher tariff protection (12-30%).

4. China does not have a formal export subsidy regime in place for the steel industry of consumer durables. However, it devotes much of the States resources towards reforming its industrial structure to serve its export-orientated economic model. This relates to general indirect subsidies for most strategic industries, including the steel sector.

5. Exporters benefit from China's export rebate system, which allows exporters to re-claim much of previously paid VAT (and import VAT). China has recently scrapped these benefits for scrap, stainless billets and ingots products. However, Flats and Longs still enjoy 11% rebate allowance while Pipes, and consumer durables exporters are able to claim back 13%. VAT in China is 17%.

6. The import of most of the 'Stainless Steel' products requires an Automatic Import License (AIL). China has threatened to use this control of force that consolidation of China's raw material importers and then leverage its national buying power to negotiate lower imported raw material prices. If global resources prices remain high, industry sources are worried Chinese authorities may start to do more than just threaten to use this power.

7. China has in place a steel industry 'price-watching regime', though its not clear what other mechanisms may be used to affected price levels in the steel industry supply chain.

8. Stainless scrap importers have to be accredited with AQSIQ before being allowed to apply for a AIL. Most product face mandatory port inspections from AQSIQ, with some industry sources saying this has lead to unreasonable delays. Machinery and Automotive components face compulsory certification and testing from AQSIQ for the CCC Mark.

9. China previously used safeguard measures to protect a wide range of products in the steel industry. China continues to utilize a AD action against CR Flats from Japan and Korea. The action is currently under investigation.

10. China has played host to a number of AD actions and safeguard measures by foreign countries. The steel industry receives China's 2nd most trade actions after the chemicals industry. Chinese tube exports are currently under investigation in the US, EU, Brazil and Argentina.

7. TRADE FLOW ANALYSIS OF THE DEFENSIVE POSITION OF CHINA

7.1. Introduction

The defensive position as determined by trade flows is analysed by the following approach:

- An analysis of Stainless Steel exports by China to the world.
- An analysis of export growth of Stainless Steel by China to the world.
- The revealed comparative advantages[1] of China.
- Exports of Stainless Steel by China to South Africa.
- Export penetration of China into RSA.
- Revealed comparative disadvantages of RSA against China.

A synthesis of the contents of this chapter and the previous ones appears Chapter 9. In Chapter 9 the defensive position of South African Stainless Steel is formulated for the China -negotiations.

[1] See addendum A in the report on Stainless Steel:India for an explanrtion of and example for the calculation of RCA.

7.2. Comparative size

China is more of an importer of stainless steel than an exporter. It imported almost US$ 6.5 billion in 2004 and exported US$ 4.4 billion. South Africa exported about US$ 1 billion in 2004 and imported US$ 245 million. The exports of China are 4 times that of South Africa.

Table 7.1 Stainless Steel exports and imports of China and South Africa 2000 and 2004 US$ million

	Exports		Imports	
Year	China	SA	China	SA
2000	1960	479	2465	143
2004	4401	1037	6489	245

7.3. Export to the world

7.3.1. Data

The analysis of the Stainless Steel exports, imports: of China and South Africa is undertaken at the 4-digit-level of the Harmonised System. Data is available for the period 2000 to 2004. Trade data was procured via Quantec from UN Commodity Trade Statistics Database (UN Comtrade).. The data is in US$.

The size of the database renders it impracticable to provide it on hard copy. More detailed information than that appearing in this report is available electronically on request.

7.3.2. Product categories

Export of stainless steel by China is concentrated in hollow-and kitchenware and cutlery. The export of these products was 68% of the export of stainless steel products in 2004. This is less than in 2000 when it was 84%. The rapid increase in the export of flat rolled products and tubes and seamless pipes

accounted for a proportionate rise in exports from 10.7% in 2000 to 23% in 2004.Many of the smaller headings gained in prominence in export.

Table 7.2 China: Exports of Stainless Steel 2000 to 2004 (US$ million)

Sub-group	2000	2001	2002	2003	2004
Intermediate products: Flat-rolled	31	25	43	63	377
Intermediate products: Bars & rods; angles, sections	11	10	14	23	77
Intermediate products: Wire	20	18	19	29	71
Downstream products: Tubes & pipe, seamless	178	245	267	350	631
Downstream products: Other tubes & pipe, welded	7	10	23	43	89
Downstream products: Hollowware & other for kitchen and table	696	724	893	1080	1160
Downstream products: Sinks & wash basins	10	13	24	31	65
Downstream products: Knives, spoons, forks & other	963	1012	1174	1489	1830
Downstream products: Milking machines and dairy machines	5	6	9	10	17
Downstream products: Food industry machinery	38	46	56	60	85
TOTAL	**1960**	**2109**	**2522**	**3180**	**4401**

7.3.3. Export growth of stainless steel on the 4HS level

Growth in important constituents of the product groups can be seen from table 7.3. The information emphasise the upcoming but less dominant exports. However, it also shows that within the product group “knives, spoons, forks and others” that products of HS 8211 “Knifes…..” demonstrate higher than average growth.

Table 7.3 Chinese stainless steel exports 4HS US$20 million and more and annual percentage growth 2000 and 2004 above average.

Sub-group	HS4	Description	2004	Growth 2000-2004
Intermediate products: Flat-rolled	7219	Flat-rolled products of stainless steel, of a width of 600 mm or more.	337	92.2
Intermediate products: Bars & rods; angles, sections	7221	Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel.	27	527.4
Intermediate products: Wire	7223	Wire of stainless steel.	71	35.4
Downstream products: Tubes & pipe, seamless	7304	Tubes, pipes and hollow profiles, seamless, of iron (excluding cast iron) or steel.	631	33.5
Downstream products: Other tubes & pipe, welded	7306	Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel.	89	91.1
Downstream products: Hollowware & other for kitchen and table	7323	Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.	1160	15.3
Downstream products: Sinks & wash basins	7324	Sanitary ware and parts thereof, of iron or steel.	65	57.5
Downstream products: Knives, spoons, forks & other	8212	Razors and razor blades (including razor blade blanks in strips).	210	25.6
Downstream products: Knives, spoons, forks & other	8211	Knives with cutting blades, serrated or not (including pruning knives), (excluding knives of heading no.82.08), and blades therefor.	397	18.9
Downstream products: Food industry machinery	8438	Machinery, not specified or included elsewhere in this chapter, for the industrial preparation or manufacture of food or drink, (excluding machinery for the extraction or preparation of animal or fixed vegetable fats or oils):	85	20.5

7.3.4. Destination

The USA as destination of exports increased in prominence from 25% in 2000 to 28% in 2004. The share in exports of Germany, Hong Kong, Japan and the UK diminished. The rest of the destinations are many but smallish. However, many of them show rapid growth from a small base.

Amongst product groups the USA invariably remains the number one export destination by a considerable margin. Next to Japan and Korea a number of EU members feature as destinations. The United Arab Emirates are becoming important importers of kitchenware and cutlery.

Table 7.4 Destination of exports of Stainless Steel by China 2000 to 2004 ($million and percentage share)

Partner	2000		2004	
	USD m	%	USD m	%
USA	495	25	1229	28
Germany	226	12	329	7
China, Hong Kong SAR	211	11	325	7
Japan	131	7	225	5
United Kingdom	92	5	152	3
Canada	46	2	141	3
Netherlands	67	3	128	3
Rep. of Korea	27	1	127	3
United Arab Emirates	40	2	123	3
Italy	33	2	118	3
Belgium	91	5	108	2
Other Asia, nes	38	2	106	2
Australia	36	2	91	2
Spain	37	2	85	2
Singapore	19	1	78	2
France	28	1	70	2
Indonesia	21	1	62	1
Malaysia	18	1	58	1
Other	304	16	846	19
TOTAL	1960	100	4401	100

7.3.5. Revealed comparative advantages

Table 7.5 Revealed comparative advantages of China i.r.o. the world and growth therein in the trade in stainless steel products at the 4-HS level.

HS4	Description	RCA China export to World		Growth of exp. 2000-2004
		2000	2004	
8215	Spoons, forks, ladles, skimmers, cake- servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware.	6.6	8	17.5
8214	Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files).	5.3	5.6	16.4
8213	Scissors, tailors' shears and similar shears, and blades therefor.	5.8	5.6	13.9
7323	Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.	5.7	4.8	15.6
8211	Knives with cutting blades, serrated or not (including pruning knives), (excluding knives of heading no.82.08), and blades therefor.	3.5	4	18.9
7324	Sanitary ware and parts thereof, of iron or steel.	0.6	1.6	57.5
8212	Razors and razor blades (including razor blade blanks in strips).	0.9	1	25.6

The contents make it abundantly clear that China has established comparative advantages in down stream stainless steel products. This demonstrates China's pursuit of trading up the value chain in maximising value addition.

7.4. Imports of Stainless Steel by South Africa

7.4.1. Data

Customs data from the South African Revenue Services is used. The analysis is for the period 2000 to 2004. Data is analysed on the 4-digit-level of the HS. Exports are measured in US$.

The conversion rates are as follows:

Year	R / US$
2000	6.953
2001	8.6031
2002	10.5165
2003	7.5647
2004	6.4499

7.4.2. Analysis

South African imports of Stainless Steel from the world

Although there are imports of intermediate products most of South Africa's imports are downstream stainless steel products. Prominent among the latter are knives, spoons and forks and food industry machinery and hollowware. Aggregate imports of US$ 245 million in 2004 were 72% higher than in 2000.

Table 7.6 South African imports of Stainless Steel from the world – 2000 to 2004 (USD million)

Sub-group	2000	2001	2002	2003	2004
Intermediate products: Flat-rolled	17	19	15	28	49
Intermediate products: Bars & rods; angles, sections	15	14	15	17	23
Intermediate products: Wire	9	10	11	14	17
Downstream products: Tubes & pipe, seamless	6	8	9	10	15
Downstream products: Other tubes & pipe, welded	4	3	4	5	8
Downstream products: Hollowware & other for kitchen and table	8	6	7	10	16
Downstream products: Sinks & wash basins	1	1	1	2	2
Downstream products: Knives, spoons, forks & other	29	29	28	33	44
Downstream products: Milking machines and	4	4	2	7	9

dairy machines					
Downstream products: Food industry machinery	50	30	26	36	62
TOTAL	143	124	118	162	245

Source: South African Customs and Excise

7.4.3. Origin of imports

South Africa imports from a number of countries with Germany, China, Italy, the UK, US and Taiwan the more important in 2004. Between 2000 and 2004 the share imported from Germany fell from 24% to 15%: from the UK from 12% to 9%; and from Japan from 6% to 3%; while that imported from China rose from 7% to 11%. Imports from Brazil increased from 1% to 5% and from Spain from 2% to 4%.

Although a relatively large proportion of South Africa's imports of stainless steel is supplied by China the South African imports is only 0.6% of Chinese stainless steel exports. The reason for the low percentage is South Africa's small aggregate imports of stainless steel.

Table 7.7 Origin of imports of Stainless Steel by South Africa 2000 and 2004 (R million)

Partner	2000		2004	
	USD m	%	USD m	%
Germany	34	24	37	15
China	7	5	27	11
Italy	10	7	26	11
United Kingdom	17	12	22	9
United States	12	10	18	7
Taiwan Province of China	8	6	17	7
Sweden	9	6	15	6
Brazil	2	1	13	5
India	6	4	12	5

Partner	2000		2004	
	USD m	%	USD m	%
France	10	7	12	5
Spain	3	2	11	4
Republic of Korea	7	5	10	4
Japan	9	6	7	3
Other	9	6	18	7
TOTAL	**143**	**100**	**245**	**100**

Source: SARS

7.4.4. Product Groups

Table 7.8 Imports of Stainless Steel products by South Africa from China : 2000 to 2004 (USD million)

Sub-group	2000	2001	2002	2003	2004
Intermediate products: Bars & rods; angles, sec	0	0	0.1	0	0.2
Intermediate products: Wire	0	0	0	0.1	0.2
Downstream products: Tubes & pipe, seamless	**0.1**	**1.4**	**1.3**	**2.3**	**5**
Downstream products: Other tubes & pipe, welded	0	0	0	0.5	1.1
Downstream products: Hollowware & other for kit	**0.7**	**0.9**	**1.1**	**1.6**	**3.5**
Downstream products: Sinks & wash basins	0	0	0	0.1	0.4
Downstream products: Knives, spoons, forks & ot	**5.9**	**5.4**	**6.3**	**9.6**	**16**
Downstream products: Milking machines and dairy	0	0	0	0	0.1
Downstream products: Food industry machinery	0.1	0	0.1	0.5	0.6
TOTAL	6.9	7.9	8.9	14.7	27.3

Source: SARS

South African imports of stainless steel products are concentrated in three product groups with 59% of imports being cutlery. In 2000 imports was almost 300% higher than in 2004 from a low base.

The imports of downstream stainless steel products can be seen in Table 7.9 in R million and in quantities. The surge in imports from China of down stream products is clearly illustrated by the data. While imports were rather docile they picked up in the past three years. Prominent is the imports of heading 7323.93, hollowware that practically exploded from R23 million in 2004 to R78 million in 2005. Volumes increased from 990 Kg in 2004 to 4768 Kg in 2005. Similar trends can be observed for knives and for cutlery. Import growth of this magnitude relates more to a need for countervailing measures than the consideration of the granting of tariff concessions for preferential entry. . More information appears in the statistical annex.

Table 7.9 South African imports of downstream stainless steel products 2000 to 2005 From China Rand million

HS Code	Description	2000	2001	2002	2003	2004	2005
7304.10.20.	Pipes	0.0	2.5	2.7	4.8	2.1	6.0
7304.4	Stainless steel pipe and tubing	1.0	7.3	10.6	11.2	27.2	19.1
7306.40	Pipes/ tubing, stainless steel, welded	0.10.	0.0	0.0	4.1	7.2	6.4
7323.93	Table/kitchen articles, parts, stainless steel Hollowware	5.0	8.0	11.1	11.8	22.8	78
732410	Sinks and wash basins, stainless steel	0.1	0.0	0.1	0.4	2.7	7.1
821210/20	Razors and blades	3.4	3.3	4.9	4.3	4.0	5.4
8211	Knives	13.3	14.9	20.3	20.0	29.5	36.4
8215	Cutlery	15.3	16.6	21.7	25.2	47.4	62.1
UNITS							
HS Code	Description	2000	2001	2002	2003	2004	2005
7304.10.20.	Pipes KG 000	**0.0**	**75**	**112**	**196**	**90**	200
7304.4	Stainless steel pipe and	**20.4**	**166**	**172**	**298**	**771**	407

	tubing Kg						
7306.40	Pipes/ tubing, stainless steel, welded KG 000	**6**	**0.0**	**0.0**	**251**	**366**	312
7323.93	Table/kitchen articles, parts, stainless steel KG	**191**	**242**	**292**	**351**	**990**	4768
732410	Sinks and wash basins, stainless steel KG	**20**	**0.0**	**10.0**	**14.0**	**97.0**	199
821210/20	Razors and blades 000	**5142**	**2337**	**9599**	**5212**	**10329**	1964
8211	Knives 000	**4614**	**5068**	**4539**	**6595**	**11948**	11232
8215	Cutlery KG	**588**	**517**	**603**	**996**	**2118**	2706

Source; Statistical annexure

8421.10 Catalytic converters

South African imports are insignificant.

8708 92 90 Silencers

Total imports by South Africa increased from R40 million in 2000 to R130 million in 2005 and in units from 1million to 3million. Trade with China is small.

7.4.5. Revealed comparative advantages

Table 7.10 The 4-digit headings with revealed comparative advantages ratio's in favour of China against South Africa.

HS4	Description	RCA of China exporting to SA				
		2000	2001	2002	2003	2004
8215	Spoons, forks, ladles, skimmers, cake- servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware.	8	7.7	8.5	8	6.5
8214	Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files).	5.8	5.8	6.1	5.3	4.5
8211	Knives with cutting blades, serrated or not (including pruning knives), (excluding knives of heading no.82.08), and blades therefore.	5.2	4.7	5.1	4.5	4.2

HS4	Description	RCA of China exporting to SA				
		2000	2001	2002	2003	2004
8213	Scissors, tailors' shears and similar shears, and blades therefore.	6.4	6.2	6.8	5.7	4.2
7323	Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.	4.1	5	4.1	3.2	3.3
7324	Sanitary ware and parts t hereof, of iron or steel.	0.4	0.8	0.8	1.4	2.7
7306	Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel.	3.1	2.8	0.5	2.2	2.1

The contents of Table 7.10 reflect that of table 7.5, China's comparative advantages against the world. Concessions should be approached with circumspect as they could pose a threat and more importantly because China is able to make inroads into the South African market under the existing import regime.

7.5. Considerations

1. China is more of an importer of stainless steel than an exporter. It imported almost US$ 6.5 billion in 2004 and exported US$ 4.4 billion. South Africa exported about US$ 1 billion in 2004 and imported US$ 245 million. The exports of China are 4 times that of South Africa because of the size difference.

2. Export of stainless steel by China is concentrated in hollow-and kitchenware and cutlery. The export of these products was 68% of the export of stainless steel products in 2004. This is less than in 2000 when it was 84%. The rapid increase in the export of flat rolled products and tubes and seamless pipes accounted for a proportionate rise in exports from 10.7% in 2000 to 23% in 2004.

3. The USA as destination of exports increased in prominence from 25% in 2000 to 28% in 2004. The share in exports of Germany, Hong Kong, Japan and the UK diminished. The rest of the destinations are many but smallish. However, many of them show rapid growth from a small base. The United Arab Emirates are becoming important importers of kitchenware and cutlery.

4. China has established comparative advantages in down stream stainless steel products. This demonstrates China's pursuit of trading up the value chain in maximising value addition. China's exports of downstream stainless steel products increased by 160% between 2000 and 2004.

5 Although South Africa imports some intermediate products most of South Africa's imports are downstream stainless steel products. While imports of downstream products were rather docile they picked up in the past three years. Prominent is the imports of heading 7323.93, (hollowware) that practically exploded from R23 million in 2004 to R78 million in 2005. Volumes increased from 990 Kg in 2004 to 4768 Kg in 2005. Similar trends can be observed for knives and for cutlery. Past experience suggests that these trends will strengthen. Import growth of this magnitude relates more to a need for countervailing measures than the consideration of the granting of tariff concessions for preferential entry. .

6. South African imports of stainless steel products from China are concentrated in three product groups with 59% of imports being cutlery. In 2000 imports was almost 300% higher than in 2004 from a low base. South African imports of stainless steel products from China are 0.7% of the latter's export up from 0.4% in 2000.

7. China's comparative advantages against South Africa reflect its comparative advantages against the world. Concessions should be approached with circumspection as they could pose a threat and more

importantly because China is able to make inroads into the South African market under the existing import regime.

8. TRADE FLOW ANALYSIS OF THE OFFENSIVE POSITION OF CHINA

8.1. Introduction

The offensive position as determined by trade flows is analysed by the following approach:

- An analysis of Stainless Steel imports by China from the world.
- An analysis of import growth of Stainless Steel products by China from the world.
- The revealed comparative disadvantages of China of Stainless Steel
- Exports of Stainless Steel to China by South Africa.
- Export penetration of China by RSA. of Stainless Steel
- Revealed comparative advantages of RSA against China of Stainless Steel.

A synthesis of the contents of this chapter and the previous ones appears in Chapter 9. In Chapter 9 the offensive position of South African Stainless Steel is formulated for the China -negotiations.

8.2. Data

The analysis of the exports of Stainless Steel by China is undertaken at the 4-digit-level of the Harmonised System. Data is available for the period 2000 to 2004. Trade data was procured via Quantec from UN Commodity Trade Statistics Database (UN Comtrade). The data is in US$.

The size of the database renders it impracticable to provide it on hard copy. More detailed information than that appearing in this is available electronically on request.

8.3. Analysis

8.3.1. Product categories

Imports of stainless steel of US$ 6.5 billion by China in 2004 were 161% more than in 2000. Two product groups dominate the Chinese imports of stainless steel. In 2004 imports of flat rolled products came to US$4.6 billion or 70.8% of imports and were 185% higher than in 2000.. Imports of seamless tubes and pipes amounted to US$1 billion or 15.4% of the total. Imports were 203% higher than in 2000.

Table 8.1: Imports of Stainless Steel products by China from the World 2000 to 2004 (US$ million)

Sub-group	2000	2001	2002	2003	2004
Intermediate products: Flat-rolled	1610	2011	2926	3727	4594
Intermediate products: Bars & rods; angles, section.	127	131	164	171	234
Intermediate products: Wire	50	52	61	68	85
Downstream products: Tubes & pipe, seamless	339	465	576	579	1027
Downstream products: Other tubes & pipe, welded	15	18	33	43	93
Downstream products: Hollowware & other for kitchen and table	11	12	11	15	12
Downstream products: Sinks & wash basins	2	3	3	3	3
Downstream products: Knives, spoons, forks & other	73	75	87	125	106
Downstream products: Milking machines and dairy machines	16	25	38	41	43
Downstream products: Food industry machinery	221	205	178	234	291
TOTAL	**2465**	**2998**	**4076**	**5005**	**6489**

Despite the concentration of imports in these two categories it would be unwise for exporting companies to ignore the less sizeable but rapid growth in imports among the remainder of the categories as can be seen from the growth rates contents of Table 8.2.

Table 8.2: Percentage growth p.a. in imports of stainless steel products by China from the world 2000 to 2004

Sub-group	2000	2004	Growth 2000-2004
Intermediate products: Flat-rolled	1610	4594	**35**
Intermediate products: Bars & rods; angles, sections	127	234	**14**
Intermediate products: Wire	50	85	**10**
Downstream products: Tubes & pipe, seamless	339	1027	**30**
Downstream products: Other tubes & pipe, welded	15	93	**47**
Downstream products: Hollowware & other for kitchen and table	11	12	**-1**
Downstream products: Sinks & wash basins	2	3	**7**
Downstream products: Knives, spoons, forks & other	73	106	**9**
Downstream products: Milking machines and dairy machines	16	43	**56**
Downstream products: Food industry machinery	221	291	**-10**
TOTAL	2465	6489	**29**

8.3.2. ORIGIN

China sources its imports of stainless steel primaril

8.3.3. Origin

China sources its imports of stainless steel primarily from Korea, Japan and Other Asian countries. Their shares in Chinese imports of Germany, Italy and the USA are relatively small but they managed to enlarge it between 2000 and 2004. South Africa's share increased from 0.3% in 2000 to 2.2% in 2004.

Table 8.3 Origin of imports of Stainless Steel by China 2000 to 2004 ($million and percentage share)

Partner	2000		2004	
	USD m	%	USD m	%
Rep. of Korea	638	26	1732	27
Japan	636	26	1326	20
Other Asia, nes	567	23	1281	20

Partner	2000		2004	
	USD m	%	USD m	%
Germany	152	6	463	7
Italy	66	3	261	4
USA	43	2	261	4
Other	363	15	1165	18
TOTAL	**2465**	**100**	**6489**	**100**

8.3.4. Revealed comparative disadvantages

Table 8.4 Comparative disadvantages of China in the trade in stainless steel with the world.

HS4	Description	RCA World exporting to China		Growth of exp. 2000-2004
		2000	2004	
7219	Flat-rolled products of stainless steel, of a width of 600 mm or more.	1.9	1.8	31.4
7220	Flat-rolled products of stainless steel, of a width of less than 600 mm.	1.6	1.7	29.2

The list of stainless steel products where China is at a competitive disadvantage with the world are 4HS headings for flat rolled products.

8.4. Exports of Stainless Steel products by South Africa

8.4.1. Data

Customs data from the South African Revenue Services is used. The analysis is for the period 2000 to 2004. Data is analysed on the 4-digit-level of the HS. Exports are measured in US$.

The conversion rates are as follows:

Year	R/$
2000	6.953
2001	8.6031
2002	10.5165
2003	7.5647
2004	6.4499

8.4.2. Analysis

8.4.2.1 South African exports of Stainless Steel to the world

In 2004 South Africa exported US$ 1037 million, more than double the exports in 2000. However, exports remain concentrated in flat rolled intermediates. Export growth in US$ averaged 29% p.a between 2000 and 2004 but growth was especially steep post-2002.

Table 8.5 South African exports of Stainless Steel to the world – 2000 to 2004 (USD million)

Sub-group	2000	2001	2002	2003	2004
Intermediate products: Flat-rolled	424	311	386	634	973
Intermediate products: Bars & rods; angles, sections	1	2	3	4	5
Intermediate products: Wire	0	0	0	0	1
Downstream products: Tubes & pipe, seamless	0.8	0.6	0.7	0.9	1.4
Downstream products: Other tubes & pipe, welded	16	15	15	17	16
Downstream products: Hollowware & other for kitchen and table	2	2	6	9	9
Downstream products: Sinks & wash basins	2	2	3	3	3
Downstream products: Knives, spoons, forks & other	6	5	6	6	5
Downstream products: Milking machines and	0	0	1	1	1

Sub-group	2000	2001	2002	2003	2004
dairy machines					
Downstream products: Food industry machinery	27	23	21	26	23
TOTAL	**478.8**	**360.6**	**441.7**	**700.9**	**1037.4**

Source: South African Customs and Excise

8421.10 Catalytic converters

South African exports to the world increased from USD 713 million in 2000 to USD 1370 million in 2004.

8708 92 90 Silencers

Exports increased from USD56 million in 2000 to USD62 million in 2004.

8.4.2.2 Destination of South African exports.

Italy and China are the major destinations of South African stainless steel exports. About 14% of exports (99% flat rolled) go to China up from 2% in 2000.

Table 8.6 Destination of exports of Stainless Steel by South Africa 2000 and 2004 (USD million)

Partner	2000		2004	
	USD m	%	USD m	%
Italy	114	24	172	17
China	8	2	141	14
Thailand	50	10	89	9
Germany	13	3	68	7
United States	48	10	62	6
United Kingdom	38	8	51	5
Mexico	82	17	51	5
Hong Kong SAR	21	4	45	4
Sweden	1	0	40	4

Partner	2000		2004	
	USD m	%	USD m	%
Republic of Korea	1	0	33	3
Malaysia	3	1	30	3
India	4	1	27	2
Singapore	6	1	24	2
Israel	9	2	23	2
Romania	0	0	19	2
Other	81	17	162	15
TOTAL	**479**	**100**	**1037**	**100**

Source: SARS

8.4.2.3 Trade Balance

South Africa improved its positive trade balance in the trade in stainless steel from US$ 1.5 million to US$ 113.3 million in 2004 because of strong growth in exports of flat rolled products..

Table 8.7 South African Imports of Stainless Steel from and Exports to China 2000 and 2004 (USD million)

Sub-group	2000			2004		
	Import	Export	Balance	Import	Export	Balance
Intermediate products: Flat-rolled	0	7.9	7.9	0	140.5	140.4
Intermediate products: Bars & rods; angles, sections	0	0.1	0.1	0.2	0	-0.2
Intermediate products: Wire	0	0	0	0.2	0	-0.2
Downstream products: Tubes & pipe, seamless	0.1	0	-0.1	5	0	-5
Downstream products: Other tubes & pipe, welded	0	0	0	1.1	0	-1.1
Downstream products: Hollowware & other for kitchen and table	0.7	0	-0.7	3.5	0	-3.5
Downstream products: Sinks & wash basins	0	0	0	0.4	0	-0.4

Sub-group	2000			2004		
	Import	Export	Balance	Import	Export	Balance
Downstream products: Knives, spoons, forks & other	5.9	0.1	-5.8	16	0	-16
Downstream products: Milking machines and dairy machines	0	0	0	0.1	0	-0.1
Downstream products: Food industry machinery	0.1	0.3	0.3	0.6	0.2	-0.4
TOTAL	6.9	8.4	1.5	27.3	140.6	113.3

Source: SARS.

8421.10 Catalytic converters

South African trade with China is insignificant.

8708 92 90 Silencers

Trade between South Africa and China is insignificant.

8.4.3 Revealed comparative advantages

Table 8.8 Comparative advantages of South Africa in stainless steel trade with China.

HS4	Description	RCA SA export to China				
		2000	2001	2002	2003	2004
7219	Flat-rolled products of stainless steel, of a width of 600 mm or more.	1.66	1.62	1.38	1.49	1.48

South Africa's comparative advantage is limited to flat rolled products.

8.5. Considerations

1. Imports of stainless steel of US$ 6.5 billion by China in 2004 were 161% more than in 2000. Two product groups dominate the Chinese imports of stainless steel. In 2004 imports of flat rolled products came to US$4.6 billion or 70.8% of imports and were 185% higher than in 2000... Imports of seamless tubes and pipes amounted to US$1 billion

or 15.4% of the total. Imports were 203% higher than in 2000. Despite the concentration of imports in these two categories it would be unwise for exporting companies to ignore the less sizeable but growing imports among the remainder of the categories.

2. China sources its imports of stainless steel primarily from Korea, Japan and Other Asian countries. Their shares in Chinese imports of Germany, Italy and the USA are relatively small but they managed to enlarge it between 2000 and 2004. South Africa's share increased from 0.3% in 2000 to 2.1% in 2004.

3. The list of stainless steel products where China is at a competitive disadvantage with the world are 4HS headings for flat rolled products. Consequently, South Africa's comparative advantage in stainless steel trade with China is limited to flat rolled products.

4. In 2004 South Africa exported US$ 1037 million in stainless steel products. This was double the exports in 2000. However, exports remain concentrated in flat rolled intermediates. Export growth in US$ averaged 29% p.a. between 2000 and 2004.
   Italy and China are the major destinations of South African stainless steel exports. About 13% of exports (99% flat rolled) go to China up from 8% in 2000.

5. South Africa improved its positive balance in the trade in stainless steel from US$ 8.4 million in 2000 to US$ 113.3 million in 2004. Trade in stainless steel products between South Africa and China is on the increase with both achieving a larger share in each others markets albeit from a small base.

9. SYNTHESIS AND RECOMMENDATIONS

The outcomes of “the research that was undertaken to determine the potential threats and opportunities facing the South African stainless steel industry in the event of a PTA/FTA between SACU and China” (TOR: 2.3 SS and Consultants Tender Documents 2. Objectives, bullet 3) and “the likely impact of an agreement would be on the economies (not economics) of the sub sectors of SACU “(TOR: 1. Introduction and Consultants Tender Document 1. The Tender) among others. are the subjects of the synthesis and recommendations as presented in the following paragraphs. They are not discussed on their own under separate headings but are apparent from that that follows..

9.1. The defensive position

9.1.1 Considerations

South Africa’s Stainless Steel production capacity is 0.6 Mt. for years now. As an import replacement initiative of the Tenth Five Year plan that of China was raised from about 0.5 Mt in 2000 to 4.7 Mt in 2005. It is predicted to be 8.1 Mt in 2010 but this figure could even reach 16 Mt by then.

REFORMS

1. China started with market orientated reforms in the 1980’s to reduce the constraints on growth of its rigid communist economy. Implications arise for cost competitiveness as determined under market conditions in South Africa and non-market conditions in China

2. The reforms that drive economic growth and transformation in China are (1) the rationalisation of the State Owned Enterprises (SOE’s); (2) the regulatory framework of markets; and (3) the globalisation of the economy.

3. The norm for growth in GDP in recent years came to more than 8% for China and 4% for South Africa. South Africa has a vision of 6% growth. The population of China is about 23 times and its GDP 9 times that of South Africa. China is catching up as one of the largest economies of the world. In 2004 it was the 7th largest economy and five years time it can be 4th.

STAINLESS STEEL DEVELOPMENT AND INCENTIVES

4. China's stainless steel market and industry only started developing in the mid-1990s. Before that, both production and consumption were low by international standards. In China, 'stainless steel' is seen as one of a number of 'speciality steels'. The stainless steel industry is only one part of China's overall steel policy. As a result, the stainless steel industry is subject to the industrial policies of the steel industry, which in turn is part of China's industrial development policy for heavy industries.

5. China's stainless steel policy development can been viewed in 3 distinct phases: Before 2000 China concentrated on reforming and upgrading its core ferrous steel capabilities, ignoring speciality steels. China's stainless steel production hovered around 400 000t until 2000. Imports started growing rapidly after 1995, reducing China's stainless self-sufficiency to 25% by 1999. In the period 2000-2004 the import gap grew and a stainless steel import substitution development plan was put in place for the Tenth Five Year Plan (2000-2005). This was part of China's national economic re-structuring to prepare for increased domestic competition and global integration within the framework of the WTO. For the stainless steel industry, this included import substitution through massive investment, the creation of competitive and profitable national 'champions', and technological upgrading through technology transferring foreign investment. The aim of the development was to increase China's self-sufficiency in stainless steel. The third phase started in 2004. Massive investment

(State, Foreign and Private) in heavy industries was deemed largely irrational and resulted in threatening overcapacity. This phenomenon also occurred in the stainless steel industry.

6. While it is impossible to get accurate information on the extent of incentives, it is widely accepted that they include various municipal rates and taxes, as well as some more significant corporate tax – related benefits. On the labour side, SOEs have been known to abuse the minimum wage limit rules as well as receiving support from local governments on labour related issues. At the end of the day, hassle-free labour relations contributes to stability and labour costs in many politically connected companies in China

7. Electricity prices in China are widely regarded as 'subsidised'. Electricity prices are set on a national level and the power industry must faces the losses that results from selling at this price. Many SOE's enjoy discount electricity from local-government officials who control the local electricity production and grid facilities.

8. Tisco and Baosteel were targeted as the stainless steel SOE 'national champions'. They received huge State investment and are responsible for most of the recent capacity expansions. Most global stainless steel MNCs have invested in JVs in China since 1998, bringing in massive investment and much needed technologies. Foreign investment was attracted through economy-wide tax and investment and profit repatriation incentives. Foreign companies pay 15% corporate tax while domestic companies pay 33%. China's IDZ, FTZ and Processing Trade policies encourage the export of stainless steel consumer durables.

9. China does not have a formal export subsidy regime in place for the steel industry of consumer durables. However, it devotes much of the States resources towards reforming its industrial structure to serve its export-orientated economic model. This relates to general indirect subsidies for most strategic industries, including the steel sector. Government generally supports the production of products which are important input products of the downstream manufacturing industry.

Policy-makers have used SOEs in the heavy industry sector to reduce key costs of production for the export-orientated manufacturing sector. The extent to which this policy objective is driving rapid expansion in the stainless steel sector is open to debate.

10. Stainless steel import substitution relied on both investment and a safeguard induced quota system for stainless products imports, and relatively high tariff levels for articles of stainless steel. Stainless steel production capacity jumped from 480'000t/a to 3Mt/a. Consumption continued to grow at 25% a year during this period. Imports maintained strong growth. In 2004, China accounted for 19.4% of global production.

11. Melt shop capacity increased by 33% in 2005 and is forecast to expand a further 50% this year. In 2005, China produced 3.16Mt of stainless steel from a total capacity of 4.7Mt/a. China will install 3.3Mt more meltshop capacity by 2010 for a total of 8.15Mt. However, if all China's currently planned projects are completed, China will have an installed capacity of 16.3Mt by 2010. In the difference between the two scenarios lies the key to the global stainless steel industry for the next decade.

12. China will be a net CR flat exporter by 2007, while HR exports should surpass imports by 2009.

CURTAILING RAMPANT EXPANSION

13. During 2004/2005, changing views on environmental degradation, energy-use and China's export-orientated growth model complement higher oil and raw material import costs to force a change in heavy industry policy. At the same time, threatening overcapacity puts downward pressure on stainless prices. China scrapped the quota-system on steel products. Tariff rates on steel products are low. Additional stainless steel industry investment and the export of low-

value added stainless steel is discouraged. Policy changes include raising investment requirements for new projects and lowering (and scrapping) export rebates.

14. Since 2005 local governments are not allowed to offer discounted energy prices for heavy industry. It is widely regarded that national-level directives like this, often carry little weight at local government level where officials continue to use control over taxes and input prices to create greater incentives for local investment.

15. In 2005, raw materials, largely imported, made up 66% of the cost structure of stainless steel companies. This figure increased from 53% in 2003. Industrial operations in China enjoy low labour costs, low cost of capital (often artificially low due to non-repayment of loans), and low rates and taxes. Corporate tax for Chinese companies is 33%, while FIEs face 15% corporate tax.

16. According to Chinese Government statistics, an average manufacturing wage in Guangdong (stainless steel centre of China) earns US$2125 per year. In Shanxi, were Tisco is based, unskilled wages start around US$ 937.5 per year.

TRADE

17. China is more of an importer of stainless steel than an exporter. It imported almost US$ 6.5 billion in 2004 and exported US$ 4.4 billion. South Africa exported about US$ 1 billion in 2004 and imported US$ 245 million.

18. Export of stainless steel by China is concentrated in hollow-and kitchenware and cutlery. The export of these products was 68% of the export of stainless steel products in 2004. This is less than in 2000 when it was 84%. The rapid increase in the export of flat rolled products and tubes and seamless pipes accounted for a proportionate rise in exports from 10.7% in 2000 to 23% in 2004.

19. China has established comparative advantages in down stream stainless steel products. This demonstrates China's pursuit of trading up the value chain in maximising value addition. The export of downstream stainless steel products by China increased by 160% between 2000 and 2004.

20. The USA as destination of exports increased in prominence from 25% in 2000 to 28% in 2004. The share in exports of Germany, Hong Kong, Japan and the UK diminished. The rest of the destinations are many but smallish. However, many of them show rapid growth from a small base. The United Arab Emirates are becoming important importers of kitchenware and cutlery.

RSA-CHINA TRADE

21. Although South Africa imports some intermediate products most of South Africa's imports are downstream stainless steel products. South African imports of stainless steel products from China in 2000 were almost 300% higher than in 2004 from a low base. South African imports of stainless steel products from China are 0.7% of the latter's export up from 0.4% in 2000.

22. While imports of downstream products were rather docile before they picked up in the past three years. Prominent is the imports of heading 7323.93, (hollowware) that practically exploded from R23 million in 2004 to R78 million in 2005. Volumes increased from 990 Kg in 2004 to 4768 Kg in 2005. Similar trends can be observed for knives and for cutlery. Past experience suggests that these trends will strengthen and spread to other products. Import growth of this magnitude relates more to a need for countervailing measures to stem imports than the consideration of the granting of tariff concessions for preferential entry.
.

23. China's comparative advantages against South Africa reflect its comparative advantages against the world. Concessions should be

approached with circumspection as they could pose a threat and more importantly because China is able to make inroads into the South African market under the existing import regime.

9.1.2. Recommendations on a South African defensive position on the trade in stainless steel and products thereof in the event of the conclusion of a FTA or a PTA between SACU and China2Threats from a cross cutting perspective

9.1.2.1.The threats from a cross cutting perspective are:

- The Chinese economic system is in transition from a communist to a social market economy with pockets of the economy that are "marketised" but a mixture of market conditions and state intervention apply in many others;
- The state (central, provincial and local) participates in capital formation, manipulation of input costs and directs bank financing;
- Preferential interest and tax rates, subsidies contingent on exports and favourable financing of target industries apply;
- The Chinese government officials intervene in the economy in a way inconsistent with market principles;
- Subsidies are non-transparent;
- Investment practices lead to the creation of unsustainable and surplus capacity;
- Pricing is non-transparent and divorced from market discipline because of interventions and support;
- China is obliged to do away with trade related investment measures but that progress seems to be slow;
- The undervalued Chinese currency contributes considerably to competitiveness in international markets.
- The Chinese economy is 9 times South Africa's and its population 28 times that entails a huge difference in capacity to trade in China's favour.

These cross cutting threats are such that it is recommended that the negotiation of a bi-lateral FTA or PTA with China is resisted at least until such time as the Chinese economy becomes fully marketised; it fully complies with WTO conventions; and a market determined exchange rate has replaced China's presently undervalued currency.

9.1.2.2 Threats arising from aspects specific to the Chinese and South African stainless steel sectors.

These threats are:

- China embarked on an aggressive self sufficiency drive in stainless steel production that raised production from about 0.5Mt by the end of the nineties to 3.2Mt in 2005 and the predicted potential for 2010 to 8.1Mt (it could even be 16 Mt). South Africa's capacity is stagnant around 600 000 Mt.
- There is an apparent inability at the centre of Chinese government to calm down run away capacity expansion;
- China's import gap is set to narrow and it is to become a net exporter in many intermediate stainless steel products;
- Tariff rates on primary and intermediate stainless steel products are rather low on the Chinese and South African sides rendering the need for tariff concessions somewhat superfluous;
- South Africa's downstream stainless steel industries are under attack of Chinese competitive advantages in these products,
- China is rapidly making inroads in the South African market for downstream stainless steel products rendering the high(er) South African tariffs essential as a last ditch resistance in safeguarding local producers in the absence of alternative trade remedies;
- South Africa stands to loose out in the Chinese market from its present positive trade position;
- South Africa is threatened by marginalisation in the markets of third countries because of increasing Chinese competition;

The above threats render any tariff concessions on stainless steel products to China as dangerous and it is recommended that no bi-

lateral concessions on stainless steel products should be contemplated in favour of China.

9.2 The offensive position

9.2.1 Considerations

DEMAND GROWTH.

1. The Chinese economy is expected to grow at between 7% and 8% in future. South Africa has a vision of 6% growth. The population of China is about 23 times and its GDP 9 times that of South Africa. China is catching up as one of the largest economies of the world. In 2004 it was the 7th largest economy and five years time it can be 4th. South Africa is benefiting from the rise in global trade that is generated by China's growth.

2. A stainless steel import substitution development plan was put in place for the Tenth Five Year Plan (2000-2005) with spectacular results raising China's stainless steel production to 19.4% of the world's.

3. Changing views on environmental degradation, energy-use and China's export-orientated growth model complement higher oil and raw material import costs to force a change in heavy industry policy. China scrapped the quota-system on steel products. Tariff rates on steel products are low.

4. China consumed 5.2Mt of stainless steel in 2005, 16.8% more than in 2004. China produced 3.2Mt of stainless steel from a total capacity of 4.7Mt/a. Thus imports remain important in the interim. China will install 3.3Mt more to raise melt shop capacity by 2010 to 8.15Mt. However, if all China's currently planned projects are erected; China will have an installed capacity of 16.3Mt by 2010. For a stainless steel producer such as South Africa, the really rewarding market opportunities in China's market are drying up, while stiff competition in

third country markets looms as an additional uncertainty on the horizon. Most global stainless steel firms have chosen to hedge against this uncertainty by investing in operations in China.

OPPORTUNITIES

5. Opportunities for imports still exist for HR flats, pipes, special steels and high-end niche products. Due to the general irrationality in China's production expansion, China will still demand around 1Mt/a of imports making up for structural shortages beyond 2010.

5. A licence is required for stainless steel imports into China. Almost all steel industry raw materials are imported through large Chinese agents. Chinese authorities resort to import licensing requirements and consolidation of importers to try and leverage its national purchasing power to force down the cost of imported raw materials. If global resources prices remain high, industry sources are worried Chinese authorities may start to do more than just threaten to use this power.

USE OF STAINLESS STEEL.

6. 37% of China's stainless steel is used to manufacture consumer durables. (i.e. flatware and white goods). 75% of this production is exported. Industrial and Construction applications plus 'Tube and Pipe' consumption account for further around 60% of China's stainless steel consumption. Strong production growth in automotive and components manufacturing is a new source of demand with significant potential for the stainless steel sector.

PROTECTION

8 China's general tariff rates have decreased dramatically under its WTO accession program. The products in this section carry generally low tariffs. The need to protect local industry has been negated by China's rapid progression to a net exporting position. The tariff rates

on products regarded as raw materials for a manufacturing industry are very low. Scrap (0%); Flats and Longs (10%); Pipes (>10%); catalytic converters (5%); food machinery and auto components (>10%). Only stainless steel flatware and white goods enjoy higher tariff protection (12-30%).

9. China previously used safeguard measures to protect a wide range of products in the steel industry. China continues to utilise an AD action against CR flats from Japan and Korea. The action is currently under investigation. China has played host to a number of AD actions and safeguard measures by foreign countries. The steel industry receives China's 2nd most trade actions after the chemicals industry. Chinese tube exports are currently under investigation in the US, EU, Brazil and Argentina.

IMPORTS

10. China sources its imports of stainless steel primarily from Korea, Japan and Other Asian countries. Their shares in Chinese imports of Germany, Italy and the USA are relatively small but they managed to enlarge it between 2000 and 2004. South Africa's share increased from 0.3% in 2000 to 2.2% in 2004.

11 In 2004 South Africa exported US$ 1037 million in stainless steel products. This was double the exports in 2000. However, exports remain concentrated in flat rolled intermediates. Export growth in US$ averaged 23% p.a. between 2000 and 2004. Italy and China are the major destinations of South African stainless steel exports. About 13% of exports (99% flat rolled) go to China up from 8% in 2000.

12. South Africa improved its positive balance in the trade in stainless steel with China from US$ 1.5 million in 2000 to US$ 113.3 million in 2004. Trade in stainless steel products between South Africa and China is on the increase with both achieving a larger share in each others markets albeit from a small base.

13. The list of stainless steel products where China is at a competitive disadvantage with the world are 4HS headings for flat rolled products. Consequently, South Africa's comparative advantage in stainless steel trade with China is limited to flat rolled products.

9.2.2. Recommendations on a South African offensive position on the trade in stainless steel and products thereof in the event of the conclusion of a FTA or a PTA between SACU and China

9.2.2.1 Opportunities from a cross cutting perspective

Opportunities of a cross cutting nature are to be found in the sustained high growth in the economy of China that makes that country a prominent modern day creator of wealth. South Africa shares in the prosperity that is generated by the Chinese economy and should devise means to continue to do so.

9.2.2.2 Opportunities arising from aspects specific to the Chinese and South African stainless steel sectors.

By considering that:

- High growth in China's stainless steel demand demonstrates that opportunities may arise despite, or as a consequence, of China's self sufficiency drive;
- Trade in stainless steel products between South Africa and China is increasing at present with the balance in favour of South Africa;

South Africa could decide to request tariff concessions from China even at the present comparatively low applied rates. It is recommended that such a request for tariff concessions should be compiled in close liaison with existing and/or potential exporters.

9.3 Guidance on opportunities to be exploited

The Chinese market should be entered in partnership with Chinese counterparts. Apart from many other reasons to facilitate entry into the Chinese market, partnerships of this nature help in dealing with the bureaucracy and with NTB's. Such partnerships are usually in the form of a JV and in many instances are accompanied by investment in China as opposed to pure import/export operations.

9.4 Opportunities offered with or without a PTA/FTA

Opportunities to be exploited with or without a FTA are limited. Growing trade shows that opportunities are being exploited in the trade in intermediate products (but that are to become more difficult because of the rapid development of the Chinese stainless steel industry. Potential downstream opportunities are limited to catalytic converters and exhaust systems.

Viewed from the import side the picture is quite different. Aggressive exporting by China and a propensity to import on the South African side could result in deep Chinese import penetration with little regard to the current or any future South African import tariffs.

9.5 What is needed to take advantage of them?

Catalytic converters and exhaust systems are both competitive as the result of the MIDP. According to the MIDP, automotive exports by China to South Africa may open up avenues for Chinese imports of automotive components from South Africa.

It is important to note that little stainless steel downstream products are exported if not linked to a special dispensation like the MIDP or favourable personal tax benefits as in the case of ocean going tank containers. The message is that some supply side or demand pull

scheme or a combination of both is needed for opportunities to arise in downstream stainless steel manufacture and export.

9.6 Issues that may complicate trade negotiations

The trade negotiations can be expected to be complicated by:

1. The threats as listed in 1.1.2.1.
2. The threats as listed in 1.1.2.2.
3. Lack of clarity on the outcomes of the NAMA that introduces a degree of uncertainty with respect to future MNF tariff levels that may render bi-lateral concessions pre-mature.

4 South Africa's limited range of stainless steel export products especially down stream products. As opposed to this, China will be able to propose a wide range of products carrying high South African tariffs in any request for concessions on its part.. Glaring asymmetry is therefore present in the export potential of the two countries.

9.7 Possible negotiation strategies that China negotiators may employ

It would be logical for China to seek concessions on down stream products in view of its broad industrial strategy. (However, should negotiations on a trade agreement happen only in two or three years time, China by then could have won a place to its satisfaction in the South African market that relegate the priority of stainless steel products, if any, in its quest for concessions from South Africa.)

9.8 Possible negotiation strategies that SACU negotiators should consider,

The threats overshadow the limited South African opportunities to such an extent that the benefits of a trade agreement are so marginal as opposed to the potential disadvantages that the negotiation of an agreement inclusive of stainless steel should be resisted. The granting of

concessions by China without any demands from South Africa because of the overwhelming asymmetry in trade potential between the two countries could possibly be entertained.

9.9 Any other comments/recommendations deemed relevant by the consultants

Massive skewed asymmetry between China and South Africa in many respects is such that, in the event of negotiations, the South African negotiators may opt for a strategy to require concessions from China in multiples to that granted by South Africa.

APPENDIX 1: TARIFF TABLES

		MFN	General	Import VAT	Export rebate	Customs Req.[2]
72	Base Metals and articles of Base metal					
7201	Pig iron and spiegeleisen in pigs, blocks or other primary forms.	1	8	17	0	AB
7202	Ferro-alloys.	2	[8][11][30]	17	0	B
7203	Ferrous products obtained by direct reduction of iron ore and other spongy ferrous products, in lumps, pellets or similar forms; iron having a minimum purity by weight of 99.94 %, in lumps, pellets or similar forms.	2		17	0	
7204	Ferrous waste and scrap; remelting scrap ingots of iron or steel.	[0][2]	8	17	0	PA
72042100	Waste and scrap of stainless steel	0	8	17	0	7PA
7205	Granules and powders, of pig iron, spiegeleisen, iron or steel.	2	[17][30]	17		
7206	Iron and non-alloy steel in ingots or other primary forms (excluding iron of heading no. 72.03).	2	11	17		
7207	Semi-finished products of iron or non- alloy steel.	2	11	17	0	AB7
7208	Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated or coated.	[3][5][6]	[14][17]	17	11	A7
7209	Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or	[3][6]	17	17	11	A7

[2] See reference below this table

	more, cold-rolled (cold-reduced), not clad, plated or coated.					
7210	Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, clad, plated or coated.	[4][5][8][10]	20	17	11	A7
7211	Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, not clad, plated or coated.	6	30	17	11	A7
7212	Flat-rolled products of iron or non-alloy steel, of a width of less than -600 mm, clad, plated or coated.	[4][5][8]	20	17	11	A7
7213	Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel.	[3][5]	20	17	11	AB7
7214	Other bars and rods of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn or hot-extruded, but including those twisted after rolling.	[3][7]	20	17	11	AB7
7215	Other bars and rods of iron or non-alloy steel.	[3][7]	20	17	11	A7
7216	Angles, shapes and sections of iron or non-alloy steel.	[3][6]	14	17	11	AB7
7217	Wire of iron or non-alloy steel.	[3][8]	40	17	11	B7
7218	semi-finished products of stainless steel	2	11	17	0	7
7219	Flat-rolled products of stainless steel, of a width of 600 mm or more.	[4][10]	[14][40]	17	11	A7
7220	Flat-rolled products of stainless steel, of a width of less than 600 mm.	10	20	17	11	A7
7221	Bars and rods, hot-rolled, in	10	20	17	11	A7

	irregularly wound coils, of stainless steel.					
7222	Other bars and rods of stainless steel; angles, shapes and sections of stainless steel.	10	[17][40]	17	11	A7
7223	Wire of stainless steel.	10	40	17	11	7
7224	Other alloy steel in ingots or other primary forms; semi-finished products of other alloy steel.	2	11	17		
7225	Flat-rolled products of other alloy steel of a width of 600 mm or more.	[3][6][7]	17	17	11	A7
7226	Flat-rolled products of other alloy steel, of a width of less than 600 mm.	[3][7]	20	17	11	A7
7227	Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel.	[3][6]	20	17	11	A7
7228	Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel; hollow drill bars and rods, of alloy or non-alloy steel.	[3][6][7]	[17][20][35]	17	11	A7
7229	Wire of other alloy steel.	[3][7]	20	17	11	7
73	Articles of Iron and Steel			17		
7301	Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel.	7	20	17	13	7

7302	Railway or tramway track construction material of iron or steel, the following: rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fi sh-plates, chairs, chair wedges, sole pl ates (base plates), rail clips, bedplates, ties and other material specialized for jointing or fixing rails	[6][8][7]	[14][17]	17	13	7AB
7303	Tubes, pipes and hollow profiles, of cast iron.	4	40	17	13	7
7304	Tubes, pipes and hollow profiles, seamless, of iron (excluding cast iron) or steel.	[4][5][8][10]	[17][40]	17	13	7AB
73041020	Specific pipe 114.3mm-215.9mm diameter	5	17	17	13	7AB
7304.4	Boiler Tubes and Pipes	10	[17][40]	17	13	7AB
7305	Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406.4 mm, of iron or steel	[3][6][7]	[17][30]	17	13	7AB
7306	Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel.	[3][6][7]	30	17	13	7AB
73064000	Other welded tube of stainless steel	6	30	17	13	7AB
7307	Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron	[5][7][8.4]	20	17	13	B

	or steel.					
7307.2	Flanges, elbows and sections	8.4	20		13	B
7308	Structures (excl. prefabricated buildings of heading no. 94.06) & parts of structurers (for example bridges and bridge-sections,lock-gates,towers,latice masts,roofs,roofing frameworks,doors and windows and their frames and thresholds rs,balistrades,p illars and columns), of iron or steel, plates, rods, angles, shapes, sections,tubes,and the like,prepared for use in structures of iron or steel	[4][8.4][10]	[30][50]	17	13	
7309	Reservoirs, tanks, vats and similar containers for any material (excluding compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 litres, whether or not lined or heat insulated, but not fitted with mechanical or thermal equipment:	10.5	35	17	13	
7310	Tanks, casks, drums, cans, boxes & similar containers, for any material (excl. compressed or liquefied gas), of iron or steel, of a capacity not exc. 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal	10.5	[40][70]	17	13	3
7311	Containers for compressed or liquefied gas, of iron or steel.	[8][17.5]	[17][70]	17	13	6AB
7312	Stranded wire, ropes, cables,	4	20	17	13	

	plaited bands, slings and the like, of iron or steel, not electrically insulated.					
7313	Barbed wire of iron or steel; twisted hoop or single flat wire, barbed or not, and loosely twisted double wire, of a kind used for fencing, of iron or steel.	7	70	17	13	
7314	Cloth (including endless bands), grill, netting and fencing, of iron or steel wire; expanded metal of iron or steel.	[7][8][12]	[20][70]	17	13	
7315	Chain and parts thereof, of iron or steel.	12	80	17	13	B
7316	Anchors, grapnels and parts thereof, of iron or steel.	10	40	17	13	
7317	Nails, tacks, drawing pins, corrugated nails, staples (excluding those of heading no. 83.05) and similar articles, of iron or steel, whether or not with heads of other material, (excluding such articles with heads of copper).	10	80	17	13	
7318	Screws, bolts, nuts, coach-screws, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of iron or steel.	[5][8][10]	80	17	13	B
7319	Sewing needles, knitting needles, bodkins, crochet hooks, embroidery stilettos and similar articles, for use in the hand, of iron or steel; safety pins and other pins	10	[80][90]	17	13	

	of iron or steel, n.e.s					
7320	Springs and leaves for springs, of iron or steel.	[6][10][12]	[14][50]	17	13	
7321	Stoves, ranges, grates, cookers (including those with subsidiary boilers for central heating), barbecues, braziers, gas-rings, plate warmers and similar non-electric domestic appliances, and parts thereof, of iron or steel.	[15][21][23]	80	17	13	6
7322	Radiators for central heating, not electrically heated & parts thereof,of iron or steel; air heaters & hot air distributors (incl. distributors which can also distribute fresh or conditioned air), not electrically heated, incorporatinfan or blower, a nd parts thereof, of iron or steel:	21	80		13	
7323	Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.	[12][14][20]	[80][100]	17	13	AB
73239300	Other of stainless steel	12	80	17	13	AB
7324	Sanitary ware and parts thereof, of iron or steel.	[18][25][30]	[80][100]	17	13	
73241000	Sinks, basins of stainless steel	18	80	17	13	
7325	Other cast articles of iron or steel.	[7][10.5][20]	[40][90]	17	13	
7326	Other articles or iron and steel	[10.5][18][20]		17	13	

8211	Knives with cutting blades, serrated or not (including pruning knives), (excluding knives of heading no.82.08), and blades therefor.					
82111000		18	80	17	13	
82119100		18	80	17	13	A
82119200		12	80	17	13	
82119300		18	80	17	13	
82119400		14	80	17	13	
82119500		12	80	17	13	
8212	Razors and razor blades (including razor blade blanks in strips).					
82121000		12	80	17	13	
82122000		14	80	17	13	
82129000		12	80	17	13	
8213	Scissors, tailors' shears and similar shears, and blades therefor.	12	80	17	13	
8214	Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files).					
82141000		12	80	17	13	
82142000		18	90	17	13	
82149000		18	90	17	13	
8214900010		18	80	17	13	A
8215	Spoons, forks, ladles, skimmers, cake- servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware.					
82151000		18	80	17	13	A
82152000		18	80	17	13	A

82159100		18	80	17	13	A
82159900		18	80	17	13	A
8421	Centrifuges, including centrifugal dryers; filtering or purifying machinery and apparatus, for liquids or gases.					
84213990		5	40	17	13	3B
8434	Milking machines and dairy machinery.					
84341000		10	20	13	11	
84342000		6	30	17	13	OA
84349000		5	17	17	13	A
8438	Machinery, not specified or included elsewhere in this chapter, for the industrial preparation or manufacture of food or drink, (excluding machinery for the extraction or preparation of animal or fixed vegetable fats or oils):					
84381000		7	30	17	13	A
84382000		8	30	17	13	A
84383000		10	30	17	13	A
84384000		7	30	17	13	A
84385000		7	30	17	13	A
84386000		10	30	17	13	A
84388000		8.5	30	17	13	A
84389000		5	30	17	13	A
8708	Parts and accessories of the motor vehicles of headings nos.87.01 to 87.05.					

87089200		10	100	17	17	6

Key for Customs documents required to clear Customs	
A	Import inspection certificate from AQSIQ
B	Export inspection certificate from AQSIQ
3	Export License
6	Used electro-mechanical machinery (prohibited)
7	Automatic Import License
P	Import Permit for waste and scrap
O	Automatic Import License (machinery)

APPENDIX 2: STAINLESS STEEL STANDARDS

Stainless Steel Product Standards in Different Countries							
China	**Russia**	**Japan**	**USA ASTM**	**Belgium**	**Germany**	**France**	**ISO**
GB 1220-92	GOST 5632-72	JIS G4303-91	A276-96	BS970Part1	DIN17400-96	NFA35-578-91	683/13-86
				BSEN10088-1-95	DINEN10088-1-95	NFEN10088-1-95	TR4956/84
1Cr17Mn6Ni5N	-	SUS201	201	X12CrMnNiN 17-7-5	X12CrMnNiN 17-7-5	X12CrMnNiN 17-7-5	A-2
1Cr18Mn8Ni5N	12KH17G9AH4	SUS202	202	X12CrMnNiN 18-9-5	X12CrMnNiN 18-9-5	X12CrMnNiN 18-9-5	A-3
1Cr17Ni7	-	SUS301	301	BS970Part1-96 301S21	-	NFA35-574-95 Z12CN17.07	14
1Cr18Ni9	12KH18H9	SUS302	302	302S31	DIN17440-96 X12CrNi18-9	Z10CN18.09	12
Y1Cr18Ni9	-	SUS303	303	303S31	X12CrNiS18-9	Z10CNF18.09	17
Y1Cr18Ni9Se	12KH18H10E	SUS303Se	303Se	303S42	-	-	17a
0Cr18Ni9	08KH18H10	SUS304	304	304S31	X5CrNi18-10	Z7CN18.09	11
00Cr19Ni11	03KH18H11	SUS304L	304L	304S11	X2CrNi19-	X2CrNi19-	10

					11	11	
0Cr19Ni9N	-	SUS304N1	304N	-	-	-	-
0Cr19Ni10NbN	-	SUS304N2	XM21	-	-	-	-
00Cr18Ni10N	-	SUS304LN	-	X2CrNiN18-10	X2CrNiN18-10	X2CrNiN18-10	10N
1Cr18Ni12	12KH18H12T	SUS305	305	X4CrNi18-12	X4CrNi18-12	X4CrNI18-12	13
0Cr23Ni13	-	SUS309S	309S	-	-	NFA35-578-91 Z15CN23-13	15
0Cr25Ni20	-	SUS310S	310S	310S31	-	Z8CN25-20	16
0Cr17Ni12Mo2	08KH17H13M2T	SUS316	316	316S31	X5CrNiMo17-12-2	Z7CND17-12-2	20 20a
0Cr18Ni12Mo2Ti	08KH17H13M2T	SUS316Ti	316TiS31635	320S31	X6CrNiMoTi17-12-2	X6CrNiMoTi17-12-2	21
00Cr17Ni14Mo2	03KH17H14M2	SUS316L	316L	316S13	X2CrNiMo18-14-3	X2CrNiMo17-12-2	19 19a
0Cr17Ni12Mo2N	-	SUS316N	316N	X5CrNiMo17-12-2	X5CrNiMo17-12-2	X5CrNiMo17-12-2	-
00Cr17Ni13Mo2N	-	SUS316LN	316LN	X2CrNiMo17-11-2	X2CrNiMoN17-11-2	X2CrNiMo17-11-2	19N 19aN
0Cr18Ni12Mo2Cu2	-	SUS316J1	-	-	-	-	-
00Cr18Ni14Mo2Cu2	-	SUS316JIL	-	-	-	-	-
0Cr19Ni13Mo3	08KH17H15M3T	SUS317	317	316S33	X5CrNiMo17-13-3	-	-

00Cr19Ni13Mo3	03KH16H15M3	SUS317L	317L	Part-4 317S12	X2CrNiMo18-15-4	X2CrNiMo18-15-4	24
0Cr18Ni16Mo5	-	SUS317J1	-	-	-	-	-
1Cr18Ni9Ti	12KH18H10T	-	321	321S31	X6CrNitI18-10	X6CrNiTi18-10	11
0Cr18Ni10Ti	08KH18H10T	SUS321	321	321S31	X6CrNiTi18-10	X6CrNiTi18-10	15
0Cr18Ni11Nb	08KH18H12B	SUS347	347	347S31	X6CrNiNb18-10	X6CrNiNb18-10	16
0Cr18Ni9Cu3		SUSXM7	XM7	X3CrNiCu18-9-4	X3CrNiCu18-9-4	X3CrNiCu18-9-4	-
0Cr18Ni13Si4	-	SUSXM15J1	XM15	-	-	-	-
0Cr26Ni5Mo2	-	SUS329J1	-	-	-	-	-
1Cr18Ni11Si4AlTi	15KH18H12G4TYU	-	-	-	-	-	-
0Cr13Al	-	SUS405	405	405S31	X6CrAl13	X6CrAl13	5
00Cr12	-	SUS410L	-	-	-	Z3CT12	-
1Cr17	12KH17	SUS430	430	430S17	X6Cr17	X6Cr17	8
YCr17		SUS430F	-	-	X6CrMoS17	-	8a
1Cr17Mo		SUS434	-	X6CrMo17-1	X6CrMo17-1	X6CrMo17-1	9c
00Cr30Mo2		SUS447J1	-	-	-	-	-
00Cr27Mo		SUSXM27	XM27	-	-	-	-
1Cr12		SUS403	403	410S21	X6Cr13	X6Cr13	3
1Cr13	12KH13	SUS410	410	410S21	X12Cr13	-	3
0Cr13Ae		SUS405	405	403S17	X6Cr13	X6Cr13	1
Y1Cr13		SUS416	-	416S21	-	X12CrS13	7
1Cr13Mo		SUS410J1	-	-	-	-	X12CrM126
2Cr13	20KH13	SUS420J1	420	420S37	X20Cr13	X20Cr13	4
3Cr13	30KH13	SUS420J2	420	420S37	X30Cr13	X30Cr13	5

Y3Cr13		SUS420F	-	-	-	-	-
4Cr13	40KH13	-	-	X46Cr13	X46Cr13	X46Cr13	-
1Cr17Ni2	14KH17H2	SUS431	431	431S29	X17CrNi16-2	X17CrNi16-2	96
7Cr17		SUS440A	-	-	-	-	-
8Cr17		SUS440B	-	-	-	-	-
9Cr17	95KH18	SUS440C	-	-	-	-	-
11Cr17		SUS440C	-	-	-	-	-
Y11Cr17		SUS440F	-	-	-	-	-
9Cr18Mo		SUS440C	440C	-	-	-	-
9Cr18MoV		-	-	X90CrMoV18	X90CrMoV18	X90CrMoV18	-
0Cr17Ni4Cu4Nb		SUS630	ASTM S17400	A564M-95	-	-	ISO683/16-76 1
0Cr17Ni7Al	09KH17H7YU	SUS631	17700	X7CrNiAL17-7	X7CrNiAl17-7	X7CrNiAl17-7	2