Timber Supply Model 96: A Global Timber Supply Model with a Pulpwood Component

Sedjo, Roger A. ; Lyon, Kenneth S.

This study involves an update of our earlier Timber Supply Model, which was fully developed in our book, The Adequacy Of Global Timber Supply by Sedjo and Lyon (1990), published by Resources for the Future. The new version, called Timber Supply Model 1996 (TSM96), uses an economic market supply/demand approach to project an intertemporal time path of the world's price and output level of industrial wood. As did the original TSM, the TSM96 provides projections of the time path of the equilibrium output levels of the several regions into which the world has been subdivided. A major new feature of TSM96 is that industrial wood, treated as homogeneous in the earlier study, has be subdivided into two different wood types -- pulpwood and solidwood. The supply of these two commodities is not independent. Rather they can be viewed as joint products in production. The study develops a base-case projection, which gives the authors' best judgment of the timber situation likely to develop over the next few decades. Over that period total industrial wood production increases from about 1.7 billion cubic meters to 2.3 billion cubic meters, an increase of about 35 percent, while global pulpwood production increases from about 700 million cubic meters in 1995 to about 1.325 billion in 2045. Pulpwood price shows a fairly substantial increase throughout the first one-third of the period, a more modest increase over the second third, and a slight decline during the last third. Solidwood prices are almost the inverse of pulpwood, declining over the first third of the decade, increasing slightly over the next third and increasing in the last third of the decade. Over the whole of the 50-year period overall price increases are 30 percent for pulpwood and only about 8 percent for solidwood.

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Timber volumes supplied by the National Forest have increased in recent years. In 2013, valued at about $162 million, National Forest harvest totaled 2.4 billion board feet (bf), making up less than 18.0% of total U.S. timber harvest, down more than 82% from the peak in 1991. iv. In 2013, nearly 96% of all softwood lumber and 34% of all hardwood lumber imported to the United States were from Canada. The percentage of softwood lumber from non-Canadian sources has generally been increasing in recent years (since 2005). Hardwood. Since 2004, however, pulpwood produc-tion has entered a period of volatility with an up and down production trend that continued into 2013. Softwood round-wood and chip production in 2013 was 63.2 million cords, down 1.6% from 2012 (Table 24). Timber Supply Model 96: A Global Timber Supply Model with a Pulpwood Component. Article. Full-text available. I use field estimates of seed dispersal with an integrodifference equation and simulation models of population growth to show that dispersal data are compatible with rapid spread. Dispersal estimates lay to rest the possibility that rapid spread occurred by diffusion. The integrodifference model predicts that, if the seed shadow has a long 'fat' tail, then rapid spread is possible, despite short average dispersal distances. It further predicts that velocity is more sensitive to life history than is classical diffusion. Application of such models is frustrated because the tail of the