

Rubber Economy Outlook in the 2020S

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With just 2 months to go (at time of writing) to beginning of the next decade, it is timely to look back at state of the rubber economy in the last few years and look forward to what the next few years will likely bring.

There is nothing new in what I am going to say looking back but it is worthwhile to set the stage for what is to come. A number of points are relevant to the current discussion.

Firstly, there was an orgy of new planting during the period of high prices in 2006-2012 that was in excess of demand to 2020 and depending on the rate of future growth of demand this situation of supply overhang will likely go beyond the mid-2020s. As recent as middle of 2003, price of TSR20 was below US 1.00 per kilo. The period of low NR prices before that discouraged planting of new areas of rubber which ultimately led to the tight supply situation beginning from mid-2000s as developing nations grew at a rapid rate. In particular, China led the charge to buy more rubber fuelled by rapid growth of infra-structure and urban construction and a new-found appetite for car ownership. Egged on by

speculative trading NR prices reached a historical high of over US 5.50 per kilo. This period of high prices is over as the trade returns to long term trend which is a decrease of 2% in real terms since 1950.

Secondly, traditional producers are divided into low cost producers, i.e. Thailand, Indonesia and Vietnam, that can take the low prices of recent years, and high cost producers like Malaysia and India and to a lesser extent China, that stop production when prices are low. In the opinion of many analysts, these high cost producers act as “marginal producers”, making up the volume when prices spike due to periodic shortage (e.g. during winter of 2016/2017) and thus stabilise prices at this low new level. China, as the dominant consumer of NR (it accounts for approximately one-third of total consumption) has emerged as the new “big brother” in terms of keeper of buffer stock as well as sponsors of newer producers in CLMV countries as well as West Africa, notably Cote d’Ivoire and Sierra Leone, in order to secure supply of NR (China does not have enough land to be self-sufficient) and to keep prices low. Meanwhile, governments of producer countries

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In 1995, he took over the helm of CY Handee , a major producer of rubber bathmats and swim fins and remains as group Managing Director till today.

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like Thailand, Indonesia, Malaysia and Vietnam are taking measures to subsidise income of rubber farmers and restrict supply, which has the effect of subsidising the tyre companies of the West that are making record profits due to low rubber prices.

The capacity to produce, known as NORMAL PRODUCTION, therefore remains high, and short of cutting down rubber to plant another crop – not yet happening though some governments, e.g. Thailand, encourages this – small rubber farmers, who are the majority, are able to regulate supply due to multi-cropping and availability of other forms of income. This supply overhang will keep prices low. David Shaw, a UK tyre consultant, in his November 2018 blog, estimates this will drag on to 2027-2028 because of low growth rate of new consumption of natural rubber in coming years. Other analysts noted there is a production overhang of 15% or so. Thailand, for example, has a normal production of close to 6 million tonnes but actual production is only about 5 million tonnes or an overhang of about 17%.

Third, low prices of NR and relatively higher prices of SR (and also threats of higher oil prices due to Middle East, North Africa and Venezuela situations) are motivating countries to move in different directions in recent years. In India, low price of local rubber caused Indian tappers to slow production leading to higher imports which attracted punitive duties. This encouraged rise of new SR producers (part commercial, part government driven) which reduced percentage of NR use in India from 80% to about 60% in recent years and this ratio will continue to drop. Part of this trend toward higher SR usage in India is due to radialisation of passenger tyre manufacture. It was reported only 44% of tyres are radial tyres compared to above 90% worldwide. Radials are more fuel efficient compared to cross-ply tyres. In China, other forces are at work, including new tyre regulations, labelling of tyre performance characteristics like rolling resistance, wet grip and noise levels and domestic laws like higher load bearing properties and ability to be retreaded multiple times for MCV and HCV tyres. This moved manufacturers to use more NR compared to SR. NR usage ratio has increased from 46% in 2015 to 52% in 2018 though there are some analysts who argued this is indication of ready substitutability of SR with NR due to lower prices. The two different approaches reflect fundamental shifts in product requirements and of country strategy to produce its own raw material rather than rely on imports.

A fourth point to note is the restocking of NR and that a big part of the stocks is held by governments. Stock-

to-use ratio increased from about 15% during the high prices in 2010/11 to above 25% in recent years. China is one of the major holder of NR stocks, much more than producer countries like Thailand, and this may have the effect of stabilising prices in times of a demand spike, so avoiding future price spike crises. This may be China's strategy to neutralise the "cartel-like" behaviour of ITR0 and ANRPC, a perception also raised by Cinalpa of the ETRMA. More of that later.

Another reason why rubber prices in general will stay low in next few years is over-capacity of SR production, especially ESBR, SSBR, even BR because of building of new capacity by China, recently also by India, for various reasons including nationalistic ones. According to Petrovic of the IISRP, SR demand is only 60% of world capacity with new capacity in China still under-utilised. This is because of observed trend that NR and SR prices generally track each other. The writer wishes to underplay the role of substitutability of SR vs. NR, often invoked by non-technical analysts to explain movements of ratio of NR vs SR usage. It is generally agreed by experts that there is little scope of substitution in developed countries of tyre and technical rubber products because these products are usually produced to tight technical specification that offer little scope of rubber formulation change. In developing countries, where there is less control of technical quality, there may be possibility of substitution of NR by SR or vice-versa. For non-technical products, and also in gloves, substitution is possible. Worldwide, substitutability is limited to a few percentage points either way.

Future Trends

So what will change in the new decade?

A major trend is the relentless drift of major producer countries towards high GDP and wages. History teaches the example of Malaysia, the one-time number one producer of NR. As income levels grew, Malaysian plantations moved from rubber to less labour-intensive oil palm. The mantle of top producer was taken over by lower cost Thailand and Indonesia. Now Thailand and Indonesia are facing a similar problem and face competition from lower cost countries in ASEAN and West Africa (see text box). These are long term shifts.

A second trend is that of consumer company or country, e.g. the tyre companies, China, etc. investing upstream into rubber production. China in particular has acquired rubber companies in Thailand and Singapore (e.g. Sinochem Group, a Chinese listed company, bought Halcyon, a Singapore-based rubber grower and service

integrator, and Guangken Rubber of Hainan, China took over Thai Hua, a Thai rubber grower, processor and trading company) as well as spearheading investment in rubber growing in Africa and CLMV countries. Rubber companies like Goodyear, Michelin, Bridgestone and Trelleborg, are also doing same. From limited data available, it would appear that new planting by such activities is enough to cater to projected growth in rubber demand. This will have effect of prolonging the surplus supply situation into the late 2020s.

A third trend as I see it, is the ability in recent years of producer countries to adjust production output to balance demand, as seen by recent production vs. consumption data for NR. There are those who questioned the effectiveness of export restriction policy pursued by Thailand and other member countries of the International Tripartite Agreement, arguing that the rubber should be left in the tree. This is what many small rubber farmers had done. In the old days most rubber smallholders planted only rubber and they had no other source of income. They must tap whatever the price. Most rubber farmers now planted other crops and so had other income. Or they can work in neighbouring factories. This allows farmers to tap rubber when price is high and seek employment elsewhere when prices are low. A most effective way of balancing supply and demand.

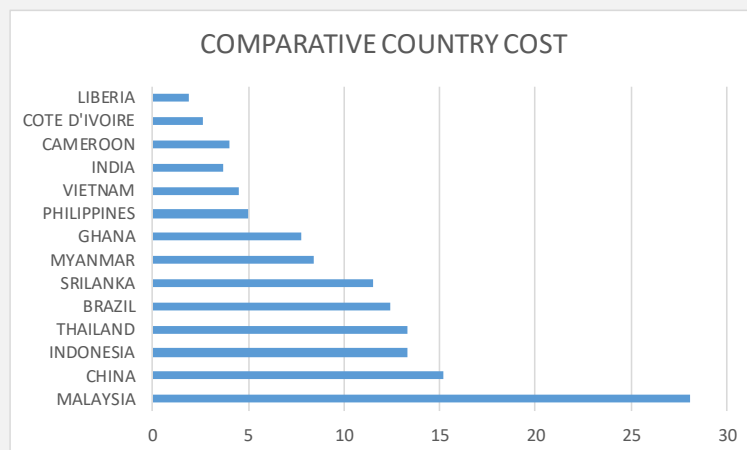
A fourth factor is the role consumer and social responsibility advocate groups play in development of the NR supply chain. A recent video by DW Documentary of Germany, went viral. The video highlighted how foreign rubber tappers were exploited by farm owners. These tappers were paid low wages, in many cases much below the country's mandatory minimum wage. They lived in sub-standard housing. During the non-tapping season, they were left to fend for themselves, sometimes going hungry. Other advocacy groups revealed indiscriminate clearing of jungle and traditional tribal land to plant rubber, often displacing the original inhabitants and causing loss of bio-diversity. The Tire Industry Partnership (TIP) and Sustainable Rubber Initiative (SRI) by the International Rubber Study Group (IRSG) are global forums that emerged as a result. Social and ecological forms of sustainable management of rubber planting are now important issues.

AFRICA GROWS & GROWS

In 2018, according to World Bank data, Cote d'Ivoire overtook Malaysia as the sixth producer of rubber with Malaysia seventh. Jom Jacobs of ANRPC in his June 22 presentation at the MRPMA Rubber Conference projected Cote d'Ivoire will produce close to one million tonnes of rubber by 2022. This may perhaps be an understatement. In October 22, 2018 the Cote d'Ivoire Minister of Agriculture announced output of rubber will reach two million tonnes by 2023 as rubber plantations spread to new parts of the country.

In 2014 West Africa produced about 725,000 tonnes of rubber or close to 6% of world production. It is projected by 2020 total African production will reach 1.5 million tonnes or 10% of world total. The rush to Africa (and other lower cost ASEAN countries like Laos, Cambodia and Myanmar) was prompted as much by increasing costs of production in traditional producer countries like Thailand, Indonesia and Malaysia as these countries developed and their GDP and wages increased, as by the wish to spread the risk of disease which infects rubber from time to time, often with disastrous effects.

Data comparing cost of rubber production for different countries are not generally available. A proxy for this is to use FAO data on area under rubber and production to calculate average yield. Dividing country GDP per capita (or average income if available) by average yield provides a useful indicator of country competitiveness (see chart). Not surprisingly, Malaysia is least competitive, even adjusted for known yield of average active smallholder, confirming popular wisdom. African countries are most competitive and looked good prospects to replace ASEAN as the next rubber power.



What comes first? Pay a fair price so that workers can be paid properly or provide fair wages and living conditions and the price can be negotiated later. Arguments like this are not new. This will be a point of contention between producers and consumers for a long time to come.

Flagging Demand

Worldwide, about 70% of all rubber, NR and SR, are used in the transportation industry, either as tyres or auto vehicle parts. A large part of the demand debate therefore centres around growth of new vehicle market in the next decade. Historically, new car market grows at around 2% worldwide, slower in EU, NAFTA and around 6% in China as its economy slows (previously 12-20%). This gives a 2% growth rate for new OEM tyres.

Growth in the replacement tyre market is proportional to distance travelled x growth in total number of cars. This is traditionally 2-3% but may be 3-4% due to tyre labelling and other new regulations. This change-over cycle should be complete in 2-3 years, leading to “back-to-normal” growth.

The conventional demand growth model is therefore based on little or no growth in developed countries, and quite rapid growth in “new” markets, i.e., the developing countries. Recent developments have raised uncertainty and many possibilities. The optimistic view is the car market will continue to grow but latest trends put doubts to that view. A contrarian view is gaining traction: new car sales will be affected by shared mobility and new model of transport/mobility. An extreme view, shared by, for example, Tony Seba, a Harvard professor, is car market will shrink by as much as 70% by 2030. Is this possible?

Impact of new transport economy

Hiccups in new car sales for 2018 in North America, Europe and China, have created lots of confusion to the simple conventional picture. This trend continues in 2019 with little or no growth in EU and NAFTA and more than 16 months of continuous decline in China. One interpretation is that government-led initiatives to limit growth of car ownership to combat environmental pollution has resulted in change of travel habits. In one poll in China, more than 60% of young adults indicated they had no intention to buy a car. The China transport model of high speed train for inter-city travel, mass transit and electric buses and taxis for inner-city, and walking or bike-sharing for the last mile has interesting ramifications. Rubber consumption for new cars may show no or negative growth and may or may not be filled by increase in replacement tyres, depending on whether total kilometres travelled increase, remain static or reduce. Is growth of non-tyre sector able to compensate?

For specialty rubber consumption, there will be major impact due to demise of ICE in cars. SBR, EPDM, NBR and CR will be impacted, maybe by as much as 50-60% in oil-resistant components and maybe by 50% in engine (heat) related applications. 10% of total rubber is used in auto component applications; as much as 30-50% of this 10% is related to ICE vehicles.

Impact of New Tyre Technology

Major tyre companies target reduced use of material in tyres by as much as 20% in the next 5 years by techniques such as stronger material (tyre cord), thinner

walls, thinner tread, and better abrasion compounds, etc. For some applications, normal pneumatic tyres will be replaced by “airless” tyres that require less rubber, e.g. in off-road, agriculture and some solid tyre applications.

Consider the following: in the 1970s life of a set of tyres was 20,000 KM. Fast forward to 2018, this is now close to 100,000 KM, almost to the extent no replacement tyre will be needed over life time of a vehicle (PCs) but different situation for CVs and heavy vehicles.

Impact of EVs

Two opposite directions.

Conventional or high performance EVs have higher acceleration, torque and are heavier to take extra weight of batteries, and this will lead to extra wear.

Trend towards LSEV and mini-EVs with lower top speed and lower range means less rubber.

Also in NEW MOBILITY MODEL replacing urban car travel with public transport and last mile of travel modes (walking or 2-wheeler, Mobike, etc.) will reduce rubber use.

Autonomous Driving

There is consensus among experts that autonomous vehicles will hit our roads in the coming decade. In combination with ride sharing this will have major impact on car ownership and how the automobile will be used. Experts cannot agree on likely impact and whether this will lead to greater or lesser demand for cars in general and rubber use in particular. Data and poll results indicate car ownership and new car sales will reduce. There are those who argue total kilometres driven will increase even as privately owned cars will be driven less.

Conclusion

In conclusion, it would appear that there is enough interest to continue investment in the planting side, albeit in low-cost non-traditional 6 areas. Whether actual production is adequate to meet expected demand will depend on price being high enough to entice higher cost producers in the traditional 6 countries to continue tapping. This will be helped in some way by what would appear to be a reduced rate of growth in rubber demand as new technologies and disruption in transport/mobility model impact the tyre as well as non-tyre sectors.