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Discrepancies in Forest Products Trade Statistics

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Executive Summary

This report describes the extent to which discrepancies in trade statistics occur within the forest products sector and identify those areas where unusually large trade statistics discrepancies appear to exist. It also identifies those factors that contribute to discrepancies in the trade statistics and makes recommendations to help trade analysts evaluate and develop a better understanding of the factors that contribute to trade statistics discrepancies.

The literature recognizes a large number of factors that can contribute to discrepancies in trade statistics between two countries, many of which have been discussed in this section. However, there is no research available that describes the relative importance of specific factors in impacting discrepancies in the trade statistics. From the review of the literature it would seem likely that this shortcoming is due to the fact that the mix of factors that influence the unique trade relationship between any two countries tends to be unique to that trading relationship and that this mix of factors differs substantially from other combinations of trading partners. In response to this weakness of the literature, we have provided a relative ranking of trade factors that impact discrepancies in the trade data by assigning each trade factor to one of three groups of factors: (a) primary normal factors, (b) secondary normal factors, and (c) abnormal factors. This ranking of factors was based on the review of the literature and was done for the sole purpose of providing the trade analysts involved in the in-depth country studies that follow this study with guidance in identifying and evaluating the relative impact of specific trade factors on discrepancies in trade statistics.

The analysis of the trade data demonstrates several fundamental characteristics of the trade statistics for forest products. First, the average discrepancy in the trade statistics is greater than zero and the discrepancy ratio becomes smaller as the degree of processing increases (the difference in discrepancy ratio was significant between logs and lumber and logs and plywood but not between lumber and plywood). Second, the majority of the discrepancy ratios observed for logs, lumber and plywood tended to be positive and concentrated above the mean discrepancy ratio, indicating that in most cases the magnitude of the reported imports exceeded that of the reported exports. Third, the statistical analysis found that, while there was a significant difference between the size of the trade statistics discrepancy ratios between developed and less-developed countries across all three products combined, further analysis determined that, on a specific product basis, this difference was only significant in the case of lumber. Finally, the trade statistics were statistically analyzed to establish a "normal" range of trade statistics discrepancies that might serve as a guide for trade analysts looking to identify unusual discrepancies that might require further investigation.

This research clearly shows that discrepancies within the trade statistics are to be expected and anticipated within limits. However, the analysis of the trade data and the bi-lateral trade statistics discrepancy ratios suggests that there are substantial discrepancies in the trade statistics for logs, lumber, and plywood. While there are a variety of reason why we would expect that reported exports would not equal reported imports, the magnitude of many of the bi-lateral trade statistics discrepancy ratios observed appear to defy conventional explanations. Clearly a more in-depth analysis of these problematic trade flows should to be conducted to determine their causes and, in the process, begin to develop recommendations to reduce these trade statistics discrepancies in the future. Finally, despite the difficulties associate with reconciling trade volumes (based on differences in the types of measurement systems used in different countries and the lack of timely data), we strongly recommend that any trade statistics discrepancy analysis consider both the value of trade and volume of trade.

Finally, this report provides a list of trade factors that could be used to guide an analysis of trade statistics discrepancies (refer to the following table). These trade factors have been broken down into: (a) primary normal factors, (b) secondary normal factors, and (c) abnormal factors based on the review of the relevant trade literature. It is recommended that an analysis of trade statistics discrepancies begin by considering the ability of the primary normal factors to explain the discrepancies in the trade statistics, and if necessary, the analysis would then consider the role of secondary normal factors followed by the role of the abnormal factors in contributing to the trade statistics discrepancy under consideration. Finally, each individual trade factor listed below is followed by a specific set of recommendations designed to assist the trade analyst in understanding how each factor might impact trade statistics discrepancies.

It should be noted that as a result of this study, the International Tropical Timber Organization has performed a series of country level studies. In each of these studies, trade analysts looked at specific problems associated with forest products trade for their countries and communicated with counterparts in trade partner countries to try and resolve some of the issues raised in this Working Paper. A synthesis report of the 11 national country studies will be presented at the ITTO Council Session to be held in Yokohama Japan in December 2004.

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