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BEHAVIOR OF GLOBAL PULP PRODUCTION AND THE OPPORTUNITIES FOR BRAZIL

Brazil kicked off 2018 at full speed in the pulp and paper production segment. All big companies in the sector are in full consolidation of their strategies: installed capacity has increased in several states regarding the production of virgin pulp as well as paper, paperboard, packaging and other related products.

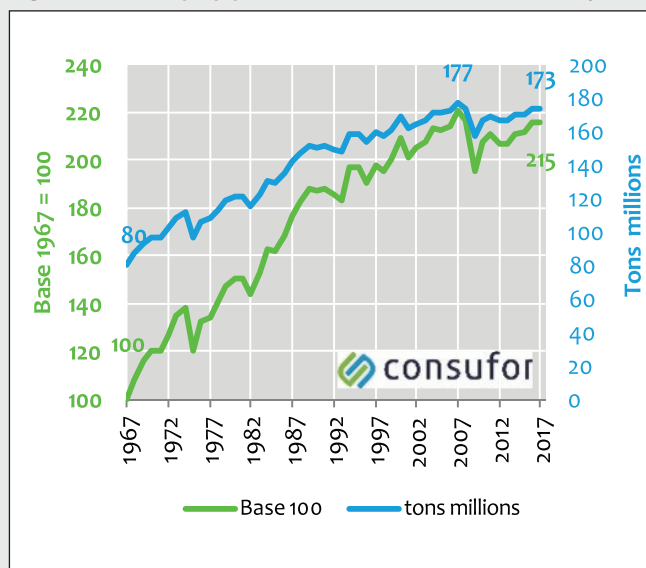
Since investments have occurred both in white fiber and brown fiber, the segment shows the market that there's room to grow industrial production in the country. In addition to the site expansions already executed or underway, the market is experiencing two important strategic consolidations: the merger/incorporation of two big companies in the sector, and the acquisition of another important domestic player by an international production group of oriental capital.

These business movements show that Brazil is a country with expansion opportunities, despite the relevance of its political, institutional and economic crises. And the business outlook goes even further: there has been a significant increase over the last years in tissue and packaging production, both hardwood and softwood... And we're now seeing business movements in the paper and paperboard segments too.

However, the question to be answered is: how much more can Brazil expand pulp production, without affecting its ability to supply wood at economically attractive costs?

The international market demonstrates that global pulp production continues to increase, which shows that Brazil continues being a potential target of new industrial investments. In analyzing the behavior of pulp production worldwide, we see that production increased approximately 115% over the last 50 years: having started at roughly 80 million tons and now totals slightly more than 170 million tons (See Figure 1).

Figure 1. Global pulp production evolution in the last 50 years

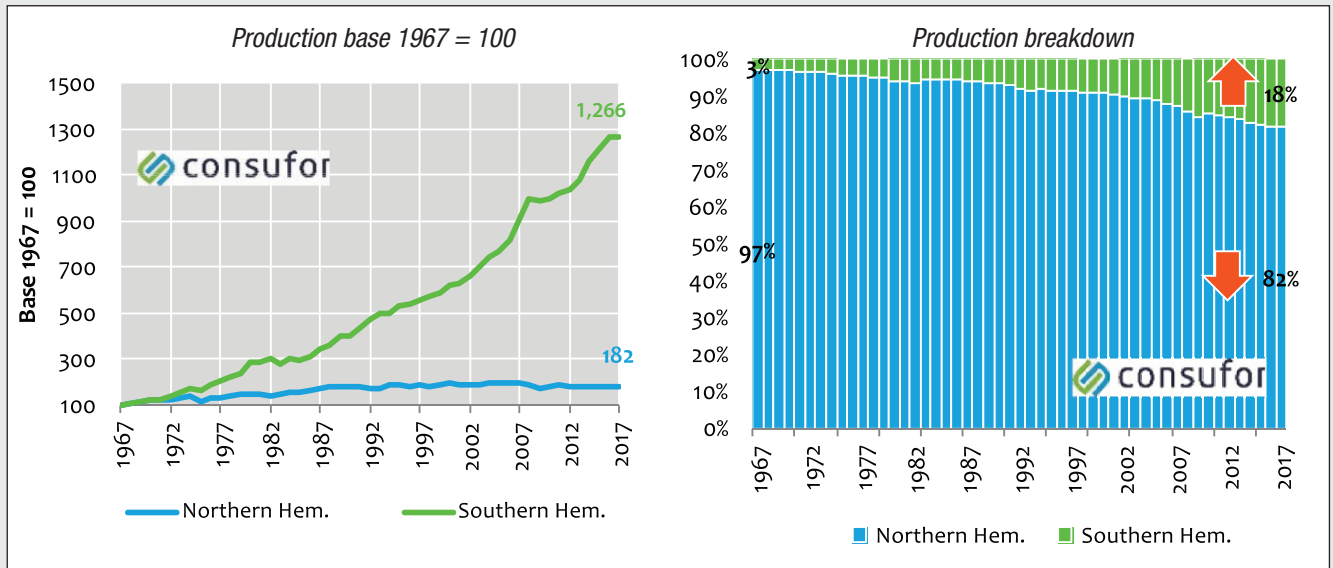


Source: CONSUFOR calculations based on FAO data

However, it's important to point out that the historical production peak occurred 10 years (roughly 177 million tons). Since then, global production has grown at a more conservative rate, without surpassing the historical mark.

Now, in looking at where this global production of pulp occurred, we see in Figure 2 the regional importance of this aspect. Traditionally, the greatest portion of pulp production is concentrated in countries located in the northern hemisphere. In the last 50 years, the share of southern hemisphere countries has grown, but it's not possible to state that there's a strong production migration from the north to the south, as many analysts tend to point out. Production in the northern hemisphere represents today more than 80% of global pulp production, and

Figure 2. Global Pulp Production Evolution, by Geographic Hemisphere



Source: CONSUFOR calculations based on FAO data

new industrial projects continue being made there (both in terms of organic growth as well as expansions).

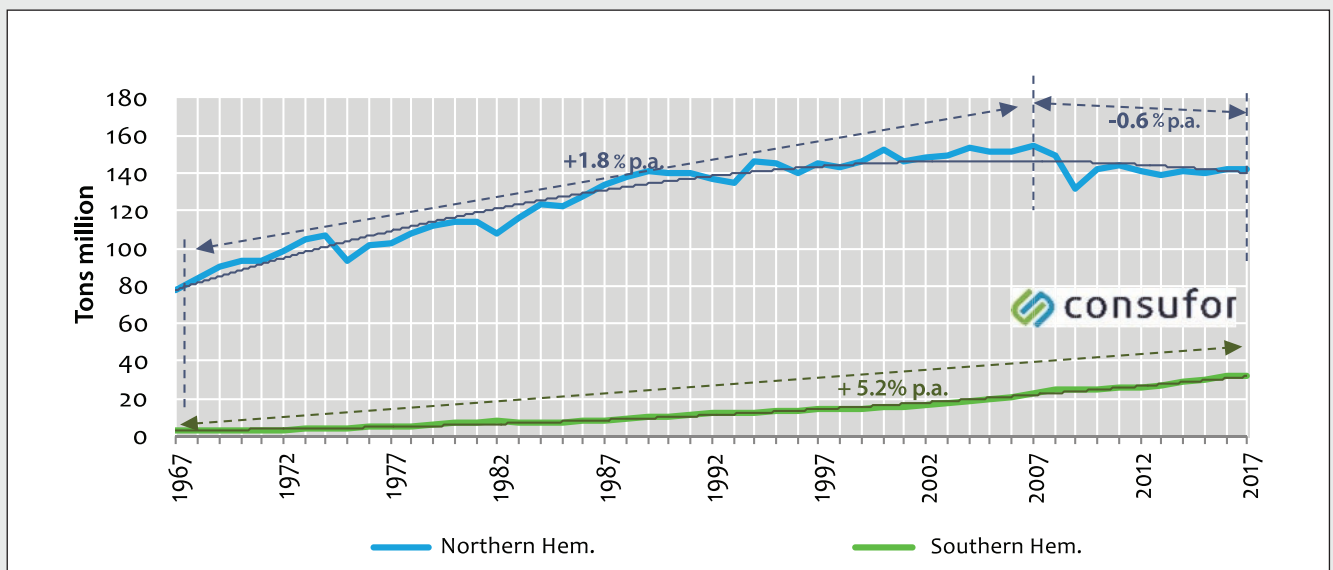
However, the southern hemisphere’s participation has become increasingly more important given the fact that it’s possible to install large-scale industrial projects, supported by a supply of fiber stemming from massive planted forests that are clearly more productive than natural or planted forests in the northern hemisphere, and with relative availability of land for their implementation. As a result, pulp production in the southern hemisphere grew an “incredible” 1,166%

in the last 50 years while the northern hemisphere increased “only” 82%, during this same time.

Figure 3 shows that the growth rate of pulp production in each hemisphere also differed in these 50 years. Growth in the southern hemisphere was more linear, at a sustained rate of roughly 5.2% a year. Positive growth in the northern hemisphere occurred until 2007 (average annual rate of 1.8%), having then turned into an annual production decline of 0.6% per annum on average since then.

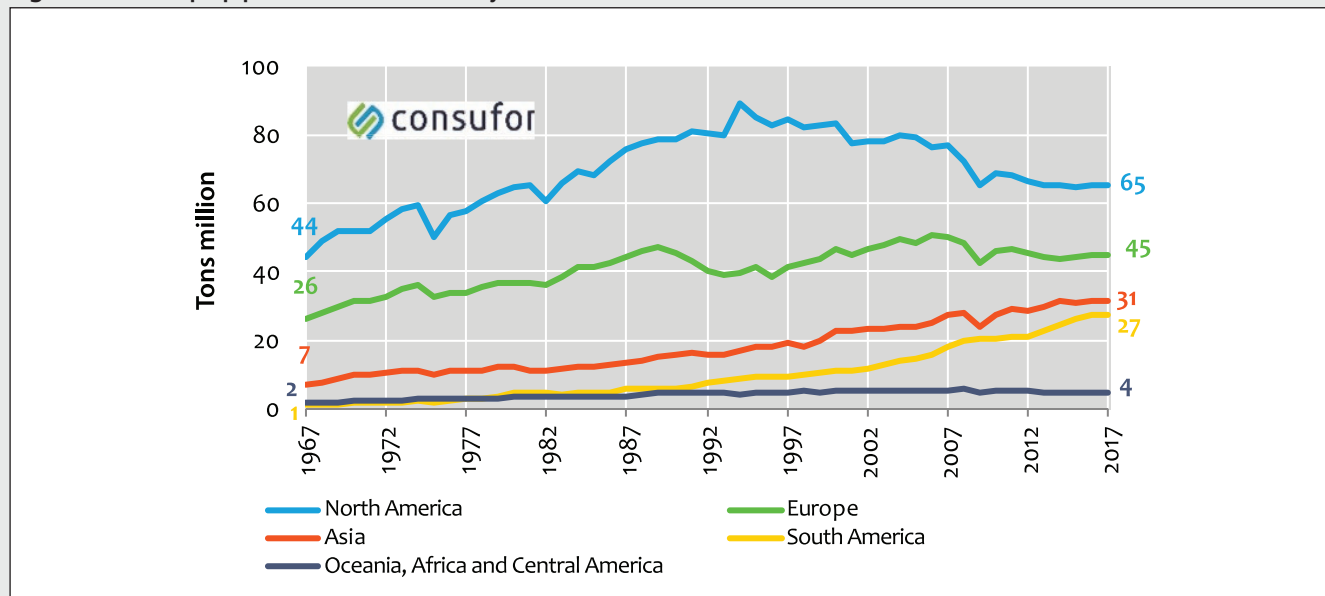
Now, in comparing global pulp production data according to

Figura 3. Global pulp production growth rate, by hemisphere and period



Source: CONSUFOR calculations based on FAO data

Figura 4. Global pulp production evolution, by continent



Source: CONSUFOR calculations based on FAO data

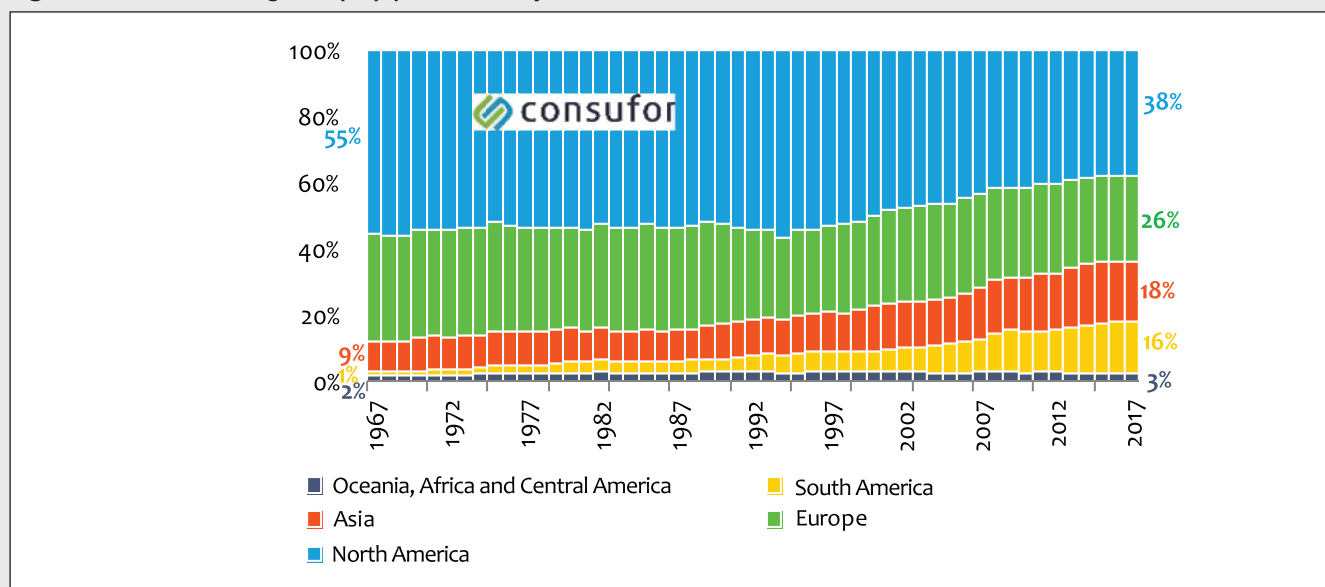
continent (Figure 4), we have a clearer perception of the change in global production behavior as of the mid-1990s. A clear drop in pulp production occurs in North America during this period. In Europe, growth was very small, acting more like a stability trend in production levels as of the 1990s. Pulp production growth was most significant in South America and Asia. The Asian continent has demonstrated regular growth since the mid-1960s.

In terms of each continent's share of global pulp production,

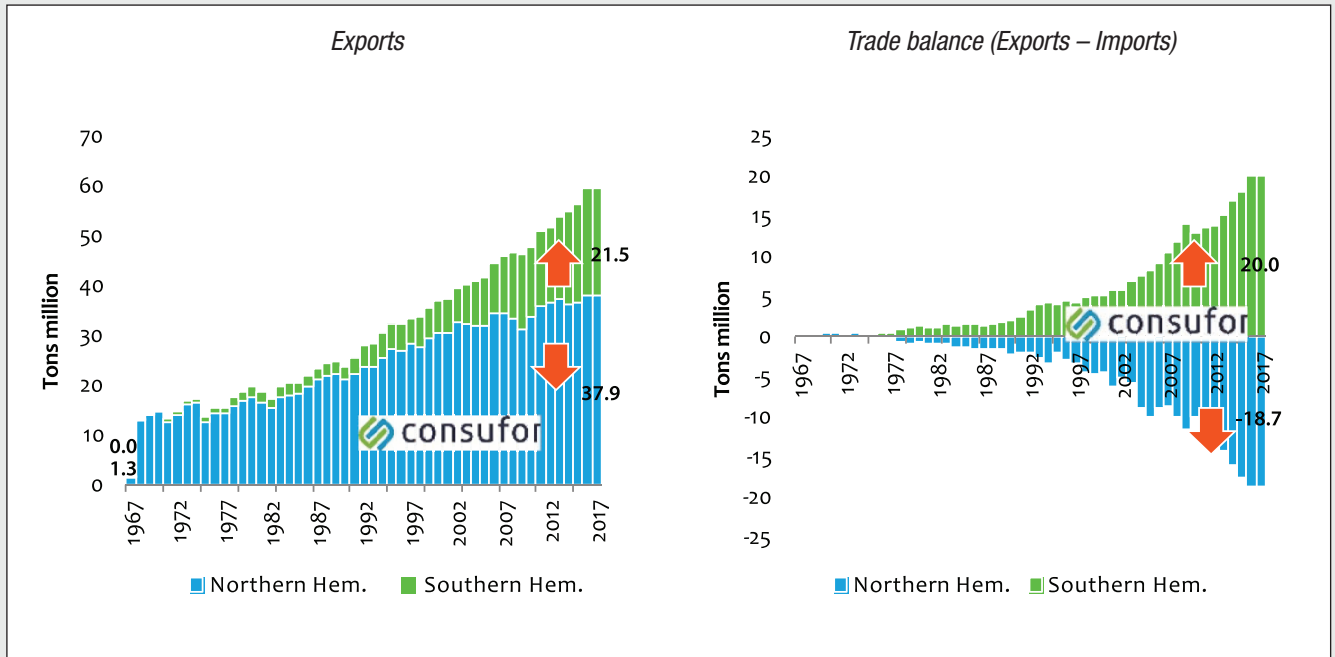
it is possible to see in Figure 5 that North America and Europe account for almost 2/3 of current production. Asia and South America account for just over 30% of global production. However, it's important to point out the drop in North America and Europe's relevance over these 50 years in terms of global pulp production. Once again, it's easy to see that the period of changes in the production profile occurred in the mid-1990s.

Another relevant aspect to consider is the international flow of

Figura 5. Breakdown of global pulp production, by continent



Source: CONSUFOR calculations based on FAO data

Figura 6. Evolution in global pulp trade

Source: CONSUFOR calculations based on FAO data

pulp, together with the production in each location to understand where pulp is ultimately consumed in the world. Figure 6 shows that, in terms of global pulp exports, the northern hemisphere represents almost twice the volume exported by the southern hemisphere. The data shows that both regions have posted an increase in volume exported. However, growth in the southern hemisphere has been much more significant than that posted by northern hemisphere countries.

It's important to point out that countries located in the northern hemisphere are also the biggest importers of pulp. As such, the northern hemisphere is both the region responsible for the biggest volume of global pulp production, as well as the biggest destination of the product's international trade. Figure 6 also shows that in terms of trade balance (export volume - import volume), the southern hemisphere has been registering successive and routine increments of value. This means that the southern hemisphere exports a volume of pulp superior to the corresponding volume

imported. In the opposite direction, the northern hemisphere registers a deficit, since it regularly imports a greater pulp volume than what it exports.

With such facts, it's easy to understand that the northern hemisphere represents the biggest global market for the end consumption of pulp. This being said, let's return to the initial question of this article: **how much more can Brazil expand pulp production, without affecting its ability to supply wood at economically attractive costs?**

The answer to this question is simple: Brazil will continue being attractive for increasing local pulp production as long as the **economic cost** of forests and industrial operations allow companies to deliver pulp to the global consumer market with adequate profitability over ROI. But this is an issue to be discussed in another article. For now, what's important is that Brazil is in the global race to continue growing in the pulp market. ■

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