

GLOBAL PULP AND PAPER INDUSTRY IN TRANSITION

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Editor's note: The following article is taken from a presentation the author made to the Georgia Tech Pulp & Paper Foundation in February 1998.

IN THE LAST FEW YEARS, THE PACE OF CHANGE HAS increased incredibly, and if we are not riding the wave of change, we are going to find ourselves beneath it and somewhat battered. The global pulp and paper industry now finds itself in transition in order to ride these waves of change.

Globalization has taken place in the 1990s, and the collapse of Communism, along with the spread of capitalism, has had a substantial effect worldwide. It is estimated that there are 3 billion more people in the world who are now free to make their own economic decisions, and this factor is having a significant impact on the global economy. In effect, the economies of countries are now interlocking with technology—and especially communications—making this globalization occur rapidly.

Globalization has basically occurred because of the free flow of goods, capital, and information. We now have not one company competing against another, but regional competitiveness has taken over, largely driven by cost competitiveness. For example, technology advances, which have no respect for national boundaries, are commonly taking place. We have instant communications and international competition for raw materials around the

world. A greater number of multinational companies are making decisions in their boardrooms; these decisions cross country borders and make globalization much more of a factor than it was a few years ago. Globalization has caused some major trade shifts. These global shifts have occurred in markets, resources, economics, environment, technology, and capital, and they are leading to consolidation.

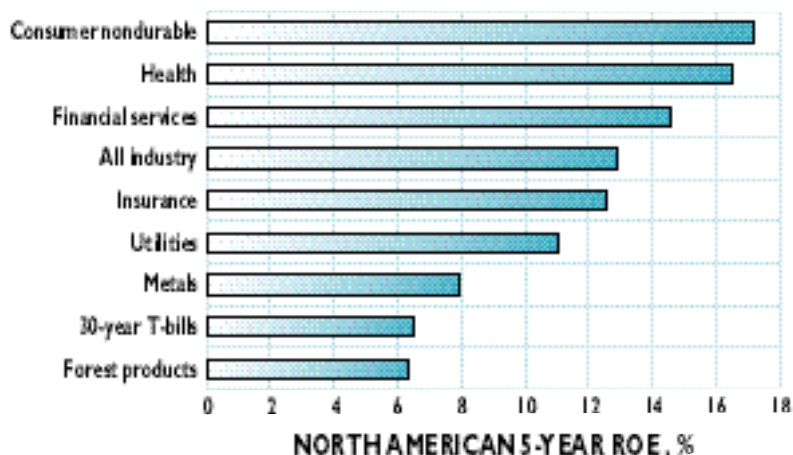
GLOBAL SHIFTS

We have witnessed a shift in the area of our markets from the West to the East. Europe and North America used to be the mainstays for our industry, but now there is explosive growth in Asia. Despite the current Asian Flu, growth is still occurring, although at a slower rate. This Asian crisis is more of a course correction; it will likely result in a better environment for future growth in Asia. Demand for paper products will increase, especially in emerging countries, as borders open further, trade increases, and standards of living and education improve.

The enormous population of Asia is driving demand growth (**Fig. 1**). In the People's Republic of China, per-capita consumption is increasing at 1 kg/year, so with a current population of 1.2 billion, the impact on the future is clear. Average paper and board consumption in North America, Japan, and western



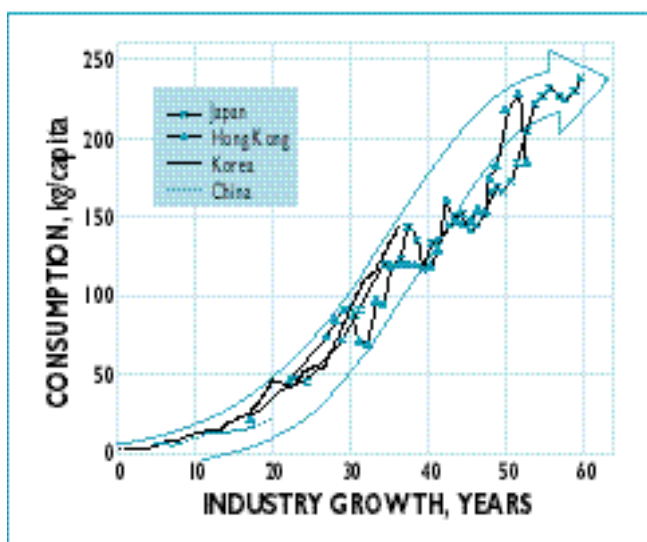
THE NORTH AMERICAN PULP AND PAPER INDUSTRY IS BARELY HOLDING ITS OWN IN TODAY'S GLOBAL MARKET.



1. World population growth

Europe has been growing steadily. However, the growth in Asia has been dynamic, and although the current economic situation has slowed this growth, an upturn is expected soon. In China, I would anticipate that, in the next 30 years, we will see significant growth based on the history of Japan, Hong Kong, and Korea (Fig. 2).

A global shift in resources is also occurring from the North to the South. In earlier times, the pulp and paper industry was served by the forests of the Northern Hemisphere, due to the characteristics of its fiber. However, technology now allows us to utilize fast-growing Southern Hemisphere hardwoods to manufacture end prod-



2. Per-capita consumption growth

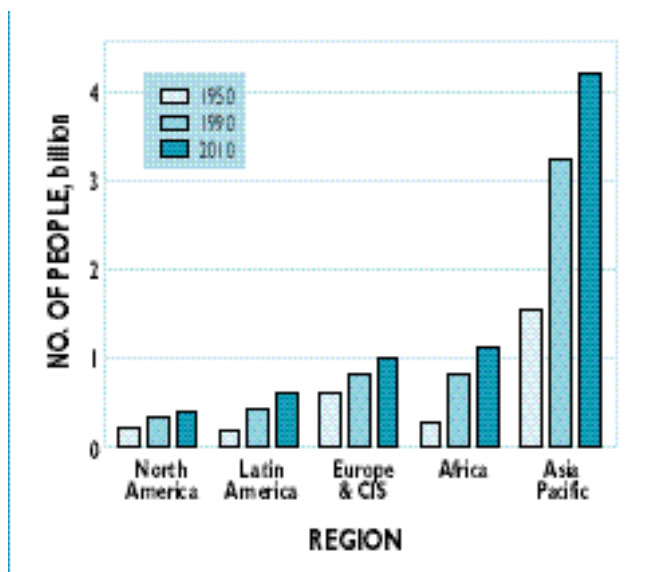
ucts that are quite satisfactory to the marketplace. The mean annual increment of fiber grown in the Northern Hemisphere has been 6-12 m³/ha/year, whereas in the Southern Hemisphere, this value is 15-30 m³/ha/year. In fact in Brazil, much higher figures are being achieved in certain areas. The impact of these fast growing rates, reduced land required, and lower labor costs have resulted in fiber costs that are substantially below those in the Northern Hemisphere; this has had a significant impact on operating costs.

There has been a shift from local to global economics, and globalization has forced competitiveness. Now the global, rather than local,

supply and demand control the marketplace. Transportation technology, for example, allows products to be moved around the world efficiently and cost effectively. Softwood pulp from Chile is the most cost-competitive pulp delivered to North America and Asia. For hardwoods, Latin America, particularly Brazil, can deliver pulp to the North American and Asian markets at lower or equivalent rates to those of Indonesia (as of February 1998 pre-Suharto departure and further Indonesian devaluation).

Another economic shift is that environmental expenditures are now significant. Environmental impact has moved from being minimal to significant, with environmental issues being more widely understood through improved communications. The forest industry is a very visible and prime target for the environmental movement, and operations, construction schedules, capital, and operating costs of facilities have been and will continue to be affected. In fact, some projects have not been launched due to environmental concerns.

We have also seen a large global shift in technology. Development of technology that is both external to and within the industry has had an impact. External developments in computerization, communication, and transportation have all been greatly utilized by our industry. Within the industry, we have used technology to innovate and meet market needs, to utilize new resources, to deal with environmental problems, and to improve our competitiveness. This competitiveness extends to substitute products, such as plastics. However, what is most disturbing is that our research and development expenditures are much lower than other similar capital-intensive industries. For example, the chemical industry devotes approximately 5% of its sales to research and develop-



3. Return on equity (ROE) for various industries. The forest products industry has fared poorly.

ment, whereas the pulp and paper industry spends about 0.6%. This figure is inadequate.

The new mills that are being built in Asia and Latin America use state-of-the-art technology, and technology transfer is borderless. Mills are being built differently, and these facilities are large enough to impact the marketplace. In fact, the fiberline at Riau in Sumatra is scheduled to produce 3000 metric tons/day, and further new Asian capacity is planned when the current Asian situation improves. In those regions, demand for paper and board will still outstrip the supply.

In terms of capital, there has been a global shift as well. The impacts of the global shifts in markets, resources, economics, the environment, and technology have made us allocate capital differently so that capital utilization can remain effective. Capital expenditure trends in North America and Europe focus on the environment, modernization, or value-added products. In South America and the Asia Pacific region, there will be more emphasis on capital expenditures devoted to new capacity. Worldwide capital expenditures for the 5-year period 1996–2001 are forecast to be down 25% or more from the previous 5 years due to delays in Asian expenditures. In North America, the capital expenditures for 1996–1998 will be down from the previous 3 years.

Capital is increasingly being used for industry consolidation, with companies spending less on existing or new mills and dedicating more to mergers and acquisitions. In fact in the last decade, existing assets have been purchased for much less than replacement cost. In pulp mills, for example, replacement costs may be US\$ 1400–1800/metric ton/year, but the acquisition price

could be near US\$ 500/metric ton/year. For integrated paper mills, depending on the grades, the replacement cost could be US\$ 1500–3000/metric ton/year, but a recent acquisition witnessed US\$ 1150/metric ton/year.

INDUSTRY CONSOLIDATION

Consolidation is now occurring in the pulp and paper industry because the industry is quite fragmented compared to other major industries. For example, the top five producers in the automobile industry made 60% of the world's cars; in the steel industry, the top five producers manufactured 50% of the world's steel. In the pulp and paper industry, the concentration ratio has been as low as 15%. It is only now increasing with industry consolidation and more specialization in paper grades, particularly with recent consolidation in newspaper.

Another area of great concern to the industry is its poor return on equity (ROE) (Fig. 3). For example, the 5-year ROE for consumer nondurables and the health industry is 16–18%. Financial services record about 15%, but unfortunately, the forest products industry is down near 6%—even below 30-year T-bill rates.

Other previously mentioned shifts, as well as poor performance and fragmentation, are driving global industry consolidation. This can be seen in companies such as International Paper, Abitibi-Consolidated, and SAPPI. Significant moves will produce global paper companies. Perhaps the recent UPM-Kymmene/APRIL deal is an indication of the type of moves that will occur in the future.

HEALTH REPORT

To conclude, I would like to present a health report on the North American pulp and paper industry, covering the areas that have gone through the shifts previously discussed. In markets, the North American industry is just surviving, but there is long-term potential. In the area of resources, we have been failing because North American companies have not looked offshore early enough and have only recently started this type of investigation. In economics, the industry's poor performance results in a definite failure. In environmental areas, we are just surviving, and the outlook remains difficult. For technology, much more research and development is required. Therefore, as a whole, the North American pulp and paper industry can be considered not "terminal" but rather sick. **TJ**

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