CAPITAL SUBSTITUTION AND CHANGE
IN THE PALLET INDUSTRY

Gilbert P. Dempsey 1

ABSTRACT

An assessment was made of selected aspects of the wooden pallet industry's operating structure and performance between 1972 and 1987. Findings verified that, despite higher costs, the U.S. wooden pallet industry is producing more pallets, with less labor and at lower prices. Industry efficiency has increased by 83 percent, with the most significant improvements occurring between 1982 and 1987. The principal reasons for these advancements were the substitution of capital for labor and the employment of a more proficient labor force mix. This article outlines the changes in pallet output and prices received, and examines shifts in the industry's use of capital and labor.

INTRODUCTION

Since its inception during World War II, the United States' pallet industry has evolved from a cottage industry to a major supplier of base structures for materials handling. Its principal output—the wooden pallet—is a low, flat platform used as a base on which to accumulate a number of smaller units of product so that they can be conveyed, stacked, and otherwise physically manipulated by mechanical means.

Pallets, as we currently know them, were "...introduced as a materials handling tool in the 1930's..." (Wallin 1986), but their use was minimal. For example, only 11 million wooden pallets were produced annually in the late 1930's, as compared to 418 million in 1987. The early pallets were produced in-house by end users or by wooden box and container manufacturers as specialty products.

Pallets were not used extensively in materials handling systems for two main reasons. First, the technology to mechanize materials handling was not available until 1937 when the first generation of small, gas-powered forklift trucks was successfully developed (Eichtler 1976). Second, given the state of the economy and the surplus of labor during the 1930's, there was little incentive among the major industries to mechanize their materials handling systems. Consequently, prior to World War II, the principal means of industrial loading, moving, and stacking materials was by hand, coupled with the use of jacks, two and four wheeled platform carts, and various kinds of fixed and moveable hoists.

---

1 Economist, USDA Forest Service, Northeastern Forest Experiment Station, Forestry Sciences Laboratory, Princeton, West Virginia.