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Assessing Implications of International Trade and Global Investments in Timberlands and Manufacturing with Respect to Southern Timber Supplies

John Perez-Garcia and Scott Marshall. 2002

Executive Summary

The study examines where excess wood exists, how much can be imported to the US, and what opportunities exist for US investments overseas. The study begins with an examination of global demand. Data on global consumption of industrial roundwood reveals a structural break in consumption patterns during the early 1990's. Part of this break is the result of the collapse of the former Soviet Union. The shut down of not only its consumption but also its production sectors has had a visible impact on global consumption. Also efforts to produce timber in a sustainable fashion in tropical forests and environmental restrictions on softwood timber harvests significantly constrained timber supply in the 1990's, leading to reduced global consumption of forest products.

Two projections of future consumption are made. Using a growth rate of consumption observed prior to the 1990's results in projected consumption of nearly 3 billion cubic meters by 2050. Using a growth rate of consumption estimated during the 1990's results in a projection of 2 billion cubic meters by 2050. Near-term consumption is projected to increase from 300 million to 800 million cubic meters over the next 20 years.

The study also examines global timber supply projections using the ATLAS timber projection model, and their implication for excess supplies of wood fiber. Excess supplies are defined as the volume over rotation age assuming no growth in current demand. The model produces the biological potential for timber production for plantations established in New Zealand, Australia, Indonesia, Brazil, China, Argentina, Uruguay and Chile. The projections are based on specific assumptions about growth rates, rotation ages and areas planted in 1995. The projections indicate that in the short to medium term (from now to 20 years from now), there may be up to 400 million cubic meters (MMm³) of available wood in the Asian wood basket. These wood resources are close to China and represent 3.5 times the timber consumed in China in 1997. The Asian plantation wood is likely to compete with non-plantation wood particularly from Russia, and to some extent Scandinavia. Over the longer term, it is likely to compete with Chinese plantations as well.

Several countries in Latin America have the potential to develop inventories above rotation age totaling over 500 MMm³. Much of the additional short-term fiber from these plantations may fill European and North American markets, but are likely to come under competition from large non-plantation wood fiber sources in the northern hemisphere, such as Canada and Scandinavia, as well as the US fiber resource in the South.

The study also estimates economic supply for softwood logs using the CGTM. We develop cost curves by ranking the quantity of sawlog supply available at a given price. The cost curves assume no growth in demand over the projection period from 1993 to 2040. An additional 200 MMm³ of sawlogs would be produced with an increase of \$188/mbf (2000US\$ or \$40/m³ in 1980US\$). Finland produces the lowest cost sawlogs followed by New Zealand and then the US South. The three regions provide the bulk of the first 100 MMm³ of addition sawlogs. The interior region of western Canada, sourcing wood fiber from native forests, provides additional wood in the mid- to longer-term. Regions such as the US West provide little or no additional wood supply because they are meeting current demand.

Supplying the least cost manufacturing capacity is modeled in a similar fashion as supplying least cost sawlogs. The European region of Finland, Sweden and the western continental countries provide the majority of the lower cost manufacturing capacity.

The study concludes that while plantation wood may have a biological potential to produce nearly 1 billion cubic meters of wood fiber in the near-term term, there will be competition from wood fiber from non-plantation sources including Scandinavia, Canada and the US. The sourcing of non-plantation wood fibers from these regions appears to remain more competitive with plantation fiber according to simulations with the CGTM.

The 1 billion cubic meters of potential wood fiber is greater than the upper bound of 750 million cubic meters projected for the near-term demand for industrial roundwood. However, the projection of biological supply is sensitive to plantation growth rates and rotation ages used in the study. Timber inventory projections decline significantly with changes in these assumptions. Future work will require better information on area planted, their growth and management intensities defining rotation ages. .

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