

# C I N T R A F O R

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## **ARGENTINA'S FOREST PRODUCTS INDUSTRY: A COUNTRY PROFILE**

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**February 1999**



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## Executive Summary

Argentina's geography, demographic profile, and level of infrastructural development are very favorable in comparison to other possible sources of plantation timber. It has a highly-educated population of over 35 million people who are generally more sophisticated and accustomed to a higher standard of living than those in other Latin American countries. Its industry and infrastructure, although somewhat inefficient and in need of upgrades in many respects, is also vastly superior to almost every other country in the region. The stability of the government, the financial system, and the overall business climate have traditionally been suspect, but have improved dramatically over the last decade. As part of a dramatic reform plan begun in 1989, Argentina's government has improved the efficiency of its own operations, deregulated and privatized the banking system, and pegged the currency to the US dollar in order to defeat hyperinflation. The general business climate continues to improve as well, as a new, more efficient way of conducting business takes hold. As a result, Argentina has recently become more attractive to foreign investors.

More than forty years of protectionism under the import substitution model left Argentina with hyperinflation, horrible credit, and an economy that was all but closed off to foreign trade. Thanks to the successful economic reforms that have taken place since 1989 under President Carlos Menem and Finance Ministers Domingo Cavallo and Roque Fernandez, Argentina is now on the road to recovery. Thus far, GDP growth has been very impressive, inflation has been defeated, foreign investment and foreign trade have increased dramatically, and the government has restructured its debt and reined in its fiscal policy. On the negative side, unemployment has been slow to recover from massive privatizations, while Argentina's trade deficit and current account deficit remain larger than many economists would like. These economic reforms withstood a severe shock after the Mexican peso crisis in 1995. It remains to be seen whether or not a similar currency devaluation will occur in Brazil and, if so, how well Argentina's hard-fought gains will survive another traumatic episode.

The total area of forest plantations in Argentina is now approaching 1 million hectares, the vast majority of which are southern pine, eucalyptus, willow and cottonwood. The government estimates that an additional 20 million hectares of land is suitable for forest plantations, in that they have favorable growing conditions and do not compete directly with agriculture or native timber stands. Plantations have been subsidized for decades, but most have not been managed properly until recently. Hence, the quality of the plantation timber available now is still quite low but is rapidly improving. The results of genetic improvement programs, already evident in the production of pine and eucalyptus in the subtropical northern regions of Argentina, are now being developed for Douglas-fir, ponderosa pine and lodgepole pine in southern regions that are similar in climate to the Pacific Northwest. While southern pine grown in the northern regions of Argentina will primarily be exported to North American and European markets, the native hardwoods and plantation softwoods in southern Argentina can also be conveniently shipped and effectively marketed into Asia.

Argentina's government has deregulated the forestry sector and offered subsidies to reimburse plantation development. Due to the low quality of plantation timber and the underdeveloped nature of the industry, Argentina tends to export raw materials such as pulp logs and import higher-value wood products such as paper. Forest products exports, though low by global standards, are increasing at a rapid rate. Argentine producers are now very active in trade within MERCOSUR and have recently penetrated the US structural timber market for the first time. The pulp and paper sector and the composite panel sector are more highly developed than the sawnwood, plywood, and veneer sectors. The former sectors utilize lower quality timber and enjoy higher domestic market demand. The latter two are currently developing, and should continue to do so as more well-managed plantation timber matures.

Argentina has made a remarkable transition over the past decade. It possesses the climate, infrastructure, low cost structure, educated labor force, and regulatory freedom required to support a globally competitive forest products industry. Given the rapidly developing nature of the Argentine forest resource and wood processing sectors, the high levels of investment by Chilean forest products companies, and the fact that a substantial volume of future production will be exported to the US, it is timely for US firms to begin looking for ways to understand and participate in Argentina's forest products industry.

From the beginning, the Argentine government has promoted the forestry sector as an integral component of the economic reform plan. By emphasizing Argentina's favorable climate and low land costs, the government hopes to attract foreign investment and develop new jobs in the forestry sector. The three major challenges confronting the forest products industry are high transportation costs, low domestic demand, and an underdeveloped forest products industry. High transportation costs are being addressed by new road construction and the dredging of the Parana River. Domestic demand for wood products should steadily increase as the government strives to address a serious shortage of low-income housing and Argentines begin to enjoy an increasing standard of living.

The underdeveloped forest products industry is improving rapidly due to foreign investment and the surprising success of MERCOSUR. MERCOSUR (the Southern Cone Common Market) has fully integrated the economies of the region (particularly Argentina, Brazil, and Chile) and provides the forest products industry with economies of scale that would not be possible within each country's individual market alone. Perhaps the most notable impact of MERCOSUR has been the emerging regional dominance of Chilean forest products companies. With available investment capital, confidence in their ability to conduct business with their neighbors, and experience in the global forest products industry, Chilean investments represent over 60% of the foreign investment capital that has flowed into the Argentine forest products sector this decade. As a result, they have acquired large areas of plantation land and further developed every sector of the wood processing industry. They are also working to develop domestic, regional, and global markets and have taken advantage of some of Argentina's best investment opportunities by moving quickly. While some US companies (*e.g.*, Kimberly-Clark, Union Camp, and Trillium) have already established themselves in this emerging market, the vast majority are taking a more cautious attitude to investing in Argentina.

Argentina's government has worked hard over the last decade to provide an attractive environment for foreign investment. With very few exceptions, foreign companies now enjoy the same rights and privileges as domestic firms. Thus far, Chileans companies have been active in developing new plantations as well as composite panel production facilities. Trillium and Fletcher Challenge New Zealand have each identified exceptional timber sources. Fletcher Challenge has already developed a modern mill complex among the northern forest plantations that produces lumber, plywood, veneer, and moulding and millwork. Trillium, which is now seeking government approval for its lenga project, hopes to do the same in the Patagonia region. Since its domestic market is the strongest, the pulp and paper sector is much more competitive.

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## 1. Introduction

The central objective of this working paper is to provide reliable information about Argentina's current and future role in the international forest products industry. Reliable information on Argentina's forestry sector is difficult to locate since most primary information is either written in Spanish, considered proprietary, or available only at a fairly high price. The scarcity of information is a result of both the underdeveloped nature of the industry and also the increased competition resulting from the globalization of the industry.

Despite the steadily increasing global consumption of forest products, low-cost foreign competition, volatile commodity markets, regulations restricting timber harvests, capital-intensive manufacturing requirements, and external economic turmoil often make it difficult for foreign investments to generate the profits that forest products firms and their stockholders expect. When considering whether or not to invest in a country such as Argentina, there are many unknown risks that could adversely affect the rate of return on investment. A successful global company must therefore have a clearly focused strategic plan, develop the ability to gauge the dependability of available information, and recognize that foreign investments are long-term endeavors that often take time to develop into profitable enterprises.

### A. Global Trends

Restrictions on timber harvests and aggressive environmental regulations have limited the timber harvest in many traditional supply regions. This has allowed previously noncompetitive countries (e.g., Latvia and Estonia) to compete successfully in export markets. At the same time, 1997-1998 was an uncommonly eventful period, both economically and politically. The Asian economic crisis has produced deep recessions in Japan and Korea, both major importing nations and of major concern to the forest products industry. Japan should be able to resolve its economic problems, and will likely maintain annual housing starts between 1.0 and 1.2 million into the foreseeable future. Countries that depend heavily upon Japanese demand for imported forest products will see their export volumes and log prices fall, but not collapse. Korean demand, on the other hand, has essentially collapsed, and should take a few years to recover. It does appear, however, that the resulting economic reforms in Korea will lead to increased stability in the long-term.

While the global economic climate may be chaotic, the US economy is thriving. This has two important implications for the global forest products industry. First, US firms can be more selective than ever when considering offshore investment opportunities. Second, the US, with its strong dollar and strong economy, is now the single most attractive market for foreign exports. The larger, more diversified and experienced foreign companies will strive to maintain their Asian customers through these hard economic times even as they increase their focus on penetrating the US market and adding value to their product lines. Thus, North American firms should be prepared to cope with increasing competition in the domestic market.

### B. South America's Economic Environment

South America's economy is dominated by the ABC countries of the Southern Cone: Argentina, Brazil, and Chile. Chile, with a significant head start on economic reform, has already established itself as a major player in the global trade of forest products and other commodity products. Flush with capital, Chileans are actively developing their manufacturing sector and expanding outward into the rest of the continent. Chile is now an associate member of MERCOSUR (the Southern Cone Common Market), has a trade agreement with Canada, and is aggressively pursuing membership in NAFTA. Brazil and Argentina, South America's two largest countries geographically and economically, are currently occupied with the business of economic reform. Progress is fragile in both countries and the lower and middle classes are impatient for the economic payoff they have been promised. Economic liberalization policies, while fundamentally sound, face considerable challenges from instability in the global economy as well as cultural and political resistance to change at home. Nevertheless, unprecedented levels of economic growth continue to impress skeptics and attract foreign investors.

The ABC countries, traditionally considered to be politically and economically unstable, have become increasingly attractive to potential investors in the forest products industry. Chile, engaged in a battle for market share with New Zealand, is working to identify new markets for radiata pine by both promoting its acceptance in new market segments and developing value-added products. This process was already well established when the Asian

economic crisis underscored the importance of avoiding reliance on commodity products and a single regional export market. Due to its relatively small size and its successful entry into the global arena, Chile has essentially priced itself out of the market for low-cost foreign investment. On the contrary, Chilean companies, with distinct competitive advantages in capital and technology, are aggressively moving to add value to their product lines, expand their timber production capacity, and tap into new markets both regionally and globally. In fact, Chilean companies have been so successful exporting 5/4 radiata pine finger-jointed moulding blanks into the US that a number of US companies have accused them of dumping their products, although no formal trade charges have been filed.

Brazil, which possesses phenomenal natural resources and an enormous domestic economy, has recently stabilized its currency and integrated its trade with other MERCOSUR countries. The real, Brazil's currency, is pegged to the dollar, following the example of the Argentine peso. The stability of the real, never an absolute certainty, is crucial to the continued success of MERCOSUR. The size and nature of Brazil's tropical forest resources, along with the size of its population, invite comparison to Indonesia. Like Indonesia, Brazil is slowly but surely expanding its role in the global trade of pulp and paper products. Brazil has the world's largest stock of eucalyptus plantations and has been developing its pulp and paper industry for some time. Also, in the near future, Brazilian southern pine should become more competitive in US markets for structural timber, doors, and moulding and millwork.

Argentina began liberalizing its economy in 1989 and boasts a well-developed industrial base and infrastructure along with a highly educated workforce. North American forest products companies have largely ignored Argentina in the past because of its unstable and inefficient isolationist economy and its insignificant domestic market for imported wood products. In order to generate the foreign capital required to support a currency that is now pegged to the US dollar, generate employment for those who lost jobs during the privatization of state-run enterprises, and improve the economy in general, Argentina has welcomed foreign investment in recent years. On paper, foreign companies are now accorded the same status and privileges as Argentine firms. Furthermore, MERCOSUR has been very effective in linking the economies of Brazil and Argentina to the benefit of both countries. This should not, however, suggest that all barriers to entry have been removed. Even though the government has officially lifted many tariff and non-tariff barriers, getting started in Argentina requires patience, flexibility, determination, and a long-term outlook.

### C. Argentina's Competitive Advantages

Argentina's potential in the forest products industry revolves around the availability of cheap, fast-growing plantation timber. Foreign investors are utilizing two basic strategies in order to take advantage of this resource. Many choose to invest in Argentina initially by purchasing and renovating the inefficient and outdated production facilities that currently serve the domestic market. The classic example is Kimberly-Clark, which purchased Argentina's largest diaper manufacturer in order to claim a large share of the domestic market. Other firms have chosen to start from scratch, investing in new production facilities to manufacture value-added products for export. Either strategy is valid, depending upon the investor's strengths, weaknesses, attitude towards risk, foreign experience, and level of commitment.

Argentina has relatively low land prices, a favorable and varied climate that facilitates high timber growth rates, over 20 million hectares of fallow land suitable for plantations, a fairly well developed infrastructure, education levels that exceed those of most developing countries, government subsidies promoting plantation development, a relatively healthy economy, a projected housing boom, and an extremely friendly attitude towards foreign investment. On the negative side, water transportation is expensive and inconvenient, most of the older plantations have been poorly managed, the domestic consumption of wood products is relatively low, and the forest products industry is extremely underdeveloped. The government is currently conducting a detailed forest inventory to determine the quality and extent of both native and plantation forests.

One additional factor that potential investors should note is that Chilean companies have been very active in Argentina. They are rapidly acquiring plantations, investing in production capacity, and buying up market share. Chile is quickly establishing itself as the first mover in Argentina and much of South America. It is possible that the ABC countries, joined together by MERCOSUR and led by Chile's expertise and capital, could become a major force in the international markets for softwood lumber, pulp, and paper.

Having learned from the mistakes of others, Argentina's government has targeted slow and steady economic growth rates of 5-6% per year. It has also taken great pains to eliminate corruption and inefficiency from the government. These actions helped Argentina survive the aftershock of the Mexican peso crisis of 1995 and avoid a similar currency devaluation. Thus, while profits from Argentine investments may not be exceptional, they should be stable. Given the fact that domestic demand for forest products will increase as residential construction activity increases and the middle-class continues to grow, and the government is friendly to foreign investors, Argentina merits serious consideration as a potential market for investment in the expanding forest products sector.

## **2. General Country Data**

### **A. Geography**

Argentina is the second largest country in Latin America and the eighth largest in the world, with an area of 2.79 million square km. It spans 3,600 km from the northern border with Bolivia to the sub-Antarctic tip of Tierra del Fuego in the south and 1,200 km from the Andean border with Chile in the west to the Atlantic Ocean on the east. It shares borders with Paraguay and Bolivia to the north, Brazil and Uruguay to the northeast, and Chile to the west. The topography and climate vary considerably. The extreme north is subtropical, and typically humid in the west and dry in the east (Figures 1 and 2). Moving south into the Pampas, the climate becomes more temperate and the soil becomes more fertile. These plains are the primary source of Argentina's identity, wealth, and pride, supporting one of the world's leading agricultural economies. To the west the climate becomes colder and harsher as the elevation increases. The Argentine side of the Andean Corridor contains Mount Aconcagua, the highest peak in the Americas at 22,831 feet above sea level. Continuing south leads one towards the cold, dry, rocky, and remote islands of Tierra del Fuego.

Buenos Aires, with 10 million people, and La Plata, home to another 500,000, lie near each other in the delta of the Parana and Uruguay Rivers. Unfortunately, these port cities are often difficult to enter from the ocean and the river channels emptying into them are shallow and poorly maintained. Work is currently underway to dredge and signalize the Parana River system. Some estimates indicate that this will lower transportation costs as much as 80% (from \$35/ton to \$7/ton) by enabling larger vessels to navigate the river loaded to full capacity, something that is not now possible (Ministry of Economics 1997). To date, more than half of the project has been completed, allowing ships up to 23,000 tons to navigate the river and lowering costs 15% to \$30/ton. Over 35% of the population lives in the area surrounding Buenos Aires. Cordoba and Rosario, the two largest cities outside of the Buenos Aires metropolitan area, both have populations over one million.

### **B. Demographic Data**

Argentina's demographic profile is generally quite good (Table 1). With high literacy rates and low population growth rates, it more resembles a European country than a typical Latin American country. Within Latin America, Argentina trails only Mexico and Brazil in total population, but by a large margin. Its population ranks 31<sup>st</sup> in the world. Without population pressure or ethnic strife, but with a large, well-educated labor force, Argentina could be a very attractive place to conduct business. Price Waterhouse (1996) states that the economic problems leading up to the 1990's have lowered the traditionally high standard of living enjoyed by white-collar workers, while they have generally improved that of less-skilled workers. They also cite the chronic shortage of low-income housing and the availability of low cost capital as two recurring problems.

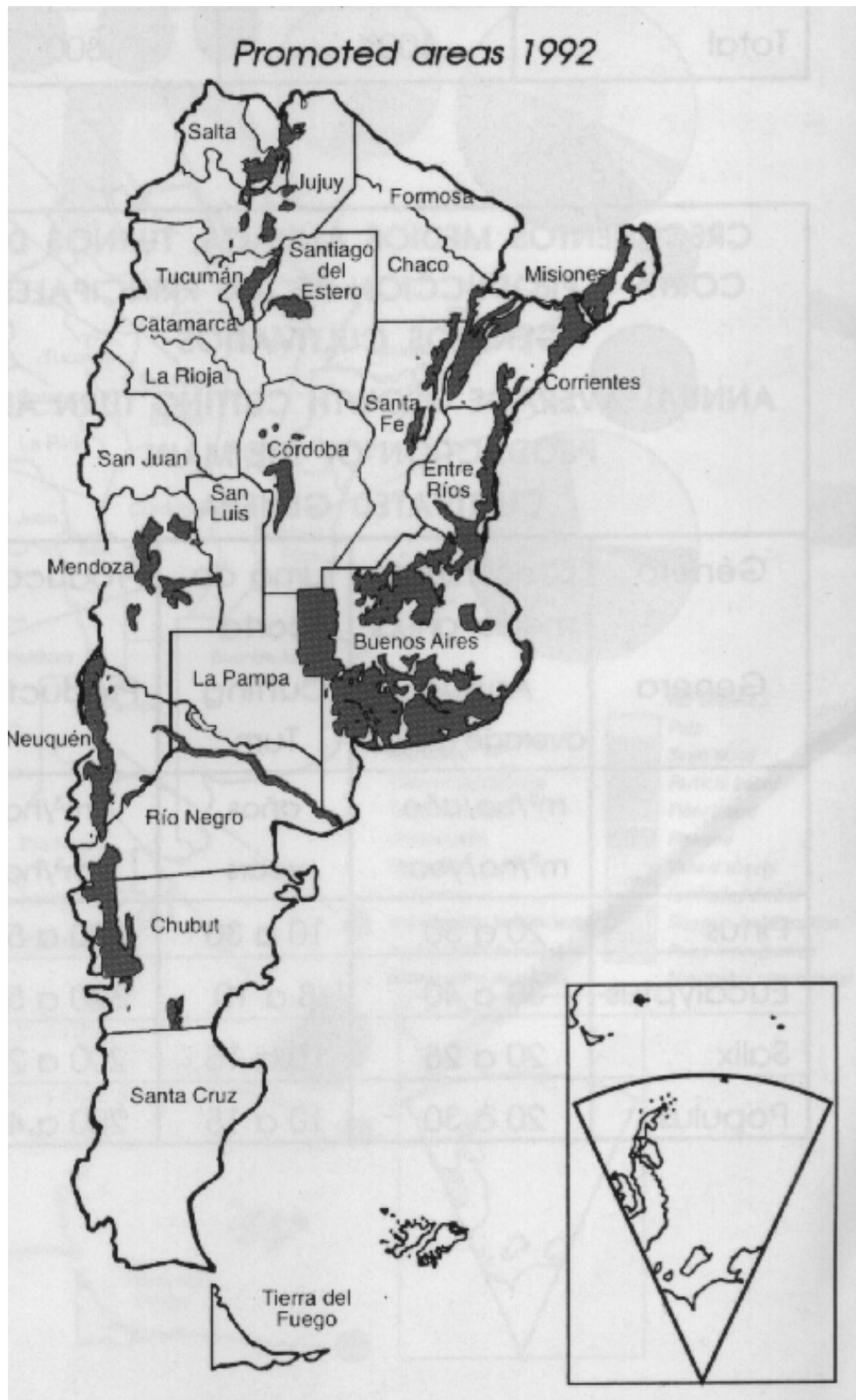
### **C. Government**

Because of its physical separation from the seat of Spanish power in Lima and the Latin American colonial culture in general, Argentina has always had a distinct culture and character. Argentines are more European than most other Latin Americans. Economically, the fertile expanse of the Pampas led to a strong presence in the world market for beef, wheat, and leather goods, creating a fierce sense of national pride manifested by Buenos Aires, "the Paris of Latin America" and the gaucho (cowboy) culture of the Pampas. Although Argentina is still one of the world's top five exporters of beef and wheat, the nation's pride has taken a beating over the past five decades. Since Juan Peron used his clout within the military and the labor movement to ascend to the presidency in 1946, political turmoil and economic isolationism have dropped Argentina from the world's 7<sup>th</sup> highest per capita GDP to 77<sup>th</sup> in 1992, although the success of recent economic reforms has raised Argentina to 28<sup>th</sup> in 1997 (World Bank 1998).



**Figure 1.** Topographic map of Argentina.  
Source: US Department of State, 1996.





**Figure 2.** Provincial map of Argentina showing areas where forest plantations are being promoted.  
Source: Argentine Secretariat of Agriculture, Livestock, and Fisheries, 1994.

**Table 1.** Summary of Argentine demographics.

Indicator		
Population (1997 est.)	35,797,985	
Population density (1997 est.)	33 persons per sq. mile	
Population growth rate (1997 est.)	1.3%	
Population distribution	85% urban, 15% rural	
Age structure (1997 est.)		
10-14 years	28%	
15-64 years	62%	
65 years and over	10%	
Sex ratio		
At birth	1.05 male/female	
Under 15 years	1.04 male/female	
15-64 years	1 male/female	
Over 64 years	.71 male/female	
Total population	.98 male/female	
Infant mortality (1997 est.)	19.6 deaths/1,000 live births	
Life expectancy at birth (1997 est.)		
Total population	74.31 years	
Male	70.67 years	
Female	78.12 years	
Total fertility rate (1997 est.)	2.69 children born/woman	
Literacy (defined as the percentage of the population 15 years and over who can read and write)	96.2%	
Male	96.2%	
Female	96.2%	
Languages	Spanish (official), English, Italian, German	
Religions	Roman Catholic 90% (less than 20% practicing) Protestant 2% Jewish 2% Other 6%	
Ethnic groups	White 85% Mestizo, Amerindian, and other nonwhite groups 15%	
Nationality		
Noun	Argentine(s)	
Adjective:	Argentine	

Source: US Central Intelligence Agency 1997

Various military dictators and juntas continued Peron's tradition of nationalism and import substitution until 1982, when the humiliating defeat to England in the Falklands War led to democratic electoral reform (Appendix A). Professing a creed of self-sufficiency, past military leaders had propped up state-supported businesses with subsidies and protected them with high tariffs. While these policies led to a high level of industrial development, it came at an exceptionally high cost. The increasing inefficiency of the economy discouraged industrial competitiveness and modernization, and eventually destroyed the currency through hyperinflation.

Despite this dubious legacy, Peronists still represent the largest single force in Argentine politics. Although Raul Alfonsín of the Radical Civic Union party was elected after the Falklands debacle, he was replaced in 1989 by Carlos Menem, a Peronist. Menem's Finance Minister, Domingo Cavallo, engineered Argentina's economic liberalization

by dismantling the economic legacy of protectionism and vigorously attacking cronyism and corruption within the public sector.

#### D. Business Climate

Economic reform by itself can only promote a limited amount of change within a country. In order to promote thorough and lasting improvements, the business community must facilitate change by altering the way in which it operates. *Export Today* warns potential investors of the considerable power still held by business cartels and labor unions in Argentina (Tuller 1994). The business environment is in the process of a complete turnaround towards efficiency and competitiveness. Change does not occur overnight, but a recent *Business Week* article profiles Argentine buyout specialist Juan Navarro, a good example of the new kind of businessman necessary for Argentina to compete successfully in the global economy. Ignoring the traditional cronyism and inefficiency of Argentina's firms, Navarro has focused on cutting costs, introducing professional management, and implementing new technology. Since he usually lays off about one third of the workers in a firm after a takeover, many Argentines view him as a heartless corporate raider. These tactics, though, have also earned him the confidence and respect of the international investment community (Mandel-Campbell 1998). Navarro is a visible symbol of the transition from an inefficient, protectionist economy to a modern, free economy. As younger businessmen educated in modern business practices take over the reigns of the economy in the coming years, the efficiency and openness of Argentina's business climate should continue to improve.

#### E. Currency, Banking, and Credit

##### i. The Convertibility Plan:

When Domingo Cavallo, a Harvard-trained economist, switched from the head of the Foreign Ministry to the head of the Ministry of Economics in 1991, Argentina's economy was in a shambles. In the midst of a deep recession, Argentina was buried in foreign debt and hyperinflation stood at over 2,300%. Cavallo set to work immediately to implement a three-pronged plan designed to: 1) peg the Argentine peso on par with the US dollar, 2) restructure foreign debt, and 3) drastically improve the efficiency of the public sector. The Convertibility Plan is considered to be absolutely sacred. The Central Bank of Argentina will not issue a peso unless it has a US dollar in reserve to back it up. The resulting inflexibility and high interest rates attributed to this policy pale in comparison to the everyday discomfort of hyperinflation. Argentines learned a very difficult lesson and are now willing to make sacrifices in order to maintain a stable currency.

The effects of the Convertibility Plan were swift and decisive. By 1993, inflation was down to 10.6% and it dropped to 0.3% for 1997. The peso was strengthened from a rate of 1,142 pesos per US dollar to just over 1:1. As the newly stable economy attracted foreign investment and generated capital by selling off state-run enterprises, the GDP increased 32% during Cavallo's 5-year tenure as Finance Minister. The Mexican peso crisis caused a bump in the upward trend, but was really a blessing in disguise. It forced Argentina to address key weaknesses in its economy, and it legitimized Argentina's economic reform by demonstrating its ability to weather a severe international economic crisis.

While the Mexican peso crisis caused temporary panic and a run on the Argentine peso, a \$4.7 billion package of loans from the IMF, the World Bank, and the Inter-American Development Bank (IDB), together with \$3 billion dollars in bonds and foreign direct investment helped Argentina meet its financial obligations and maintain sufficient cash reserves. This occurred in the face of a \$4 billion loss of international reserves and a \$6 billion drop in the Central Bank reserves due to domestic reactions. In response, the government was forced to address the lingering problems of an overvalued currency and a high current account deficit (4% of the GDP). The private sector responded by cutting costs and improving competitiveness. More importantly, however, Argentina was required to step up the process of consolidating its banking sector. Ironically, the international community regained confidence in Argentina's markets before the domestic community. Despite the fact that the public was reluctant to put its trust back into the peso during the first half of 1995, it gave a mandate to Menem and Cavallo's reforms by re-electing the president on the first ballot just five months after the Mexican peso crisis (Sanchez 1995). Three years later, Cavallo is gone but he has been replaced by a devoted disciple with a milder temperament, the Asian flu has failed to spur a

run on Argentina's peso thus far, and the international community appears to be optimistic about the long-term security of the Convertibility Plan.

The current uncertainty regarding the potential spread of the Asian economic crisis to Latin America revolves primarily around the stability of Brazil's currency, the real. It is a widely-held belief that Argentina's resistance to the crisis depends upon Brazil as well. The global financial community is much less optimistic at this writing, as the US prepares a \$30 billion preemptive bailout plan for Brazil, than it was just a few weeks previously. If Argentina's hard-fought currency reforms are heavily damaged by another major shock, it will largely be the result of events outside of their control. However, Argentina easily sold \$300 billion in debt to the international bond market in mid-November, 1998. Market analysts noted that "Argentina is turning out to be an exception to the liquidity crisis in other emerging markets, thanks to its strong banking sector and a currency board that ensures monetary policy tightens in response to external financing contractions. The capital flow to other emerging markets nearly halted after Russia's debt default and currency devaluation in August, 1998" (Bronstein, 1998).

## ii. Banking system

Argentina's banks have a history of mismanagement and have recently demonstrated a vulnerability to external economic crises. Consolidating and privatizing the provincial banks is a major priority of the government (US Dept. of Commerce 1997). These goals face some severe obstacles within the current political context. Because the federal government has less control over provincial affairs and provincial government employees, who are afraid of losing their jobs, are a strong lobby, the provincial banks are proving to be the hardest to reform. Though most of them are quite small, government-owned banks in general still maintain a large market share (US Dept. of Commerce 1996). Throughout the banking sector, the ten largest of the 171 Argentine banks control close to 60% of the market. Government banks within that group control 28.5% of the total market. (Price Waterhouse 1996). In addition, eight US banks operate eighty offices in Argentina, most notably Citibank and Bank of Boston.

## iii. Financing availability

A pegged currency, as exists in Argentina, typically indicates a scarce currency supply and high domestic interest rates. As a result, it is often cheaper for firms to obtain financing elsewhere. Although Argentina's country risk (defined as the difference between similar US and Argentine interest rates) is declining and liquidity is increasing, consumer confidence is weak and interest rates are still quite high by American standards. Stat-USA reports interest rates for the lowest-risk category of borrowers at the end of 1996 of approximately 10%, with rates often exceeding 20% for higher-risk borrowers (US Dept. of Commerce 1997). Recent GDP increases have been funneled primarily into consumption. Only when Argentines accrue more domestic savings will their cost of capital decrease and remain secure over the long-term. Argentina's consumption of imported capital goods is not without reason, however. The Ministry of Economics is quick to point out that, "more than 70% of capital goods imports [are] oriented to increase export capacity or to improve the systematic competitiveness of the trade sector" (ADI 1998). The following institutions and organizations offer loans or export insurance to companies doing business in Argentina:

### The US Export-Import Bank (Eximbank)

- ? covers the public and private sectors.
- ? guarantees trade facilities from US banks.

### The International Bank for Reconstruction and Development (World Bank)

- ? provides project funding, technical assistance, policy advice, and credit guarantees.
- ? provides financing at .5% above average borrowing cost for twelve to fifteen years.

### The International Finance Corporation (IFC)

- ? provides financing for private sector investments through long-term loans, equity investments, and other financial services.
- ? will invest up to 25% of the total project cost.
- ? provides legal and technical advice.

- ? does not require government guarantees (*this is appropriate for firms interested in direct investment financing*).

#### The USDA Foreign Agriculture Service CCC Supplier Credit Guarantee Program

- ? guarantees 90-95% of payments due to exporters of agricultural commodities through short-term financing.
- ? encourages exports, with an emphasis on high-value products with market potential, by providing credit that makes financing more accessible.

#### The Multilateral Investment Guarantee Agency (MIGA)

- ? helps investors hedge against political problems by insuring against noncommercial risk.
- ? provides promotional material and advice to help countries attract foreign investors.

#### Small Business Administration (SBA)

- ? supports small and medium sized exporters by guaranteeing working capital and business loans.

#### Multilateral Development Bank Operations (MDBO)

- ? provides counseling to US firms on multilateral bank opportunities.
- ? advocates for US firms.

#### Overseas Private Investment Corporation (OPIC)

- ? provides investment insurance.
- ? offers loan guarantees and direct loans.

#### US Trade and Development Agency (TDA)

- ? supports infrastructure development and modernization projects with loans and research grants.

### F. Infrastructure

Argentina's infrastructure is well-developed in comparison with other Latin American countries although it has much room to improve. In a general sense, deregulation and privatization have been the keys to the increased competitiveness of the domestic industry, with private firms lowering costs and increasing productivity. Since 1991, the government has sold highway concessions, deregulated ports, and privatized freight railroads. On a negative note, one of the primary reasons that Argentines do not normally build wooden houses is the inability to protect them from the threat of fire. Since there are no fire hydrants in most residential areas, wooden houses must be built with an individual water tank. This adds substantial cost to wooden housing.

#### i. Roads and highways

Argentina currently has 216,000 km of roads. Over 61,000 km are paved, including 600 km of expressways and 10,000 km of private toll roads (US State Department 1997). One hundred million dollars of additional investment in toll roads has been planned, but is now threatened by growing public opposition that favors publicly funded highways over privately funded toll roads. The International Road Federation estimates that there are 4.5 million passenger cars, 1.4 million goods vehicles, and 60,000 buses in Argentina. The government estimates the cost of shipping cargo by truck from Misiones to Buenos Aires (approximately 700 km) at \$35/ton (Forestry Development Plan 1996).

#### ii. Railroads

While Argentina's railway system has many problems, cargo freight service has improved and the estimated shipping costs from Misiones to the port at Ibicuy in the Parana River delta (360 km) are \$19/ton (Forestry Development Plan 1996). Other than that, there is not much positive to say about the operation of Ferrocarriles Argentinos, the state railway. There are almost 38,000 km of rails in Argentina, divided into 24,000 km of broad gauge (142 km electrified), 3,000 km of standard gauge, and 11,000 km of narrow gauge (26 km electrified). The rail network and the rail equipment are both old and in deteriorating condition. Significant percentages of the lines are in "regular or poor condition" and many of the locomotives and cargo cars are out of service. Grain traffic, the leading cargo of the

railway, has declined and the railroad operates with heavy losses, requiring substantial government subsidies. In addition, fare evasion is estimated to be at 60% and there are 16,000 lawsuits by employees and suppliers pending against the railway. The railway employs over 95,000 workers (Country Reports 1995).

### iii. Water transportation

While deregulation of the ports has increased the flexibility of different services offered, Argentina's port system remains costly and problematic. One importer has noted that the Japanese are no longer interested in shipping Argentine timber because they do not like the updraft at the Rio de la Plata port where the prevailing currents sometimes make it difficult and dangerous to enter the port from the ocean (Flynn 1997). River transportation leading to the ports is even more problematic. A succession of dry years and the neglect of the infrastructure have increased transportation costs significantly, particularly on the Parana and Uruguay Rivers. One report estimates that shipping costs in Buenos Aires are 67.1% higher than in Hamburg, 32.7% higher than in Rotterdam, and 35.7% higher than in Yokohama owing to delays and outdated equipment (Country Report 1995).

Buenos Aires is by far the busiest port, and other major ports involved in the transportation of goods from the northern regions of Misiones and Mesopotamia include Ibicuy and Rosario on the Parana River, Concepcion de Uruguay on the Uruguay River, and La Plata on the Rio de la Plata delta. Ships up to 23,000 metric tons can be operated in these ports. The Hidrovia (Waterway) Project, proposed in 1987 as the physical manifestation of the MERCOSUR trade agreement, is a \$1 billion project designed to dredge and straighten the Parana and Paraguay Rivers from southern Brazil to the Rio de la Plata delta. Target depths in Argentine ports are 32 ft. at Rosario, 28 ft. at Santa Fe, and 10 ft. at Iguazu, which lies much further upriver (Maradei 1997). At present, most ships can only be loaded to 2/3 capacity at Iguazu when they start to go down the river, and are later filled completely before departing for the ocean at the port cities of Montevideo or Buenos Aires (Flynn 1996).

Besides lowering transportation costs and providing Bolivia and Paraguay with access to the Atlantic, the other major goal of the Hidrovia project was to permit the transport of iron ore and soybeans through the Pantanal region of Brazil. Unfortunately, the Pantanal is the world's single largest wetland complex. Not only does it contain a vast array of unique plant and animal species but it also provides drainage and flood control for the entire watershed. Despite the obvious sensitivity of the area, the MERCOSUR countries prepared a rubber-stamp environmental impact assessment and tried to push the project through before it attracted international attention. In response, the Environmental Defense Fund put together an international team of scientists that thoroughly discredited the original environmental impact assessment and eliminated the possibility of obtaining funds from international development agencies. Their efforts also enabled a Brazilian environmental group to successfully persuade a federal judge to impose a firm injunction against the original proposal without full regulatory compliance and congressional approval. As a result, the Pantanal will not be dredged or straightened in the foreseeable future. In less controversial stretches of the river system, such as in Paraguay and Argentina, improvements have begun independently. While proponents argue that the rivers have been dredged before and are overdue for maintenance, environmentalists are worried about, among other things, the effects of disturbing the toxic sediments that have accumulated on the river bottom. Debate over environmental impacts will not slow down improvements in Argentina, and the project is expected to be completed by the year 2000. According to the government, "due to the recent free economy approach, we may affirm that in a period of not more than four years, freight costs from Corrientes or Misiones to Buenos Aires will be approximately \$US7/ton versus the current rate of \$35/ton" (Ministry of Economics 1997). By the end of 1998, more than half of the main channel of the Parana River has been dredged and signalized

Argentina's best deep water ports lie in the cold southern reaches of Tierra del Fuego. Very little industrial activity goes on there currently, but the possibility of efficient port development is one of the main factors attracting investors to the region's forest resources. The latest candidate is Trillium's subsidiary, Savia, which is trying to get approval to harvest lenga, build a sawmill, and outfit a modern port at Rio Grande.

#### iv. Air transport

There are ten international airports and 54 local airports in Argentina, as well as a large number of other runways. The country's flag carrier, Aerolineas, is primarily owned by Spain's Iberia. It handles 19% of air traffic to Europe, 29% of the traffic to the US, and 60% of the local traffic. Austral and Lineas Aereas del Estado (LADE) are the two other major airlines.

#### v. Communication & media

The telecommunications network is regulated by the National Telecommunications Commission. Since 1990, Entel, the state telephone company, has been privatized and split into two companies. The northern (Telecom) and southern (Telefonica de Argentina) companies have been sold to international consortiums (including Spain, the US, and Italy) who have invested heavily in improvements and received substantial increases in net income. Cellular telephone and satellite transmission services have also been deregulated and many Argentine companies use the cellular network as a backup system.

The state has sold off all but one of its television and radio stations. Television reaches well over 90% of the population and cable services are expanding rapidly. There are over 100 privately owned radio stations and 40 stations of the official (commercial-free) broadcasting service throughout the country. Argentina has three news agencies, two of which are privately run. The Sunday edition of *Clarín* has the largest newspaper circulation, averaging over 750,000 copies.

#### vi. Energy

Argentina is a self-sufficient energy producer, with substantial oil and gas reserves in addition to the largest nuclear and hydroelectric power generating capacities in Latin America (Table 2). The process of privatization in the energy sector is almost complete, and Argentina looks to become a net exporter of energy in the near future. Foreign companies in Argentina are free to produce or acquire energy or fuel. While Chile is even more advanced in this sector, due to its earlier privatization, Brazil has serious problems supplying its electrical power needs economically.

#### vii. Labor force

The Forestry Development Plan boasts of the country's large stock of experienced professionals trained in agronomy and forest engineering, with decades of experience in the breeding and production of fast-growing trees. The forestry sector is a vital part of the National Program Against Unemployment, which offers job retraining in planting, forest management, and other forestry activities for any unemployed head of a household. Furthermore, many workers are already highly qualified for industrial activities, equipment maintenance, planting, and harvesting. There are also several intermediate-level training centers. Job retraining for the forest products sector

**Table 2.** Argentina's energy resources.

Commodity	Amount
Electrical power generation capacity (1994)	55.5 billion KWh
Nuclear power generation (1992)	7.1 billion KWh
Thermal power generation (1992)	25.7 billion KWh
Hydroelectric power generation (1992)	19.4 billion KWh
Oil reserves (1993)	1.6 billion barrels
Crude oil production (1992)	25.5 million tons
Natural gas reserves (1993)	0.8 trillion m <sup>3</sup>
Natural gas production (1992)	20.7 billion m <sup>3</sup>

Sources: US State Department 1995; Price Waterhouse, 1997

is often cited as one of the best solutions to the problem of unemployment. Agriculture, forestry, and fishing, which employs 11% of the labor force, is second only to manufacturing which employs 17.3% of the workforce.

Price Waterhouse (1995) summarizes the general labor conditions in Argentina as follows:

- ? A skilled and semiskilled labor pool is available due to high unemployment.
- ? Strong unions are present, generally organized by industry.
- ? Employer social security contributions add 33% to payroll costs.
- ? There is a compulsory 13<sup>th</sup>-month salary.
- ? Resistance to working with foreign manufacturers/managers is minimal.
- ? Fringe benefits are generally a matter of the employer's attitude to labor.

While Argentina's labor force is apt to demand more competitive wages because it is well-educated and accustomed to a relatively high standard of living, the relatively high level of unemployment may counterbalance this. Average monthly salaries in 1994 were approximately \$US450 for skilled labor and \$US350 for semiskilled labor. Average monthly salaries for managerial and professional staff ranged from \$US1,000 to \$US5,000 (Price Waterhouse 1994). Per capita income has increased almost 7% since 1994 as well. Clearly, Argentine salaries are higher than those in most Latin American and developing countries. At the same time, the labor force is very productive and well-equipped to learn and perform new tasks. In addition, labor costs may be artificially low at the present time due to the high unemployment created by the privatization of many state-run enterprises.

### **3. Economic Data and Trends**

#### **A. Economic Policy**

Argentina's economic turnaround over the past decade has been so complete as to render comparison to the past impossible and irrelevant. The most frightening thing about the economic news coming from Buenos Aires these days is that it seems too good to be true. The economy is not perfect by any means, but it is performing much better, and has come further in the right direction than anyone probably imagined it could.

#### **i. The historical context: Protectionism leads to hyperinflation**

Roque Fernandez, as Domingo Cavallo's appointee to head the Central Bank in 1991 and his successor as Minister of Economics in 1996, is eminently qualified to comment on Argentina's economic situation. This is how he describes the transition:

Successive problems in the structure of the Argentine economy, including growing fiscal deficits, increased monetary emission and rising internal debt exploded in a bout of hyperinflation in 1989, when consumer prices rose by 4,923 per cent. This hyperinflationary crisis helped make it clear to the population at large that it was not going to be possible to achieve growth and stability on the basis of a deficit-ridden State that was involved in numerous areas of a highly regulated, closed economy.

The incoming government of President Carlos Menem was quick to act, implementing what has today become known as the Argentine model, a dynamic economic policy that has been carried out in four clearly identifiable stages (Fernandez 1996).

The first stage of the Argentine model took place between 1989-1991, before Cavallo and Fernandez took charge of Argentina's finances. It centered around the 1989 Reform of the State Act, which formally recognized the failure of the previous economic system and separated the functions of the public and private sectors. The federal government further differentiated those social services which could be transferred to provincial and local governments for better administration. The next major task was tax reform. The first reforms focused on fairness, efficiency, and simplicity. Subsequent reforms addressed the problem of tax evasion and improved collection procedures in general. The final task of the first stage of the reform process was the privatization of state-owned enterprises. Not only did Argentina raise the valuable cash necessary to lighten its debt burden, but it also "put an end to the structural causes of the chronic fiscal deficit" (Fernandez 1996). All of these measures together took up



the challenge of completely reinventing Argentina's domestic economy and improving the investment climate in order to encourage profits, develop capital markets, and lower costs of production.

## ii. Cavallo's reforms

Fernandez calls the second stage of the Argentine model, "macroeconomic consolidation for stability with growth." This stage began in 1991, when Cavallo, Fernandez, and their team of zealous reformers took control of the economy. Cavallo's attack was three-pronged. The crucial first piece, the Convertibility Plan, was discussed earlier in this paper. The second piece of the plan was to eliminate the public sector deficit, while the third piece was to reopen Argentina's economy to the rest of the world.

Reducing the public deficit involved the continuation of many efforts undertaken in the first stage of reform. Spending was cut further, while tax reform and privatization continued (and still continue today). In order to complete the process, the public debt burden needed to be consolidated and restructured. In 1989, Argentina was actually in default as the result of a debt crisis that began in 1982, and had no access to foreign credit. While the privatization of state-run enterprises worked directly towards the goal of reducing public debt, that alone was not enough.

As any nation that has undergone successful economic reform understands, it is as important to set up clear and transparent policies as it is to restrict an activity that is out of control. Argentina realized this with regards to public borrowing and acted accordingly. In 1992, after the Convertibility Plan took effect, the Central Bank was made independent from the state. In that same year, Argentina began a three-year IMF-approved program designed to facilitate Brady Bond agreements with foreign banks. As a result, interest rates were lowered and payment terms were extended. Argentina's debt servicing decreased from 6% of the GDP in 1984-1986 to 2% in 1992 and 1993. By early 1998, total foreign debt had been reduced to about \$100 billion, just over \$2500 per capita or 30% of the GDP. Argentina plans to borrow more than \$13 billion in 1998, \$8 billion of which will come from international markets. About \$10 billion will be used for debt service, while the remainder will cover the projected budget deficit. By 2001, Argentina projects the need to borrow roughly twice the current amount, which could be problematic if global interest rates rise. The government restructured and extended its debts in the hope that it would be better able to pay them off after successful economic reform measures had been implemented.

Opening Argentina's economy required the establishment of free markets within the country as well as the removal of the protective barriers that sheltered inefficient industries from foreign competition. In the former case, market reforms eliminated subsidies, price controls, and monopolies in a wave of deregulation. Only Menem's political charisma made the public accept these drastic but necessary changes. In the latter case, export duties, tariffs, and non-tariff barriers were reduced or removed completely. Somewhat coincidentally, 1991 was the year that the MERCOSUR agreement between Brazil, Argentina, Uruguay, and Paraguay took effect and eliminated most of the barriers between member countries. With other nations, tariffs were set at levels that balanced the costs of selling in foreign and domestic markets. The results of these policy reforms have been quite impressive. Because of the obvious benefits, Chile and Bolivia have also entered MERCOSUR as associate members. The integration of South America's economies opened new markets, improved the efficiency of distribution, and encouraged the development of economies of scale. This in turn enabled the MERCOSUR countries to attract foreign investment and compete better in global markets. Until fears of currency devaluation in South America put the financial community on alert, foreign investment had flowed in at an impressive rate and trade within MERCOSUR had been robust as Argentina strove to reclaim the prominent position in the global economy it held in the first half of the century.

## iii. Current economic policy considerations

This paper has already discussed the third stage of Argentina's model for economic growth. Roque Fernandez called it "a test of strength," referring to the Mexican peso crisis. Argentina passed the test, suffering through a recession in 1995 (-4.6% growth) followed by a rebound year in 1996 (4.3% growth). 1997's figures are the latest available and they show a return to 1994 growth levels with an impressive 8.2% increase in GDP (second only to China's 8.8% increase). Government forecasts prepared in conjunction with the 1998 budget predict growth between 5-7.5% from 1998 until the turn of the century (although recent estimates call for economic growth in the range of 0.8 to 2.5% in

1999 (Bronstein 1998). Although the Asian crisis has certainly slowed down the economic process, Argentina still projects a 5.0% growth rate for 1998, compared to a 2.0% global average. This leads to the fourth and final stage of the Argentine model, the “program of reforms for a new society.” It consists of: “a second generation of structural reforms, with specific objectives: to encourage job creation, ensure market competition to benefit consumers through better prices and to consolidate fiscal equity, so as to be able to increase social spending on those who are unable to generate income.” (Fernandez 1996)

The program includes the following measures:

- ? Further simplification of tax collection.
- ? Pre-shipment (allowing the payment of duties to be delayed until payment has been received from the Argentine customer) to equalize duty collection and competition with domestic firms.
- ? Increased participation in the social security system.
- ? Regulations on privatized services to protect consumers.
- ? Reform of the budget process to better identify the fiscal impact of policy decisions.
- ? Improvements in social spending by linking allocation with efficiency.
- ? Encouragement of small business development with an instrument known as the credit invoice.
- ? Elimination of distortions in the employment market.

Argentine economist Adalbert Krieger Vasena identifies two additional factors that Fernandez does not address in the four stages of the economic reform plan. First, he stresses improvements in the education system, which Fernandez never mentions in conjunction with social spending. Second, he urges the government to pursue World Trade Organization action against the dumping of Asian imports into Argentina (Krieger Vasena 1998). This last point may be an indication, not that dumping is occurring, but that cheap Asian imports are perceived to be a source of concern regarding Argentina’s economic growth.

## B. Macroeconomic Indicators

### i. Growth

With a 51% increase in GDP from 1990-1997, Argentina’s economy is growing at a rate unprecedented since the turn of the century. It recovered strongly from the Mexican peso crisis and is currently performing beyond expectations (Table 3).

**Table 3.** Macroeconomic indicators.

Indicator	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
GDP Growth Rate	-1.9	-6.2	-1.3	10.5	10.3	6.3	8.5	-4.6	4.2	8.2
Total GDP (Billions of \$US)	197	194	182	180	226	255	280	267	282	310
Per Capita GDP (\$US)	6,030	5,920	5,570	5,500	6,800	7,770	8,320	7,940	8,200	8,900
Inflation (% Variation)	343	3081	84.7	17.5	17.5	7.4	3.9	1.6	0.1	0.3
Unemployment (%)	5.9	7.3	(NA)	6.8	6.9	9.2	12.2	16.5	17.3	13.7

Source: Ministry of Economy & Public Works & Services 1998

### ii. Inflation

The success of economic reform has taken Argentina from hyperinflation to the lowest inflation rate in Latin America and onto the verge of deflation. Consumer price increases fell below 10% in 1993, and dropped all the way to 0.3% in 1997. The 0.1% inflation in 1996 was a record for the post-World War II era in Argentina.

### iii. Unemployment

Unemployment has been the Achilles heel of many otherwise successful economic reform programs. Unemployment rates that rise dramatically as a result of privatization often fail to recover fully as the economy improves. This eventually becomes a political liability because of the resentment it causes in the work force. This has traditionally been one of the major arguments used against free trade initiatives in the US. In Argentina, unemployment fell 3.6% in 1997 to a level of 13.7%, but is still 7.8% higher than it was in 1988, prior to the implementation of the economic reform agenda. Krieger Vasena (1998) states that, while the level of unemployment rose by 106.6% between 1990 and 1996, labor productivity also increased by 131%, further compounding the unemployment problem.

### iv. Credit and investment

As the Argentine peso stabilized and capital reserves accumulated, credit risk and interest rates decreased while investment increased (Table 4). Investment risk has now fully recovered from the Mexican peso crisis, having earlier dipped below 1994 levels. A recent report warns of a rapidly widening trade gap in 1998 fueled by a 9% decrease in exports (led by decreases in energy exports) and an 11% increase in imports (led by a 34% increase in capital goods) (*Business Week* 1998). Argentina's consumers have maintained a steady demand for imported capital goods even when external market conditions weakened the economy. Table 5 summarizes the changes in various measures of creditworthiness that have affected Argentina's credit rating over a 12-year span.

**Table 4.** Money and interest rates in Argentina.

	1993	1994	1995	1996	1997
Net domestic credit (% change)	21.0	19.1	5.7	4.0	13.1
Private sector deposits (% change)	54.1	19.7	-3.1	22.2	28.1
Interest rates (annual average %) 90-day					
peso time deposits	12.8	8.8	13.1	17.3	7.0
30-day peso time prime rate	12.3	10.1	17.8	10.5	9.1

Source: Central Bank of Argentina, National Institute of Statistics 1998

### v. Fiscal deficit

The fiscal deficit, the difference between government spending and revenues, is higher than most economists would like, at 1.9% of GDP. However, the IMF Executive Board was pleased with 1997's progress in this area specifically, and with Argentina's fiscal performance in general (IMF 1997). The newest wave of economic reforms is targeted specifically at controlling spending and increasing revenue, as well as generating employment and increasing social welfare. Nonetheless, a July 1998 report warned that politically motivated government spending such as road programs, weak tax reform legislation, and unfavorable external economic conditions will cause Argentina to miss the 1998 IMF budget targets. The IMF recommended cuts in public spending, an increase in the bank-reserve requirement, and additional tax reform to correct the current situation (*Business Week* 1998). Table 6 illustrates the extent of Argentina's budget deficit and debt burden.

### vi. Current account deficit

The current account deficit measures a country's fiscal budget balance combined with its trade balance. At 3.8% of GDP, Argentina's 1997 current account deficit is a cause for concern (Table 7). In light of the uncertainty in the global economy, the IMF believes that this is an important indicator to watch (IMF 1997). If major problems occur, this could easily be the source of a revenue shortfall. With the trade deficit soaring in 1998, the IMF has predicted that the current account deficit could reach 4.75%. *Business Week's* July 1998 article predicted that major changes would not occur until after the 1999 elections. As economic instability in Latin America became more of a threat, these corrections became undeniably necessary. In September, the Argentine government cut non-essential expenditures, such as road programs, and has enacted post-election economic policies that prevent the current

government from jeopardizing economic reform in order to win the election, and also prevent an incoming opposition government from dismantling those reforms after the election.

**Table 5.** Creditworthiness indicators.

	1982	1989	1994
<b>Foreign Debt Ratios</b>			
Total Foreign Debt/GDP	52%	76%	31%
Total Foreign Debt/Exports of Goods and Services	346	411	416
Total Debt Service/Exports of Goods and Services	79	58	38
Interest Payments/Exports of Goods and Services	39	40	23
<b>Structure of the Foreign Debt (% of total) by Creditor</b>			
To Multilateral and Bilateral Creditors	15%	28%	28%
To Commercial Banks	70	62	41
To Other Private Creditors	16	10	30
<b>By Maturity</b>			
Medium- and Long-Term Debt	63%	82%	88%
Short-Term Debt	35	10	12
Interest Arrears	2	9	0
Months of Imports Covered by Reserves	2.5	1.3	5.2
Current Account Deficit/GDP	0.6%	2.2%	(4.0%)

Source: The World Bank, the International Monetary Fund, the Institute of International Finance, and NationsBanc Capital Markets, Inc., estimates, 1995.

**Table 6.** Public finance (percentage of GDP).

	1993	1994	1995	1996	1997
Federal government balance	0.9	-0.5	-1.4	-2.2	-1.4
Overall public sector balance	-0.2	-1.7	-3.4	-3.3	-1.9
Total public debt	29.2	31.1	35.9	37.4	36.2

Source: Central Bank of Argentina, National Institute of Statistics 1998

**Table 7.** Balance of payments (in millions of \$US).

	1993	1994	1995	1996	1997
Trade balance	-2,427	-5,750	844	49	-4,892
Exports (f.o.b.)	13,117	15,841	20,967	23,811	25,360
Imports (c.i.f.)	15,544	21,591	20,123	23,762	30,252
Current account <sup>1</sup>	-7,853	-10,341	-4,302	-5,781	-12,196
As % of GDP	-3.0	-3.7	-1.5	-1.9	-3.8
External debt (as % of GDP)	23.4	24.7	24.4	25.9	26.3

Source: Central Bank of Argentina, National Institute of Statistics 1998

<sup>1</sup>The authorities estimate a lower current account deficit (by about \$US 1.6 billion or 0.5% of GDP) on account of interest receipts on assets held abroad by the private sector. Work on improving the estimation of these assets is underway.

## C. Leading Economic Sectors

Argentina's agricultural sector is the backbone of the economy, often subsidizing other sectors during economic downturns. The sector is highly export-oriented and the top export commodities are meat, corn, wheat, and oilseeds. The primary trade partners are the US, Brazil, Italy, Japan, and the Netherlands. The service sector is experiencing the most rapid growth, led by banks and insurance companies, gas, electric, and water utilities, transportation, communication, retail, and hotels. Industrial output has been steadily increasing in recent years, and comprised 31% of the GDP in 1994. The leading subsectors are food processing (with 25% of the value of industrial output), metallurgy, chemicals, and construction (US Dept. of Commerce 1996).

The US Department of Commerce's 1997 Country Commercial Guide lists the ten best prospects for investment in non-agricultural goods and services and the five best prospects within the agricultural sectors (Table 8). The general perception is that, while the flood of privatization is coming to an end, there is still much to be done with infrastructural improvement, services, and construction. In particular, the market for heavy machinery and equipment should be strong across many different manufacturing sectors.

**Table 8.** Argentina's most promising sectors for investment.

Non-agricultural goods	Agricultural goods
1. Travel and tourism services	1. Planting seeds
2. Franchising services	2. Pet food
3. Electric power generation and transmission equipment	3. Dairy products
4. Medical equipment	4. Processed fruits and vegetables
5. Telecommunications equipment	5. Tree nuts
6. Airport and ground support equipment	
7. Construction and building materials	
8. Packaging Equipment	
9. Pollution Control Equipment	
10. Computer and Peripherals	

Source: National Trade Data Bank and Economic Bulletin Board - products of STAT-USA, US Dept. of Commerce 1998.

## D. Foreign Trade

### i. Overview

The data pertaining to Argentina's trade balance is summarized in Table 7 above under the current account deficit. Even though Argentina's exports have grown an average of 22% annually since 1994, the trade balance was negative again in 1997 after two positive years. This was partly due to the rebound of grain and dairy prices, which were unusually strong in 1996. Exports are an extremely important part of the country's economic reform, as is any activity that generates foreign exchange, and exports now generate almost 10% of Argentina's GDP. Unfortunately, the average contribution of exports to GDP across all of Latin America is 16.6%. The continuation of productivity increases, new investments, increased diversification of producers and markets, and low inflation rates should help Argentina increase total exports (US Dept. of Commerce 1997).

### ii. Direction of trade

The direction of Argentina's trade can be characterized by two primary factors: the rapid expansion of trade within MERCOSUR and an increasing trade deficit with the US due to the increased consumption of capital goods. While trade between Argentina and Brazil dominates MERCOSUR, trade with the other countries in the pact has grown 500% since 1991. In 1996, MERCOSUR accounted for one-third of Argentina's foreign trade. Chile is a crucial member since it acts as a gateway to the Pacific Rim (US Dept. of Commerce 1997).

US exports to Argentina hovered around \$1 billion per year for much of the 1980s but increased rapidly during the 1990s. They reached \$2 billion in 1991, \$3 billion in 1992, \$4 billion in 1994, and are now approaching \$5 billion. Since domestic consumption is forecast to grow faster than domestic saving, and GDP should increase at 5-7% per year,

Argentina's appetite for American capital goods should remain strong. Argentina's trade deficit with the US totaled over \$2 billion in 1997, and \$13 billion for the period from 1993-1997. Argentina occasionally finishes any given year with a trade deficit with either Brazil, the EU, or the rest of Latin America, but it never registers a deficit comparable to that which it regularly has with the US (Table 9). The EU typically comprises about one-quarter of Argentina's foreign trade.

**Table 9.** Argentina's major trading partners in 1996.

<b>Country</b>	<b>Exports (\$US million)</b>	<b>%</b>	<b>Imports (\$US millions)</b>	<b>%</b>	<b>Trade Balance (\$US million)</b>
Brazil	6,615	28	5,327	22	1,288
United States	1,974	8	4,749	20	-2,775
Chile	1,766	7	559	2	1,207
Netherlands	1,225	5	223	1	1002
Italy	722	3	1,504	6	-782
Germany	565	2	1,427	6	-862
France	297	1	1,181	5	-884
Others	10,647	45	9,792	39	855
Total	23,811	100	23,762	100	-49

Source: IMF Direction of Trade 1997.

### iii. Composition of trade

Of the almost \$7 billion in Argentine exports to Brazil in 1997, almost half were industrial goods such as automobiles, auto parts, chemicals, and machinery. Much of this trade was simply intra-company transfers made by multinational corporations (US Dept. of Commerce 1998).

Table 10 lists the top export and import commodities from the US to Argentina. The list of exports should look familiar since it mirrors the previous list of leading prospects presented in Table 8 almost exactly. The list of top imports is quite different than either the composition of trade with Brazil or imports from the US.

**Table 10.** US composition of trade with Argentina in 1996.

<b>Top Exports</b>	<b>Top Imports</b>
Travel and tourism services	Precious and semiprecious stones
Franchising services	Fruits and nuts
Electric power generation and transmission equipment	Animal and vegetable products
Medical equipment	Sugar
Telecommunications equipment	Petroleum
Airport and ground support equipment	Machinery
Construction and building materials	Iron and steel
Packaging equipment	Leather articles
Pollution control equipment	Tobacco
Computers and peripherals	

Source: US Department of Commerce, Big Emerging Markets 1996.

## E. Economic Outlook

Argentina's economic reforms, especially the Convertibility Plan, appear to be secure for the time being. No drastic changes are expected through the next presidential elections, since all of the major candidates tacitly support most of the reforms. These reforms have in fact been locked into place, through agreements with the IMF, until the turn of the century. The main concerns with Argentina's economy are the threat of currency devaluation in Brazil, a flood of cheap imports from Asia, and the lingering trade deficit. None of these threats appear particularly significant when compared to the strength, momentum, and sound management that Argentina's economy has in its favor. However, with Brazil's currency teetering on the brink of collapse, investors have recently lost a great deal of confidence in South America.

Looking towards the future, Argentina's leaders point to the aggressive labor and tax reform legislation soon to be implemented as evidence of their continued progress. They also point to their new agreement with the IMF. They are taking an approach akin to preventive medicine, rather than crisis management, in order to be prepared for the possibility of another external shock that could jeopardize the integrity of the peso and the growth and stability of the domestic economy. On the negative side, a decrease in oil prices, a bad year for the agroindustry due to flooding, economic uncertainty in Brazil, and an increase in government spending have prompted some speculation that Argentina's economy is growing too fast (*Business Week* 1998). However, given the trend of the past decade, it should be able to correct itself shortly. Although Argentina's economic reform has consistently been slowed by the political need to limit austerity and fiscal discipline, it has not yet been sidetracked. As for the spread of the global economic crisis, it remains to be seen whether or not Argentina is prepared to sustain an economic shock that is potentially much stronger than the Mexican peso crisis.

## 4. Argentina's Forest Resources

### A. Native Forest Resources

Argentina's national pride and economic success have historically revolved around its agricultural sector. As such, forests were often viewed as an obstacle to optimum land use. This led to a very high deforestation rate, roughly one million hectares (ha) per year, early in the century as land was cleared for agriculture. Argentina's native forests, estimated to cover 100 million ha in 1914, were half gone by the end of the 1950's. Since then, the rate of deforestation has decreased to about 500,000 ha per year, leaving Argentina with about 37 million ha of native forest, covering just over 21% of its total land area. Approximately 20 million ha of native forest are considered commercially productive (Blackman, *ed.*, 1995).

As one might expect, the native forests have never been managed for production and have never been thoroughly evaluated. Although reliable statistics do not exist, Argentine officials estimate the total value of the native forests to be \$US 160 billion and the annual allowable cut, assuming an annual growth rate of one cubic meter per hectare per year, to be twenty million cubic meters annually (Blackman, *ed.*, 1995). In 1994, native forests provided 20% of the raw material input required by the forest products industry. To be sure, wood has always had its traditional uses such as firewood, charcoal, construction timber, and railroad ties. Nevertheless, the traditional lack of emphasis on forest management and the long distances between the country's population centers and the native forests have virtually wiped the forests from the national consciousness. Only the government's promotion of plantation forestry and the importation of the environmental movement from Europe and the US have been able to re-establish some sort of connection between Argentines and their native forests.

The seven major native forest types identified by the Secretariat of Agriculture, Livestock, and Fisheries, the amount of forested land in each, and the percentage accounted for by each are summarized in Table 11. The timber production from native forests by region for the period 1978-1987 is presented in Table 12. While this data is very old, the official inventory is still in progress and reliable statistics are not available. These figures provide an overview of the typical harvests before the recent reform of the forestry sector. The economic viability of the native species in each forest type will be discussed in detail later in this section.

**Table 11.** Native forests by type and area.

Forest Type	Area (000ha)	% of total
Misiones rainforest	2,000	5
Tucuman rainforest	2,500	7
Chaco Park forest	25,500	69
San Luis-LaPampa forest	1,800	5
Mesopotamic forest	1,400	4
Western woodlands	1,900	5
Subantarctic forests	1,900	5
<b>Total</b>	<b>37,000</b>	<b>100</b>

Source: SAGPyA 1996

**Table 12.** Native forests roundwood production by region (m<sup>3</sup>).

Forest Type	Average 1978-1987	1987
Misiones	528,000	891,000
Mesopotamia	8,000	10,000
Pampas	3,000	2,000
Chaco	464,000	349,000
Tucuman	214,000	221,000
Western Hills	8,000	1,000
Andes	83,000	143,000
Tierra del Fuego	68,000	79,000
<b>Total</b>	<b>1,375,000</b>	<b>1,696,000</b>

Source: SAGPyA 1990

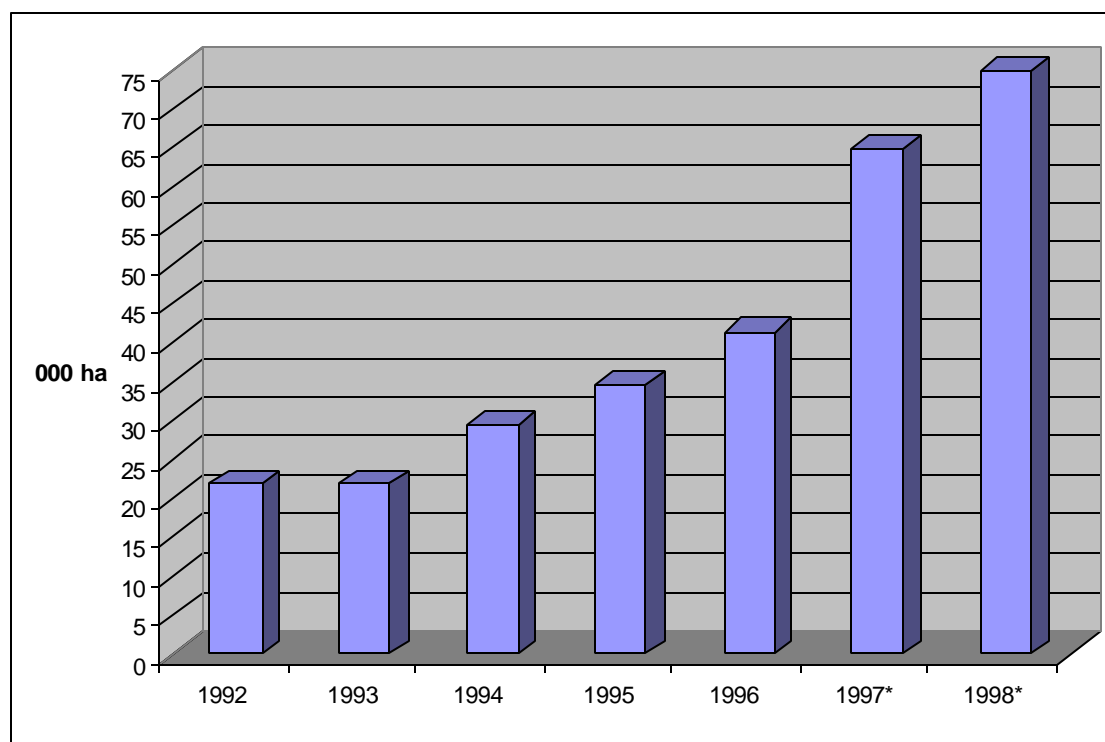
## B. Plantation Resources

Official 1996 statistics published by the Secretariat of Agriculture, Livestock, and Fisheries (SAGPyA) estimate that Argentina contains 880,000 ha of forest plantations. These numbers pale in comparison to the estimates of 20 million hectares that the Argentine government claims to be available for future plantations. Annual growth in plantation development reached 60,000 ha in 1997 (Figure 3). The government's goal is to increase the annual rate of plantation establishment to 200,000 ha. Argentina's plantations are concentrated most heavily in the Littoral Region of the north (including Misiones), in the area bordering the Uruguay river, and in the Parana River delta (Figure 4). The Patagonia region to the south is another area that has been cited frequently as having good potential for forest plantations without competition from agriculture. In recent years, more resources and energy have been invested in retooling the forest products industry than in expanding the plantation base for the future. Investors, both domestic and foreign, seem reluctant to invest in plantation development in Argentina. They are generally more interested in developing the domestic market and processing sector first. The Chileans, who have been more aggressive in investing in virtually every sector of the forest products industry, have been more active in developing plantations than others.

### i. Advantages of plantations

There are several competitive advantages to plantation forestry in Argentina. Growth rates are quite high: among the world's best in the country's subtropical regions, where they are consistently 3-10 times higher than those in the Northern Hemisphere. Although transportation costs are high, land and planting costs are low. The soil, climate, and rainfall conditions are all favorable to a variety of plantation species across the country. Almost all of the land available for plantation establishment is private, with few if any restrictions on plantation development. Plantations are in fact subsidized at a rate of \$340-700 per hectare by federal and provincial governments, depending upon the





**Figure 3.** Area of forest plantations registered with the Forestry Promotion Regime (\* preliminary data).

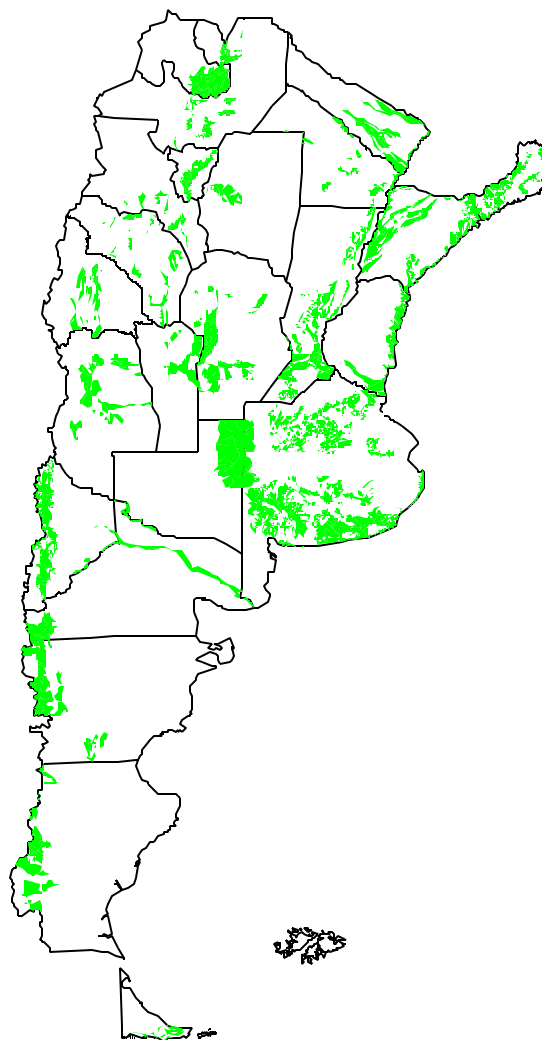
Source: SAGPyA 1997 (based on National Budget allocations).

region and the species being planted. Lastly, there are no economically significant pests or phytosanitary problems in Argentina (SAGPyA 1998).

The primary species planted in Argentina are the southern yellow pines and eucalyptus in the north, pondersosa pine, lodgepole pine and Douglas-fir in the south, and willow and poplar wherever appropriate. Tables 13 and 14 present the silvicultural data concerning the growth rates, cutting cycles, land prices, planting costs, and rate of return that can be expected in Argentina. The estimated planting costs in Table 14 cover a broad range of operations, from small, low technology operations to large, high-tech operations with mechanized planting equipment and nursery facilities. Compare these numbers to average growth rates for southern pine of 10-18 m<sup>3</sup>/ha/year in the southeastern US and 2-5 m<sup>3</sup>/ha/year in eastern Canada and Scandinavia (SAGPyA 1997). Second-growth Douglas-fir in the Pacific Northwest region has typically grown at a rate of 5-11 m<sup>3</sup>/ha/year, but now often grows at rates better than 15 m<sup>3</sup>/year due to improved forest management techniques. Given the low cost of land and the rapid growth rates, the investment of both time and money required to produce good quality timber in Argentina should be extremely competitive on a global scale.

## ii. Species mix of plantations

Two-thirds of Argentina's pine plantations are in Misiones and Corrientes (Table 15). Corrientes, Entre Rios, and Buenos Aires, with sandier soils and less rainfall than Misiones, contain 80% of the country's eucalyptus plantations. Willow and cottonwood plantations are concentrated in the provinces of Buenos Aires and Entre Rios, with substantial areas of plantations in Rio Negro to the south and Mendoza to the west. The top four provinces, all located along the northeastern coast, contain over 90% of the total forest plantations in Argentina.



**Figure 4.** Location of forest plantations registered by the Forestry Promotion Regime.  
Source: ADI 1998.

**Table 13.** Growth rates and cutting cycles.

Species	Province	Growth Rate (m <sup>3</sup> /ha/yr)	Cutting cycle Avg. # of yrs.
Pine ( <i>P.taeda</i> )	Misiones/NE Corrientes	35	18-25
Pine ( <i>P.elliotti</i> )	Misiones/NE Corrientes	30	18-25
Pine ( <i>P.taeda</i> )	S. Corrientes/Entre Rios	35	18-25
Pine ( <i>P.elliotti</i> )	S. Corrientes/Entre Rios	16-20	22-25
Eucalyptus spp.	Corrientes/Entre Rios	38	8-15
Eucalyptus spp.	Salta/Jujuy	20-25	7-10
Eucalyptus spp.	Buenos Aires	25-30	8-10
Cottonwood	Buenos Aires/SE Entre Rios	22	10-15
Willow	Buenos Aires/SE Entre Rios	20-22	12
Cottonwood	Mendoza/Rio Negro	20-25	NA
Douglas fir	Nequen/Chubut	16-24	25-35
Ponderosa pine	Nequen/Chubut	18-25	35

Source: SAGPyA 1994

**Table 14.** Expected land costs, planting costs, and rate of return (1995/1996 values).

Species	Province (or Country)	Land price \$US/ha	Planting Cost (\$US/ha)	Estimated Rate of Return on Investment
Pine	Misiones	89-267	800-889	10-12%
Pine	N. Corrientes	178-444	533-622	12-14%
Eucalyptus	Corrientes	178-444	600-677	12-13%
Eucalyptus	Entre Rios	311-622	556-622	13-14%
Pine	Neuquen/Chubut	89-267	444-556	10-12%
Pine	Chile	1,100		
Pine/Eucalyptus	Brazil	890-1,780		

Source: SAGPyA, 1994

**Table 15.** Total plantation area by species type (000ha).

Province	Total plantations	Pine	Eucalyptus	Willow/ Cottonwood	Others
Misiones	197	177	--	--	20
Corrientes	151	82	69	--	--
Buenos Aires	145	16	61	64	4
Entre Rios	87	10	57	20	--
Neuquen	35	31	--	4	--
Rio Negro	32	25	--	7	--
Santa Fe	27	3	23	1	--
Jujuy	19	5	14	--	--
Mendoza	15	--	--	15	--
Chubut	11	10	--	1	--
Others	63	26	8	24	4
<b>Total</b>	<b>781</b>	<b>385</b>	<b>232</b>	<b>136</b>	<b>28</b>
<b>% of Total</b>	<b>100</b>	<b>49</b>	<b>30</b>	<b>17</b>	<b>4</b>

Source: SAGPyA, 1994. -- indicates less than 500 ha

## C. Regional Profiles

Argentina's Forestry Development Plan promotes the development of plantations in the Littoral Region and Patagonia, two regions that are better suited to silviculture than agriculture. The seven forest types defined by SAGPyA are Misiones rainforest, Tucuman rainforest, Chaco Park forest, Mesopotamic forest, Western woodlands, San Luis-La Pampa forest, and subantarctic forest (Figures 2, 4, and Appendix D). This section will discuss the forest types located within the Littoral Region followed by Patagonia and the other regional forest types in the order of their relative economic importance.

### i. The Littoral Region

The Littoral Region includes Mesopotamia and its river deltas. This area, which encompasses the Misiones rainforest in the north and the Mesopotamic forest to the south, has traditionally been the woodbasket of Argentina because of the ideal growing conditions and the lack of competition with agriculture. The roots of the word Mesopotamia means "in between two rivers." The three provinces within the region are all sandwiched between the Parana River (which is the longest river and has the strongest current in Argentina) and the Uruguay River. The two southern provinces are Entre Rios (meaning "between rivers") and Corrientes (meaning "currents"). The northern part of Buenos Aires province, other parts of which are also included in the Metropolitan region and the Pampas region, lie within the river deltas of Mesopotamia as well.

**Misiones rainforest:** The lush and moist subtropical rain forest of Misiones, located along the Atlantic coast in the northeastern corner of the country, contains 5% of Argentina's native forests and represents the southernmost extension of the forest ecosystem that dominates southeastern Brazil. The density of the vegetation and the moist tropical climate of the area make timber harvest operations difficult and expensive, but encourage rapid growth. The leading native commercial timber species is auracaria, or parana pine. The increasing scarcity of parana pine just north of the border in Brazil led to the development of southern pine plantations in the region. Faced with a prohibition on the further harvest of the region's native species in the 1960's, Brazilians first promoted exotic pine species to supply the pulp and paper industry because of their higher growth rates. They later discovered that, when properly managed, southern pine had value in the export market (Battistella 1997). Argentine foresters, with the help of government incentives, were quick to follow the example of their neighbors to the north.

Misiones has long supported the vast majority of Argentina's pulp production, and southern yellow pine plantations have been established to reforest the province. Slash pine (*P. elliotti*) was introduced first, but loblolly pine (*P. taeda*) has achieved better results and is now more prevalent. Eucalyptus (*E. grandis* and *E. dunii*) grows incredibly fast in Misiones, but is generally reserved for other provinces with poorer soils. There are smaller volumes of Parana, Caribbean, and Honduran pine, as well as Chinaberry (*Melia azederach*) and kiri (*Paulonia fortunei*). The province has good soils for forestry, is covered by rolling hills, and receives 1,600-1,900 mm of precipitation annually (Blackman, *ed.*, 1995).

**Mesopotamic forest:** The Mesopotamic forest type includes the provinces of Corrientes and Entre Rios, as well as the northern edge of Buenos Aires province. Located in a region of prairies and marshes just south of Misiones, the Mesopotamic forest contains 5% of Argentina's native forests ranging from jungles to pine groves. While the native forests are not interesting from an economic perspective, this area has been targeted for significant plantation development because of its climate, location, and lack of agricultural activity.

Corrientes has sandy soils and a climate similar to the southeastern US. It receives about 1,200 mm of rain per year. The northeastern region of the province is very similar to Misiones, and is thus well-suited for southern pine. The southeastern corner of the province, with less moisture and sandier soils, is dominated by eucalyptus plantations. During the first wave of plantation subsidies in the 1950s, many plantations were established as tax shelters and subsequently neglected. These "fiscal forests" generally yield relatively low-quality timber and are commonly located far from production centers. The recent revival of interest in plantation forestry, however, has encouraged a different philosophy of forest management. As a result, both the genetic stock and forest management practices have improved substantially (Blackman, *ed.*, 1995).

Northeastern Entre Rios is virtually identical in climate, terrain, and soils to southeastern Corrientes. Accordingly, it has a substantial area of eucalyptus plantations. To the south, however, lies the delta where the Uruguay and Parana Rivers meet and empty into the Atlantic Ocean. The delta contains a network of islands covered with willow and cottonwood plantations. There is a substantially larger area of these willow and cottonwood plantations just across the southern border of Entre Rios in the northern regions of Buenos Aires province. This region receives 900 mm of precipitation each year. A series of protective dams regulate the water flow to promote tree growth and provide flood control for the delta, which empties out within reach of Buenos Aires and Montevideo, Uruguay. These plantations provide most of the raw material for many consumer products (*e.g.*, furniture and tissue products) sold in nearby markets. To the south and west of the Buenos Aires metropolitan area, the Pampas contains additional plantations, primarily in windbreaks and small woodlots. Around the cities of Mar de la Plata and Necochea, eucalyptus is common, although cottonwood grows better on some marginal soils (Blackman, *ed.*, 1995).

## ii. The Patagonia Region

**Subantarctic forests:** The fabled Patagonia Region comprises the southern provinces of Chubut and Santa Cruz as well as the islands of Tierra del Fuego and contains 2 million ha (5%) of Argentina's native forests. The subantarctic forests contain the most economically interesting of the country's native forest stands. The northern half of this region is wetter and contains species such as *auracaria*, pine, and beech. This is where Douglas-fir and ponderosa pine plantations have been under development. The drier southern half of the region grows lenga (*Nothofagus pumilio*), coigue (*N. dombeyi*) and nire (*N. antarctica*) (Blackman, *ed.*, 1995). These native hardwood species are appealing because they are similar in appearance to cherry and have excellent machining and processing characteristics.

Patagonia has land available for the establishment of over one million ha of forest plantations and contains two potential deep water ports. Because the area is not conducive to agriculture, it is relatively undeveloped and there has been substantial interest in the cultivation of ponderosa pine, lodgepole pine, and Douglas-fir plantations. These plantations would ideally be located in the foothills of the Andes, where precipitation averages 600-1,200 mm per year. It is important to note that, because the region's native species grow at lower elevations, they would not be threatened by the establishment of new plantations. Although there is little definitive information, preliminary indications are that the growth of these species has been relatively disappointing thus far. Nevertheless, there is no reason to believe that the current research efforts will not eventually identify genetically-engineered strains that are better adapted to the specific growing conditions in Patagonia, just as they did in the past with eucalyptus and southern pine (Flynn 1997).

## iii. Other regions

**Tucuman rainforest:** The subtropical Tucuman rainforest, in the provinces of Tucuman, Salta, and Jujuy lies in the northwest corner of the country and contains 6% of Argentina's native forests. This area is much drier than Misiones, especially as the elevation increases into the Andean foothills. The vegetation is dominated by tall brush and grassland with patches of deciduous forests and a much smaller area of broadleaf evergreen forests. It provides good growing conditions for two Mexican pines (*P. patula* and *P. greggi*) as well as some species of eucalyptus and loblolly pine. This remote region receives between 900-1,200mm of rain per year, primarily during the summer months (Blackman, *ed.*, 1995).

**San Luis-La Pampa forest:** This region of steppes located in central Argentina has been dedicated almost exclusively to agriculture and its forests are frequently threatened by wildfires. Five percent of Argentina's native forests remain amid the cattle pastures and wheat fields. Besides small windbreaks and windlots, the only notable plantations in this region lie in the Calamuchita valley of Cordoba, where there are over 30,000 ha of small slash and Mexican pine plantations (Blackman, *ed.*, 1995).

**Chaco Park forest:** The lion's share of Argentina's native forests lie in the Chaco Park region, between Tucuman and Misiones in the north. Despite the misleading name of the forest type, this region's native forests are not especially ecologically valuable and have not been singled out for protection. The dominant species type is Quebracho, a tree whose wood is too hard for most commercial uses, but whose bark is the source of tannin. Before

synthetics were developed, Chaco's tannin production was an important economic activity that supported Argentina's world-famous leather goods industry. Although it still represents one of the leading industrial uses of the native forest resource, tannin production has declined substantially in recent years (Blackman, *ed.*, 1995).

**Western woodlands:** The Western woodlands, in the hot and dry rain shadow of the Andes, contain almost 2 million ha of economically uninteresting native forests. The remoteness of the region and its relatively unfavorable growing conditions make this area less attractive for plantation establishment (Blackman, *ed.*, 1995).

#### D. Government institutions and regulatory policy

##### i. Historical lack of systematic management

Argentina's forests were officially regulated in 1948 under Legislative Act 13723, referred to as the Forest Resources Defense Act. Despite the intent implied by the act's title, the goal of protecting the forests was never backed up by any systematic effort, nor was it ever a national priority. In the 1990s, however, forestry has become one of the main targets for the ongoing process of economic and social reform. The scientific community has become aware that the advance of the agricultural frontier has caused severe soil erosion in some regions and has resulted in the loss of substantial native forest capital (only 7% of the annual potential revenue is captured) and species diversity (UN Sustainable Development Report 1997). At the same time, deregulation and privatization throughout the economy have raised unemployment and made it politically necessary to create employment opportunities. The Argentine government has responded by taking action to promote not only the economic potential of forestry, but also the cultural awareness of its importance to the entire country. The first step, in 1992, was to dissolve all of the old forestry institutions and reorganize them into two new Secretariats: the Secretariat for Agriculture, Fisheries, and Food and the Secretariat for Native Resources and Sustainable Development.

##### ii. Current institutional situation in the forestry sector

The Secretariat for Agriculture, Fisheries, and Food (SAGPyA), under the direction of the Ministry of Economics and Public Works and Services, is responsible for plantation forests. Plantation forests provide soil reclamation benefits, employment opportunities (very reminiscent of the Civilian Conservation Corps of the New Deal era), industrial development opportunities, and the raw material inputs required to expand the forest products sector. They also provide small landowners with an economic incentive to convert unproductive fallow land into forest plantations by providing a number of plantation subsidies. Although reliable data is not yet available (detailed inventories of native and plantation forests are expected to be completed in the next few years), SAGPyA has a clear mandate to promote plantation development while protecting the remaining native forest resource.

SAGPyA consists of the Forest Production Bureau, the National Institute of Agricultural Technology (INTA), the Argentine Institute of Plant Health and Quality, and the National Institute of Seeds. INTA is of special interest because it maintains a database of land capability maps with accurate information on each province. These maps are quite impressive and provincial maps are now readily available on the internet through SAGPyA's forestry website (<http://siiap.sagyp.mecon.ar/forestal/>). Since this website tends to be touchy, it is best to get to the maps the long way and in Spanish. First click on "Regimen de Promocion de Plantaciones Forestales" in the top left. Then click on the bottom choice that will appear, "Areas Promocionadas del Regimen de Promocion de Plantaciones Forestales." A map of Argentina will appear and the INTA map of any province can be viewed simply by selecting the appropriate province.

Under the 1992 reorganization of forestry agencies, SAGPyA sought to develop a policy at the national level that would ensure the domestic fiber supply and seek outside investment to further develop the forestry sector (Blackman, *ed.*, 1995). During this time period, both President Menem and Finance Minister Cavallo publicly promoted the forestry sector and its potential for future growth. The resulting subsidy package, known as the Forestry Promotion Regime, succeeded in establishing 130,000 ha of new plantations by over 4,000 landowners by the end of 1995 (Ministry of Economics 1998). Critical elements of the plan included the Fiscal Pact and the Federal Pact for Employment, Production and Growth. The former measure reduced provincial taxes on selected plantation investments, while the latter provided additional tax cuts, assumed control of provincial pension funds, and lowered

employers' contributions to those plans. These measures were specifically engineered to lower the cost of doing business and send a clear message to investors that the rules of business had changed for the better (Blackman, *et al.*, 1995).

The Secretariat for Native Resources and Sustainable Development (SRNyDS) is an autonomous agency responsible at the national level for the conservation, restoration, and protection of Argentina's native forests, as well as the administration of national parks. The World Bank is funding SRNyDS's Project for Native Forests and Protected Areas. The first major component of the project is the "generation and dissemination of information and investigation," which will identify those regions with the largest gaps in information. The completion of this process will facilitate the distribution of available resources for the National Inventory of Native Forests and Protected Areas. Once the formal inventory is completed, programs for improving the management and conservation of the native forests will be developed and implemented (UN 1997).

While SAGPyA and SRNyDS are the most powerful organizations in Argentina's forestry sector, they are by no means the only influential bodies. At the federal level, the National Bureau of Industry and the National Institute of Industrial Technology (both located within the Secretariat of Industry) are active in promoting the wood processing industry. Provincial governments also have regulatory agencies and policies concerning plantation forests. The size, resources, and influence of these provincial bodies naturally depends upon the relative importance of forestry in the individual province. Some provinces have quite large and successful programs in place. Misiones, as one might expect, leads the way in this regard. In fact, some of the funding strategies employed there and in Entre Rios are being emulated by the federal government (Blackman, *ed.*, 1995). SRNyDS, meanwhile, has increased its degree of centralized authority over the native forests with each new reorganization of the agency. Besides the federal and provincial government, trade organizations, NGO's, private and public universities, and research institutions are all working in some capacity to protect the native forests and/or promote the development of Argentina's forest products industry through plantation development. International efforts include the Network of Model Forests in Argentina and a Memorandum of Understanding (both in cooperation with Canada), as well as the Environmental Subgroup of the MERCOSUR Accord and the Montreal Process which are establishing criteria for the sustainable management of boreal forests.

### iii. Forest legislation: The Forestry Development Plan and the future

During this decade, the Argentine government has updated its reform policies approximately every three years in just about every facet of the reform agenda and forestry is no exception. The initial reorganization of the institutional forestry sector in 1992 was followed by the Forestry Development Plan in November of 1995. As of this writing, the third wave of forestry legislation, which would establish the forest policy for the turn of the century has passed in the lower house of Congress. It is expected to pass in the upper house shortly. Just as with the ongoing tax and labor reforms, each successive piece of legislation has extended successful programs and attempted to strengthen the weaknesses of the existing legislation (Maradei 1997).

The Forestry Development Plan of 1995 was issued with great fanfare. The Argentine government believes that the export of forest products will eventually generate \$1 billion/year/FOB (at an average value of \$30/m<sup>3</sup>) in revenues. In order to move towards that goal, they first established separate priorities for native and plantation forests. The Forestry Development Plan regarding native forests set forth measures to (UN 1997):

- ? deregulate those activities associated with industrial forests.
- ? maintain and improve the regulatory system to protect the value and integrity of non-industrial native forests.
- ? eliminate regulations that unduly limited the economic viability and efficiency of forestry activities.
- ? make commitments to establish forest plantations only in areas without significant native forests.
- ? establish subsidies for small landowners located near native forests which:
  - a) offer alternative sources of firewood.
  - b) offer financial incentives to plant up to 10 ha of native species.

With regard to plantation forests, the Forestry Development Plan contained the following measures:

**Deregulation:**

- ? abolish obsolete regulations and simplify those related to freight costs and forestry operations.

**Investment and Promotion:**

- ? extend and expand the Forestry Promotion Regime.
- ? develop financial instruments, both domestically and through international agencies, that encourage investment. These include bonds which may be purchased by pension funds through the Forestry Trust Funds.
- ? restructure incentives to ensure long-term tax stability.
- ? facilitate new lines of credit through the Investment and Foreign Trade Bank for equipment and production investment, such as pruning and thinning.
- ? eliminate limits on the size of forest plantations.
- ? finance nurseries, plantations, and industries through the Global Program of Credit for Micro and Small Size Enterprises and the Argentine Technological Fund (FONTAR).
- ? provide assistance for foreign investors.

**Strengthening Support Services:**

- ? incorporate European Union product quality specifications into the National System of Rules, Quality and Certification.
- ? support activities such as forest inventories, applied research, extension, technology transfer, and certification of seeds and seedlings.
- ? use World Bank assistance to foster improvements in forestry institutions.
- ? create and implement fire management plans.
- ? invest in roads valuable to the forestry sector.
- ? create a private consortium to facilitate the development of trade associations.

**Job Creation:**

- ? include the forestry sector in the National Program Against Unemployment by developing a program to create jobs in planting, forest management, and other forestry activities for any unemployed worker who is the head of a family with dependents.

The Forestry Development Plan of 1995 prompted a very enthusiastic response from Chilean forest products companies as well as some other international companies, including a few US multinationals that subsequently invested in Argentina's forest products industry. The new forestry bill strove to increase the pace of investment in the forestry sector, but investment and harvest rates grew more slowly than anticipated. The government hopes that the new legislation will make investment in Argentina's forest products industry even more attractive and assuage any lingering doubts that potential investors might still have. They believe the following initiatives included in the new forestry legislation will help accomplish this. The new bill would:

- ? guarantee the fiscal stability of approved forestry projects for 30 years.
- ? allow valuation of forest plantations based on annual growth without incurring increased taxation.
- ? develop special depreciation regimes for infrastructure and machinery investments.
- ? extend plantation subsidies, which were set to expire in 1999, another ten years.
- ? allow growers to recover value added taxes (VAT) in advance, rather than after a sale is invoiced.
- ? eliminate the 30-year limit on trust funds used for direct investment in forestry.
- ? establish property tax policies that separate forest ownership from land ownership, thus enabling the financing of forestry projects on third party land.

The Ministry of Economics predicts that this legislation will produce substantial economic and environmental benefits. They hope it will create 120,000 new jobs, stimulate regional economies, increase flood protection, and promote industrial activity as well as stability within the forestry sector. It should also protect native forests, prevent soil erosion, and provide a carbon sink to mitigate the possibility of a greenhouse effect (Ministry of Economics 1998).



#### iv. Government subsidies for plantations

The provision of forest subsidies by the federal government began with federal property tax exemptions under the 1948 Forest Resources Defense Act, but implementation of the subsidies soon switched to provincial control. Long-term financing for plantations cost the government dearly when inflation made the repaid principal much lower in value. Thus, forestry subsidies often became a profitable tax loophole and financial strategy rather than a legitimate investment. Without the capability to monitor the performance of these subsidized plantations, the government had no way of ensuring their sincerity or success. Similar federal initiatives in 1972 and 1977 also failed to achieve their goals (Blackman, *ed.*, 1995).

With the first wave of forest sector reform in 1992, SAGPyA introduced a new system of forest subsidies which made distinctions between small landowners and medium to large-sized landowners. The new system reimburses landowners after planting, but allows increased flexibility in the timeframe of planting and the use of different management plans. It also provides incentives to use better seed stock (Blackman, *ed.*, 1995). The current subsidy package, called "Forestry 2000," provides the following level of subsidies, depending upon the region and the nature of the specific project:

- ? 100% for plantation projects up to 700 ha.
- ? 50% for plantation projects between 701 ha and 1,000 ha.
- ? 30% for plantation projects between 1,001 ha and 2,000 ha.
- ? 15% for plantation projects over 2,000 ha.
- ? Maximum benefits between 340 and 700 pesos/ha in dry areas.
- ? Maximum benefits of 400 pesos/ha for irrigated windbreaks.
- ? Maximum benefits of 700 pesos/ha for irrigated plantations.
- ? Maximum benefits of 40 pesos/ha for pruning activities.
- ? Maximum benefits of 50 pesos/ha for thinning activities.

### **5. Forest Products Production and Trade**

#### **A. Argentina's Forest Products Industry**

##### i. Small, underdeveloped industry

Considering Argentina's relatively large size and high level of development, its forest products industry is remarkably underdeveloped, contributing less than 0.3% of the annual GDP, a mere fraction of that of Chile (4%) or Brazil (5%) (Blackman, *ed.*, 1995). The sawmilling technology is old, inefficient, and small-scale, with the average sawmill employing approximately eight people (Table 16). As with most other industrial sectors, decades under the import substitution model bred inefficiency within the forest products industry. Since the economy has been opened up and MERCOSUR countries have gained unlimited access to the Argentine market, increased competition has adversely affected Argentine firms. Production has lagged far below capacity and many mills have been shut down. The larger companies are consolidating, focusing on core businesses, and seeking joint ventures to finance modernization (Blackman, *ed.*, 1995). Argentina's forest products industry has a lot of work to do before it can consistently manufacture export-quality products, but the strength of the economy, the infusion of capital and expertise from foreign companies, the support of the government, and the increasing supply of maturing plantation timber bode well for the future.

##### ii. Low domestic demand

One of the major impediments to the development of the forest products sector has been low domestic demand for wood products (Table 17). As a Latin American culture with a European tradition, Argentina has a cultural bias against wood housing. Structural timber and panels are simply not the preferred building material (Montecino 1998). Wood is considered appropriate for prefabricated houses, beach houses, or low-income housing. Wood housing is also considered to be unsafe because of the fire hazard and the unavailability of adequate water to extinguish fires. Regardless, wood product usage in the construction industry should increase as the country addresses a housing

shortage of over 3 million units. It is estimated that new house construction will be approximately 150,000 units per year over the next five to ten years. At the very least, this implies steady demand for value-added wood products.

The level of pulp and paper consumption in Argentina is similar to that in Brazil or Chile, but represents just a fraction of the consumption of the industrialized countries to the north. The challenge confronting the domestic pulp and paper industry is to improve production efficiency or risk losing market share to the large integrated companies from Brazil and Chile. Interestingly, the pulp and paper industry in the ABC countries has become increasingly interdependent due to the new flexibility permitted by the MERCOSUR pact.

**Table 16.** Argentina's installed industrial capacity 1996.

Industry Sector	Number of Mills	Employment	Installed Capacity	Production (m <sup>3</sup> )
Sawmills	2,602	20,649	164,616HP	997,367
Treated lumber	10	159	76,230 m <sup>3</sup>	46,588
Veneer	8	168	3,156 m <sup>3</sup>	1,678
Plywood	6	697	25,800 m <sup>3</sup>	23,025
Laminated wood	3	31	3,200 m <sup>3</sup>	1,997
Particleboard	7	804	366,950 m <sup>3</sup>	241,017
Fibreboard	2	343	108,000 m <sup>3</sup>	85,123
Pulp	13	5,625	814,800 tons	726,569 tons
Paper and paperboard	51	4,544	1,042,602 tons	850,486 tons
<b>TOTAL</b>	<b>2,702</b>	<b>33,020</b>		

Source: SAGPyA 1997

**Table 17.** Per capita consumption of wood products 1995.

Country	Sawnwood Consumption (m <sup>3</sup> /1,000 capita/year)	Paper & Board Consumption (metric tons/1000 capita/year)
US	528	354
Finland	452	375
Canada	467	213
Japan	290	242
Germany	213	194
Chile	150	44
Brazil	110	35
Argentina	35	41

Source: FAO Statistical Yearbook 1991-1995 Forestry

## B. Forest Products Imports

Argentina is neither a major importer nor a major exporter of wood products. Since 1981, total exports of wood products have exceeded imports only during the hyperinflation period between 1988-1991 when imports were prohibitively expensive. The renewed stability of the currency and the recent influx of capital resulted in a surge in imports throughout the 1990's (Table 18). At the same time, exports have increased but tend to fall well short of imports. The four largest export categories are furniture, wood products, pulp, and paper. Three-fourths of Argentina's imports by value are paper, followed by 10% each for pulp and wood products and 2% for furniture. Those proportions have been consistent since 1993. Directionally, 36% of Argentina's forest product imports arrive from MERCOSUR countries, 28% from the EU, 20% from the US, and 12% from other Latin American countries. Argentina imports most of its furniture (41%) wood products (52%), and paper (36%) from MERCOSUR countries. A good deal of wood (33%) comes from non-MERCOSUR Latin American countries and 32% of its paper comes from the EU. Most of Argentina's imported pulp (56%) comes from NAFTA countries (SAGPyA 1998). Argentina imports far more paper and paperboard than timber and pulp. In 1996, total paperboard imports represented 31.6% of

apparent consumption, compared to 19.3% for pulp (*Pulp & Paper International* 1998) and 12.6% of sawnwood (Montecino 1998). The dependence on imports for value-added products is typical of a country with an underdeveloped processing industry.

MERCOSUR has been remarkably effective in integrating the Southern Cone economies. Hence, if Argentine firms fail to perform up to regional standards they will be outcompeted in the marketplace. On the other hand, integration with Chile and Brazil provides new economies of scale, access to export markets, and access to foreign investment capital that were not readily available before. Over the years, Argentina's exports to MERCOSUR countries have increased along with its imports and, while foreign trade has consistently increased in volume, Argentina has maintained a steady trade deficit with its neighbors.

**Table 18.** Argentina's trade balance in forest products.

Year	Imports (\$US millions)	Exports (\$US millions)	Trade Balance (\$US millions)
1993	775	240	-535
1994	944	325	-619
1995	1,119	590	-529
1996	1,180	582	-598

Source: INDECA 1997

### C. Forest Products Exports

Although Argentina's forest products exports have increased dramatically since 1993, the composition of those exports has remained relatively constant. SAGPyA data shows that in 1996 51% of Argentina's exports by value were paper, 22% were wood, 15% were pulp, and 1% was furniture. The recent increase in exports indicates the success of MERCOSUR. MERCOSUR countries account for 41% of Argentina's total wood products exports (up from 21% in 1993). The EU is second at 17% (down from 32% in 1993), followed by the rest of Latin America (13%), Asia (9%), and NAFTA (8%). Since 1987, shipments of pulp logs to the EU have dominated the export of wood products. Now MERCOSUR imports more wood products, primarily for remanufacturing in Brazil. Demand for Argentine paper in MERCOSUR countries has exploded as well, accounting for almost 30% of Argentina's total forest products exports and 59% of the paper products. The EU is still the leading importer of Argentina's pulp at 44%, while the NAFTA countries remain far behind, importing only \$45 million in Argentine forest products during 1996.

There are two major trends in Argentine forest products exports outside of MERCOSUR. First, Argentina has been exporting small quantities of pulp logs to Europe and North Africa since 1987. Second, Argentina is now beginning to show up as a softwood lumber exporter to the United States (Flynn 1996). The former situation reflects the low capabilities of the domestic processing industry as well as the low quality of the logs (Blackman, *et al.*, 1995). The latter reflects the beginnings of a modern forestry sector in Argentina. While SAGPyA data suggests an annual increase in exports of 29% over the first half of the 1990's, forest products exports represent only 3% of total forest products production (SAGPyA 1998).

### D. Domestic Industry Profile

#### i. Roundwood production

Roundwood production in 1995 totaled almost 7.5 million m<sup>3</sup>, about 60% of Argentina's installed production capacity (Table 19) (Blackman, *ed.*, 1995). The FAO reports only 5,000 metric tons of industrial roundwood imports for the year, along with 894,000 metric tons of exports. This leaves Argentina with an apparent consumption of approximately 5.5 million metric tons (FAO Statistical Yearbook 1996). SAGPyA data indicates a 36.1% increase in roundwood extraction between 1990-1995 consisting of a 62.5% increase in hardwood roundwood and only an 11.7% increase in softwood roundwood production (SAGPyA 1998). Nevertheless, the harvest of pine species, 82% of which came from Misiones, was higher than eucalyptus production. With the addition of willow and cottonwood

roundwood production, hardwoods are still being harvested at a higher rate than conifers. This is due to the nature of Argentina's industry, markets, and resources. Willow and cottonwood from the Parana delta support the domestic market dominated by Buenos Aires and its furniture and paper needs. Eucalyptus is primarily used for pulplog exports (regionally as well as to Europe) and domestic pulp production. As noted before, the pulp and paper industry is much stronger than the sawnwood industry, which relies more upon pine. Furthermore, eucalyptus, poplar, and willow are all faster-growing species than pine and were planted more prevalently in the preceding decades. There too, earlier plantations were not managed as well as they are now, yielding wood that is not well suited for high value end uses.

## ii. Sawmilling

Within Argentine culture, wood is considered to be a low-quality structural material (Montecino 1998). Latin American consumers in general tend to perceive it as a cheap, ephemeral building material for the poor. This perception has deep ramifications within the sawmill sector. First, it has created a climate wherein small, unsophisticated sawmills serve the domestic market. The domestic market has never been profitable enough to generate significant economies of scale for commodity products or support the development of a value added wood sector. Second, this perception creates the necessity for Argentine producers to make an immediate jump to export markets. Unfortunately, the old production standards are unacceptable for export markets and the domestic market is too small to support investments in incremental improvements in production technology (Blackman, *ed.*, 1995).

**Table 19.** Roundwood production 1995 (m<sup>3</sup>).

Province	Eucalyptus	Pine	Willow/ Cottonwood	Total
Buenos Aires	626,549	11,333	660,874	1,298,666
Cordoba	26,945	64,524	3,286	74,412
Corrientes	1,028,119	270,333	0	1,298,507
Chubut	0	4,011	1,726	5,774
Entre Rios	765,073	31,865	89,746	886,684
Jujuy	68,321	24,557	0	92,878
La Pampa	0	0	17,351	17,351
Mendoza	0	0	105,757	106,726
Misiones	57,463	2,889,332	0	3,222,313
Neuquen	0	0	24,587	25,168
Rio Negro	0	0	184,438	185,706
Santa Fe	0	228,509	0	228,509
Tucuman	0	12,881	0	13,204
Others	1,425	946	5,081	8,214
<b>Total</b>	<b>2,563,895</b>	<b>3,558,291</b>	<b>1,032,846</b>	<b>7,489,212<sup>1</sup></b>

<sup>1</sup>Total roundwood production includes 354,180 m<sup>3</sup> from minor species.

Source: SAGPyA 1996

Add to this the fact that most of Argentina's southern pine is still too young to harvest and has not been intensively managed (*e.g.*, pruned or thinned), and the challenge in moving the processing industry towards higher value products is formidable.

Nevertheless, some Argentine firms are succeeding. Total sawn timber exports increased from \$3 million in 1994 to \$20 million in 1995, and then to \$24 million in 1996. In 1995 Argentine producers made their first significant dent in the US softwood lumber market, jumping from a mere \$53,000 in 1993, to \$222,000 in 1994, \$1,852,000 in 1995, and \$3,921,000 in 1996. While these may be paltry sums by global standards, the new trend is a welcome sign that Argentina is making legitimate progress towards its goals.

The 1,071,000 m<sup>3</sup> of sawn timber produced in 1996 required 4,290,000 m<sup>3</sup> of roundwood, which was 52% of the total. Parallel production is an estimate of the volume of lumber produced within the informal economy by unregistered producers, (*e.g.*, small mobile sawmills) (Table 20). Montecino (1998) addresses this problem, stating that, “the high proportion of producers in the black market, without conscience of the quality, is a threat for the development of the sawn wood [sector].” The proportionally large volume of sawtimber in this category is a good indicator of the scope of the gaps in Argentina’s industry data.

**Table 20.** Apparent consumption of sawn timber 1996 (000 m<sup>3</sup>).

Official Production	Parallel Production	Exports	Imports	Apparent Consumption
1,071	570	24	233	1,850

Source: Montecino 1998

**Table 21.** Sawn lumber production by region and species 1994.

Species	Percentage	Province	Percentage
Pine	37	Misiones	79
Eucalyptus	24	Entre Rios	9
Native species	20	Corrientes	6
Others	15	Buenos Aires	3
Araucaria	4	Others	3

Source: SAGPyA 1995

The vast majority of sawn timber comes from the sawmills located in Misiones (Table 21). Of the 662 sawmills operating in Misiones, 518 process less than 2500 m<sup>3</sup> per year. The largest sawmill, Perez Companc, has only a 4% market share. The other three major competitors each have a 2% market share (Montecino 1998). The larger mills have more modern processing equipment and many have added dry kilns which allow them to produce higher quality lumber (Blackman, *ed.*, 1995). Although the structural lumber market continues to be weak, renovation should increase significantly as the housing stock ages. Annual housing starts are expected to double, assuming that the economy continues to perform well (Montecino 1998). While moulding and millwork are important non-structural products, eucalyptus, willow, and cottonwood are used more often than pine. Most of the moulding and millwork products are shipped to Buenos Aires for additional processing closer to the principal markets (Blackman, *ed.*, 1995). One notable exception is in Tapebicua, where a moulding and millwork processing facility is being added to the sawmill and plywood plant already in operation. Another ambitious sawmill and veneer project is being proposed for the processing of native lenga in Tierra del Fuego. Both of these projects are very interesting and should have an influence on future investment in the sawmill sector.

### iii. Plywood and veneer production

Argentina’s veneer and plywood sector is relatively small and underdeveloped, most likely due to the lack of domestic demand and the lack of high-quality raw material inputs. After a horrible year in 1993, production is climbing back towards 1987’s record of 57,000 m<sup>3</sup>. SAGPyA reports five new plywood mills and three new veneer operations that increased plywood production by 12% to 50,000 m<sup>3</sup> and total sector production is up 7.5% to 56,000 m<sup>3</sup> (Table 22). This includes not only veneer, but also other sheets that are remanufactured into products such as wooden matches and toothpicks. Roundwood consumption by the sector increased as well, but proportionally much less than production, an indication of increased efficiency.

The 1995 statistics show six veneer firms with 110 employees, 12 plywood plants with 971 employees, and three manufacturers of wooden sheets that are not used as plywood or veneer with 184 employees. In 1996, seven

Argentine companies controlled 89% of the market share (Montecino 1998). Danzer, a German firm has recently invested \$10 million in a high-quality veneer plant in Misiones.

**Table 22.** Apparent consumption of panel products (000 m<sup>3</sup>).

Product	Production		Exports		Imports		Apparent Consumption	
	1994	1995	1994	1995	1994	1995	1994	1995
Plywood	50	50	0	2	46	39	96	87
Veneer	1	1	1	1	10	7	11	7
Particleboard	199	199	7	60	36	16	228	155
Fibreboard	250	198	13	36	8	6	244	68

Source: FAO 1996

Forestadura Tapebicua's new plywood plant, a \$30 million joint venture with Fletcher Challenge New Zealand opened in 1997, is a notable addition. It was built adjacent to the two companies' sawmill and should produce 30,000 m<sup>3</sup> per year. The venture plans to eventually enter EU, US and Japanese markets, selling roughly half of its plywood production in Argentina. Tapebicua claims to serve export customers in Brazil and Austria already (*Wood Technology* 1998).

#### iv. Composite panel production

The composite panel sector presents an ideal opportunity to pursue growing market segments (*e.g.*, the Brazilian furniture industry and Argentine construction industry) while further streamlining Argentina's forestry sector. Utilizing sawmill residues to manufacture a marketable product provides a more efficient use of the resource and generates an additional source of revenue for sawmills (Blackman, *ed.*, 1995). Chilean companies, led by Masisa, are once again moving faster than anyone else to develop this sector. Masisa believes strongly in the future of the board market in the ABC countries, having made investments in production and market development that firmly back up their commitment to lead the way. Not only did they announce plans to more than double the capacity of their MDF plant in Concordia, Entre Rios (already the largest plant in Argentina), but they are also building an MDF plant in Brazil. While an even more aggressive plan to build Chile's first OSB plant was recently abandoned, Masisa clearly maintains the lead in South America's panel industry. The new MDF operations have begun to process pine while most of Argentina's particleboard industry uses eucalyptus.

In 1995, MDF and particleboard production increased 19% to 397,000 m<sup>3</sup> (Table 22). Seven particleboard facilities with 619 employees consumed 372,000 m<sup>3</sup> of roundwood in 1995 to manufacture 199,000 m<sup>3</sup> of particleboard. This amount represented only 58% of installed capacity and 4% of Argentina's roundwood production, but was a 20% increase in particleboard production since 1993. Fibreboard production has also increased by 20% over the last two years and consumed 4% of Argentina's roundwood production in 1995, while operating at just 45% of capacity. It took 273,000 m<sup>3</sup> of roundwood to produce 104,000 m<sup>3</sup> of fibreboard (SAGPyA 1998), a total that just barely matched 1987's record production (Blackman, *ed.*, 1995). Clearly, with the addition of Masisa's MDF capacity in 1996, MDF production is now reaching new levels. Masisa is also the top particleboard manufacturer, with 119,000 m<sup>3</sup> of production in 1995. The only other MDF producer in Argentina is Tableros Guillermina, in the province of Santa Fe, which is much smaller scale and utilizes native species. Santa Fe also contains two particleboard plants, owned by Faplac and Placelmar. Faplac has another facility in the province of Buenos Aires, as does Fiplasto, an Argentine firm with a eucalyptus hardboard factory. Cuyoplacas has recently developed facilities in Mendoza which usually produce about 45,000 m<sup>3</sup> per year. Cuyoplacas, like Masisa, is also increasing the size of its plantations. It should also be noted that one of the benefits of being a first mover is having the best selection of production sites at the most reasonable prices. Masisa was able to locate its facilities in Entre Rios in an area surrounded by plantations in close proximity to good rail, highway, and port access (Blackman, *ed.*, 1995).

Most of Argentina's composite panel production is consumed domestically, with about 80% ending up in furniture production and 20% used for construction purposes. Masisa is a notable exception in that they export 60% of their laminated particleboard production to Brazil and have steady Brazilian MDF customers as well. Unlike many Argentine manufacturers, Masisa's panels consistently meet international quality standards (Blackman, *ed.* 1995). Low demand in Argentina is primarily responsible for the large amount of unused production capacity (Table 22). At the same time, Argentina's construction industry grew 20.8% in 1997, indicating a steady increase in demand. Masisa has made it clear that it will proactively pursue market growth in Argentina's construction industry. Argentine firms are working to modernize facilities, improve efficiency, and produce panels that are competitive in international markets. This will only be accomplished by increasing product quality and adding value to their product lines (usually through lamination).

#### v. Pulp and paper production

Argentina's pulp and paper production technology is out of date and produces far below capacity, but is doing well in the regional market and is in the midst of a badly needed consolidation process. Low capacity semi-chemical pulp mills are shutting down, while the larger mills strive to operate more efficiently. Large Argentine firms are selling off mills they cannot operate profitably in order to raise the capital needed to improve core businesses. Many North American companies are buying Argentine firms outright or establishing joint ventures in the pulp and paper sector, either to establish a presence in the domestic market or to produce packaging for Argentina's agricultural export sector. Meanwhile, the Chileans are consolidating their dominant position in the region's pulp and paper industry (Blackman, *ed.*, 1995).

SAGPyA reports 1,019,000 metric tons of paper and paperboard production in 1995, a 6% increase over 1994 (Table 23). Pulp production accounted for 38% of roundwood production, while paper and paperboard accounted for an additional 10%. Imports totaled 444 metric tons in 1995, a 13% decrease over 1994 and 58% of domestic production. Exports grew 514% from just 7,000 tons in 1994 to 43,000 tons in 1995. Apparent consumption was therefore 1,419,000 metric tons for the year, a 3% decrease over 1994. Pulp consumption increased 11% in 1995 to 707,000 metric tons. Production grew 7% to 746,000 tons, imports rose 2% to 97,000 tons, and exports fell 11% to 135,000 tons. Argentina imported 15% of its pulp supply and exported 21%. While Argentina is a net exporter of pulp, this should not hide the fact that paper imports represent 75% of Argentina's forest products imports. In effect, they are shipping out pulp logs and market pulp only to buy back the finished paper products from Chile, Brazil, and the EU.

**Table 23.** Apparent consumption of pulp and paper 1994-1995 (metric tons).

Product	Production		Exports		Imports		Apparent Consumption	
	1994	1995	1994	1995	1994	1995	1994	1995
Pulp	697	746	152	135	95	97	639	707
Paper & board	961	1,019	7	43	510	444	1,464	1,419

Source: FAO 1996

Investment activity in the pulp and paper sector has been extremely heavy in recent years, and was especially so in 1997. Many foreign firms entered Argentina's pulp and paper sector aggressively by either buying Argentine producers outright, forming a joint venture with them, renovating existing production facilities, or building new ones. Arauco, Chile's largest paper company, purchased Alto Parana, Argentina's largest pulp manufacturer (and only producer of long-fiber market pulp) and invested an additional \$40 million to improve the production facility. Meanwhile, Arauco's largest Chilean competitors, CMPC and Industrias Forestales, along with the Brazilian giant Klabin, each purchased plants from Celulosa Argentina when the debt-ridden company was forced to sell off of its non-core operations. CMPC purchased a tissue plant and is now building a new production facility and establishing plantation forests. Industrias Forestales bought Celulosa Argentina's Puerto Piray pulp mill, which is much smaller than the Alto Parana mill but is still one of the largest and most sophisticated pulp mills in Argentina. Klabin, Brazil's largest pulp and paper company, purchased a paper sack factory in Buenos Aires, primarily to mitigate charges that it was dumping its Brazilian-made sacks into Argentina (Knight 1997).

As these developments indicate, the relationship between the pulp and paper industries of Argentina, Brazil, and Chile is becoming increasingly interdependent. The flow of investment capital, raw materials, and finished goods between the three countries is now strongly influenced by the market, with little regard for national boundaries. Because of geography, many Chilean and Brazilian pulp mills are able to serve the Buenos Aires market more conveniently and economically than the Alto Parana mill in northern Argentina, which is in turn located closer to Sao Paulo than many Brazilian mills. In addition, both Chilean and Brazilian companies import much of the raw material used in their Argentine paper production from pulp facilities in their native countries, since Argentine pulp producers cannot keep up with increasing demand for pulp. Meanwhile, long-fiber pulp, more readily available in Argentina, is in short supply in Brazil while short-fiber pulp, readily available in Brazil, is in short supply in Argentina (Knight 1997). These are just a few examples of how MERCOSUR has facilitated the integration of the pulp and paper sector by creating a large and open market that promotes efficiency and competitiveness.

US companies have been active in Argentina's pulp and paper sector as well. Stone Container's investment in a corrugated cardboard facility was the only activity in 1997, although other US firms had established operations in previous years. Among Union Camp's investments and joint ventures is an interest in Papel Misionero, Argentina's second largest softwood pulp mill. Kimberly-Clark operates the largest production facility of children's training pants (diapers). Inland Container joined with Massuh, Argentina's second largest paper company, to reopen a box plant. Massuh was one of four Argentine companies that invested in the pulp and paper industry in 1997, investing \$80 million to increase production in their flagship pulp mill. Papel Prensa, the largest Argentine newsprint manufacturer, invested \$23 million to increase production, while Zucamor and Cartocor both invested in the modernization of their corrugating plants (*Wood Technology* 1998).

## **6. Argentina's Foreign Investment Policy**

### **A. The Updated Guide to Foreign Investment in Argentina**

Under Carlos Menem, Argentina's government has worked hard to encourage foreign investment. Foreign companies now enjoy the same rights, privileges, and obligations as domestic companies. There are virtually no additional restrictions on the activities of foreign companies or their ability to transfer capital. The US and Argentina have a long-standing bilateral investment agreement that allows disputes to be settled independently. Successive waves of governmental reforms since 1989 have extended successful policies and refined weak ones in an attempt to return the economy to a free market environment and encourage the foreign investment necessary to finance and manage development.

Anyone potentially interested in investing in Argentina should read "The Updated Guide to Foreign Investment in Argentina." This comprehensive, well-written, and frank guide is available through the Ministry of Economics home page at [www.mecon.ar](http://www.mecon.ar). The easiest way to access the guide is by clicking on the "Search" icon and then entering its title, "The Updated Guide to Foreign Investment in Argentina." Another useful source of information is the "Doing Business in Argentina" guide published by Price Waterhouse (1995, 1997).

While most Argentine government publications tend to gloss over problems, the Updated Guide to Foreign Investment directly addresses the concerns of potential investors. The Ministry of Economics feels very strongly that it has addressed as many issues as possible and is on the right course. The guide highlights the following tax topics:

- ? Foreign investors face the same tax burden as Argentine firms.
- ? Argentina's corporate income tax rate is a flat 30%.
- ? There are no provincial income taxes in Argentina.
- ? There are no capital gains taxes.
- ? There are no income taxes on dividends.
- ? There are no income taxes on fixed-term deposits and savings accounts.
- ? There are no income taxes on returns from public or private securities
- ? There are no export taxes on manufactured products.



The guide also covers business law, economic reform and its legal structure, bilateral investment treaties, and laws regarding mining, oil, gas, other natural resources, industrial development incentives, technology transfer, trademarks, patents, copyrights, and foreign exchange. It defines Argentine corporate law and describes the labor environment and taxation.

## **B. Remaining Barriers to Entry**

Argentina has made tremendous strides in opening itself up to foreign investment since 1989. Most non-tariff barriers and specific duties have been lifted and the average tariff has been reduced to approximately 14% (US Dept. of Commerce 1998). Nevertheless, some barriers to entry will always remain. The difficulty in developing healthy working relationships in a foreign culture is in itself a barrier to entry. In this case, both members of a joint venture company must adapt to each other. Cultural differences can breed mistrust and always pose a threat to harmonious relations. However, Argentina's urgent need for investment capital and the change from isolationism to the open regional trade of MERCOSUR have created a new paradigm over the past decade.

The other major barrier to entry, and one that the government has difficulty controlling, is the power of domestic monopolies and holding companies. The US Department of Commerce's assessment of Argentina's openness to foreign investment in big emerging markets compares Argentina's powerful holding companies to the Japanese "keiretsu" in their composition and strategic development (US Department of Commerce 1998). There are 25 major holding companies that manage about half of Argentina's wealth and have purchased a large number of recently-privatized enterprises (Mandel-Campbell 1998). These holding companies wield a tremendous amount of power and could potentially make it more difficult for a foreign company to operate. The construction industry is a good example, since forest products companies hope to substitute structural timber and panels for some non-wood products of the powerful cement and steel industries. Without even hinting at the possibility of collusion, it is quite likely that long-standing business relationships will be hard to break. Hence, the producer of a potential product substitute must not only provide a clearly superior product, but often must overcome long-standing business relationships and traditional usage patterns.

One final tariff barrier remains. In response to the Mexican peso crisis, Argentina temporarily retreated from its staunch free trade stance and imposed short-term import quotas on paper, textiles, and clothing. These measures are due to be phased out by 2001. As shown by Argentina's continuing trade deficit and its growing imports of paper products, these duties are not prohibitively high, but merely offer short-term protection to Argentine industries due to unforeseen economic circumstances (US Dept. of Commerce 1997). Barring any new crises, Argentina would very much like to eliminate all of the remnants of protectionism in order to present the most attractive foreign investment climate possible.

## **7. Foreign Investment in Argentina's Forest Products Industry**

### **A. Overview**

Table 24 lists the major investments in Argentina's forestry sector between 1993-1997. Forest products companies from Chile have made 62% of total investment, 65% of the investment in pulp and paper, 76% of the investment in the solid wood sector, and the only major foreign investments in plantations and nurseries. The Chileans have not hesitated to make use of the low-cost forest resources available in Argentina to invest in MDF, particleboard, and market pulp production capacity. In order to develop the potential for value-added wood products further, they are also acquiring plantations and managing them to produce higher-quality timber.

### **B. Investment in the Pulp and Paper Sector**

While Chile was consolidating its position in Argentina during 1996 and 1997, US companies were struggling to cope with an extremely volatile global market, especially in the pulp and paper industry. The wave of economic crises in Asia provided additional distractions and worries. As a result, no new US firms have invested in the Argentine forestry sector since 1995. Most of the US companies that had already invested in Argentina prior to the downturn of 1996 have increased their level of investment over the past year. Union Camp, Kimberly-Clark, and Temple-Inland

all increased their holdings in current joint ventures or expanded into new ones, and Argentina's tissue markets are now breaking new records (Uutela 1998).

**Table 24.** Recent foreign investment in the Argentine forestry sector (as of 1997).

Company	Origin	Investment	Amount (US\$ millions)
Arauco	Chile	largest pulp mill	470
Masisa	Chile	MDF, particleboard	170
CPMC-Matte	Chile	tissue factory, nursery, and plantations	116
Industrias Forestales	Chile	2 paper mills and plantations	48
Union Camp	USA	30% of paper co., purchase of 2 mills	96
Inland Container	USA	corrugated paper plant	28
Stone Container	USA	50% of Cartonex	20
Kimberly-Clark	USA	diaper manufacturer	7
Fletcher Challenge	New Zealand	advanced sawmill	30
Klabin	Brazil	heavy sack plant	20
Jefferson Smurfit	Ireland	hardwood sawmill	10
Danzer	Germany	high-quality veneers	10
Forestal Serrana	Canada	hardwood sawmill	4
Massuh	Argentina	increased paper capacity	80
Cartocor	Argentina	corrugated cardboard plant	35
Papel Prensa	Argentina	added newsprint capacity	23
Papel del Tucuman	Argentina	paper mill reopening	19
Zucamor	Argentina	modernized corrugated paper plant	5
<b>Total</b>			<b>1,191</b>

Source: Ministry of Economics and Public Works and Services 1998

#### i. Kimberly-Clark

For a company such as Kimberly-Clark, Argentina is just one part of a global strategy to pull out of primary production in the paper industry and focus on the efficient manufacturing and distribution of consumer products. In order to maintain its position in the top 3 firms of the US pulp and paper industry and compete with Procter & Gamble, Kimberly-Clark tries to identify emerging markets early and establish its distribution channels and brand equity quickly. To this end, the company formed its first Argentine joint venture in 1994 with Descartables Argentinos, Argentina's largest diaper manufacturer and third-largest feminine care products company. In 1996, they bought out the rest of the company. Evidently quite happy with the performance of that investment, Kimberly-Clark entered into another joint venture in 1997 with Klabin of Brazil, Latin America's largest integrated forest products company. Together they purchased tissue and paperboard maker Celulosa Argentina SA. Kimberly-Clark faces some significant competition, but they have deliberately and aggressively established market share in a growing economy.

#### ii. Union Camp

Union Camp's investment activity in Argentina is similar to that of Kimberly-Clark. Union Camp first established a joint venture with Zucamor's corrugated box facility in 1994, began operations there in 1995, bought out the rest of Zucamor's interest in 1996, and then expanded further in Argentina by acquiring Puntapel's flexible packaging line in 1997. CEO Craig McLelland stated that, "as a US-based corporation with a market position around the world we view Latin America as our main strategic growth opportunity.... We are specifically enthusiastic about Argentina [and are] continuing to study Brazil" (Hskel 1997).

#### iii. Temple-Inland and Stone Container

Like Union Camp and Kimberly-Clark, Temple-Inland formed a joint venture (with Massuh's corrugated box operations in 1994) and then purchased its partner's remaining interests two years later. It has yet to pursue any further investments, however. Stone Container purchased half of Cartonex Bernal, another corrugated box manufacturer in 1995, but has not yet elected to exercise its option to purchase the other half of the Argentine firm. It has been particularly active elsewhere, selling off Canada-based Stone Consolidated to Abitibi-Price and entering partnerships with Gaylord Container and Ireland's Jefferson Smurfitt. Jefferson Smurfitt, incidentally, also owns 80% of two paper and corrugating facilities in Argentina, with the option to purchase the remaining 20%.

All of these American companies are focusing on three objectives in Argentina's pulp and paper sector. First, they are striving to increase industrial capacity to meet growing domestic demand. Second, they want to establish market share in Argentina's domestic market as well as the packaging industry for the export of agricultural commodities. Third, they want to establish themselves within MERCOSUR's regional market. They anticipate that these are valuable and vital markets for succeeding on a global level.

### C. Investment in the Solid Wood Sector

Trillium's subsidiary, Savia, is the only US company that has pursued major investments in the sawnwood sector. US firms are generally not investing in plantation development either. So far, US firms seem unwilling to deal with marginal quality timber or to develop the raw material source. Argentina, though, does contain a significant volume of valuable timber, both native and plantation. As Savia, Fletcher Challenge New Zealand, and several other companies can attest, it just takes some effort to locate these opportunities. Savia hopes to develop an industry in Tierra del Fuego utilizing the native lenga forests. Fletcher Challenge New Zealand has formed a joint venture with Forestadura Tapebicua, one of the few companies that managed its early plantations well enough to produce high quality timber. Two other international firms have made smaller-scale investments in the sector, utilizing Argentina's better timber stands and production facilities. Forestal Serrana of Canada has invested in a hardwood sawmill, while Danzer of Germany has interest in a veneer plant.

#### i. Savia

Costly and time-consuming litigation prompted by a small group of environmentalists in Chile has forced Savia to abandon its attempts to harvest and process lenga on the Chilean side of Tierra del Fuego. Savia has now focused on its forest leases on the Argentine side, consisting of more than 65,000 ha with 14 million m<sup>3</sup> of lenga. Lenga is a medium-density hardwood with appealing visual and mechanical properties. They hope to produce 150,000 m<sup>3</sup> annually of kiln-dried lumber, veneer, and secondary products for fine furniture and woodwork while employing environmentally sustainable forest management practices. Savia hopes to gain Forest Stewardship Council (FSC) certification of its management practices and products. In addition, they plan to expand the Rio Grande deep water port in order to lower transportation costs and facilitate convenient export to Asia and Europe.

They will strive to strike a balance between US, Western European, and Asian sales (30% each), with just 10% of sales being derived from Argentina's domestic market (Savia 1998). Some analysts suggest that Savia's hardwood lumber will still be priced higher than cherry or maple by the time it reaches the US, but Savia would like to capitalize on future scarcities in Southeast Asian hardwoods as well as price premiums for environmentally certified lumber in Europe (Erb 1998). Should Trillium succeed in Argentina where it failed in Chile, it will be a strong signal that Argentina's foreign investment climate is as friendly as it claims to be, even resistant to strong pressure from environmental groups.

As of early July 1998, Savia's CEO was extremely optimistic about his firm's prospects in Argentina. The Argentine government has been cooperative and environmental issues have been settled expeditiously. Savia expects to have a production permit by September, allowing it to secure financing and begin the project. The new production facilities would be built in 16 months and begin shipping lumber in two years, by late 2000 (Manne 1998).

#### ii. Fletcher Challenge New Zealand

There is no controversy surrounding the operations of Fletcher Challenge New Zealand and Forestadora Tapebicua in the northern town of Virasoro, Corrientes. Combining timber from plantations established in 1974 and carefully managed by Tapebicua with high-tech European equipment financed by Fletcher Challenge, the joint venture has built a 20,000 m<sup>3</sup> complex that produces plywood, kiln dried surfaced lumber, T&G lumber, and mouldings. It began by producing kiln-dried lumber in 1994 and has expanded twice since then. Plantation timber from the 1970s is primarily eucalyptus, but Tapebicua's pine plantations are beginning to mature. Fletcher Challenge is committed to value-added wood processing and global marketing. Tapebicua has committed to manage the raw material source for the future through pruning and thinning as well as a clonal improvement program to yield trees with consistent properties. They can produce high-quality eucalyptus sawlogs on 17 year rotations.

Tapebicua offers one of the most complete lines of value-added wood products in Argentina. They produce about 60 different lengths of kiln-dried lumber, laminated beams from finger jointed stock, blockboard with eucalyptus veneer, and a new line of moulding and millwork. They hope, much like Masisa, to develop the domestic market for high quality wood products as they take advantage of the Brazilian remanufacturing market (Blackman, *ed.*, 1995). They have begun exporting overseas and are trying to identify the best products for Asian, European, and North American markets (Albano 1998). The most important lesson to be gained from this example is that a well-chosen partner in Argentina can provide an ideal situation in which to enter the market early. Tapebicua may have been the best potential partner in the sawnwood sector. It would be worth the effort to identify other firms that have been carefully managing timber that will mature in the near future.

## **8. Comparative Advantage and FDI**

### **A. Latin America's Attractiveness**

An article in the *Wall Street Journal* on April 28, 1998 reports on the International Institute for Management Development's rankings for the world's most competitive nations. The Swiss thinktank ranked 46 countries on 259 criteria ranging from liberal trade policies to economic strength. This year's study found that the most attractive countries were "either large and dynamic like the US or small and fleet-footed like Singapore," and that the worst were "strangled by red tape and plagued by corruption and sluggish reforms" (King 1998). With an increasing number of alternatives for possible investment in today's global economy, a company may now do business where it pleases. Hence, this year's study focused more on the attractiveness of each country, rather than its sheer strength in export markets.

Singapore and Hong Kong finished second and third, far behind the top-ranked US. Six smaller EU nations and Canada rounded out the top 10. Japan fell drastically, as did many of the larger EU countries, which are now seen as being too bloated and bureaucratic (King 1998). Argentina's ranking dropped marginally from 28<sup>th</sup> to 31<sup>st</sup>, behind Chile at 26<sup>th</sup> place (the highest-rated Latin American country). Chile was cited as the leader in deregulation and privatization, while Argentina continued to struggle with unemployment and tax reform (Garelli 1998). The region still inspires significantly less confidence than Europe or Asia. The governments of the region have worked hard to make themselves more attractive to foreign businesses, but the infrastructural development, deregulation, and transparency they can offer are still behind Northern standards.

### **B. Competitive Assessment of Argentina**

In *The Competitive Advantage of Nations*, Michael Porter develops the "diamond" model to show the four factors that contribute to a nation's competitive advantage. Initially he makes a threefold qualification of these determinants. First, "the nature of competition and the sources of competitive advantage differ widely among industries and industry segments." It is therefore necessary to examine specific industries, industry segments, and strategies "rather than broad sectors" (Porter 1990). Second, global firms perform many vital functions outside of their home country. Hence it is necessary to identify why any particular country is a desirable home base (or perhaps in the case of Argentina, a regional base for South America). Third, a constant process of improvement, innovation, and upgrading provides the dynamic corporate environment that allows a firm to sustain its competitive advantage.

Porter claims that the following four “determinants of national advantage” identify the attributes necessary for international success: factor conditions; demand conditions; related and supporting industries; and firm structure, strategy and rivalry. Their interrelation creates a dynamic environment that encourages the healthiest growth. Thus, the country that is strongest in all four facets of the “diamond” should be the most successful in any given industry or segment.

#### i. Factor conditions

These are primarily factors of production, such as skilled labor, natural resources, capital, and infrastructure. Importantly, some disadvantages in factor conditions may eventually breed advantages by promoting innovation. As is definitely the case in Argentina, the public sector may contribute just as much as or more than the private sector to the improvement of factor conditions. Argentina has many advantages in this area that have been covered in depth by this paper. Its primary disadvantages are transportation costs (particularly by water), a higher cost of capital than in the US, and an immature and poorly-managed plantation base. There are tradeoffs as well. Argentina’s labor force, for instance, is more highly-skilled than that in most developing nations. As such, its workers earn higher wages, and are accustomed to a higher standard of living.

#### ii. Demand conditions

This is the nature of home demand for the industry’s products or services. Porter notes that home demand conditions “shape the rate and character of ... innovation by a nation’s firms.” That statement clearly explains why Argentina’s historically low demand for wood products has led to a small, undeveloped industry. Home demand is picking up somewhat, especially in the pulp and paper sector, but it is regional demand that has promoted Argentina’s recent growth. Without the contribution from foreign expertise, capital, and expanded markets, Argentina would be so uncompetitive that it would have no choice but to import most of its value-added forest products rather than to produce them. Thus, any competitive advantage developed in Argentina which allows Argentine firms to produce export-quality wood products is likely to be a direct result of regional, rather than domestic, demand conditions.

#### iii. Related and supporting industries

This relates to the presence or absence of internationally competitive firms in related and supporting industries. Internationally competitive supplier industries provide a competitive advantage by supplying cost-efficient inputs, establishing efficient linkages, and developing high-quality and innovative products. Related industries promote competitive advantage by sharing technology, distribution, and services for complementary products. They also create a derived demand for products that creates stability within the industry. Once again, Argentina’s underdeveloped forest products industry forces it to look to its MERCOSUR trade partners to develop its competitive advantages. The Brazilian furniture industry, for example, is a much more important driver of innovation than the Argentine construction industry, even though the latter is booming. One notable exception is the export of agricultural commodities from Argentina. This related industry has spawned a great deal of interest from US packaging firms, who are upgrading Argentine mills and boosting capacity. In general, however, this is an area in which Argentina is working hard to improve its position. Foreign investment and the integration of the ABC economies are the primary drivers for these improvements.

#### iv. Firm strategy, structure, and rivalry

This last factor focuses on how a nation’s businesses are created, organized, and managed, as well as the nature of domestic rivalry and competition. Some key aspects of this are whether a firm has an inward or outward orientation and whether its debt-holders have a long-term outlook, as well as the nature of capital markets, levels of risk-taking, industry commitment, and domestic rivalry. Under the import substitution model that ruled Argentina’s economy until the 1980’s, Argentina’s firms generally fared very poorly in these areas. Recent government reforms and incentives, as well as the influence of foreign companies in joint partnerships, have made great strides in terms of strategy, structure, and rivalry. Many Argentine firms are now much more competitive in regional and global markets, and have developed much better strategic plans. By doing so, they not only make it possible to develop value-added

wood products for export markets, but they also breed increased competition within the domestic market and give domestic producers an edge over importers.

#### v. Other factors

Two other extremely important factors, chance and government, have a significant impact on each of the four factors described above. They are not included in the diamond because they are external factors that create the conditions for change within the model's components. Chance events, such as the legislation restricting timber harvests on public lands in the Pacific Northwest or the Mexican peso crisis, can "nullify the advantages of previously established competitors and create the potential that a new nation's firms can supplant them to achieve competitive advantage in response to new and different conditions" (Porter 1990). Neither Chile's emergence in the global marketplace, nor the surprising success of MERCOSUR and regional economic reform could have been predicted reliably.

Likewise, Porter states that government's proper role is not as a component of the model, but rather as an outside force that influences each of the four factors. The model is interactive, and government should respond to feedback from the industry or sector in order to help increase its competitiveness. Argentina's government has been very proactive in its desire to provide industry with the proper tools to let the free market develop globally competitive firms. The government's primary responsibility, as of this writing, is to protect the economy from external shocks that could devastate investors' confidence.

It has been mentioned before in this paper that Argentina's economy in general and its forest products industry specifically have made great strides in recent years, but are still not yet ready to be competitive on a global scale. Hopefully, this brief analysis will clarify some of the reasons why this is so. Most analysts estimate that Argentina is about 10 years behind Chile's level of development in the forest products industry. It would be interesting to delve much deeper into the nature and quality of Argentina's competitive advantages in order to get a better understanding of just where the industry stands now and just what its true potential may be.

### **9. Conclusions**

It should be quite clear at this point that Argentina's best opportunities in the forest products industry lie in the global export market. The domestic market should be diligently and proactively pursued, but it cannot be relied upon to sustain a modern forest products industry. The industry is too capital-intensive and the domestic market is too weak. Assuming optimistically that the region's economy makes it through the Asian crisis without collapsing, business with other MERCOSUR countries will not only sustain Argentina's industry as its plantation base and production capabilities develop, but it will also provide the industry with valuable economies of scale that would not otherwise be possible. Chilean expertise and investment capital matched with the sheer size of Brazil's market and natural resource base creates a triangular trade flow that is uncommonly symbiotic. MERCOSUR countries do not differentiate between companies from any member country. Investment capital is the most desired commodity in the reform economies of Argentina and Brazil.

The grand prize, however, lies to the North. The most coveted export markets are the US, the EU, and Asia (in that order). The US has a huge market for softwood structural timber and is accustomed to southern pine. In addition, all of the countries that are major sources of softwood plantation timber, New Zealand, Chile, and Brazil, specifically target the US moulding and millwork sector. They see this sector as their best opportunity to penetrate the market with a differentiated, high value product. One of the largest potential markets in Europe is for certified lumber. Argentina has both the proximity and the cultural ties necessary to succeed in Europe. If some firms are able to certify their plantation timber, European consumers appear to be most willing to pay the corresponding price premium. Europe is already Argentina's first and best overseas customer for pulp logs.

Argentine firms have had very little success in penetrating Asian markets, and now is certainly not the best time to start. One factor that does bode well for the future in this area is Chile's involvement in Argentina. Chile is Argentina's gateway to Japan and Korea. Chilean companies have better access geographically and within the Asian marketplace. Another possibility for export to Asia is through the deep water ports of Tierra del Fuego. Even

if it does not happen now with Savia and its lenga project, the day may soon come when the ports are adequately developed and the Douglas-fir and ponderosa pine plantations of southern Argentina become economically viable.

Given the tremendous success of economic reform and regional free trade as well as the predominantly favorable conditions for the development of the forest products industry, Argentina provides an uncommonly attractive opportunity for investment. Those who wrote of Argentina's potential in the forest products industry during the mid-1990's were understandably conservative in their optimism. Now, as both the forest products industry and the Argentine economy as a whole continue to outperform conservative forecasts, analysts appear to be more willing to express cautious optimism for investing in Argentina. One analyst, in a recent issue of the *Pacific Rim Wood Market Report*, applauded Boise Cascade's plans to invest in a project involving native forests in Chile. He states:

This is a bold move for Boise, especially in light of the problems Trillium has had in trying to develop a large scale project in Chile's native forest. In general, US companies have been perhaps overly timid in analyzing investments in the South American forest industry. For example, the Chileans have essentially taken over leadership of the Argentine forest industry while US companies debated whether or not it was still 'too soon' to get involved. So we applaud Boise's courage in showing a willingness to develop plans in this region (Flynn 1998).

Many people in the forest products industry assumed that Trillium would be unsuccessful in Tierra del Fuego because it had problems in Chile. But things appear to be different in Argentina, and the process has been going along quite smoothly to date.

Chile and New Zealand both developed and promoted large-scale plantation forestry as part of a systematic economic reform process. Argentina is following the same route, tailoring a constantly-evolving reform plan to its specific needs and incorporating the development of the forestry sector within that plan. The government, following the path laid out by Domingo Cavallo, has been extremely successful in managing economic growth and attracting foreign investment. The economies of the Southern Cone have joined together and are becoming an increasingly important factor in the global marketplace. This will help the forest products industry develop export quality products. The Argentine forestry sector, however, must also find a way to increase domestic demand for forest products by identifying opportunities to increase market share in the building products sector. It also remains to be seen whether or not the government will continue to make good on its promise to dredge the Parana River and how much the resulting improvements will lower transportation costs.

US companies have been reluctant to pursue opportunities involving Argentina's forest resources. They seem unwilling to establish and manage plantations, preferring instead to buy raw materials and invest in the processing industry. Although the vast majority of Argentine forests, both native and plantation, are of lower quality, a few aggressive companies have located exceptions to the rule. Chilean companies, meanwhile, are planting thousands of hectares of new plantations each year in the best locations. Clearly, the first companies to secure raw material supply in Argentina will have the best selection to choose from, get the best prices, and be better prepared for the future.

The situation is very similar in the processing industry, but US companies have been much more active in pursuing the opportunity to establish a presence in the MERCOSUR region's growing markets. Argentina's small and outdated processing industry has been consolidated and partitioned off to foreign investors. The first movers from the US have quickly bought out their initial joint ventures and invested in new ones during each progressive wave of consolidation and regional integration. In key sectors of the processing industry, Chilean companies have once again established early dominance. Many of the very best opportunities have already been taken. Thus, the longer a company waits to invest, the more difficult it will be to secure the advantages of an early presence in this emerging market. Those companies that do take the risk of investing early and put in the work to increase industry efficiency and develop markets will reap the benefits in the future.

US companies which ignore Argentina's potential in the forest products industry neglect both a low-cost raw material source and a potentially lucrative regional market. Companies that pursue global marketing strategies, such as Kimberly-Clark, would not think to ignore Argentina's potential. Companies that have identified the need to secure additional fiber supply sources should feel confident that Argentina is now a stable and cost-effective place

to acquire it, with one of the most reliable and favorable investment climates in Latin America. Argentina compares very favorably with the models of forestry development in Chile and New Zealand, rather than Costa Rica, Venezuela, or Colombia. It has the potential to be another success story. Fast-growing southern pine plantations are a commodity with a built-in global market and the potential for considerable added value. The next decade appears to be an opportune time to take part in the growth of Argentina's forest products industry.



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## **11. Appendices**



## Appendix A: Demographic Information

**Country name:** Argentine Republic

**Government type:** Republic

**National capital:** Buenos Aires

**Administrative divisions:** 23 provinces (provincias, singular - provincia), and 1 federal district\* (distrito federal); Buenos Aires; Catamarca; Chaco; Chubut; Cordoba; Corrientes; Distrito Federal\*; Entre Rios; Formosa; Jujuy; La Pampa; La Rioja; Mendoza; Misiones; Neuquen; Rio Negro; Salta; San Juan; San Luis; Santa Cruz; Santa Fe; Santiago del Estero; Tierra del Fuego, Antartida e Islas del Atlantico Sur; Tucuman  
*note:* the US does not recognize any claims to Antarctica

**Independence:** 9 July 1816 (from Spain)

**National holiday:** Revolution Day, 25 May (1810)

**Constitution:** 1 May 1853; revised August 1994

**Legal system:** mixture of US and West European legal systems; has not accepted compulsory ICJ jurisdiction

**Suffrage:** 18 years of age; universal

### **Executive branch:**

**Chief of state :** President Carlos Saul MENEM (since 8 July 1989); Vice President Carlos RUCKAUF (since 8 July 1995). Note - the president is both the chief of state and head of government

**Head of government:** President Carlos Saul MENEM (since 8 July 1989); Vice President Carlos RUCKAUF (since 8 July 1995). Note - the president is both the chief of state and head of government

**Cabinet:** Cabinet appointed by the president

**Elections:** President and vice president elected on the same ticket by popular vote for four-year terms; election last held 14 May 1995 (next to be held May 1999)

**Election results :** Carlos Saul MENEM reelected president; % of vote - NA

**Legislative branch:** bicameral National Congress or Congreso Nacional consists of the Senate (72 seats; three members appointed by each of the provincial legislatures, one-third of the members appointed every three years to a 9-year term) and the Chamber of Deputies (257 seats; one-half of the members elected every two years to four-year terms)

**Elections:** Senate - last held NA May 1998; Chamber of Deputies - last held October 1997

**Election results:** Senate - % of vote by party - NA; seats by party - PJ 38, others 34; Chamber of Deputies - % of vote by party - NA; seats by party - PJ 132, UCR 68, Frepaso 26, other 31

**Judicial branch:** Supreme Court (Corte Suprema), the nine Supreme Court judges are appointed by the president with approval of the Senate

**Political parties and leaders:** Justicialist Party or PJ [Carlos Saul MENEM] (Peronist umbrella political organization); Radical Civic Union or UCR [Rodolfo TERRAGNO] (moderately left-of-center party); Union of the Democratic Center or UCD (conservative party); Dignity and Independence Political Party or MODIN [Aldo RICO] (right-wing party); Front for a Country in Solidarity or Frepaso (a four party coalition) [leader Carlos ALVAREZ]; several provincial parties

**Political pressure groups and leaders:** Peronist-dominated labor movement; General Confederation of Labor or CGT (Peronist-leaning umbrella labor organization); Argentine Industrial Union (manufacturers' association); Argentine Rural Society (large landowners' association); business organizations; students; the Roman Catholic Church; the Armed Forces.



**Diplomatic representation in the US:** Chief of mission : Ambassador Raul Enrique GRANILLO OCAMPO Chancery:  
1600 New Hampshire Avenue NW, Washington, DC 20009; telephone: [1] (202) 939-6400 through 6403; FAX:  
[1] (202) 332-3171

Consulate(s) general : Atlanta, Chicago, Houston, Los Angeles, Miami, New Orleans, New York, San Francisco, and  
San Juan (Puerto Rico)

**Flag description:** three equal horizontal bands of light blue (top), white, and light blue; centered in the white band is  
a radiant yellow sun with a human face known as the Sun of May.

## Appendix B:



**Figure B-1:** Map of Argentina's Railway Network.  
Source: ADI 1998.



## Appendix C: MERCOSUR Statistics

**Table C1.** Statistical summary of MERCOSUR (Source: ADI 1998).

	<b>Area</b> <b>(Million Square Miles)</b>	<b>Population</b> <b>(Millions)</b>	<b>GDP</b> <b>(US\$Billions)</b>
Argentina	1.08	34.1	320
Brazil	3.28	162.2	803
Paraguay	0.15	4.7	7.6
Uruguay	0.07	3.3	15.6
<b>MERCOSUR Sub-Total</b>	<b>4.60</b>	<b>204.3</b>	<b>1,146.2</b>
Chile	0.27	14.0	50.0
Bolivia	0.42	5.9	6.1
<b>MERCOSUR Total</b>	<b>5.28</b>	<b>224.2</b>	<b>1,202.3</b>