

IWC NEWS

WHY ASIA'S WOOD DEFICIT IS IMPORTANT TO TIMBERLAND INVESTORS

In recent years, IWC has been stressing the importance of the Asian market to its clients; all the while advising on timberland investments that are largely situated outside the region. This begs the question: Why should the investor care about Asia? This article looks to answer this question with a simple example of supply and demand.

In 2011, Asia¹ consumed 562 million cubic meters of industrial roundwood², with an estimated 338 million cubic meters supplied from domestic forests. This has left a staggering wood deficit of 224 million cubic meters, or 14% of global industrial roundwood production. Figure 1 illustrates the magnitude of regional wood supply from forests, shown as wood production and consumption, with the resulting wood deficit or surplus. Asia is glaring in its wood deficit, while on the other side of the spectrum, we see large wood supply regions producing more than they consume; the majority of this being exported to fill the Asian gap.

Figure 1
Wood production and consumption showing regional deficit or surplus. ForeSTAT, December 2013.

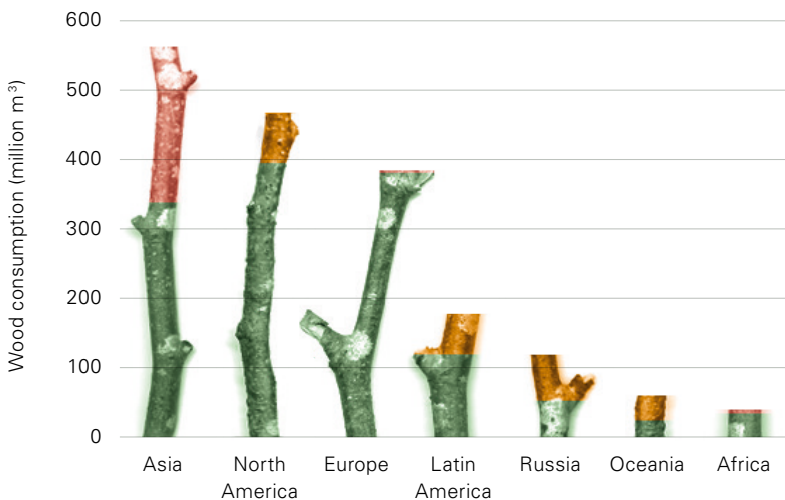


Figure 2 (next page) looks at Asia's wood imports from a global perspective, according to the same regions shown in Figure 1. The share of exports to Asia relative to a region's own forests wood production shows the degree to which they are exposed to Asian end-markets. At 53%, Oceania has by far the largest exposure, but even North America, the largest wood producer in the world, exports a relatively high share of its wood to Asia, particularly pulp and sawnwood. Russia also dominates the sawnwood market, with New Zealand narrowly surpassing Russia in industrial roundwood exports. Other considerable market-share stems from Latin America, primarily supplying hardwood pulp for the Asian paper and tissue industries.

Going forward, we expect Asia's wood deficit to increase or at least remain at current levels over the next 10-15 years. We attribute this to (i) high consumption growth, (ii) limited options for increasing domestic wood supply, and (iii) lack of substitutes for certain imported forest products. Asia's wood consumption has grown at a rapid 6.4% per year over the past 10 years. Even with a more moderate growth forecast of 2.2% per year³, wood consumption will grow 190 million cubic meters by 2025. This is equivalent to nine million hectares of high-yielding forest plantations or 1.4 times the current forest plantation area in Brazil. Plantations in Asia have limited capacity to expand in area. Furthermore, dwindling domestic tropical resources will not support increased harvest levels. Thus, increasing productivity in

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¹ Asia includes countries bordering Africa and Europe, while Russia is excluded.

² Logs used to manufacture sawnwood, pulp, and wood-based panels.

³ This assumes a growth rate ("CAGR") of 3.2, 2.6 and 1.1% for pulp, wood-based panels, and sawnwood respectively. Higher growth rates are expected for pulp and wood-based panel consumption as they are more closely related to household consumption that will take up a larger share of Asia's GDP growth. Sawnwood consumption is more cautiously estimated to follow projected adult population growth.

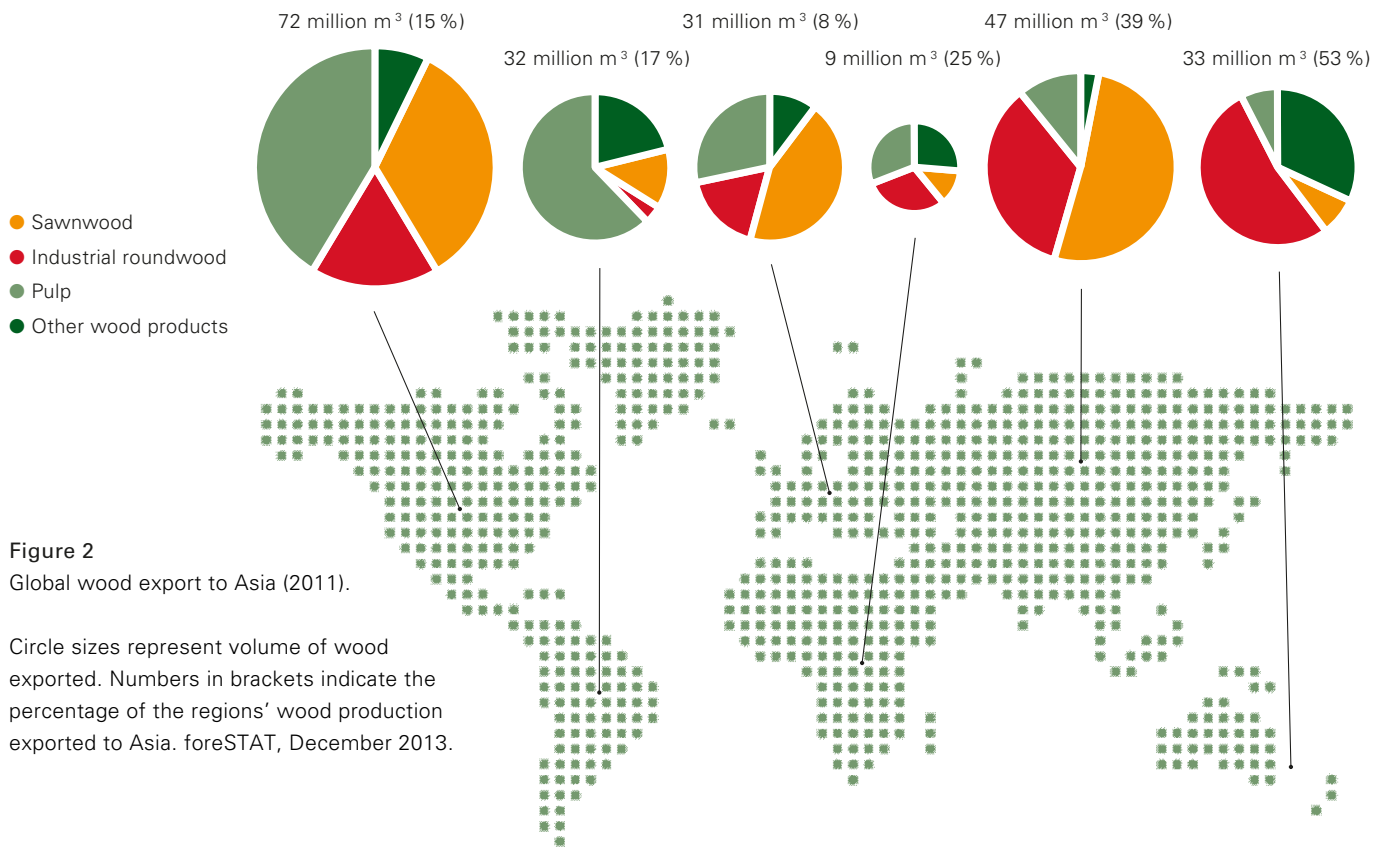


Figure 2
Global wood export to Asia (2011).

Circle sizes represent volume of wood exported. Numbers in brackets indicate the percentage of the regions' wood production exported to Asia. foreSTAT, December 2013.

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existing plantations is perhaps the most viable option; but opportunity for increasing supply in this manner is limited.

Another factor affecting supply is the lag time of 15 to 25 years, where trees need sufficient time to grow and create the timber characteristics needed for sawnwood. Accordingly, traditional markets like Russia, North America, Oceania, Europe, and South America will continue to be important for meeting Asia's sawnwood demand. Any supply constraints and subsequent price increases driven by growth in Asian demand and recovery of US housing starts, should expand wood production in these regions. Europe could scale up sawnwood exports to Asia as their supply base is anticipated to grow⁴ compared to consumption (construction in Europe is projected to be 5% below 2007 levels in 2025⁵). Export from North America will likely decrease if housing starts resume to normality, paving the way for increased exports to Asia from Russia, Oceania, South America, and Europe.

Finally, we will likely see continued reliance of im-

ported pulp from North and Latin America due to (i) high fiber scarcity and wood costs in Asia, (ii) low pulp prices due to anticipated global overcapacity (partly driven by declining pulp demand in mature markets) and (iii) an expanding competitive pulp industry in Latin America.

For timberland investors there are different ways of gaining exposure to attractive end-markets in Asia. First, this can be achieved through timberland investments in other regions exporting wood products to Asia. The advantage of this strategy is that it contemplates the risk of being exposed to several markets and lowers country related risks. Alternatively, timberland investments directly in Asia will in most cases be gained through taking over management of existing plantations. The attractiveness of these investments, apart from being located in proximity to growing end-markets with a shortage of local wood supply, is the potential for improving the underlying management of Asian forest plantations. Ultimately, this can generate a higher return compared to timberland investments in mature markets.

⁴ EFSOS II (2011). The European Forest Sector Outlook Study II.

⁵ Moeller, A. von (2013). Overview of European sawn softwood market in 2013. International Softwood Conference, Scotland 18 October 2013.

A SCIENTIFIC ASSESSMENT OF SUSTAINABLE TROPICAL FOREST MANAGEMENT

Though the world's demand for wood is ever increasing, so is the controversy over meeting this demand from natural tropical forests – so why then would one invest in tropical forests? Many people have the notion that sustainable logging and tropical forests are incompatible entities. However, active forest management has proven to be among the best ways of preserving the forest resource; through alleviating illegal harvest, burned stumps and industrial scale agriculture associated with traditional tropical forest clearing. Responsible forest management can further ensure the forest is appropriately valued; in a monetary sense, but also for its environmental and social resources – something investors in such assets can be proud of contributing to.

Recently, the National Geographic published an article on the unsustainability of the Peruvian forest sector¹. One of the concerns raised by the article is what the forest composition will be once the rotation cycle has ended and the loggers return to the very point where they started. This is the exact underlying research question of the industrial PhD thesis funded by IWC, seeking ultimately to answer: How sustainable is tropical forest management?

The thesis seeks to answer the research question by investigating the impacts that logging has on the remaining forest in a large natural forest concession in the Peruvian Amazon. The study is split in three different parts.

The first part of the study investigates the difference between natural gaps in the canopy cover and the gaps created by logging, in order to quantify if logging activities have a detrimental impact on the forest compared to natural disturbances. To determine the long term economic sustainability of the operation, this phase also determines how many of the extracted timber species are naturally regenerating.

The second objective is to quantify other direct impacts that the forest operation has on the ecosystem. The study investigates how and at what rate the forest recovers from the construction



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of skid trails used for timber extraction, timber landings for log handling and roads for ground transport.

The third part of the study assesses the flowering and fruiting of the timber species, and how large the trees are before they start reproducing. This is important in order to understand the regenerative dynamics of the timber species, and to ensure that the resource extracted from the ecosystem is not overexploited.

So far, the study has shown a negligible difference between the natural canopy gaps and the logging gaps, indicating that harvesting disturbances simulate natural processes. More importantly it was also found that the timber species are regenerating successfully in the logged gaps.

The construction of roads and log landings are significantly disturbing the forest micro-climate. While the impact is locally severe, results indicate that the forest is recovering rapidly from the varying disturbances. Previous studies have found that many of the timber species are regenerating poorly. This study, on the other hand has found that some of these species are benefitting from the increased disturbance by heavy machinery; giving them a head start over competing vegetation. The study has underlined the need to further monitor

PhD student, Rune Juelsborg Karsten, next to one of the giants of the jungle. Spanish Cedar (Cedrela odorata) is heavily exploited throughout the region. In this concession, these trees are not harvested, but conserved and monitored instead.

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QUANTIFYING THE IMPACT OF SUSTAINABLE FOREST MANAGEMENT

In order to comply with the Peruvian forest law and Forest Stewardship Council (FSC) standards, the timber concession being studied has been split into 30 management units of similar size. These management units are roughly 5500 hectares adding up to a total of 160,000 hectares of production forest. The remaining 20,000 hectares are high conservation value forest, and will not be harvested. The harvest is based on the careful selection of single trees representing lesser known species. A harvesting intensity of 12 cubic metres per hectare is removed, with the vast majority of the forest remaining untouched. This leaves the total area affected by the logging operation at roughly 5 % within a yearly management unit.

¹ National Geographic, April 2013

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and assess the impact of log landings in the forests, as these sites are the most impacted and thus are the areas that will take the longest to recover. Enrichment planting of endangered and economically attractive species in these areas was pointed out as a possible solution.

The preliminary results from the third study show that many of the timber species are flowering and producing fruits well before they reach their minimum diameter for harvesting. This indicates that the trees are reproducing many years before they are cut, thus ensuring a new generation of commercial trees for subsequent rotations.

Not only does this study create value for the direct management of tropical production forests, and provide piece of mind to investors that they are contributing to the economic, environmental and social viability of tropical forests, the information is also highly regarded by the scientific community, materializing in the studies being published by important scientific journals².

²The first study: Regeneration in canopy gaps of tierra-firme forest in the Peruvian Amazon: Comparing reduced impact logging and natural, unmanaged forests was published in Forest Ecology and Management, October 2013.

A heavily loaded timber truck heading for the river. The white mark on the logs is a barcode, enabling careful monitoring throughout the supply chain.



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IWC WELCOMES A NEW EMPLOYEE

Henrik Sahlertz joined IWC in August 2013 as a Business Controller for the IWC group and is working in the company's economic and accounting department. Prior to joining IWC, Henrik worked for six years as a Finance Manager for the Danish subsidiary of the multinational company Lionbridge Technologies which is listed on the US stock exchange. He also worked as an Auditor for Ernst & Young for three years. Henrik holds an

MSc in Business Economics and Auditing from the Copenhagen Business School.

"With my background, competences, and experience, I strive to contribute to the further development of the economic and accounting department of IWC. I see IWC as a professional and enthusiastic team dedicated to providing services of the highest quality for the benefit of its clients."



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