

## SUMMARY

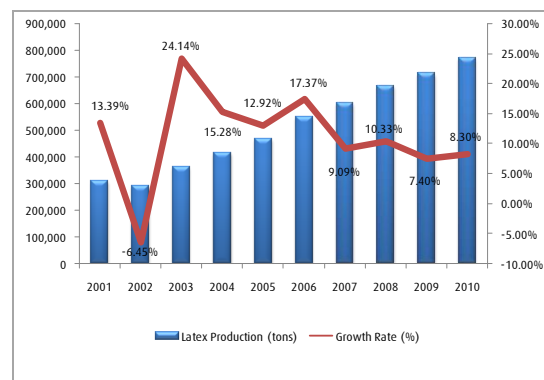
Rubber, in particular natural rubber, has an important role with more than 50,000 applications within industries and in daily life. As the material is elastic, can withstand friction and compression, it is used as an important input for the manufacturing of a wide variety of products like tires, inner tubes, waterproof items, wire cover, medical instruments, etc.

As the result, natural rubber supply is scarce, accounts for only 1/3 of global rubber production. The birth of synthetic rubber was a revolution for the world's manufacturing industries. Synthetic rubber is derived from petroleum which is in short supply especially in the long run, the cost of synthetic rubber derived from oil tends to be more and more expensive, and each type of rubber has its own characteristics are all reasons why one can not replace either natural rubber or synthetic rubber.

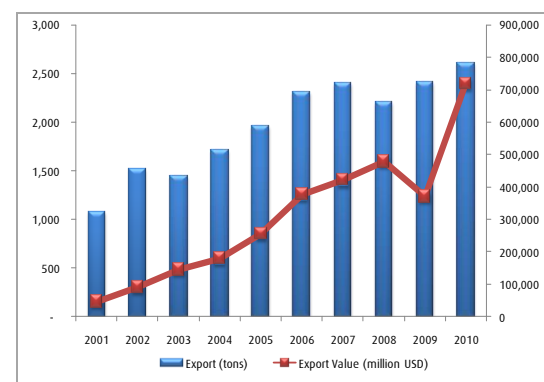
Although rubber production first started in South America, but now Asian countries, especially Southeast Asian are the main producers of natural rubber. Among which, the three Southeast Asian countries - Malaysia, Thailand, and Indonesia already accounts for more than 70% of the world's natural rubber production. Biggest exporters are Malaysia, Thailand, Indonesia and Vietnam. Thailand is the leading nation in terms of ground scale, capacity and production, followed by Indonesia and Malaysia. Vietnam ranks fourth in the global ranking of natural rubber suppliers.

With the above characteristics, the natural rubber industry is influenced by the following factors

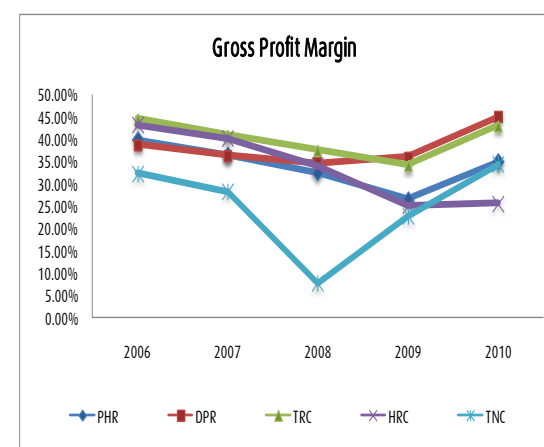
- Economic growth affects the demand for automobiles and rubber tires.
- The impact of climate change on prospects of natural rubber production.
- The changes in oil prices, the main material to produce synthetic rubber, and its effects on natural rubber prices.



*Vietnam's production and growth rate from 2001 to 2010*



*Rubber export production and export value from 2001 to 2010*



*Gross profit margin of 5 listed natural rubber companies in 2006 - 2010*

## Overview of the global rubber industry

During the period 2000-2010, the proportions of natural/synthetic rubber consumption fluctuated around 43%/57% and the upward trend can be easily noticed over the past 10 years. During 2000-2011 and 2007-2009, global rubber industry experienced two falls in consumption. Especially in 2008 and 2009, total consumption dropped nearly 2.3 million tons, equivalent to 9.8%. It bounces back strongly with an increase of 3.2 million tons in 2010. With the forecast of 25.8 million tons in 2011 and 31.3 million tons in 2020, the global rubber industry is showing signs of growth and recovery after the economic crisis in 2008-2009.

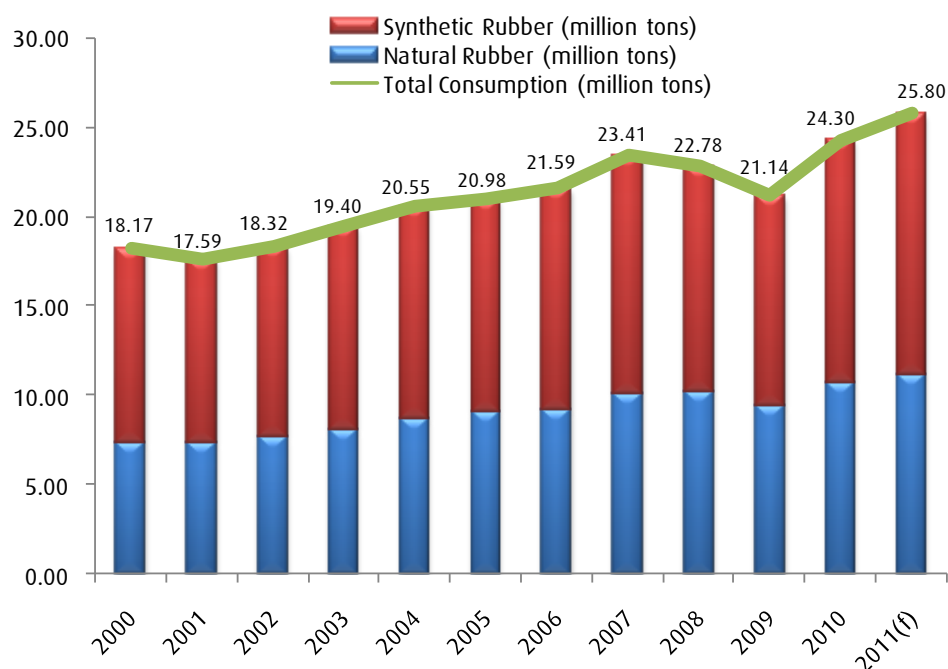


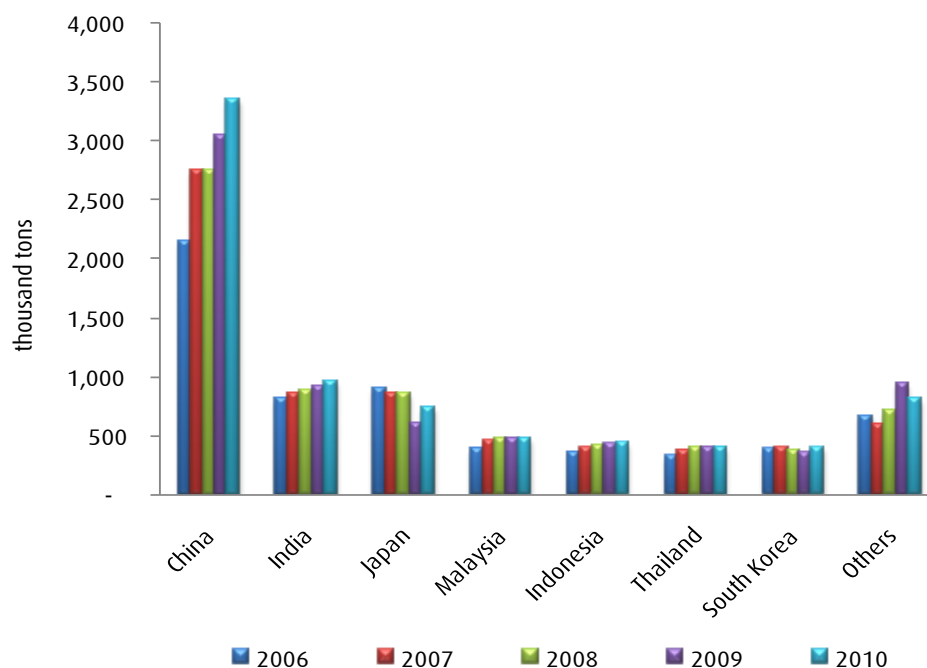
Figure 01: Total global rubber consumption from 2000 - 2011(f), Source: IRSG

According to the International Rubber Study Group (IRSG), global demand for rubber, both natural and synthetic, will reach 26.1 million tons in 2011, up by 6.97% compared to 24.4 million tons last year. IRSG also forecasts that global consumption of rubber in 2011 will meet 25.5 million tons and demand will jump to 27.5 million tons in 2012. Among which, demand for synthetic rubber will gain 8.6% more in 2011 and 6.4% in 2012. Meanwhile, demand for natural rubber will be up by 4.6% and 3.8% in 2011 and 2012 respectively. In favorable weather conditions, natural rubber production will increase by 6.2% in 2011 and 6.5% in 2012.

## Demand

Asian countries have important roles in both rubber supply and demand sides in the world. In term of rubber consumption, Asia accounts for more than 75.44% of total consumption in 2010. Leading countries in consumption include China, India, Japan, Malaysia, etc which seize 44.4%, 12.7%, 9.66%, and 6.23% respectively of the total.

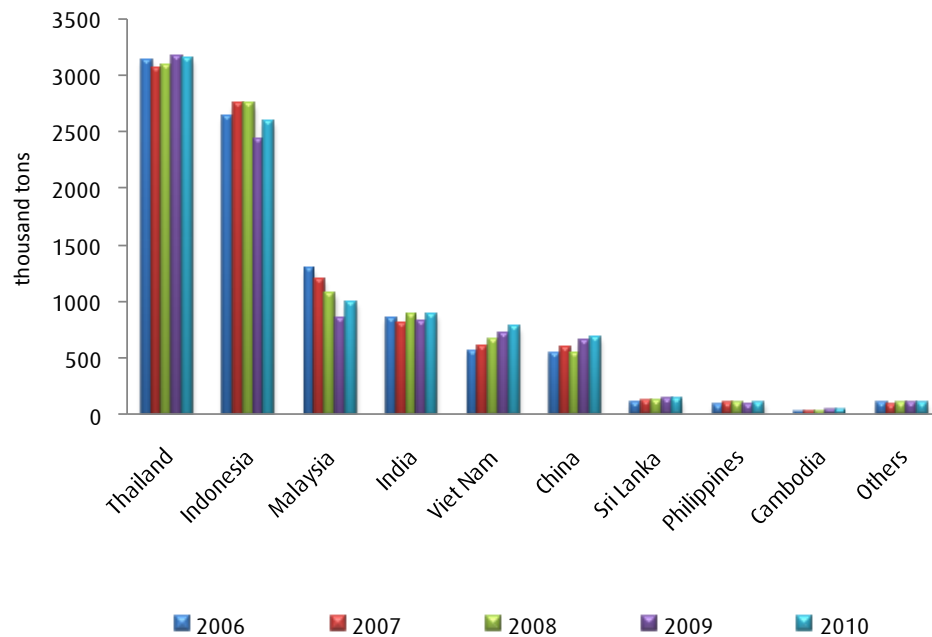
China has not only the highest volume, but also the fastest consumption growth rate of 12.17%/year on average from 2006-2010. Despite the economic crisis in 2008-2009, demand in China only leveled off in 2008 which was equivalent to 2007 but there was no sign of sharp decline. China will continue to play a key role in the world rubber industry from 2011-2020.



*Figure 02: Leading rubber consumption countries in the world from 2006 to 2010, Source: IRSG*

Similar to China, the upward trend in consumption is also the mainstream in India's rubber industry. However, the average growing rate of rubber consumption in India is only 4.13%/year. In contrast, other leading nations like Japan, Malaysia, Indonesia, Thailand, and South Korea tend to go side-way or even reduce slightly their consumption during the period 2006-2010. In general, the trends in natural rubber demand from 2006-2010 show that China and India will continue to be two major consumption markets and keep rising in the coming period. Natural rubber consumption in other countries (aside from the ones above) tend to rise impressively, that promises the expanding of the global rubber consumption in the future.

## Supply



*Figure 03: Leading rubber producing countries in the world from 2006 to 2010, Source: IRSG*

In the context of soaring rubber demand, the three leading nations in natural rubber production - Thailand, Indonesia, and Malaysia – did not boost production. The natural rubber production of Thailand and Indonesia fluctuated around 3.1 million tons and 2.7 million tons respectively, while Malaysia declined the most from 2006 to 2010. India, the country ranks fourth in production aspect, had no sudden changes in output for the last 5 years. Vietnam and China have impressively growth rate of 8.53% and 6.41%/year respectively and are threatening India's 4<sup>th</sup> place. The rest of the list did not have any notable changes and the growth rate is just around 1%/year.

According to Goldman Sachs' analysts, the abnormal rainfall in Southeast Asia where 70% of natural rubber production is from, has roughly affected the harvest period in the last months of 2010 and early 2011. This does not exclude the possibility that supply will be critically underprovided in comparison with the highest demand since 2000. Goldman Sachs Group Inc. believes 2011 will be the second consecutive year that Thailand, Indonesia, and Malaysia can not meet the demand and have to reduce the reserves to 69 days, the lowest since the last decade.

## COMPARISON OF NATURAL RUBBER AND SYNTHETIC RUBBER

NATURAL RUBBER	SYNTHETIC RUBBER
Account for about 40% of the world's rubber output annually.	Account for about 60% of the world's rubber output annually.
Natural latex is made from the sap of the Hevea brasiliensis rubber tree, through polymerization of isoprene the rubber contains extraneous matter which limits the rubber's characteristics. In addition, the restrictions still in the proportion of unwanted substances and impurities from the polymerization of natural latex. For these reasons, the properties of natural rubber declined although the vulcanized process has improved.	Synthetic rubber can be made from the polymerization of a variety of monomers with a small percentage of isoprene for cross-linking. Additionally, the monomers can be produced pure and the addition of impurities or additives can be controlled to give optimal properties as mechanical and chemical requested use of the product.
Since the 1890s when vehicles used pneumatic tires were invented, rubber demand has increased rapidly. Political issues, war and the characteristics of the rubber have made the natural rubber price to fluctuate and natural rubber supply unable to meet demand.	Synthetic rubber production in the United States increased rapidly during World War II with the Nazi controlled almost the entire supply of global natural rubber as Japan conquered Asia. The small improvement of the manufacturing synthetic rubber process continued after the war. By early 1960s, production of synthetic rubber surpassed natural rubber.
Rubber is a poisonous tree, latex of this tree is a substance toxic to people having direct contact with it. The lifespan of the rubber collectors will normally be shortened 3- 5 years if they work in that environment for a long time. Rubber tree is poisonous for the environment.	Manufacturers tend to use synthetic rubber to replace natural rubber to protect the environment and public health.

The tire manufacturing industry is the largest consumer of the global rubber industry. Based on production requirements to satisfaction of maintaining stable adhesion, saves energy while circulated, long-term use, etc, the technology used in tire manufacturing industry requires mixtures of natural and synthetic rubber (BR, SBR, IIR). Therefore, natural and synthetic rubber each has a certain role and can not be replaced in tire manufacture.

The fundamental difference in manufacturing method, the availability of two products of each rubber type, and other objective conditions are the reasons that they can not be replaced completely by the each other.

## THE GLOBAL RUBBER INDUSTRY IN 2010

The year 2010 is considered as a successful year for the natural rubber industry in the world, estimated natural rubber production globally reached 10.7 million tons, up 13.95% in compared with the year 2009. Three factors directly affect the world rubber industry as well as the world rubber prices in 2010.

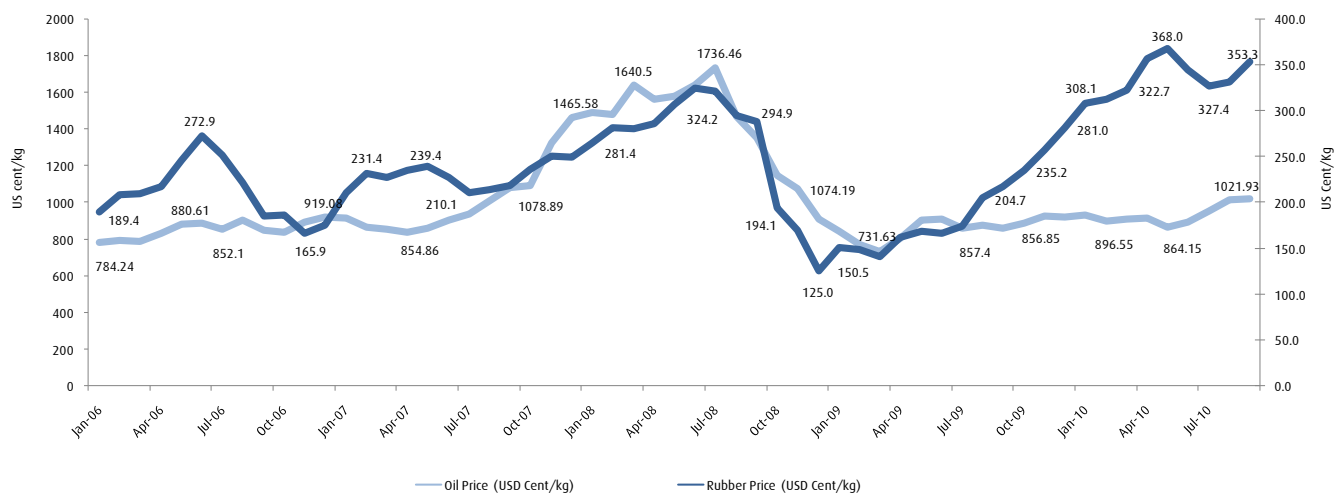


Figure 04: Oil prices and rubber prices from 2006 to 2010, Source: MRE

- i. **Economic growth affects the demand of automobiles and rubber tires.** Global automobile market has witnessed positive signs of recovery in the first half of 2010. In the US, vehicle sales was alright during the first few months of the year, but declined dramatically in August and hit the lowest for 28 years. According to analysts, the No.2 car market will keep falling in the following period due to climbing unemployment rate in the US. Purchasing power also began to cool down in China, the largest car market in the world, as the Government's support program ended in 2010. Meanwhile European market fluctuated erratically. Big markets like the UK, Germany, and Italy plunged after the strong support program of the Government ended. The car makers are hoping for positive growth in Russia, but that market is still small and has no large impact on global sales.
- ii. **The impact of climate change on the potential of natural rubber production.** Climate change is becoming a key factor threatening natural rubber supply worldwide. The compound climate evolution in many countries in 2010 has directly affected natural rubber production, which means that it will be difficult to meet demand when the global economy recovers. In fact, the global rubber output may reach 10 million tons per year only. despite the huge demand, rubber supply is decreasing again. The effects of floods in Thailand, China, and India has menaced these largest rubber exporting countries.
- iii. **The impact of oil prices, the main material to produce synthetic rubber, on natural rubber prices.** Synthetic rubber is alternative product of natural rubber. Oil price has a high correlation with the prices of rubber. Together with the recovery of the world economy in 2010, global oil price jumped 28.5% from \$70/barrel in early 2010 to \$90/barrel during November = December of 2010. The rise in oil price has pushed up the cost of synthetic rubber, causing manufacturers to switch to natural rubber.

In 2010, global rubber prices rose constantly and reached a peak by the end of April/2010 at \$3,680/ton, up by 19.45% compared to January/2010. Despite the slight adjustment in May-June/2010, rubber price in general remained high for the rest of 2010. Compared to the bottom price of \$1,250/ton in late 2008 crisis, rubber price has gone up 182.64% by

the end of 2010. The recovery of the world economy after the financial crisis in 2007-2008 led to a recovery in demand for natural rubber and oil and global rubber price reaching new records continuously in 2010.

## THE GLOBAL RUBBER INDUSTRY IN 2011

### 1. According to Experts:

- ***In accordance with the International Rubber Research (IRSG), global natural rubber is expected to rise 4.6% in 2011*** thanks to the growth of automotive industry, estimated to be 11.15 million tons, while supply also increased approximately 7.4% due to the increase of planted area. But the global rubber industry will continue to face negative effects of climate changes so supply will still be lower than demand and is estimated to be around 10.97 million tons.

According to these forecasts, the difference between demand and supply will be the key factor that keeps natural rubber price high. From a Bloomberg News survey, rubber price could reach 500 yen/kg (approximately 22.5% more than the peak in the end of 2010) in the first half of 2011. Analysts and fund managers believe that in Q1/2011, natural rubber price is likely to set a new record due to limited supply caused by rain and the low production season in quarter 1. Besides factors like climate change and the impact of earthquake in Japan (11/03/2011), according to analyst Sureerat Kunthongjun of AGROW Enterprise Ltd, the speculative purchases before Lunar New Year also led rubber price to climb significantly from 2/2/2011 to the end of the low production season in quarter 1.

### 2. Analysis of three basic factors

- ***Economic growth affects the demand for automobiles and rubber tires.*** Businessmen and investors anticipate global demand to rise 11.2 tons in 2011 thanks to the continuing economic recovery. China will most likely underachieve the growth of 2010 because of its current policies on reducing overheating. Meanwhile, the US, Europe, and Japan markets are reducing output due to the increase of rubber prices. This is an opportunity for Asian countries that are material initiative, to gain more advantages in producing and exporting tires. Overall, although the trend is upward rising, it will be difficult for China to maintain the 2010 high growth and expectations of rubber consumption is gradually placed on other Asian countries in 2011.
- ***The impact of climate change to the potential of natural rubber production.*** The complicated climate issues in 2010 have influenced directly rubber production in 2010 and 2011. Similar to 2010, global rubber production in 2011 will be under pressure of climate change and mature trees. Heavy rains in Thailand and Indonesia, two largest countries producing rubber in the world, in the last months of 2010 and early 2011 will affect the harvest.

The 9 richter earthquake and tsunami devastated Northern Japan on 11/03/2011 did not leave serious damage on the automobile factories in Japan but led to many consequences. Automotive industry is one of the most complex industries in the world with thousands of components and Japan's key role is to provide the high-tech components. The global automobile industry including not only Japan but also top car makers from the US, China, Germany, South Korea, and so on, is threatened by the paralysis of Japan. However, according to experts, this is just short term psychological impact and the disruption of the automotive industry will soon be broken as the largest automobile firms are urgently looking for alternative products. Therefore, the impact of Japan basically will be a short-term rather than long-run problem as natural rubber demand will continue to rise in the coming years.

In fact, the earthquake and tsunami in Japan have limited impact on global rubber demand because there is no significant damage occurred to factories own by large companies like Bridgestone or Michelin. As announced by Sumimoto Rubber Industries Ltd, and Yokohama Rubber Company, two of the largest tire companies in Japan, there was no damage to their factories after the earthquake and tsunami on 11/03. The disaster in Northeastern Japan on 11/03 and the consequences of it will have no significant impact on global rubber demand, said by ANRPC (The Association of Natural Rubber Producing Countries).

Overall, the impact of earthquake, tsunami in Japan will lead rubber prices in 2011 to adjust for lower than the forecast at the beginning of the year, rubber prices are expected to rise approximately 15% during the last of 2011.

- ***The impact of oil prices, the main material to produce synthetic rubber, on natural rubber prices.*** The IMF has raised its forecast for crude oil prices in 2011 to \$94.75/barrel from \$89.5/barrel. Oil price has exceeded the \$90/barrel since 07/12/2010, the first time in over 2 years from 2009-2010 owing to the strong recovery of China, India, Russia, and Brazil, thereby increase the demand for energy. Global oil demand in 2011 is said to gain another 1.6% compared with the increase of 3% in 2010. JP Morgan and Deutsche Bank raised their forecast for oil prices, of which crude oil will exceed the threshold of \$100/barrel within the first six months of 2011 and will increase to \$120 per barrel before the end of 2012. Based on these forecasts, crude oil price in 2011 is likely to fluctuate around the threshold of \$100/barrel.

Overall, 2011 is not an optimistic year for automobile production – the key demand of natural rubber but the developments in natural rubber prices in 2011 is completely positive as global supply can not meet demand. Meanwhile, the price of synthetic rubber will follow the oil price trend, therefore, ***natural rubber price is forecasted to rise approximately 15% in 2011.***



## Overview of Vietnam's rubber industry

After Thailand, Indonesia, Malaysia, and India in the list of leading natural rubber nations, Vietnam rubber production in 2010 reached 770,000 tons, 8.3% more than 2009. Natural rubber production in Vietnam grows stably during 2002-2010 with average growth rate of 13.1%. Vietnam's export exceeded \$1 billion for the first time since 2006 with stable and upward trend in both output and rubber price. Rubber products are among main export products of Vietnam.

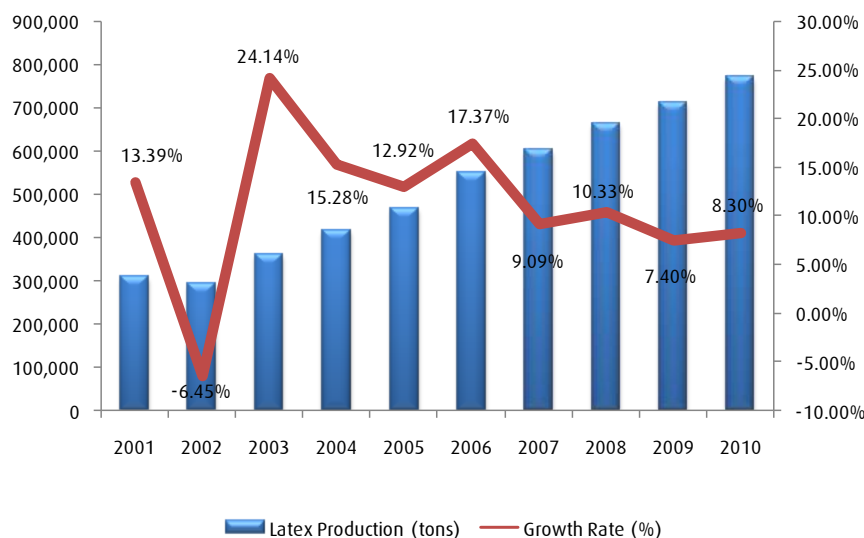


Figure 05: Vietnam's latex production and growth rate in the period 2001 to 2010, Source: Ministry of Agriculture and Rural Development

### VIETNAM'S RUBBER CONSUMPTION

- Exports:** According to Vietnam Rubber Association, more than 70 countries and territories import natural rubber from Vietnam. China is still the largest market with 59% of Vietnam's exports while Malaysia ranks second with 7%, Taiwan, Korea, and Germany share the next position together at 4%. China has an important and decisive role in Vietnam rubber industry. In order to diversify export markets to reduce the dependence on China market, Vietnam has been raising the export shares of other countries like Malaysia, Taiwan, Korea, etc. Export share of China market has reduced from 70% in previous period to 59% in 2010. European markets are seen as potential markets for Vietnam rubber industry but the challenges of variety and quality set by European companies are difficult barriers for rubber products from Vietnam.

### Market share in Vietnam's rubber exports

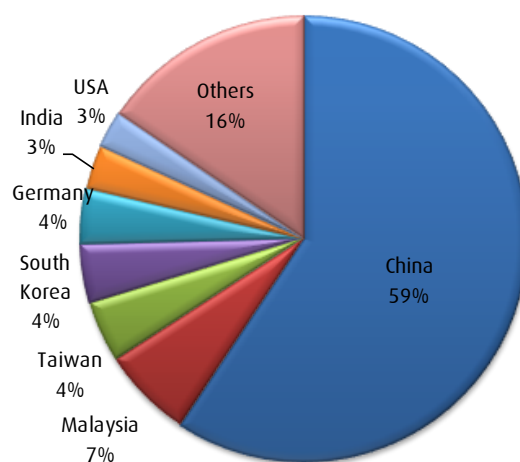


Figure 06: Market share in Vietnam's rubber exports, source: Ministry of Agriculture and Rural Development

- **The local consumer market for natural rubber** is relatively small compared with the export market with around 15-20% of the total rubber output annually. Domestic rubber demand mainly comes from three rubber firms Sao Vang Rubber (SRC), the Southern Rubber Industry (CSM) and Da Nang Rubber Company (DNC) that mostly produce tires, medical equipment and conveyors.

However, the downward and more apparent trend of natural rubber production in the United States, Europe, and Japan due to lack of raw materials is an opportunity for natural rubber producers from Asian countries that are material initiative, including Vietnam. The Kumho Tires' factory (South Korea) in Binh Duong and other factories with capacity of 3 million and 4.45 million automobile tires per year will contribute to the domestic consumption in the coming years.

## NATURAL RUBBER AREA

Natural rubber ground has been expanding during the last 10 years with average annual growth rate of 5.93%. The growth is relatively low from 2000-2004 and starts to hike from 2005 till 2010. 2008 has the strongest growth of 13.52%. In 2009 and 2010, growth of land area was quite stable at 7.32% and 9.19% respectively.

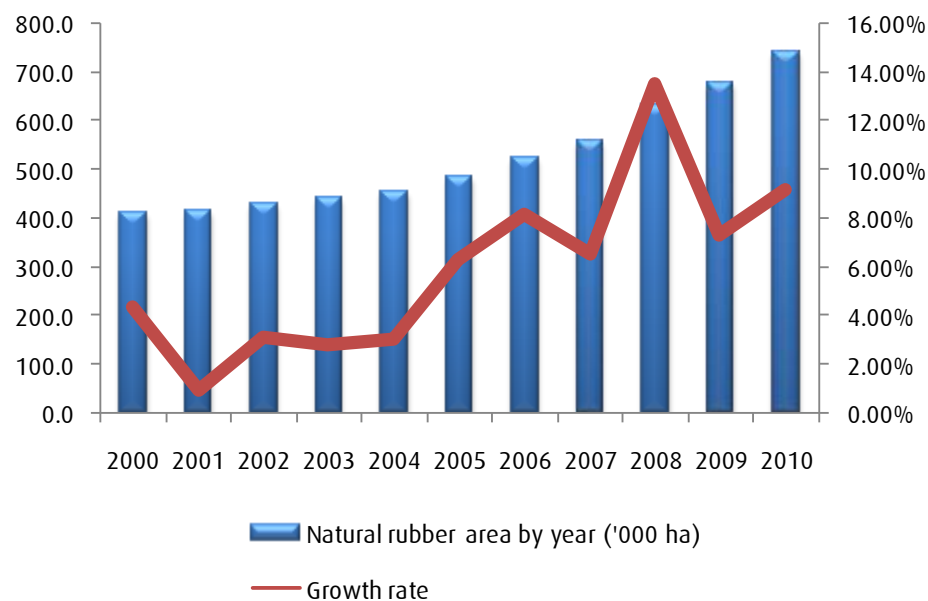
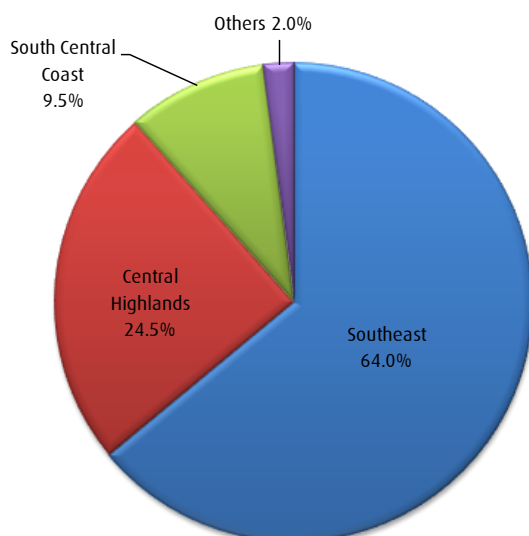


Figure 07: Natural rubber area by year and growth rate from 2000 to 2010, Source: Ministry of Agriculture and Rural Development



Besides the two biggest natural rubber areas in South Eastern Vietnam (64%) and Central Highlands (24.5%), new areas such as the Northwest, North Central, South Central Highland, etc has started cultivation and exploitation. Another trend is the expansion of natural rubber grounds in Binh Phuoc, Dong Nai, Tay Ninh, Ba Ria – Vung Tau provinces and other neighbouring countries. Currently, Cambodia, Laos, and Myanmar are investment targets for Vietnam firms for new areas such as 200,000 ha in Myanmar, 100,000 ha in Cambodia, and 100,000 ha in Laos.

*Figure 08: Proportion of rubber planted area by region, Source: Ministry of Agriculture and Rural Development*

## PRODUCTION AND CAPACITY

Overall, in 2009 and 2010, despite the significant increase in planted areas with growth rate of 7.32% and 9.19% respectively, most large rubber firms in the South East are facing the problem of decreasing exploitable areas due to the liquidation process of orchard trees. Many firms in recent years have relied on trees planted from 1980s which have very low yields. Together with the climate change problem, out put and productivity of many have reduced.

Most firms in the South East had to narrow both the exploitable area, averagely 6.86% from 2009 to 2010, and output, averagely 7.1%. Despite being inferior to Southern firms in exploited area, production, and capacity, firms in Central Highlands and Central own younger plants so their growth rates is steady in all aspects. The Central Highland's growth rate of exploited output and capacity was 1.16% and 1.33% in 2009-2010, and 10.66% and 0.01% in the Central region respectively.

In general, exploitable output and capacity of Vietnamese firms are relatively low compared with other Asian firms. Facing a series of outside and inside problems, the usable area and production are expected to decline in 2011-2012 and will start growing from 2013.

Over the last few years, Vietnam Rubber Group (VRG) and other rubber firms are focusing on planting new rubber trees to replace the old ones as well as forming new areas of new high yield trees. In comparison with traditional types of rubber like RRIM 600, PB 260, RRIM 712, RRIC 121, RRIV 2 – 3 – 4 and so on with average yield of 1-2 tons/ha/year, the proposed plan is considered for RRIM 3001 (Malaysia), RRIM 928 and RRIM 919 which could provide 3 tons of natural rubber latex/ha/year.

2009					2010		
Company	Total area (ha)	Exploit area (ha)	Exploit production (ton)	Productivity (ton/ha)	Exploit area (ha)	Exploit production (ton)	Productivity (ton/ha)
Southeast							
Dong Nai	30,663	27,309	51,800	1.90	23,148	47,000	2.03
Binh Long	15,000	12,627	25,380	2.01	10,878	22,300	2.05
Phu Rieng	18,065	13,188	27,500	2.08	11,485	24,000	2.09
Dong Phu	10,400	7,553	17,030	2.25	7,245	16,000	2.21
Loc Ninh	10,833	8,000	16,000	2.00	7,021	13,200	1.88
Phuoc Hoa	17,000	11,810	24,092	2.04	12,200	21,600	1.77
Dau Tieng	29,000	21,961	45,898	2.09	20,340	42,043	2.07
Ba Ria	5,800	3,380	5,118	1.51	5,099	5,300	1.04
Tan Bien	6,161	6,050	12,421	2.05	6,052	11,922	1.97
Binh Thuan	4,591	3,957	5,900	1.49	4,000	5,300	1.33
Tay Ninh	7,200	5,900	13,211	2.24	5,600	12,000	2.14
Hoa Binh	5,030	3,380	5,118	1.51	3,380	3,835	1.13
Thong Nhat	4,000	1,337	1,960	1.47	1,338	1,609	1.20
Central Highlands							
Krong Buk	2,620	2,083	3,750	1.80	2,080	4,160	2.00
Eah Leo	4,832	3,410	5,797	1.70	3,071	4,732	1.54
Chu Se	7,000	5,781	9,018	1.56	6,000	9,000	1.50
Chu Prong	6,903	5,524	7,889	1.43	5,591	7,800	1.40
Chu Pah	8,122	5,580	6,400	1.15	5,693	7,007	1.23
Mang Yang	8,000	6,820	7,050	1.03	6,800	7,564	1.11
Kon Tum	10,279	5,556	10,000	1.80	5,500	10,224	1.86
South Central Coast							
Quang Tri	3,662	3,252	6,113	1.88	3,250	6,000	1.85
Quang Nam	3,847	700	1,120	1.60	1,021	1,450	1.42
Quang Ngai	1,260	351	30	0.09	400	50	0.13
Ha Tinh	5,019	1,417	1,283	0.91	1,891	2,041	1.10
Thanh Hoa	10,835	3,140	2,200	0.70	3,890	2,350	0.60

Table 01: List of some natural rubber companies in Vietnam, Source: SMEs research

## VIETNAM RUBBER INDUSTRY IN 2010

2010 is a successful year for Vietnam rubber industry. Thank to the rising trend in both output and price, Vietnam had the largest turnover of \$2.39 billion and export volume in history. Export volume reached 782,200 tons and average export price reached \$3,053/ton, up by 94.7% in value, 6.9% in volume and 82% in price compared with previous year. Vietnam rubber production in 2010 also achieved an encouraging growth with export reached \$291 million, 65.9% more than 2009.

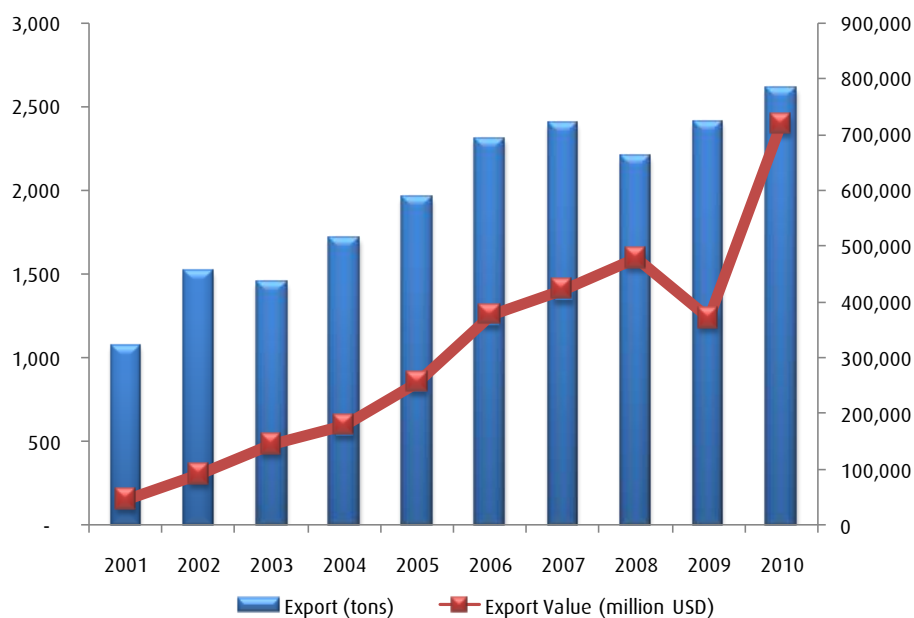


Figure 09: Rubber export production and value from 2001 to 2010, Source: Ministry of Agriculture and Rural Development

In the first four months of 2010, rubber export in Vietnam had continued to grow from last half of 2009 as the economy gradually recovered. In addition, supply is limited because of dry season. Vietnam export rubber price therefore obtained the highest level since 2008, reaching \$2,938/ton (April 4<sup>th</sup> 2010), up by 99.3% compared to same period in 2009. However, from May-August/2010, global rubber prices decreased owing to uncertainties about the slow down of global economy recovery. Vietnam rubber price also followed the general declining trend. Besides, Vietnam's rubber industry has also suffered from border trading activities to China. Entering the period September – December/2010, Vietnam rubber export price regained the rising momentum and surpassed the record in April/2010. Rubber export price in September/2010 was averagely \$2,946 per ton and achieved the highest price since 2008 of \$3,800 per ton.

With the high growth rate, Vietnam export in 2010 excelled in both quantity and value. The increase in rubber export price was the reason that domestic rubber firms finished and exceeded the profit plan. Furthermore, natural rubber firms also benefited from the exchange rate difference between USD and VND which rose 5.5% in 2010.

## VIETNAM RUBBER INDUSTRY PROSPECTS IN 2011

1. **Production of natural rubber industry in 2011:** From the forecast of the global natural rubber market in 2011, the differences in supply and demand will be the key factor deciding the rise in price of natural rubber. High rubber price is an opportunity to expand for Vietnam in 2011. If Vietnamese firms could catch these opportunities in the early months of 2011, export revenue in 2011 will jump from 4% to 12% compared to 2010. Especially, this applies on border trading activities with China as the price of natural rubber exported to China through Mong Cai gate went up to 32,600 Chinese yuan per ton.

Meanwhile, according to the General Statistics Office, Vietnam rubber production in 2011 can go up around 4% to 780,000 tons due to extra 5,000 ha of exploitable area. The Ministry of Agriculture and Rural Development also commented that Vietnam export volume of natural rubber can reach more than 760 thousand tons at nearly \$3 billion in 2011 (In 2010, these figures were 783,000 tons and nearly \$2.38 billion USD).

By researching the trend of export volume and value chains for the last few years, the Centre for Information and Statistics (Ministry of Agriculture and Rural Development) applies an econometric model to predict that Vietnam rubber exports in 2011 will be more than 760,000 tons at nearly \$3 billion. According to this model, the average rubber price is expected to be \$3,906.9 per ton in 2011 compared to \$3,034.48 in 2010. This model also sees a growth rate of 28.75% for Vietnam rubber export price in 2011.

Quarter	Volume (tons) (r=15.9%)	Value (USD) (r=19.4%)	Average Export Price (USD/ton)
I	153,102	514,362,028	3,359.60
II	101,224	530,100,328	5,236.90
III	246,173	952,314,484	3,868.48
IV	260,015	974,477,058	3,747.77
<b>Total</b>	<b>760,514</b>	<b>2,971,253,898</b>	<b>3,906.90</b>

*Source: the Centre for Information and Statistics (MARD)*

*Note: r - standard deviation*

*Table 02: ForecastED production and value of Vietnam's natural rubber exports in 2011*

2. **The Impact of the "devaluation of VND":** The possibility that VND will continued to depreciate compared to USD in 2010 has been realized on 11<sup>th</sup> and 12<sup>th</sup> of February. The State bank of Vietnam (SBV) added 9.4% more to the average exchange rate and as natural rubber firms in Vietnam might benefit from this as happened 2010.
3. **Effects of climate change:** the earthquake and tsunami in Japan on 11<sup>th</sup> March 2010 has directly affected the global rubber industry in general and Vietnam rubber industry in particular. Japan is one of the important importers of Vietnam's natural rubber with export value of more than \$1 billion per year. The earthquake and tsunami in Japan caused global natural rubber price to plummet immediately after the disaster. After the first 3 days after the disaster, global rubber price dropped by 28%. On 3<sup>rd</sup> March, the SVR20 export price was VND 98 million per ton but on 16<sup>th</sup> of March, it was only VND 79 million, down by 19.39%. However, analysts believe that this is a short-term psychological impact and the disruption of the automotive industry will be over quickly as largest automobile firms are urgently looking for alternative products. Therefore, the impact of the earthquake in Japan will be short-term rather than long term problems as the demand for natural rubber will keep rising in

the coming years. On the other hand, Japan is not Vietnam's main importer of natural rubber, the biggest one is China with 59%. Immediately after the disaster in Japan, rubber price returned to the price in early 2011, partly due to psychological panic sell-off. Overall, the earthquakes and tsunami will bring rubber price in 2011 to lower level than forecasted from the beginning of the year. Rubber price during the rest of 2011 is expected to grow within the 15% limit.

The following table compares three basic factors production, exchange rate and export price in 2010 and 2011.

<b>Impact factors</b>	<b>2010</b>	<b>2011</b>
Exchange rate	5.50%	9.40%
Production	8.30%	4.00%
Price	25.60%	15.00%

*Table 03: Comparing the variations of three basic factors affecting Vietnam's rubber industry in 2010 & 2011, Source: GSO, SMEs forecast*

Looking back on the three important elements that underlie revenues of natural rubber firms, including exploitable capacity, prices, and exchange rates, it can be seen that exchange rate is the only positive factor for Vietnam rubber industry in 2011. However, this factor does not account for much of the overall impact on the industry while positive signals from the other factors – price and output – seems to have declined. Overall, the rubber industry and turnover of natural rubber firms in 2011 will keep growing but abnormal performance like in 2010 is unlikely to happen.

## Listed firms

There are currently 5 rubber companies listed on the stock exchange of which operating activities mainly are planting, exploiting, and processing of natural rubber (latex).

Ticker	Company name	Equity ('000 VND)
PHR	CTCP Cao su Phước Hòa	1,284,413,400
DPR	CTCP Cao su Đồng Phú	1,228,063,600
TRC	CTCP Cao su Tây Ninh	767,400,400
HRC	CTCP Cao su Hòa Bình	410,438,500
TNC	CTCP cao su Thống Nhất	272,362,300

Table 04: Listed rubber companies, Source: StoxPlus

**Scale of Capital:** By the end of 2010, PHR has the highest equity of VND 1,280 billion, followed by DPR with VND 1,228 billion. Equity of TRC, HRC, and TNC is VND 800 billion, VND 418.3 billion, and VND 272.4 billion respectively.

### Exploitable area and production of latex:

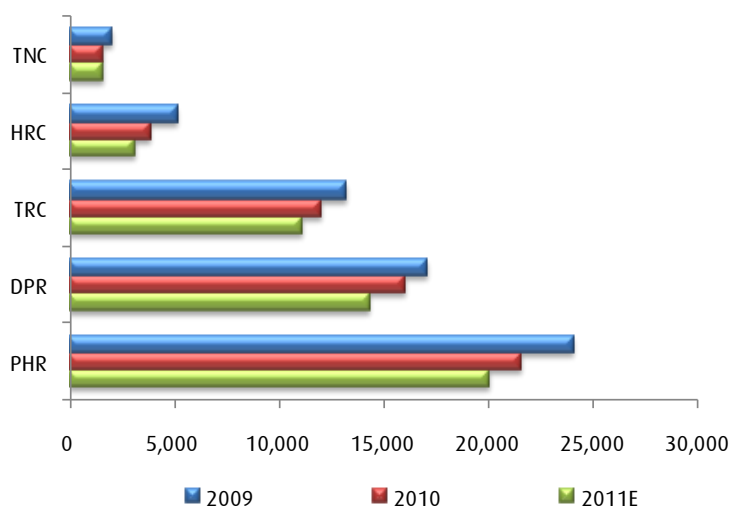


Figure 10: Exploit production (tons) of 5 companies, Source: Companies' business statement, SMEs research

Among these firms, PHR, DPR, TRC and HRC are in recession of exploited area with increasing amount of liquidation plants in recent years. Average rate of liquidation is 8.5% to 15% per year, while the percentage of basic construction area accounts for only 10-20%.

Among these firms, PHR, DPR, TRC and HRC are in recession of exploited area with increasing amount of liquidation plants in recent years. Average rate of liquidation is 8.5% to 15% per year, while the percentage of basic construction area accounts for only 10-20%. Amid the four companies, in terms of old trees and liquidation trees proportion annually, DPR and TRC are beginning to step into the recession period while PHR is already in the middle of it and HRC is located at the end of liquidation process. From 2011-2012 onwards, HRC's output

will not drop anymore because aside from existing exploitable area, more output can be extracted from the new area planted in 2006. This additional force will grow steadily each year from 2011-2014 thank to the new 430 ha per year replacing the old trees and the total exploited area will be 1,716.6 ha. This area will give a yield of 2-2.5 tons per hectare rather than 1.5 ton per hectare of the aged trees. Although PHR and DPR have implemented plans to expand their rubber forests, but they will have to wait until 2015 for production to hike.



**Business performance in 2010:** Accompanying the success of the global rubber in general and Vietnam rubber industry in particular, the five natural rubber firms achieved considerable success in 2010.

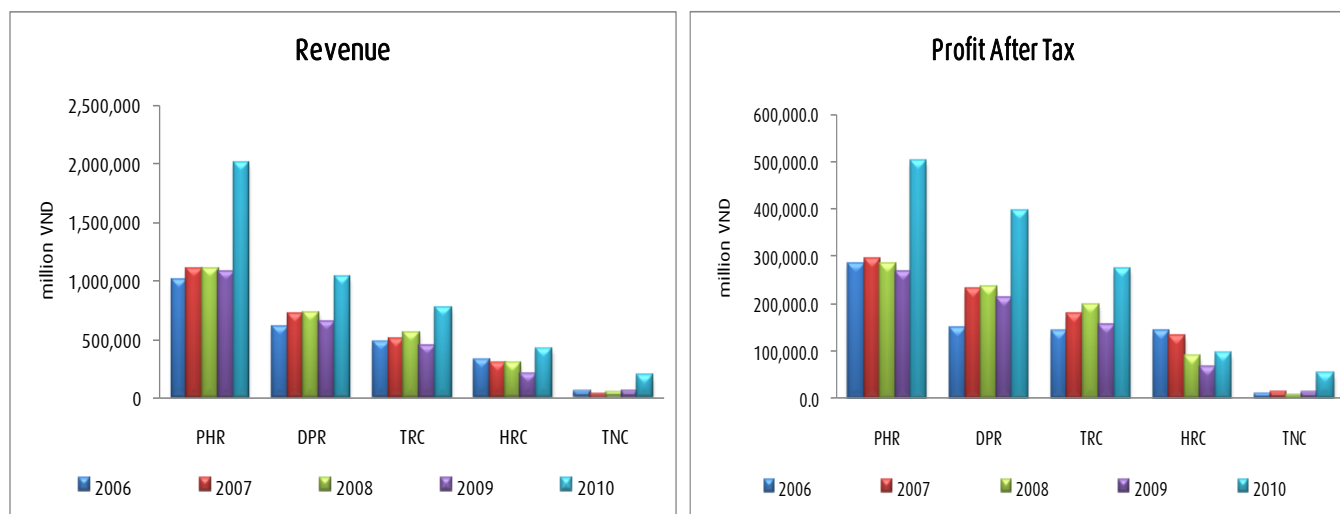


Figure 11-12: Revenue and profit after tax of five natural rubber companies from 2006 to 2010, Source: StoxPlus

In 2010, the five listed companies obtained strong growth in both turnover and profit after tax. Leading growths in profit after tax belong to PHR and TRC at 87.97% and 87.45%, then TNC and TRC with 75.39% and 68.17%, respectively. Thank to the significant rise of global rubber prices and the adjustment of exchange rate in 2010, the five achieved notable successes. However, because of large proportion of aged trees, profit after tax of HRC couldn't reach the records of 2006 and 2007 again.

**Gross profit margin (gross profit / revenue),** Gross profit margin (Gross profit/revenue): Gross profit margins differed greatly between these five companies. TNC's rate fluctuate elastically, after falling sharply in 2008 (-7.58%), it then hiked in 2009 and 2010. DPR rate was relatively stable and also boosted notably in 2009-2010. The three PHR, TRC, and HRC witnessed their gross profit margins declining from 2006 to 2009 and started to improve again when the global industry met various favorable conditions in 2010.

In terms of latex production, PHR with 21,600 tons in 2010 was the only companies exceeding the 20,000 ton level. DPR and TRC maintained the output levels of over 10,000 tons in 2010 (16,000 tons and 12,000 tons correspondingly). HRC and TNC's production volumes were under 5,000 ton level with 3,835 tons and 1,609 tons latex in 2010.

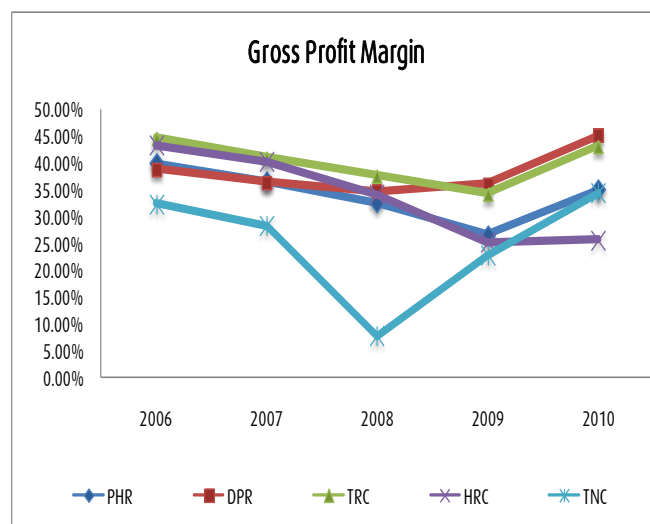


Figure 13: Gross profit margin of 5 listed natural rubber companies in 2006 – 2010, Source: Stoxplus

In 2010, ROE of DPR was the highest with 37.7%, then PHR and TRC followed with 37.4%, and finally HRC and TNX had ROE of 24.4% and 20.1% respectively. In terms of ROA, TRC continue to take the top spot with 29%, followed by DPR with 27%, PHR with 22.5%, while HRC and TNC rates were 20.3% and 18% correspondingly.

PHR uses more debt than other companies and than industry's average. The debt ratio of PHR was 43.67%, many times more than debt ratios of the other four companies. By the end of 2010, TNC had the lowest debt ratio of 11.68%. The other three PHR, DPR, and TRC had a lot more debt their other two peers. The cost of expansion, investments in subsidiaries and others such as securities, real estate, banking, etc were parts of the reasons for high debt ratios in these companies. On the other hand, because export is the main business activity (60-70% of consumption), natural rubber firms also experienced exchange rate risk, especially companies with significantly high debt ratio like PHR.

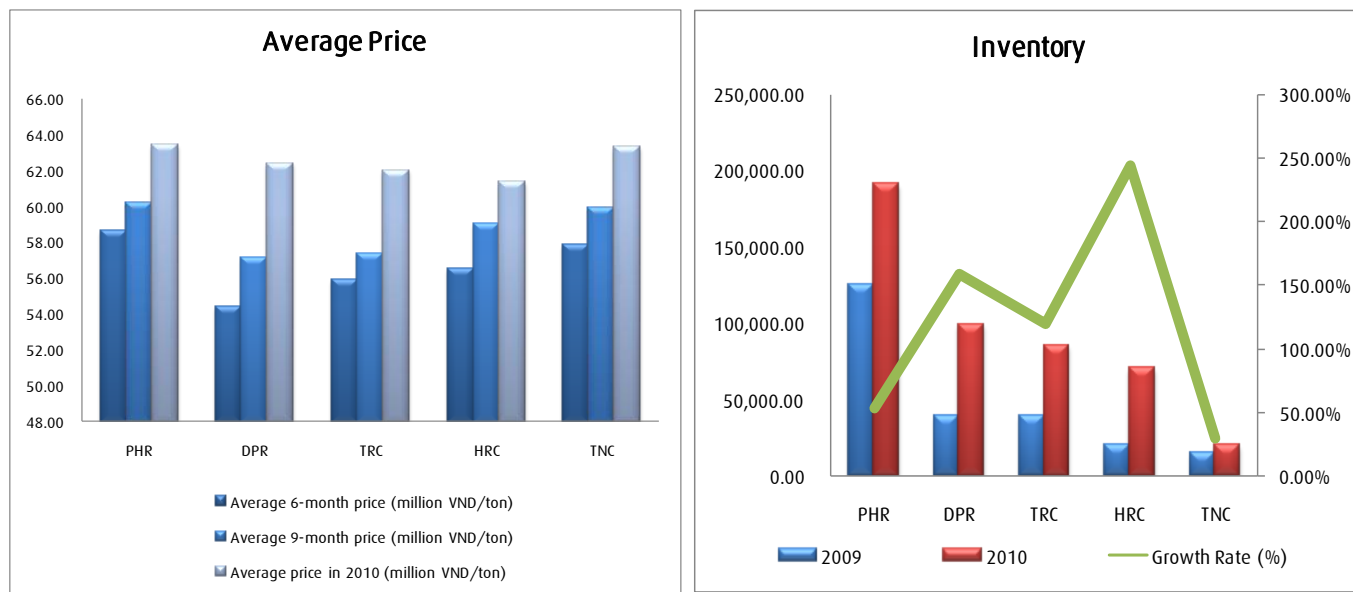


Figure 14-15: Average prices in 2010 and inventory of five company in 2009 & 2010, Source: StoxPlus, CafeF

By the end of 2010, inventories of HRC and DPR jumped 243.76% and 158.62% compared to 2009. This is a considerable gain for these firms in the first quarter of 2011 which is the dry season and usually production depends largely on inventory then. In the meantime, growth of PHR and TNC's inventories was 53.82% and 29.98% respectively. TRC with inventory rose by 120.22% also had an advantage in the early period of 2011.

TABLE 05: FISCAL YEAR 2010 RESULTS

\* Source: StoxPlus

	PHR	DPR	TRC	HRC	TNC
<b>Business Statement</b>					
Exploit area (ha)	12,200	7,245	5,600	3,380	1,338
Production (tons)	21,600	16,000	12,000	3,835	1,609
Productivity (ton/ha)	1.77	2.21	2.14	1.13	1.20
Average 6-month price(million VND/ton)	58.60	54.40	55.90	56.50	57.80
Average 9-month price(million VND/ton)	60.20	57.10	57.40	59.00	59.91
Average price in 2010(million VND/ton)	63.47	62.43	62.00	61.38	63.31
<b>Financial Statement</b>					
Net Revenue (million VND)	2,001,939.40	1,028,420.70	757,981.60	411,801.20	181,155.60
Revenue Growth (%)	87.50%	58.60%	72.10%	103.30%	5.60%
Profit After Tax (million VND)	502,697.60	395,065.70	274,606.30	95,187.90	51,869.90
PAT Growth (%)	87.97%	87.45%	68.17%	45.17%	75.39%
Net Profit Margin (%)	25.11%	38.41%	36.23%	23.12%	28.63%
ROE	37.40%	37.70%	37.40%	24.40%	20.10%
ROA	22.50%	27.00%	29.00%	20.30%	18.00%
EPS 2010	5,433	9,384	8,908	5,534	2,695
Book Value	15,283	28,560	27,012	23,778	14,149
<b>Asset Structure</b>					
Debt Tatio	43.67%	21.11%	27.25%	18.26%	11.68%
Long-Term Investments/Total Assets	21.71%	19.51%	13.11%	52.10%	8.69%
<b>Market Ratio</b>					
P/E 2010	6.80x	7.00x	7.10x	11.20x	5.60x
P/E forward	8.66x	8.60x	9.24x	19.24x	N/A
P/B	2.40x	2.30x	2.40x	2.60x	1.10x

## INVESTMENT AND EXPLOITATION ACTIVITIES IN 2011

	2010	2011E	% change
PHR	21,600	20,000	-7.41%
DPR	16,000	14,300	-10.63%
TRC	12,000	11,103	-7.48%
HRC	3,835	3,086	-19.53%
TNC	1,609	1,583	-1.62%

*Table 04: Latex production of five companies in 2010 and 2011E, source: SMEs research.*

In the exploitation plan of 2011, all five companies have plan to reduce latex production. HRC is expected to drop 19.53% in volume compared to 2010 while TNC has the lowest decline rate of 1.62%. DPR also plans to slash its latex production in double digits. DPR's production is forecasted to be 14,300 tons, 10.63% less than 2010. PHR and TRC plan to cut approximately 7.41% and 7.48% respectively.

**PHR**, Board of Directors have agreed that the exploited area will be 10,327 ha in 2011 with 20,000 tons of latex being harvest at yield of 1.94 ton/ha. 6,000 tons will be purchased additionally so total consumption will add up to 26,000 tons. PHR also plan to invest 30% of its capital to set up Doan Ket Rubber Joint stock company which will operate in Kratie province of Cambodia with VND 270 billion capital and total project area of 5,000 ha.

**DPR**, in 2011, DPR's area of exploitable rubber is estimated to go down 4.76% to 6,900 ha because DPR has to return the lands to local authorities. DPR aims to exploit 14,300 tons of rubber latex which is lower than 16,000 tons in 2010.

**HRC**, the total planted area of HRC is 5,100 ha and cannot be expanded anymore. HRC's plan is to re-cultivate and plant 3,380 ha of rubber from 2010-2016 (483 ha more each year). In 2011, the company is going to liquidate 500 ha of old trees so latex output is estimated to be 3,086 tons, decreased by 19.35% compared with 2010. The yield is not high as HRC is at the end of the liquidation period. Therefore, the firm will cultivate new types of rubber trees with higher yield, this is also under the guidance of the Rubber Research Institution of Vietnam.

**TRC**, in 2010, TRC's exploitable area was more than 5,552 ha. In 2011, the company plans to re-planting 265 ha with estimated yield of 1.2 - 2.2 tons/ha/year. Also, during the year, TRC and its subsidiaries include Viet Laos and Dau Tieng Lao Cai rubber aim to enhance exploiting activities in 2011. Accordingly, Viet Laos will be harvesting 4,000 ha/10,000 ha in April/2011 while Dau Tieng Rubber begins to cultivate 10,000 ha in Lao Cai. In addition, TRC will add 15,000 ha in Nghe An to its existing area as well as participate in Phu Tho project with up to 10,000 ha more.

**TNC**, in 2011, TNC's objective is to collect 1,583 tons of latex from 1,327 ha of exploitable area. The company will also liquidate 124.92 ha of aged trees and re-cultivate in 2011.

## TECHNICAL ANALYSIS OF NATURAL RUBBER INDUSTRY

The natural rubber group outperformed VN-Index in 2010. This industry's trend was fluctuating and upward in 2010.

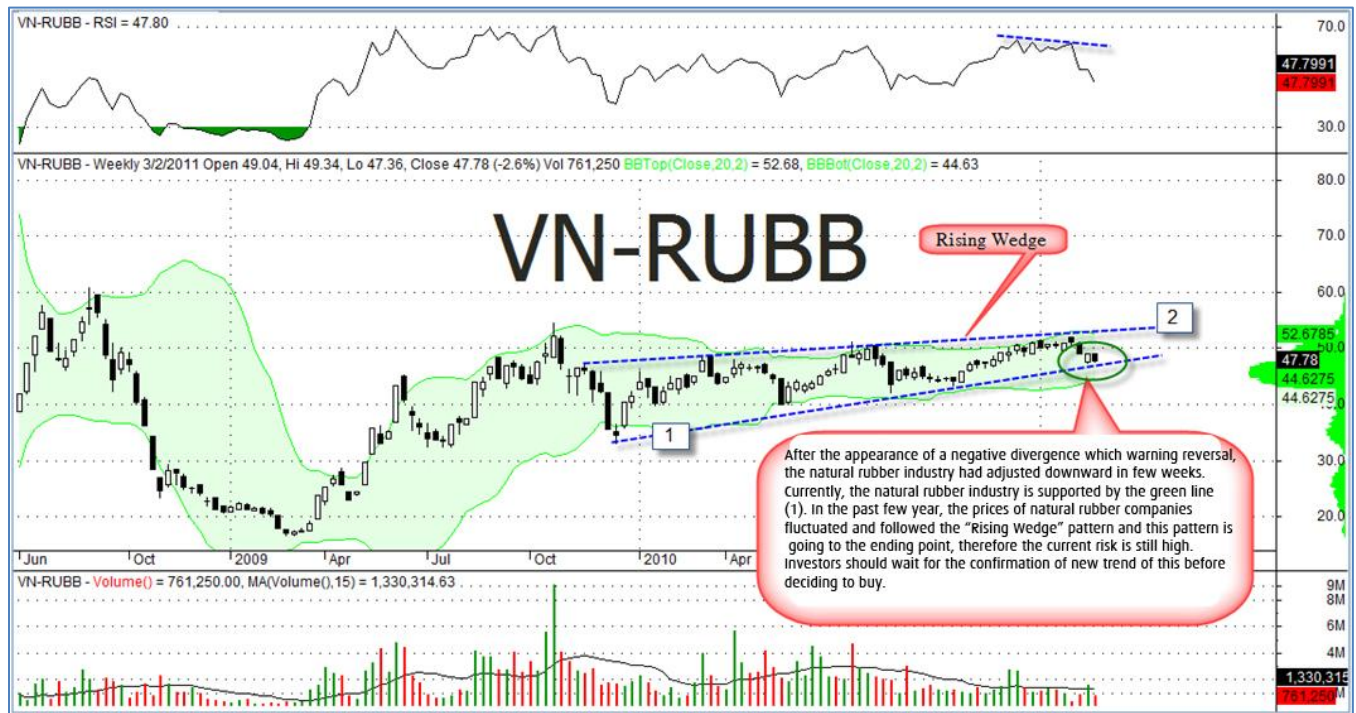


Figure 16: Natural rubber industry weekly chart, Source: SMEs research.

After the appearance of a negative divergence which warns a reversal, the natural rubber industry adjusted for lower in a few weeks. At the moment, the group is supported by the green line (1). During the past few years, share prices of natural rubber firms fluctuated and followed the "Rising Wedge" pattern. This pattern is going to meet the end point so the current risk is very high. Investors should wait for confirmation of new trend before deciding to buy.

## INVESTMENT RECOMMENDATIONS:

- Natural rubber stocks in general are not suitable for short term investments due to its low liquidity and weaker resilience than the market.
- Growth rate of this group was mainly from “mechanical factor” (price) rather than “organic” (area and production) as planted area is decreasing and aged trees are gradually being replaced and cannot be exploited. Therefore, these natural rubber firms tend to use the existing land for other purposes like industrial zones, real estate, etc. Natural rubber price fluctuated sharply depending on global economy and oil prices in recent years and affected the stability of firms’ revenue and profit. As natural rubber is highly cycled, the firms often benefit most when the world economy is overheating. However, in positive economic conditions and financial markets, natural rubber stocks are not as attractive as other sectors like real estate, finance, and banking.
- To sum up, natural rubber stocks are more suitable for medium and long term investors, especially foreign investors looking for value of investments in firms that contribute to the competitive advantages and economic growth of Vietnam. Moreover, in the long run, for P/E of 5x – 6x, the dividend rate of natural rubber stocks is quite noteworthy.
- In 2011, we believe that DPR and HRC will have the highest profit in the 1<sup>st</sup> quarter thanks to their large inventories and rising price. In terms of exploitable area, DPR and TNC are more attractive than others as the narrow rates of output in both companies are lower than the average level in 2011. DPR, especially, is not affected by China’s automobile market declining consumption and can even benefit positively from growth prospects of automobile and tire manufacturing industries in other Asian countries like Korea, Taiwan, and India in 2011.

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