Private Equity Investment in Russia: Alliance Cellulose Limited

In April, 1995, portfolio managers were reassessing the investment climate in Russia. Since the disintegration of Communism and the Soviet Union in 1991, western investors had been intrigued by the potentially huge returns that could be gained by participating in the restructuring of the Russian economy. Russia's transformation to a market system, however, had been highlighted by missteps and disappointments. Foreign investors who had jumped into the market only eight months earlier were burned badly by a general market collapse in October. Furthermore, Russia's political and economic future were uncertain.

Nevertheless, Russia possessed many attractive features that could reward those with the courage to invest at this early stage of market development. Russia's natural resources accounted for significant portions of the world's proven oil and gas, timber, coal, and minerals reserves. In addition, the privatization process, lack of internal capital, and country-specific risk resulted in valuations for Russian companies that seemed to be small fractions of their world peers.

Russia in 1995 was frequently compared to America's "Wild West," when the search for riches and general lawlessness combined to create very volatile conditions. While western money managers were drawn to Russia by tantalizing asset valuations and high market growth potential, they were quite nervous about committing their capital to these ventures, which usually suffered from poor management, no financial controls, shortages of capital, and uncertain legal status.

Given these concerns, a recent private placement memorandum by Alliance Cellulose Limited was attracting the attention of foreign investors. Alliance, a pulp and paper holding company with assets in Russia, benefited from western management as well as ownership. The firm had been assembled by the investment organization New Century Holdings ("NCH") from equity stakes it had acquired in three privatized Russian firms in 1994. A 50% interest in Alliance was purchased, in December, 1994, by Bartels Smith Asset Management ("BSAM"), the asset management subsidiary of Bartels Smith & Co., Inc., a major U.S. investment bank. New Century's and BSAM's involvement seemed to indicate a higher margin of safety for investment in the Russian firm.

Alliance was currently offering a 36.4% stake in the company for $40 million. Western investors needed to weigh this purchase price and the other unique risks of the Russian market against the potential rewards for participating in the new Russian economy during its infancy.

James Gray, MBA '96, Roberto Mignone, MBA '96, and Professor André Perold prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. Much of this case is based on private conversations with George Rohr and the April,1995 Alliance Cellulose Limited Private Placement Memorandum prepared by Creditanstalt International Advisers, Inc.

Country Overview and Recent Developments

The Russian Federation was established in December 1991, following the dissolution of the USSR. Russia was the largest country in the world, covering 6.6 million square miles (1/9 of the world's land area); it spanned two continents and eleven time zones.

Despite its enormous size, Russia ranked only sixth in total population, with 150 million people. The country was composed of more distinct ethnic groups than any other nation. While some of these groups had established their own governmental administration, tensions between the federal government and these autonomous regions had run high. Russia's disastrous campaigns to control Chechnya since the fall of 1994 had resulted in reigniting both separatist passions in disparate ethnic groups and nationalist sentiment among Russia's military and conservative factions.

Russia's natural resources were the envy of the world. The country possessed one-third of the world's proven coal reserves, as well as the world's largest oil and gas reserves. Iron-ore deposits were located throughout the nation, and the country had significant diamond mines, gold, copper, tin, nickel, lead, and zinc deposits. Furthermore, Russia controlled abundant supplies of inputs for chemical manufacturing, such as potassium, magnesium, and phosphate. About one-fifth of the world's forests were located in Russia, and the country was home to the fourth-largest commercial fishing fleet.

Russia's industrial structure belied its communist, central-planning roots. Mining, heavy-machinery, and metalworking were the prime focus of Soviet industry. And, while the technological capabilities of most Russian manufacturers were far below western standards, Russian production of agricultural and heavy equipment, military hardware, shipbuilding, and trucks represented significant portions of world output in these sectors. For example, as of 1990, 60% of the world's agricultural machinery was produced by Russia. See **Exhibit 1** for miscellaneous Russian economic data.

Privatization and Development of the Russian Equity Market

Russia's development of tradable corporate securities began in early 1993, as the Government attempted to give control of major segments of the economy to the private sector. Every Russian citizen was issued a free privatization voucher, which could be sold or exchanged for shares in a state enterprise that would be auctioned for these vouchers. The voucher auction program was concluded in June of 1994. In less than two years, 15,800 firms were transferred to the private sector through the voucher system, creating 40 million new shareholders. Over 70% of the country's GNP now was being produced by private enterprises. Western investors became actively involved in Russian equities as the supply of securities and market liquidity increased.

The Russian government retained residual ownership of approximately 30% in most of the privatized companies, and it continued the privatization program by selling these residual stakes to institutional and strategic investors for cash. The Government also divested its interests in privatized companies through "investment tenders," in which the winners agreed to commit funds and expertise to the companies for modernization programs. In the case of investment tenders, all of the proceeds would be committed to the company. Alliance Cellulose planned to participate in these tenders to develop its stakes in its three portfolio companies.

Current Market and Economic Conditions

Russia's economy had suffered considerably since the end of the Soviet Union, declining by almost 60% in real terms from 1989 to 1995. Nevertheless, signs of economic and political stabilization were beginning to appear. Industrial production, which had declined 21% in 1994, was projected to level off in 1995, and positive year-on-year growth was expected by late 1996. Several major Russian enterprises had already hired western auditors and financial advisors to assist them in tapping the international capital markets; at least ten Russian firms planned to issue American Depository Receipts by mid-1996.

Russia's highly-educated population also suffered from the country's wrenching economic changes. Unemployment doubled over three years to 8%, and the number of people who worked without wages for insolvent state enterprises was significantly higher. Inflation destroyed the real incomes of the workforce, with an annual CPI rate of 307% for 1994. The government, however, had reduced the inflation rate dramatically from 1992's rate of 1,354% through tighter controls of industrial credit and money supply.

Foreign investment in Russia was estimated to have increased 33% to $4 billion, cumulatively, in 1994. Direct investment accounted for the vast majority of foreign investment, with portfolio investment contributing only minimally. Much foreign investment was clustered in the trade and catering, financial, and energy sectors, and predominantly in Moscow. The United States, Germany, and Switzerland accounted for the majority of foreign investment dollars.

In January, 1995, a Securities and Exchange Commission was established to regulate the Russian securities markets, develop infrastructure, and enforce corporate governance. Several major violations of shareholder rights at a few large enterprises were addressed by the government and reversed.

Western Experience in the Russian Securities Market

As previously mentioned, successful completion of the voucher auction program resulted in the issuance of tradable securities for over 15,000 companies. However, because all funds from these asset sales went to the government, rather than the cash-starved firms, Russian enterprises desperately needed external funding for continued operations. As a result, western strategic investors had entered the Russian market by providing much needed capital for corporate investment, modernization, and restructuring programs.

The rise of corporate securities trading in Russia in the summer of 1994, and a corresponding rise in market valuations (**Exhibit 2**), sparked the entrance into the Russian equity market by western financial investors, especially American and European investment and commercial banks. Their securities purchases provided liquidity for earlier Russian investors, including fledging Moscow brokerage firms and banks, to monetize their portfolio gains. The CS First Boston index of 23 Russian blue chip companies (so called "red chips") gained 897% from March to October, but then collapsed by 57% after the crash of the ruble/dollar exchange rate on October 11th, 1994. The foreign investors, who had mostly invested near the market peak, found themselves trapped in their positions as liquidity in these issues became almost non-existent.[1]

Since the 1994 ruble devaluation and market collapse, western financial institutions had been hesitant to invest in Russian corporate securities. The 1995 Mexican peso collapse further destabilized the nascent Russian market, as investors became increasingly sensitive to the volatility and risks of emerging markets. From December, 1994 to April, 1995, the Russian stock index fell by an additional 47%.

New Century Holdings

New Century Holdings was founded by George Rohr and Moris Tabacinic. Rohr was an American entrepreneur who first became interested in the Russian markets in 1991. He began his entrepreneurial career in 1977 by founding a specialty men's boxer shorts company while studying for his MBA at the Harvard Business School. Upon graduation, Rohr went to work for Newsweek, which he left in 1980 to found a medical publishing company, selling that to CBS in 1984. He went on to acquire and sell several other media and publishing ventures prior to his involvement in the Former Soviet Union. Rohr first went to Russia in 1991 in search of a publishing-related opportunity that failed to materialize, but which, nevertheless, led to his becoming an active investor in the region.

[1] Paul Klebnikov, "High Tension Investing," Forbes, Jan. 30, 1995, pp. 96-97.

Between 1993 and the summer of 1995, NCH raised $362 million in six separate funds. By mid-1995, NCH had placed $48 million in direct investments in 21 companies within Russia, the Ukraine, Latvia and Lithuania. On ten of these investments, NCH had already realized gains, with a resulting annual IRR of 323.6%. The remaining $313 million of initial assets of the funds were invested in various publicly-traded securities of Former Soviet Union companies with realized gains of $113 million and unrealized gains of $32 million. NCH's strategy was to establish positions in attractive companies throughout the Former Soviet Union, and to sell the positions to subsequent, more cautious entrants to these emerging markets. For example, NCH sold its stake in St. Petersburg Telekom for 14 times its initial investment of $750,000 during the privatization process, after a holding period of 5 months. George Rohr believed that this transaction (representing 5% of St. Petersburg Telekom's shares) was the first Russian securities trade between two western counterparties.

NCH believed its principal competitive advantage lay in its experienced investment team located in Russia. In the four years since the firm's founding, this team had established an extensive network of Russian brokers and company managers that ensured high-quality deal and information flow. As a result, NCH received information on investment opportunities in remote areas of the country, and participated in many privatization opportunities where there was little competition from other large financial or strategic investors.

NCH invested in companies it deemed to be significantly undervalued in comparison to the underlying worth of their assets or products, measured and compared on the basis of international units of value such as dollars per barrel of proven reserves or dollars per megawatt of power generation capacity. These companies were typically in infrastructure, natural resources, and financial services-based businesses. George Rohr believed that these opportunities existed due to Russia's massive capital shortage, the rapid pace of privatization, and the scarcity of western-style data describing businesses being privatized. Typically, NCH would invest in a company in stages, beginning with a toehold position (usually through the privatization process). Subject to additional due diligence, NCH then would increase its ownership stake through share purchases in the open market, or from company employees, or through direct equity investments. NCH on several occasions successfully established share purchase programs in target companies through which it was able to obtain additional shares from employees at attractive prices.

NCH favored enterprises that had competent management, and it was particularly interested in investment opportunities in which it could combine with management to achieve a majority ownership position with the company. If this were not possible, the firm liked to have a large minority stake in an enterprise run by management that was receptive to foreign investors. NCH usually worked at developing good relationships with management, sometimes lending money to key company employees to enable them to purchase additional shares in their businesses. Most management teams retained day-to-day control over their enterprises, with NCH playing the role of financial advisor when needed.

NCH focused on exit strategies for an investment from the time of its initial purchase. The timing of exits was a function of the firm's outlook for the enterprise, the status of its relationship with company management, or the receipt of an attractive offer from another investor. Investments could be realized through sale of the position to other financial or strategic investors, or potentially through a public offering in western markets.

George Rohr summed up his philosophy: "We buy companies in an environment that is going from worse to bad...the Russian market might eventually prove to be a fifty-story skyscraper, but we're currently in the sub, sub-basement looking to ride up to the ground floor." NCH viewed its portfolio in the aggregate. Some investments would underperform, but given their inexpensive purchase prices and the incredible upside opportunities for other investments, NCH's strategy would provide its investors with good returns. Rohr believed that very few western firms possessed the commitment, or capabilities, to tackle such opportunities at this early stage of Russian market development.

Alliance Cellulose Limited

NCH formed Alliance Cellulose in late 1994 as a holding company for the equity stakes it had acquired in three distinct Russian pulp and paper companies: Segezhabumprom ("Segezha"), Vyborg Pulp and Paper Kombinat ("Vyborg"), and the Sakhalinlesprom wood harvesting, processing, and pulp/paper production complex ("Sakhalinlesprom"). NCH had acquired initial positions in these companies through privatization auctions in the spring of 1994. It was able to perform only minimal due diligence on the Vyborg and Segezha plants before investing; the firm merely verified the product lines and design capacities of the mills. Because of Sakhalinlesprom's distance from Moscow, NCH knew even less about its condition before submitting its voucher auction bid.

After conducting due diligence and meeting with the companies' managements, NCH had increased its stakes in the firms through the extension of working capital facilities, open-market purchases, direct investment in the companies, and on-site share buying programs. In the aggregate, NCH had paid $5 million for 21% of Segezha, 27% of Vyborg, and 10% of Sakhalinlesprom. These stakes made Alliance Cellulose the single largest shareholder in Segezha and Vyborg. Together, the three enterprises accounted for a substantial portion of Russian pulp and paper production. While the world pulp and paper market was currently experiencing shortages and rising prices, Russian paper mills were operating significantly below their design capacities. Given proper management, restructuring, and major cash infusions, Rohr believed that these companies could become dominant players in several niches of the global paper industry.

Alliance Cellulose would serve as the vehicle to manage these holdings and to make follow-on investments. As stated in the private placement memorandum, the firm's strategy was:

> "to accumulate controlling blocks of shares in selected pulp and paper producing companies and to apply new technology, western management and marketing expertise in order to increase the productivity and competitiveness of these operations. Alliance intends to manage actively its portfolio companies by providing working capital, financial controls, product trading capabilities, access to technology and markets and by maintaining international standards of quality, efficiency and environmental safety."

Brief descriptions of Alliance's holdings follow.

Segezha

The Segezha pulp and paper company, founded in 1936, was located approximately 500 miles north of St. Petersburg, and 140 miles from the Finnish border. The firm employed almost six thousand people, and had design capacity to produce several products, including pulp, kraft paper for paper bags, paper bags (1.3 billion tons capacity, equal to 60% of the local market), resin, and linerboard **(Exhibit 5a)**. Segezha reportedly was the world's largest manufacturer of paper bags. Low capacity utilization in recent years had forced the company to increase its focus on the export market. Segezha's low wood and energy costs allowed the company to sell its products at discounts to prevailing western prices. The company planned to increase the percentage of its export unit sales from 10% in 1993 to over 50% of production by 1996.

Segezha's plants were retrofitted with some western equipment from 1965 to 1989; some equipment, however, was inoperable because of poor maintenance and parts shortages. The local management, in consultation with Alliance Cellulose's investors, had recently devised plans for a modernization program involving an initial expenditure of $60 million over three years. The program would increase pulp production by 117,000 tons, and paper bag capacity by 40%. See **Exhibit 10a**.

Segezha was privatized in April of 1994 through the voucher auction process. Management and employees owned 51%; the government owned 20% that would be offered in a future investment tender in exchange for the $60 million needed for modernization. **Exhibit 5a** highlights Segezha management's financial projections for the coming two years.

Vyborg

Vyborg Pulp and Paper, founded in 1959, was located 95 miles from St. Petersburg and 31 miles from the Finnish border. The company completed a $350 million modernization program in 1989, installing advanced Finnish and German manufacturing equipment. Vyborg continued to be the most modern pulp and paper mill in the Former Soviet Union, and was expected to operate at 100% of design capacity by 1995.

Vyborg's fully integrated plant employed 2,500 people, had a design capacity of 62,000 tons of unbleached sulfite pulp and 60,000 tons of wall-paper and wood-free paper. Furthermore, the company could convert 30,000 tons of its paper production into high-end products such as laminated papers, printed wall paper, wrapping paper and consumer product labels **(Exhibit 5b)**. Vyborg was currently the only label manufacturer/printer and one of only three two-ply wall paper manufacturers in Russia. The company had also used some of its excess capacity for contract printing for printed paper producers. Additionally, Vyborg produced 50,000 tons of the by-product lignosulfonate, which was used in petroleum drilling emollients.

Vyborg currently sold half of its pulp production in western Europe, while most of its converted paper production was sold domestically—for cash upfront. Domestic demand for converted paper products had increased strongly, due to higher consumer spending and the rise of mass packaging/labeling of consumer products in Russia. Vyborg had also been successful in exporting its paper products to western European markets, and the company sold all of its lignosulfonate production to a Scandinavian oil services company.

Vyborg's management had identified $36 million in necessary capital investments in order to improve the company's production capabilities and to reduce its reliance upon external suppliers. The largest expenditure (**Exhibit 10b**) would be $11 million on pulp bleaching equipment to eliminate the firm's need to purchase additional bleached pulp for its production process. **Exhibit 5b** highlights Vyborg management's production and financial forecasts for 1995 and 1996; no reliable historical information was available.

Vyborg was privatized in June of 1994. Employees owned 17% of the company while the government's 21% interest was to be sold in an investment tender by the summer of 1995.

Sakhalinlesprom

Sakhalinlesprom, located on disputed Sakhalin Island in Russia's Far East, was founded by the Oji Paper Company of Japan in 1933. The island, which is 62 miles from Japan, contained the closest sources of long-fiber timber raw materials for Asian paper and pulp producers. Sakhalin Island also had several trading ports and a well-developed railway transportation system.

Sakhalinlesprom was a fully-integrated wood processing complex, one of the largest producers of pulp and paper in the Russian Far East, and the only long fiber pulp mill in all of Asia. The mill produced newsprint, linerboard, and cardboard. In addition, the company had exclusive rights for twenty years to harvest an area containing over 300 million cubic meters of timber reserves. Sakhalinlesprom's major operations included: 11 logging enterprises (current annual production of 1.9 million cubic meters); five pulp and paper mills (current annual production of 200,000 tons of sulfite pulp, 70,000 tons of sulfate pulp, and 54,000 tons of paper, mostly newsprint); four saw mills (current annual production of 400,000 cubic meters); and a corrugated carton plant (current annual production of 60 million square meters).

The complex currently operated at 40% of capacity because of working capital deficiencies. Ninety-five percent of the enterprise's production was exported, mostly to Japan, China, Korea, Thailand, and Indonesia. Half of the company's export production was paid for in advance.

Sakhalinlesprom was privatized in March, 1994, and the company's employees and managers owned 56% of the outstanding equity. The government's 15% residual stake in the firm was to be offered in an investment tender during late 1995, and was expected to be sold for a $57 million commitment to modernize the company. No operating data was available for Sakhalinlesprom at the time of the private placement offering.

NCH's involvement with the three companies

After acquiring its stake in Vyborg, NCH devoted a considerable amount of time with the company's management in order to develop a working relationship. It lent money to Vyborg's General Director, whom it considered a bright young manager, to help him buy more of the firm's stock. NCH also lent Vyborg $450,000 in a working capital facility, which was critical for the firm to increase production. These funds also allowed Vyborg to pay fewer of its suppliers through barter arrangements, a system that destroyed operating margins.

Alliance currently owned 27% of the firm, and planned to purchase the government's interest through the tender. However, the government would retain for two years a "golden share" giving it the right of veto over certain corporate decisions such the issuance of new stock, the assumption of significant debt or the disposition of major assets. Alliance had also signed an agreement with a Russian trading firm which had accumulated shares in the voucher auction to purchase an additional 25% stake in Vyborg for $8 million, contingent upon winning the government tender. Upon successful completion of the tender and the additional stock purchase, Alliance would own 73% of Vyborg's outstanding shares.

NCH's relationship with Segezha's General Director was not as comfortable. He was reputed to be the archetypal old-style Soviet manager. NCH opted to seek a neutral relationship with him, while establishing stronger ties with the mill's second tier management. NCH's efforts to increase their equity position through employee share purchases were foiled, however, until a replacement-parts shortage threatened to cripple the mill. The General Director then agreed to allow plant workers to sell their shares to NCH. NCH in turn financed the purchase of the needed parts.

NCH had been only minimally involved with Sakhalinlesprom. The firm had little contact with the enterprise's management, and had not performed the same analyses of modernization requirements as it had at Vyborg and Segezha. However, it had recently retained western industry consultants for advice on operational improvements at the company.

Investment by Bartels Smith Asset Management

At the time of Alliance's founding by NCH, Bartels Smith Asset Management became an equal partner in the holding company. BSAM managed over $50 billion in worldwide assets, with $7 billion in emerging markets investments. The firm had made several other direct investments in the Former Soviet Union, and had targeted the region for additional commitments.

NCH had invited BSAM to take an equity position in the Alliance project in part because Bartels Smith & Co. had considerable experience in the global pulp and paper industry. Its merchant banking division had made investments in several large pulp and paper producers, such as Fort Howard and Jefferson Smurfit. NCH believed that the investment bank's experience and close ties to the industry would be particularly valuable in identifying and structuring exit strategies.

BSAM paid $25 million for its 50% interest in Alliance. It had initially balked at this purchase price being so high in comparison to NCH's low cost basis. However, the Bartels Smith pulp and paper analyst assuaged these concerns, saying, "NCH paid nothing, we're paying next to nothing." Of the $25 million proceeds, $4.8 million was retained by Alliance as working capital, and the remaining $20.2 million was distributed to NCH.

BSAM designees held two seats on Alliance's four-person board, along with George Rohr and one other NCH executive. The board was actively searching for a CEO and other senior executives for Alliance who could provide western management, marketing, and industry expertise to the portfolio companies. Until then, NCH's staff would remain involved in the firm. Day-to-day control of the underlying companies would lie with the management of these firms.

The Pulp and Paper Industry in Russia

The wood processing and pulp and paper industries accounted for 6% of Russia's GDP, employing over 200,000 people. Fifty-two percent of the world's coniferous forests and 36% of the world's softwood forests were located in the Former Soviet Union. Russia's pulp and paper industry produced 800 different products, ranging from high-volume printing paper to low-volume industrial materials. The country possessed over 500 paper and board machines, including many modern, western-quality machines. The country's factories accounted for 6% of total world pulp and paper production capacity.

The global pulp and paper industry was highly cyclical. While paper product demand had increased by 3% annually, pulp and paper companies were characterized by high fixed costs and large capital investment. High capacity utilization, therefore, was necessary to take advantage of significant economies of scale. In the last few years, the global economic upswing resulted in high industry production levels, with world pulp, paper, and board production at 89% of capacity. The industry was expected to grow moderately in the coming years; emerging markets development was expected to increase world paper consumption from 250 million tons to more than 350 million tons by the year 2010.

Although Russia's pulp and paper industry had experienced the same downturn that the rest of the country suffered, the sector had also gained several attractive growth opportunities from the new open economy. The domestic paper market was expected to increase dramatically with the rise in economic development. The industry was also a net exporter of pulp and paper materials and their international market was expected to grow with increased western demand. Furthermore, given the recent explosion in paper prices and global shortage of paper inventories, export margins for Russian producers were currently near all-time highs. Russian paper producers' competitive position versus western manufacturers was substantially improved by low wood and energy costs, the two primary industry cost drivers. For example, wood reserves in Russia sold for 30% of world market prices, and pulp production cost $100 less per ton than in nearby European countries.[2] While Russian production quality was inferior to western output, it was sufficient for successful competition in the export market.

Most of Russia's paper mills had been privatized in the last few years, and had struggled to adapt to global competition and the loss of government subsidies. Although Russian producers used high-quality equipment, the machinery had been poorly maintained. The enterprises' severe capital shortages had resulted in parts shortages that kept equipment off-line. As a result, the Russian pulp and paper industry had been severely weakened (**Exhibit 3b**). Russian capacity utilization had fallen below 50% in recent years (**Exhibit 4**) due to the impact of restructuring on the country's economy. Many firms needed capital and industry expertise in order to improve operational procedures and logistics, and to develop both the internal and export markets. Nevertheless, because the asset valuation multiples of Russian pulp and paper producers were 1/5 the average of comparable American companies, the sector presented an interesting business opportunity for western investors. **Exhibits 7** and **9** provide information on comparable global pulp and paper company valuations.

The Alliance Cellulose Private Placement Offering

In April, 1995, NCH and its investment partners wanted to raise additional capital for several purposes: to finance Alliance's commitments in the three upcoming government investment tenders which, if successful, would significantly increase its equity stakes in these mills; to provide working capital to the mills; to enable Alliance to acquire shares in other pulp and paper operations; to possibly acquire licenses to develop timber reserves in the region; and to fund the general corporate purposes of the company.

[2] Betsy McKay, "Volga Paper Mill Beats Russian Pitfalls; Germans Hope to Capitalize on Western Demand," Wall Street Journal, June 30, 1995.

Alliance retained Creditanstalt International Advisers to conduct a $40 million private placement for the company. Under the terms of the Private Placement Memorandum, up to 1,440,916 voting common shares were being offered at $27.76/share, with a minimum commitment of $2 million per investor (**Exhibit 6**). Presently, there were 2,522,000 shares issued and outstanding. Alliance would provide shareholders with audited annual financial reports ("GAAP" or "IAS") within 120 days at the end of each fiscal year and unaudited quarterly financial statements within 75 days of the end of each fiscal quarter. Expenses related to the offering, including a 6.5% placement fee to Creditanstalt, and legal expenses anticipated not to exceed $100,000, would be paid by Alliance.

Challenges and Risk Factors

NCH and its co-investors believed that the best way to maximize shareholder value was through the integration of its three discrete plants under Alliance's centralized management structure. A wide variety of challenges—and associated opportunities—accompanied Alliance's strategy.

Alliance currently had no centralized management team to oversee its investments in the pulp and paper mills. In early 1995, the Alliance board appeared to be close to hiring an experienced Hungarian paper industry manager for the position of chief executive. The new CEO would have to train local supervisors in western management techniques. No one on the current local management teams had any significant experience with a market-driven economy.

While the current Russian plant managers were expected to retain operational control of their mills, the quality of these General Directors varied considerably. Typically, General Directors of formerly state-owned Russian enterprises possessed tyrannical control over their companies; in one well publicized case, the British firm Transworld had purchased a 20% stake in Krasnoyarsk Aluminum Factory ("KAF") for $200 million between 1992 and 1994. When Transworld's relationship with the factory's management turned sour in November of 1994, KAF's president erased their name from the register, effectively invalidating their equity stake.[3] Having only recently gained their independence, Russian managers were usually reluctant to cede authority to a new outside influence, such as shareholders. Alliance attempted to mitigate such agency costs by helping management buy more equity in the firm.

In order to promote change most effectively, Alliance would seek to attain a control position—or a 25% blocking minority position—in each of the three mills. However, even if Alliance were successful with each of the three investment tenders, it would have only a 45% ownership in Segezha and 25% in Sakhalinlesprom. In Russia, minority shareholder rights were still not defined; consequently, Alliance would need to depend on continued cooperation of local management for mill operations.

The development of beneficial relationships with the mills' employees and managers, and particularly with a plant's General Director would also be essential if Alliance was to solidify its ownership position through the purchase of employee-owned shares. Many employees were fearful of selling their company shares because there were numerous situations where General Directors had terminated employees who were found to be "illegally" selling their shares to outside investors. At the time of the private placement, employees controlled 51% of Segezha and 56% of Sakhalinlesprom. Currently, Alliance was in the process of buying back shares from employees at Segezha and estimated that they would accumulate 1% every two weeks. Alliance believed it would be able to buy between 10% and 20% from employees for a total of less than $2 to $3 million. A similar strategy was being planned for Sakhalinlesprom.

Alliance also wanted to establish a strong rapport with local government officials. Investment tenders could be arbitrarily rejected by local property committees which were concerned only with the preservation of local jobs and their own vested economic and political interests.

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[3] Anne Bernard, "British Firm Wonders Where Its Shares Went," Moscow Times, December 7, 1994.

As already mentioned, the three mills had outlined staged modernization programs of their plant and equipment in order to expand production volumes, improve product quality, boost operating margins and improve the environmental impact of their production processes. The capital investment for the first stage was estimated at $153 million over a three-year period: $60 million for Segezha, $36 million for Vyborg, and $57 million for Sakhalinlesprom. Segezha and Vyborg had developed detailed modernization programs (**Exhibits 10a** and **10b**) while Sakhalinlesprom had not structured a detailed plan. The mills expected to fund the programs from the sale of blocks of shares still owned by the state in investment tenders conducted in accordance with Russian privatization rules. The winner of each tender would commit to fund the investment programs. Twenty percent of the total investment would have to be deposited within one month of the conclusion of the investment tenders. Due to its existing stakes and ongoing investment in the mills, Alliance was confident that it would face limited competition and that it could win the investment tenders. However, the $40 million private placement would only provide a portion of the funds necessary to restructure the plants. Currently, Russian commercial banks were not willing to make long-term debt commitments, domestic sources of equity capital were nonexistent, and the firms would not be ready for international debt or public equity offerings for some time.

One of the most daunting tasks Alliance's investors faced was the complete lack of control systems at any of the pulp and paper companies. The enterprises had no knowledge of western cost accounting, and needed to implement a system of financial controls before any proper audit could be completed. Once an accurate system of financial statements was established, Alliance hoped to understand each of the plants' cost structures better and determine the appropriate level of working capital for each of the mills. However, before any analysis by a western auditor could be completed, Alliance's portfolio companies needed an immediate capital infusion for automated order processing, method invoicing, order production tracking systems, and logistics support.

Ironically, a significant potential challenge for Alliance lay in the potential disappearance of many of the inefficiencies of the Soviet economy. The cost advantage of the mills relative to their western competitors came largely from the use of government-subsidized energy and wood resources. The liberalization of energy and transportation prices to world market levels thus could threaten any long-term advantage that Alliance might enjoy.

Finally, in the case of Sakhalinlesprom, the exact legal status of its timber cutting rights was ambiguous. Because of Russia's lack of precedent, or even modern concept, concerning property rights, Sakhalinlesprom's exact ownership interest in these vast timber reserves was tenuous.

Opportunities

Despite the challenges that Alliance faced, both NCH and BSAM believed that the opportunities were enormous. By applying western management practices, expanding international distribution channels, developing joint cooperation programs and improving forest management techniques, Alliance anticipated improving the competitive position of its mills to international standards, thus creating substantial value for its shareholders.

In addition to believing that the Russian pulp and paper industry itself had attractive characteristics, NCH and BSAM believed that Alliance's mills were appealing. First, the mills were within close proximity to export markets which helped to reduce significant transportation costs and provided for easier access to hard currency. Alliance's mills also operated in regions with developed transportation infrastructure which minimized inland freight costs. Alliance hoped to further reduce costs through its modernization programs at each of the plants.

Lastly, Alliance had formulated an expansion strategy involving the acquisition of additional pulp and paper plants, and the purchase of licenses to develop timber reserves. Alliance would apply the same investment criteria to these acquisitions as NCH had applied historically.

Exit Strategies

As a foreign investor in a volatile and illiquid market, the identification of investment exit strategies was particularly important. Several Russian companies were considering international stock offerings, once they could meet rigorous listing requirements which included disclosure of audited financial statements. Considering the current apprehension of western money managers concerning Russian equities, prospects for an equity offering in the near term were slim. Sale of the assets to strategic investors was another possibility, although there were few indications of what such a market player might by willing to pay. Furthermore, the timing of any exit was highly dependent upon the macroeconomic and political environment of the region; the "window" for any offering or asset sale possibly might not come for a long time. Any "long-term hold" strategy, however, needed to consider the pulp and paper mills' needs for significant capital expenditures and managerial attention on a continual basis.

Exhibit 1
Russian Macroeconomic Data

	1991	1992	1993	1994
GDP (at current prices)	1,300	19,000	171,500	611,000
Real GDP Growth %	-5.0%	-14.5%	-8.7%	-12.4%
Consumer Price Inflation %	93%	1354%	896%	307%
Population (million)	148.5	148.7	148.4	148.3
Gross Debt (billion $)	67.5	78.7	83.1	92.9
Average Exchange Rate (Rb/$)	22.0	220.0	932.0	2,204.0

Foreign Investment, 1994	$ millions
First Quarter	383.1
Second Quarter	168.9
Third Quarter	187.0
Fourth Quarter	314.4

Principal exports, 1993	% of total
Fuels, raw materials and metals	70.0%
Machinery and equipment	6.5%
Chemicals and rubber	6.0%
Timber and paper	4.2%
Food Products	4.0%
Other	9.3%
Total:	100.0%

Principal Imports, 1993	% of total
Machinery and equipment	34.0%
Food products	22.2%
Textiles and leather	16.5%
Fuels, raw materials and metals	7.3%
Chemicals and rubber	6.2%
Other	13.8%
Total:	100.0%

Destination of exports by region, Jan-Jun. 1994	
Western countries	65.2%
Former Communist Block	14.4%
Developing countries	11.9%
Other	8.5%
Total:	100.0%

Origin of imports by region, Jan-Jun. 1994	
Western countries	67.4%
Developing countries	14.1%
Former Communist Block	9.0%
Other	9.5%
Total:	100.0%

Exhibit 2
Foreign Portfolio Investment and the Russian Equity Market

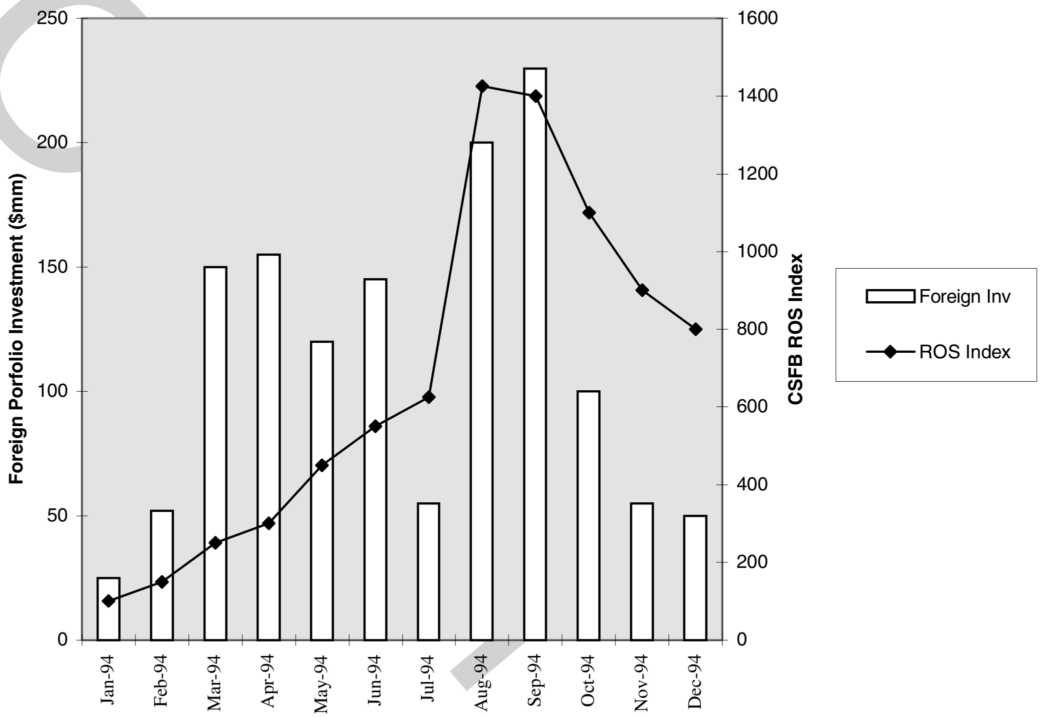

Exhibit 3a
Foreign Investment in the Wood Processing, Paper and Cellulose Industry in Russia

Investment ($m)	1994	1995E
Foreign Investment in Pulp and Paper	$42	$135
Total Foreign Investment in Russia	$1370	$2,000

Source: Economist Intelligence Unit Country Report - Russia - 2nd Quarter, 1995

Exhibit 3b
Production of Pulp, Paper and Board in Russia (1000 tons)

Product	1950	1960	1970	1980	1988	1990	1991	1992	1993	1994[1]
Chemical Pulp	1,078	2,234	5,008	6,981	8,349	7,525	6,451	5,672	4,406	3,824
Mechanical Pulp	426	911	1,573	1,877	2,073	2,132	1,923	1,383	1,080	N. A.
Paper	991	1,961	3,515	4,442	5,334	5,240	4,765	3,605	2,882	2,394
Board	217	635	1,857	2,446	3,249	3,085	2,619	2,150	1,576	1,193

Source: Pulp and Paper International, May 1995.
N. A. = not available

Exhibit 3c
Key Russian Pulp and Paper Facilities

Company	Ownership	1992 Production Pulp (market)	1992 Production Paper & Board	Principal paper & board grades
European Russia				
Arkhangelsk Pulp and Paper	JS	670 (263)	363	printings/writings, containerboard
Kondopoga	JS	127	685	newsprint
Kotlas Pulp and Paper	JS	785 (300)	385	bag paper, case materials, linerboard
Segezha	***JS***	***370 (18)***	***306***	***bag paper***
Solombal Pulp and Paper	JS	195 (181)	9	wrapping paper
Svetogorsk	STATE	279 (64)	184	printings/writings
Vyborg	***JS***	***50 (30)***	***13***	***wall paper, wrapping paper, labels***
Siberia				
Baikal Pulp and Paper	JS	289 (147)	10	wrapping paper
Bratsk Forest Complex	JS	362 (293)	147	containerboard
Krasnoyarsk Pulp and Paper	NA	197 (12)	181	case materials, newsprint
Selenginsk	JS	149 (12)	116	case materials
Ust-Ilimsk	STATE	0 (542)	-	-
Russian Far East				
Amurskbumprom	STATE	207 (53)	461	containerboard
Sakhalinlesprom	***JS***	***-***	***-***	***corrugated cartons***

JS = Joint Stock Ownership.
Alliance Holdings in ***Italics***.

Source: Pulp and Paper International, May 1995. Alliance Cellulose Limited Memorandum.

[1] Estimate

Exhibit 4
Comparison of Capacity Utilization in Paper & Board Production

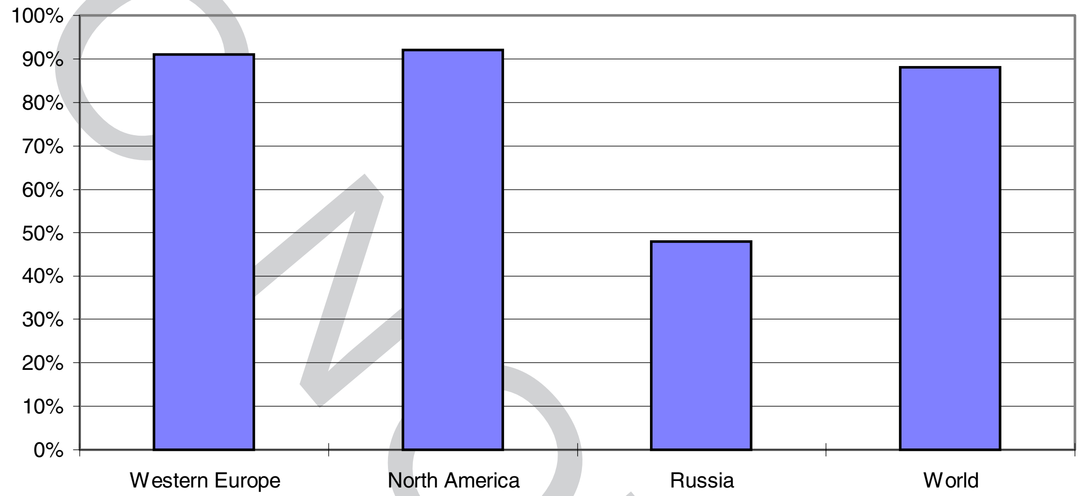

Exhibit 5a
Segezha Production Schedule and Financial Projections[1]

Product	Design Capacity	Current Operating Capacity	1993 Production	1994 Production	1994 Capacity Utilization	1995 Est Production	1996 Est Production
Segezha Production Volumes							
Sulphate Pulp (tons)	620,000	330,000	215,000	125,400	38.0%	125,000	300,000
Market Pulp (tons)	40,000	30,000	2,248	3,183	10.6%	25,000	25,000
Total:	660,000	360,000	217,248	128,583	35.7%	150,000	325,000
Sack Kraft Paper/ Linerboard (tons)	550,000	300,000	201,862	115,507	38.5%	50,000	150,000
Sack Kraft Paper Bags (thousands)	1,300,000	600,000	389,000	225,000	37.5%	150,000	300,000
Projected Average Unit Prices						**1995**	**1996**
Market Pulp (per ton)						$490	$490
Sack Kraft Paper/Linerboard (per ton)						$500	$500
Sack Kraft Paper Bags (per thousand)						$215	$215
Net Revenues ($ millions)							
Market Pulp						$12.3	$12.3
Sack Kraft Paper/Linerboard						$25.0	$75.0
Sack Kraft Paper Bags						$32.3	$64.5
Total Revenues						**$69.5**	**$151.8**
Estimated Pretax Margin						**25%**	**25%**
Projected Pre-tax Income:						**$17.4**	**$37.9**
Projected Net Income @ 40 est tax rate:						**$10.4**	**$22.8**

[1] Revenues exclude sales of marketable byproducts, such as resins, oils, sulphate soaps, etc. Pretax income margin reflects the average costs of Russian paper producers, and Segezha General Director's estimates. The tax rate is difficult to predict; 40% is the statutory rate as understood by the case writers.

Exhibit 5b
Vyborg Production Schedule and Financial Projections[1]

Product	Design Capacity	Current Operating Capacity	1994 Production	1994 Capacity Utilization	1995 Est Production	1996 Est Production
Vyborg Production Volumes (tons)						
Unbleached Market Pulp	31,000	31,000	30,000	96.8%	30,000	30,000
Woodfree and Wall Paper	31,000	31,000	29,000	93.5%	30,000	30,000
Total Unbleached	62,000	62,000	59,000	95.2%	60,000	60,000
Labeling Paper	15,000	15,000			15,000	15,000
Printed Wall Paper	15,000	15,000			15,000	15,000
Total Paper Conversion	30,000	30,000	18,000	60.0%	30,000	30,000
Lignosulfonates	57,000	57,000	1,989	3.5%	57,000	57,000
Projected Average Unit Prices ($/ton)					**1995**	**1996**
Unbleached Market Pulp					$450	$450
Woodfree and Wall Paper					$1,100	$1,100
Labeling Paper					$1,500	$1,500
Printed Wall Paper					$1,250	$1,250
Lignosulfonates					$27	$27
Net Revenues ($ millions)						
Unbleached Market Pulp					$13.5	$13.5
Woodfree and Wall Paper					$33.0	$33.0
Labeling Paper					$22.5	$22.5
Printed Wall Paper					$18.8	$18.8
Lignosulfonates					$1.5	$1.5
Total Revenues					**$89.3**	**$89.3**
Estimated Pretax Margin					**40%**	**40%**
Projected Pre-tax Income					**$35.7**	**$35.7**
Projected Net Income @ 40% tax rate					**$21.4**	**$21.4**

[1] Pretax Income margin reflects the average costs of Russian paper producers, and Vyborg General Director's estimates. The tax rate is difficult to predict; 40% is the statutory rate as understood by the case writers.

Exhibit 6
Summary of the Proposed Alliance Cellulose Private Placement

Offering Price per Share	$ 27.76
Number of Shares Offered	1,440,922
Total Private Placement Value	**$ 40,000,000**
Minimum commitment	$2,000,000
Minimum number of shares	72,046

Alliance Shareholders	Number of Shares	Original Cost Basis[1]	Existing Ownership Percentage	Pro Forma Ownership Percentage	Date Position Established
New Century Holdings	1,261,000	$ 5,000,000	50.0%	31.8%	Spring 1994
BSAM	1,261,000	$25,000,000	50.0%	31.8%	Dec. 1994
Pro Forma Private Placement	1,440,922	$40,000,000	0.0%	36.4%	Apr. 1995
Pro Forma Total	3,962,922		100.0%	100.0%	

	Current Ownership			
Alliance Portfolio Investments	Alliance	Employees and Management	Government	Alliance Ownership, Assuming Win in InvestmentTender
Segezha	21.4%	51.0%	20.0%	41.4%
Vyborg	27.0%	17.0%	21.0%	73.0%[2]
Sakhalinlesprom	10.0%	56.0%	15.0%	25.0%

[1] Does not reflect the $22.2 million distribution to New Century Holdings when BSAM bought 50% of the Company.
[2] Alliance had contracted with a large holder of 25% of Vyborg's outstanding shares to purchase this stake for $8 million upon winning the government investment tender.

Exhibit 7
Selected Pulp and Paper Companies - Comparable Company Trading Analysis[1]

	Mkt Val of Equity ($ mil)	Total Debt ($ mil)	Market Value/ Net Inc[2]	Firm Value/ Sales[3]	Firm Value/ EBITDA	Firm Value/ EBIT	EBIT Margin	Firm Val/ Normal EBIT[4]	Firm Val/ Annual Production	Firm Val/ Annual Capacity	Mkt Val/ 1995E Net Inc[5]	Millions of tons: Annual Production	Millions of tons: Annual Capacity	Millions of tons: Capacity Utilization
U.S. Pulp and Paper Companies														
Chesapeake Corp	732	3,667	23.8	1.2	7.8	16.2	7.3%	17.2	1,166	951	9.6	0.93	1.14	82%
International Paper	8,954	6,418	22.8	1.1	8.4	16.8	6.3%	17.8	1,985	1,766	9.7	7.64	8.59	89%
Longview Fibre	901	483	29.5	1.8	9.0	18.3	9.7%	15.9	1,749	1,325	12.3	0.75	0.99	76%
Westvaco Corp	2,528	1,276	24.4	1.4	7.6	13.8	10.4%	11.5	1,534	1,439	10.5	2.43	2.59	94%
Weyerhaeuser	7,891	3,604	17.6	1.1	7.2	10.6	10.6%	11.8	1,972	1,804	8.5	5.82	6.36	92%
Average			23.6	1.3	8.0	15.1	8.9%	14.8	1,681	1,457	10.1	3.51	3.93	86%
European Pulp and Paper Companies														
Assidoman AB	4,526	586	37.7	2.5	17.5	31.8	7.8%	51.4	2,446	2,079	9.0	2.04	2.40	85%
Jefferson Smurfit	1,741	2,147	10.5	1.1	11.0	19.9	5.4%	16.7	733	649	NA	3.50	3.95	89%
Mo Och Domsjo AB	1,374	1,978	NM	1.2	24.0	29.8	4.0%	15.9	1,059	863	7.4	2.65	3.25	82%
Stora Kopparberg's	3,476	764	39.0	0.6	5.7	21.3	2.8%	11.2	631	557	8.5	6.45	7.30	88%
Svenska	3,160	1,872	21.7	1.0	8.3	17.5	5.8%	15.0	1,637	1,435	11.0	2.85	3.25	88%
Average			27.2	1.3	13.3	24.1	5.2%	22.1	1,301	1,117	9.0	3.50	4.03	86%
Emerging Market Companies														
Aracrux Cellulose S.A.	2,530	110	NM	66.0	253.5	NM	11.3%	NM	2,706	2,614	NA	0.99	1.03	96%
Cellulose Aranco	NA	657	NA	1.4	1.4	1.4	16.6%	NA	NA	NA	NA	NA	NA	NA
Darango Industrial	148	403	NM	3.7	33.1	125.7	3.0%	NA	825	562	NA	0.66	0.96	68%
Average			NM	23.7	96.0	63.6	10.3%	NM	1,765	1,588	NM	0.82	1.00	82%
Other Comparable Russian Companies														
Syktivkarsky LPK			NA	0.2	NA	NA	NA	NA	NA	106	1.5	NA	0.52	NA
Volga Newsprint			NA	0.2	NA	NA	NA	NA	NA	110	2.1	NA	0.50	NA
Brastsky LPK			NA	0.3	NA	NA	NA	NA	NA	117	2.3	NA	0.52	NA

[1] Source: Bloomberg, Creditanstalt International Advisers Inc.
[2] Market Value = number of shares outstanding times market price (3/7/95) plus liquidation value of preferred stock; Net Income excludes all extraordinary charges. International Paper: excludes $25 million charge for changes to accounting standards during the fiscal year 1993. Westvaco: excludes special charge of $43.4 million during fiscal 1993 Weyerhaeuser: excludes $52.1 million of extraordinary gains during the first three quarter of fiscal 1993.
[3] Firm Value = market value plus total debt minus cash
[4] Normalized EBIT = average annual EBIT during the five year business cycle (1989-1993).
[5] Source: IBES as of 3/7/95.

Exhibit 8
Description of Comparable Pulp and Paper Companies

United States Paper and Pulp Companies

Chesapeake Corp: Primary businesses are kraft products (including paperboard, corrugated kraft paper and bleached hardwood pulp); tissue products (for residential and commercial use); packaging division specializes in corrugated boxes and specialty packaging materials.

International Paper: Largest producer of printing paper worldwide. Specializes in uncoated papers, heavyweight coated papers and pulp; active in industrial and consumer packaging products, kraft packaging and specialty packaging products. Distributes paper and office products; owns a specialty chemical division.

Longview Fibre: Owns and operates tree farms which produce logs for sale. Produces pulp which is manufactured into kraft paper and containerized. 14 converting plants in 30 states produce shipping containers and merchandise and grocery bags.

Westvaco: Fully integrated manufacturer of paper and pulp products. Production facilities in the U.S. and Brazil produce corrugated containers, ovenware cartons, premium quality printing papers, various building materials and selected chemical by-products.

Weyerhaeuser: Grows and harvests timber; manufactures, sells and distributes forest products such as wood products, pulp, paper and corrugated boxes. Is one of the largest manufacturers of recycled products in the packaging and paper segment.

European Pulp and Paper Companies

Assidoman AB: Businesses include packaging, especially kraftlines, forest and sawmills, kraft products, carton, and barrier coating. Also produces concrete and related products.

Jefferson Smurfit: Irish holding company for various pulp and paper-related operating companies located in Europe, the U.S. and Latin America. Manufactures a wide variety of pulp and paper products but specializes in kraft paper and recycled printing papers. Industry leader in manufacturing recycled paper products.

Mo Och Domsjo AB: Produces and sells fine paper, wood-containing printing papers, paperboard, pulp, timber, packaging papers and sacks. One of Sweden's largest exporters; 85% of its production is sold abroad.

Stora Kopparberg's: Europe's largest forest products company and one of the world's leading manufacturers. Sweden and Germany account for most production resources and 40% of sales. Products include paper pulp, fluff pulp, newsprint, SC, LWC, packaging paper, board, fine papers and technical office papers.

Svenska: Consumer oriented product portfolio (hygiene products, consumer packaging); is in the process of further investments in the traditional forest product segments: newsprint, linerboard and LWC.

Emerging Markets Pulp and Paper Companies

Aracruz Cellulose S.A. (Brazil): World's largest producer of bleached eucalyptus kraft pulp which serves as the basis for a wide range of products such as premium tissues, printing and writing papers and liquid packaging board. Among the lowest cost producers of bleached market pulp.

Cellulose Aranco (Chile): Acquisition, planting, cultivation and management of land and eucalyptus forests as well as the production of bleached and unbleached pulp and forestry products such as sawlogs and lumber.

Durango Industrial (Mexico): A leading integrated paper packaging and forest product company; produces corrugated containers, containerboard and industrial paper (consisting of linerboard, corrugating medium and kraft paper). Operates three mills and 11 corrugated container plants.

Exhibit 9
Selected Pulp and Paper and Comparable Emerging Market Transactions

Target	Acquiror	Acquiror Country	Date	Acquisition %	Value ($m)	Annual Capacity (tons)	Value/ Capacity ($)	Annual Production (tons)	Value / Production ($)	Products
Czech Republic										
(Greenfield)	Tampella	Finland	2ndQ91	100%	400	200,000	$2,000	na	na	General paper/ greenfield
Model Obaly Opava	Model - Holding	Switzerland	3rdQ92	100	7	na	na	na	na	Corrugated paperboard/ packaging
Bupak	Duropak	Austria	4thQ92	40	na	60,000	na	50,000	na	Corrugated box
East Germany										
(Greenfield)	ENSO-Gutzeit	Finland	1stQ92	100	447	280,000	$1,602	na	na	Newsprint from recycled paper
Hungary										
Halaspack Pkg	Prinzhorn Group	Austria	2ndQ91	50	47	25,000	$3,736	na	na	Cardboard products
Szolnok Paper	Prinzhorn Group	Austria	4thQ92	51	25	100,000	$484	50,000	$969	Coated paper/ In liquidation
Russia										
Volga/Dzerzninsky	Herlitz	Germany	4thQ94	33	12	530,000	$69	300,000	$122	Newsprint
Slovenia										
Paprnica Vevce Paper Factory	Prinzhorn Group	Austria	3rdQ90	51	20	na	na	80,000	$490	General paper
TES/Towama Embalaze	Duropack-Wellpappe	Austria	3rdQ92	66	na	30,000	na	na	na	Corrugated board
Paprnica Kolicevo	Sarro	Spain	3rdQ92	76	62	120,000	$675	100,000	$810	Stucco cardboard
Poland										
Zaklady Celulozowo-Papierni	International Paper	USA	3rdQ92	80	120	300,000	$500	125,000	$1,200	Coated/ Uncoated board, newsprint
Kostrzynskie	Trebuk	Sweden	4thQ93	51	56	84,000	$1,307	67,000	$1,639	General paper
Fabryka Paperu Malta	Kronospan GmbH	Germany	1992	80	1.2	na	na	na	na	Poster paper and paper for mock-wood furniture
Cieszynskie	Syntezza CMC	Poland	1992	80	0.3	na	na	na	na	Carton board

Exhibit 10a
Segezha Modernization Plans

Equipment	Results	Investment[1] ($ millions)
PM-1 Replacement Equipment	Increase annual capacity from 43,500 to 80,000 tons of 70-78 g/m^2 paper for bags and enable production of 120-150 g/m2 linerboard.	$29.6
Recovery soda boiler	Reconstruction of electric filters and installation of black liquor concentrators to increase daily pulp capacity form 725 tons to 1,100 tons, reduce sulfurous dust emissions by 0.2 g/m3 and stabilize the supply of cellulose produced with alkaline solutions. This modernization will also improve the quality of the mill's pulp and paper and decrease reliance on outside fuel sources.	7.0 (Finnish govt. will subsidize by 3.0 million)
PM-10 Installation of modern equipment	Installation of Clupak device to strengthen paper which will result in a reduction of paper layers (from 5 ply to 3 ply) required for certain paper bags. Increases annual production of paper bags by 24.6 million (40%).	3.7
Replace four bag production lines	Replace the bag production lines with two modern lines to accommodate the anticipated increase in paper production. This will maintain the level of annual paper bag production at 1.3 billion.	30.0
Installation of equipment for covering paper with polytene	Increase annual production of water resistant bags to 200 million.	
Installation of two additional paper bag production lines	Increase annual production of paperbags by 75 million.	15.0
Installation of machine for production of consumer paper bags with handles	Provides for annual production of this product of 25 million.	3.0
Install modern boiler - one cleaning and sorting system for different types of pulp	Allow for sorting of hard and softwood pulp. This will enable the mill to utilize more hard wood pulp, reduce consumption of water and chemicals for washing cellulose and reduce the loss of fiber in the washing process	6.5
Install three modern boilers	Reduce SO_2 emissions by 30% and improve air quality in the region	55.8

[1] $60 million of these capital expenditures would be required for first phase.

Exhibit 10b
Vyborg Modernization Plans

Equipment	Results	Investment ($ millions)
Acid bleach pulp equipment	Make possible production of 30,000 tons of bleached sulphite pulp thereby reducing the mill's market pulp purchasing requirements.	$11.0 (includes installation)
Modernize steam plant, gas turbines, two turbo generators and ancillary gas lines for cogeneration facility	Allows the mill to produce 70% of its energy requirements thereby reducing exposure to local energy suppliers. Gas lines allow the mill to utilize either gas or oil for boiler fuel.	9.3
Modernize electrical facilities and train wagons	Improve the mill's internal logistics including unloading of wood from the rail yard.	0.8
Reconstruct paper machine	Improves paper quality and allows for production of heavier gram weight paper utilizing less pulp	3.0
Installation of lubrication equipment (already initiated)		0.5
Install used pulp packing line	Allows the mill to transport its market pulp by sea and by truck, thereby reducing transportation costs and allowing the mill to receive approximately $50-$100 in incremental profit/ton shipped.	2.6
Port modernization	Complete construction of seawall to allow port to receive ships, build terminal and collection facility for Russian lignosulfonate producers.	N.A.
Installation of environmental equipment - effluent treatment, water supply system.	Reduce effluents resulting from the production process and decrease the mill's effect on the local environment.	4.5
Purchase reconditioned pulp dryer	Reduce bottlenecks in the pulp production process (installation of a pulp packing line would overload for the existing pulp dryer).	Internally generated cash flow.
Purchase drying plant for lignosulfonates	Currently selling this by-product in liquid form. This equipment would allow the plant to ship in solid form and reduce transportation costs.	