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Agenda

Introduction to China Tires
China in the world of tires - production and demand
Leading domestic players in China
International players in China

Pirelli, Aeolus and ChemChina
ChemChina, Aeolus, Double Happiness, Guilin, Yellow Sea
Possible futures

Countervailing and Anti-dumping duties
Summary of impact on Chinese companies
Possible futures

Summary and key take-aways

Questions
Tire Industry Research

News
Opinion
Commentary
Analysis
Thought Leadership
Platform for exchange of views
Market Research

Sustainability in the Tire Industry 2014
China Tire Industry 2014-2016
Global car tires - growth

CAR TYRE MARKET

- World
- Europe
- US
- China

Source: LMC

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China's tire industry and its place in the world of tires – By David Shaw

Tire & Retread Expo
New Orleans - Apr 2015

http://ChinaTireReport.com
Global tire production - growth

Source: IRSGs and TireIndustryResearch.com

- MEA
- Korea
- Japan
- India
- USA
- Other Asia
- EU-27
- China

2013: 15.11m tonnes
2014: 15.85m tonnes
2015: 16.45m tonnes
2016: 17.25m tonnes
2017: 18.07m tonnes
2018: 18.78m tonnes
China is the most competitive market

Hundreds of domestic manufacturers
Hangzhou; GiTi; Linglong; Triangle; Sailun; Jinyu; etc etc

All top-10 international brands present
Michelin; Bridgestone; Goodyear; Continental; Pirelli; Yokohama etc

Korean brands are aggressive
Hankook is market leader in PCR; Kumho; Nexen

Taiwanese brands have a strong presence
Maxxis/Cheng Shin; Kenda;

Cultural differences lead to challenges
Guanxi (關係); Honor/Face (面子, miànzi/mien-tzu)
Change in China

Legislation driving change
- Green Tire Specification (2014)
- Access Conditions (2014)
- Labels (2015)

Voluntary will move to mandatory
- Green Tire Specification (2016?)
- Labels (2016 voluntary) will become mandatory

Top companies getting smarter at marketing
- Better marketing will drive improvements in technology
- Pirelli acquisition will accelerate this

Leading players:
- GiTi, Maxxis / Linglong; Sentaida; Hangzhou; Aeolus; Double Coin, Triangle, DoubleStar; Boto etc
Tire production in China 2013

- PCR/LT:
  - International brands: 158m units
  - Domestic brands/export: 88m units
  - Domestic brands/domestic sales: 132m units
  - 2013 total: 377m units

- TBR:
  - 12m units
  - 35m units
  - 53m units
  - 2013 total: 100m units

Source: Sinorgchem & TireIndustryResearch.com
China tire industry structure 2014

China’s tire industry and its place in the world of tires – By David Shaw
China's tire industry and its place in the world of tires – By David Shaw

1. Manufacture tires
2. Exporting mainly through agents
3. Realise different markets have different needs
4. Develop market intelligence department
5. Improve technology (Recruit int’l experts)
6. Benchmarking & testing programmes
7. Set up overseas sales/marketing units
8. Take control of international distribution
9. More testing/benchmarking of specific properties
10. Develop international branding (Sponsorships etc)
11. Start developing OE contacts & programmes
12. Develop specific products for specific markets
13. Set up overseas tech centres
14. Set up overseas manufacturing
15. Win OE contracts
16. Continue building brand strength
17. Triangle & Linglong
18. Aeolus
19. GiTi

10 year period (or more)
**State-owned**
- More government support
- Less autonomy over products
- Less autonomy over production
- Better conditions for employees
- Less scope for initiative
- Better access to capital
- Strong co-operation with R&D
- Management less engaged?

**Privately-owned**
- Less government support
- More autonomy over products
- More autonomy over production
- Worse conditions for employees
- More scope for initiative
- Less access to capital
- R&D depends on management
- Management fully engaged
- Land speculation?

**Examples**
- Aeolus (ChemChina)
- Hangzhou Zhongce
- Giti
- Shandong Linglong
- Sentaida / Qingdao Sentury
Westerners in China

**Bridgestone**
- Wuxi 20k PCR u/day
- Tianjin 25k PCR/day
- Shenyang 5000 TBR u/day
- Huizhou (Guangdong) 5000 TBR/day

**Michelin**
- Shenyang 10m PCR u/y
- Shenyang 1.8m TBR u/y (& 300k retreads)
- Shanghai Warrior 14m PCR u/y (estimated)

**Goodyear**
- Pulandian (Liaoning) 30k PCR u/day
- Pulandian (Liaoning) 1m TBR u/year

**Cooper (and Chengshan)**
- Rongcheng City (Shandong) 30k u/day
- Kunshan 5m PCR u/y

**Continental**
- Hefei 8m PCR u/day (to 16m)

**Hankook**
- Chongqing 10m PCR u/y
- Chongqing 1.6m TBR u/y
- Jiaxin (Jiangsu) 15m PCR u/y
- Hunan (Zhejiang) 15m PCR u/y

**Kumho**
- Changchun 4m PCR u/y
- Tianjin 12m PCR u/y

**Sumitomo**
- Changshu (Jiangsu)
- Changshan

**Yokohama**
- Suzhou 350k TBR u/y

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China's tire industry and its place in the world of tires – By David Shaw
Brand awareness in China is limited

Car ownership still relatively low
around 50 cars/1000 population

Most people on first or second cars
Car parc has been growing steadily

Minimal comparative data on tires
Few test tracks; no independent test organisations

Tires are black and round
Minimal incentive to pay more for a Western brand except...

OE pull-through is strong
especially in the high-end & foreign-branded vehicles

Dealers are not very professional
Mostly individual entrepreneurs with little training in how to sell
Tire retail function is limited

Many tire dealerships,
But little price discipline

Dealers have little concept of brand strength
Many just want to shift volume - little brand loyalty or commitment

Dealers can be fickle
Can switch from Michelin to Pirelli to Hankook

Dealers have multiple stores
...And will use the training from the Western brands but apply it to their own stores

Good dealers in good locations are rare
Especially in the high-end & foreign-branded vehicles

Online sales still limited
But growing
### Domestic PCR producers

#### Top 10 PCR+LTR

- GiTi China
- Linglong
- Hankook
- Hangzhou
- Cheng Shin
- Kumho
- Sailun
- Triangle
- Sumitomo
- Hengfeng

#### 2014 H1 Output

- Domestic vs Export

#### Output changes (May ‘13—Jun ’14)

57% of total output

Source: Sci99 & Sinorgchem & TireIndustryResearch.com
Domestic TBR producers

Top 10

2014 H1 Output

<table>
<thead>
<tr>
<th></th>
<th>Domestic vs</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hangzhou</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEMCHINA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double Coin</td>
<td></td>
<td></td>
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<tr>
<td>Sailun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linglong</td>
<td></td>
<td></td>
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<tr>
<td>GiTi China</td>
<td></td>
<td></td>
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<tr>
<td>Triangle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooper</td>
<td></td>
<td></td>
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<tr>
<td>Doublestar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guizhou</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Change in Output
(May 2013-Jun2014)

57% of total output

Source: Sci99 & Sinorgchem & TireIndustryResearch
**Legislative environment**

**Key themes are:**
- Energy consumption in tire industry (2012)
- Green Tire Specification (2014)
- Access Conditions (2014)

**Aim of these policies and laws**
1. drive consolidation
2. Raise level of technology
3. make the industry more competitive on the global market
Tire-related legislation in China

Main policies affecting China Tire sector

<table>
<thead>
<tr>
<th>Laws, regulations and policies</th>
<th>Issued by</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyre Industry Access Conditions</td>
<td>MIT</td>
<td>2014</td>
</tr>
<tr>
<td>“Document on the implementation of the National Development [2013] No. 41 to resolve the overcapacity The implementation of views “</td>
<td>People’s Government of Shandong Province</td>
<td>2014</td>
</tr>
<tr>
<td>“Defective auto product recall regulations”</td>
<td>State Department</td>
<td>2013</td>
</tr>
<tr>
<td>“Petroleum and chemical industry,” second five “development plan”</td>
<td>MIT</td>
<td>2011</td>
</tr>
<tr>
<td>“Shandong Province tire industry,” second five “development plan”</td>
<td>Shandong Province Economic and Information Technology Commission</td>
<td>2011</td>
</tr>
<tr>
<td>“High-tech Industrialization key field guide current priority development (2011)”</td>
<td>National Development and Reform Commission, Ministry of Science, etc.</td>
<td>2011</td>
</tr>
<tr>
<td>“Tire industry,” second Five Year Plan “Guidance Outline”</td>
<td>China Rubber Industry Association</td>
<td>2011</td>
</tr>
<tr>
<td>“Tire Industry Policy”</td>
<td>MIT</td>
<td>2010</td>
</tr>
<tr>
<td>“On promoting remanufacturing industry view”</td>
<td>National Development and Reform Commission</td>
<td>2010</td>
</tr>
<tr>
<td>“Tire distribution business norms - management requirements.”</td>
<td>Commerce Department</td>
<td>2008</td>
</tr>
<tr>
<td>“Tire distribution business norms - Claims Requirements”</td>
<td>Commerce Department</td>
<td>2008</td>
</tr>
<tr>
<td>“On the improvement of labor-intensive products such as commodity export VAT refund Tax notice “</td>
<td>Ministry of Finance and State Administration of Taxation</td>
<td>2008</td>
</tr>
<tr>
<td>“About adjusting and improving consumption tax policy notice”</td>
<td>Ministry of Finance and State Administration of Taxation</td>
<td>2006</td>
</tr>
</tbody>
</table>

Standards applicable to tire manufacture in China

<table>
<thead>
<tr>
<th>Standard Number</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB 9743-2007</td>
<td>Car tires</td>
</tr>
<tr>
<td>GB 9744-2007</td>
<td>Truck tires</td>
</tr>
<tr>
<td>GB / T 2977-2008</td>
<td>Truck tire specifications, size, pressure and load</td>
</tr>
<tr>
<td>GB / T 2978-2008</td>
<td>Car tire specifications, size, pressure and load</td>
</tr>
<tr>
<td>GB / T 2979-2008</td>
<td>Agricultural tire specifications, size, pressure and load</td>
</tr>
<tr>
<td>GB / T 2980-2009</td>
<td>OTR tire specifications, size, pressure and load</td>
</tr>
<tr>
<td>GB / T 4501-2008</td>
<td>Truck tire performance indoor test methods</td>
</tr>
<tr>
<td>GB / T 519-2008</td>
<td>Pneumatic tires physical performance test method</td>
</tr>
<tr>
<td>GB / T 1190-2009</td>
<td>OTR tire technical requirements</td>
</tr>
<tr>
<td>GB / T 4502-2009</td>
<td>Indoor car tire performance test methods</td>
</tr>
<tr>
<td>GB / T 26276-2010</td>
<td>OTR radial tire X-ray method of nondestructive testing methods</td>
</tr>
<tr>
<td>GB / T 26277-2010</td>
<td>Tire resistance measurement method</td>
</tr>
<tr>
<td>GB / T 18861-2012</td>
<td>Car tires and motorcycle tire rolling resistance test method for multi-point test</td>
</tr>
<tr>
<td>GB / T 29040-2012</td>
<td>Car tire rolling resistance test methods and test results of a single-point correlation test</td>
</tr>
<tr>
<td>GB / T 29041-2012</td>
<td>Road car tire abrasion test method</td>
</tr>
<tr>
<td>GB / T 29042-2012</td>
<td>Car tire rolling resistance limits</td>
</tr>
<tr>
<td>GB / T 29449-2012</td>
<td>Tire energy consumption per unit of product</td>
</tr>
<tr>
<td>GB / T 29614-2013</td>
<td>Determination of polycyclic aromatic hydrocarbons in vulcanized rubber</td>
</tr>
<tr>
<td>GB / T 29608-2013</td>
<td>Determination of rubber phthalate salts</td>
</tr>
<tr>
<td>GB / T 29609-2013</td>
<td>Determination of phenol and bisphenol A rubber</td>
</tr>
<tr>
<td>GB / T 29644-2013</td>
<td>Vulcanized rubber N-phenyl-β-naphthylamine content by HPLC</td>
</tr>
<tr>
<td>GB / T 18505-2013</td>
<td>Car tire balancing test methods</td>
</tr>
<tr>
<td>GB / T 18506-2013</td>
<td>Car tire uniformity test method</td>
</tr>
<tr>
<td>GB / T 30193-2013</td>
<td>OTR tire durability test methods</td>
</tr>
<tr>
<td>HG / T 2186-2012</td>
<td>Tire pressure test method</td>
</tr>
<tr>
<td>HG / T 2443-2012</td>
<td>OTR static load performance test method</td>
</tr>
<tr>
<td>SB / T 10468.2-2012</td>
<td>Technical specification on tire claims</td>
</tr>
<tr>
<td>SB / T 10936-2012</td>
<td>Tire online trading services business norms</td>
</tr>
<tr>
<td>GB29449-2012</td>
<td>tire unit product energy Source consumption limits</td>
</tr>
<tr>
<td>XQZB/LT-102-2014</td>
<td>Green tire specification</td>
</tr>
</tbody>
</table>

Tables extracted from report by Tire Industry Research titled China and the Tire Industry - 2015-16

Source: TireIndustryResearch.com
CNCC and tires

Tire unit is China National Tire & Rubber

Aeolus
- Based in Jiaozuo, Henan Province
- 2014 sales of RMB 8140m (-4%??)
- Mostly truck, small amounts of car
- Aeolus brand

Double Happiness
- Based in Taiyuan, Shanxi province
- Tires (off-road, car and truck)
- Tire machinery
- Double Happiness; Zhonglun; Beisu brands

Qingdao Yellow Sea (65%)
- Based in Qingdao, Shandong Province
- Brands: Yellow Sea, Liber, Luton
- Deep financial problems
- Loss-making, two restructurings.

Guilin Tire
- Based in Suqiao, Guilin Province
- Aircraft tires, OTR & truck
- Small company
Pirelli in China

**Car tires**
- Strong position in OE and replacement
- Highly profitable - margins ≈ 25%
- Strong distribution network
- Factory in Yanzhou, Shandong Province
- Needs more capacity

**Truck/bus tires**
- Weak position in replacement
- Weak distribution (due to limited demand)
- Factory in Yanzhou (Shandong Province)
- Spare capacity

**Steelcord**
- Plant in Yanzhou now sold to Bekaert,
  deal closed in late March 2015
Likely outcomes

**Acquisition is strategic, not profit-motivated**
- More focus on long-term planning than RoCE
- CNCC management likely to remain hands-off (Pirelli car business)

**More market intelligence**
- ETRMA data
- RMA data

**Fast integration of truck tire units**
- Aeolus is 2nd largest truck tire maker in China
- Pirelli’s truck business is a problem
- Issues with management of integration
- But note reciprocation of brands

**Slow integration of Pirelli car tire business**
- Investments for capacity in China
- Investments for capacity elsewhere
- Watch and learn
Not just the United States
Brazil, India, Russia, Egypt, Colombia

Countervailing duties
Designed to compensate for government subsidies
12.03% - 81.29%

Anti-dumping duties
Designed to compensate for companies selling below cost price
18.58% - 87.99%

Simple import duties (all tires from China)
4% across the board
## Revised countervailing duties (revised data in bold) - 22 Dec 2014

<table>
<thead>
<tr>
<th>Exporter/Producer</th>
<th>Anti-dumping margin</th>
<th>Countervailing duty</th>
<th>Total (Incl. 4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper Kunshan China Tire Co. Ltd.</td>
<td>12.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giti Tire Fujian Co. Ltd.</td>
<td>11.74%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shandong Yongsheng Rubber Group Co. Ltd.</td>
<td>81.29%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All other tires imported from China</td>
<td>12.03%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## US Duties on China tire makers - general amounts (revised on 18 March)

<table>
<thead>
<tr>
<th>Exporter/Producer</th>
<th>Anti-dumping margin</th>
<th>Countervailing duty</th>
<th>Total (Incl. 4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China-Wide Rate (includes most State-Owned companies (Aeolus, ChemChina, Zhongce Rubber)</td>
<td>87.99%</td>
<td>12.03</td>
<td>104.02</td>
</tr>
<tr>
<td>Separate Rate Companies</td>
<td>27.72%</td>
<td>Varies</td>
<td>Varies</td>
</tr>
<tr>
<td>Giti Tire Global Trading Pte. Ltd., Giti Tire (USA) Ltd., Giti Tire (Anhui) Company Ltd., Giti Tire (Fujian) Company Ltd., and Giti Tire (Hualin) Company Ltd./ Giti Tire (Anhui) Company Ltd., Giti Tire (Fujian) Company Ltd., and Giti Tire (Hualin) Company Ltd.</td>
<td>19.17%</td>
<td>11.74</td>
<td>34.91%</td>
</tr>
<tr>
<td>Sailun Group Co., Ltd., Sailun Tire International Corp., Shandong Jinyu Industrial Co., Ltd., Jinyu International Holding Co., Limited, Seatex International Inc., Dynamic Tire Corp., Husky Tire Corp., and Seatex PTE. Ltd./Sailun Group Co., Ltd., and Shandong Jinyu Industrial Co., Ltd.</td>
<td>18.58% (down from 36.26%)</td>
<td>12.03</td>
<td>34.61%</td>
</tr>
<tr>
<td>Named companies (65 groups; 109 factories)</td>
<td>18.99% (down from 27.72%)</td>
<td>12.03</td>
<td>35.02%</td>
</tr>
<tr>
<td>Shandong Yongsheng</td>
<td>18.99% (down from 27.72%)</td>
<td>81.29%</td>
<td>104.28%</td>
</tr>
</tbody>
</table>
Measures to mitigate duties

Does not impact tires made in Taiwan
Maxxis / Cheng Shin;
Kenda
Nankang
Federal;

Fast-movers are building off-shore
Sailun (Vietnam);
Linglong (Thailand);
Hangzhou (Thailand);
Sentaida (Thailand)
More are following

Impact likely to be less than in 2009 - 2012
Then import fraction started at 20% and declined to 12%
This time, starts at 25% - will drop to perhaps 20%?
Conclusions - 1

1. China’s tire industry is big...
   ..but not particularly strong

2. China’s tire industry is highly fragmented
   ..and desperately needs to consolidate
   This leads to extreme competition

3. China’s tire makers operate on low margins
   which means they are heavily exposed to materials pricing.

4. State-owned operators are seeking to privatise
   Lots of investment needed to modernise the industry

5. Legislation will drive change
   Government actively seeking to move from “big” to “strong”
   Government has a Tire Industry Policy
   Legislative environment is one of the most restrictive in the world
   Next 5-year plan being prepared
Conclusions - 2

Change is happening
  More international marketing
  Better technology
  Government drive towards low-energy consumption

Legislation is a powerful force
  Legislative process is often opaque to Westerners
  Extensive dialogue with (Chinese) industry
  Can be a significant business risk

Voluntary measures will become mandatory
  Limits on specific energy use; specific water use
  Label scheme is very likely; Minimum factory size
  ‘Green’ tire specifications

OE - Replacement split matters
  Poor price discipline in replacement; OE has strong influence
Thank you for your attention

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Regional concentration

Truck tires:
Shandong Province makes about 50% of China production. Jiangsu, Zhejiang Provinces together make a further 31%.

Car tires:
Shandong Province makes about 26% of China production. Jiangsu, Zhejiang Provinces together account for about 55%.