Chapter 7

Finance and Marketing

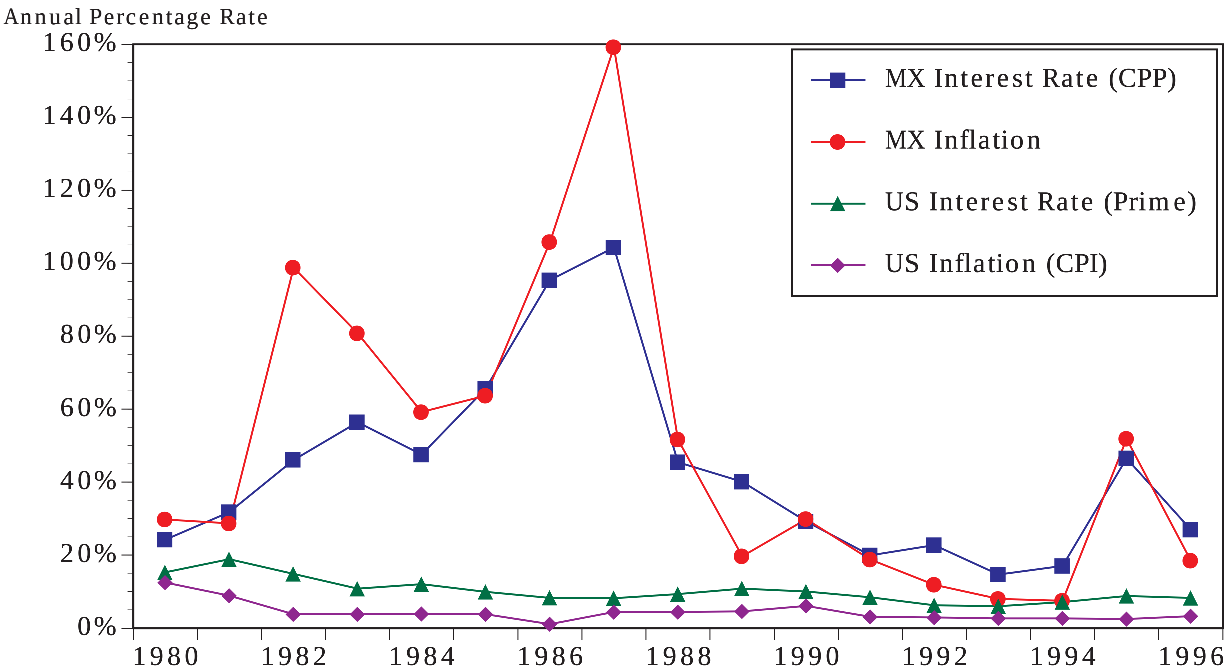
This chapter focuses on finance and marketing issues for the Arizona-Sonora region. Marketing is combined with finance since commodity brokers, cotton gins, and other marketing entities are an important component of agricultural financing for the Region. Trade issues related to border crossings, broker services, and exchange rate volatility are also discussed in this chapter. National inflation, interest rates, exchange rates, and farm financial situations are addressed in the following section.

7.1 Finance and Credit Situation

National policies and events play a crucial role in the financial stability and credit situation of each country. For example, the recent December 1994 peso devaluation sent shock waves through financial institutions, investors, and consumers in Mexico and US border cities. National events like the 1994 peso devaluation have a direct impact on interest, inflation, and exchange rates. Figure 7.1a graphically describes the interest and inflation rates for Mexico and the US from 1980 to 1996. Interest and inflation rates have been distinctly more stable in the US than Mexico. To a large degree, the difference in financial stability between the two countries reflects the stability of their monetary and fiscal policies. Although nominal interest rates in Mexico have exceeded US rates for the entire period, Mexico's rate of inflation has also exceeded the US's inflation rate. In fact, Mexico's inflation has been so high that real interest rates (nominal interest minus inflation) have averaged a negative return (-6.5%) for lenders from 1980 to 1996 (see figure 7.1b). In contrast, real interest rates for the US were positive for the entire period and fell within a relatively stable range of 2.8 and 11.1 percent (annual average of 5.8 percent).

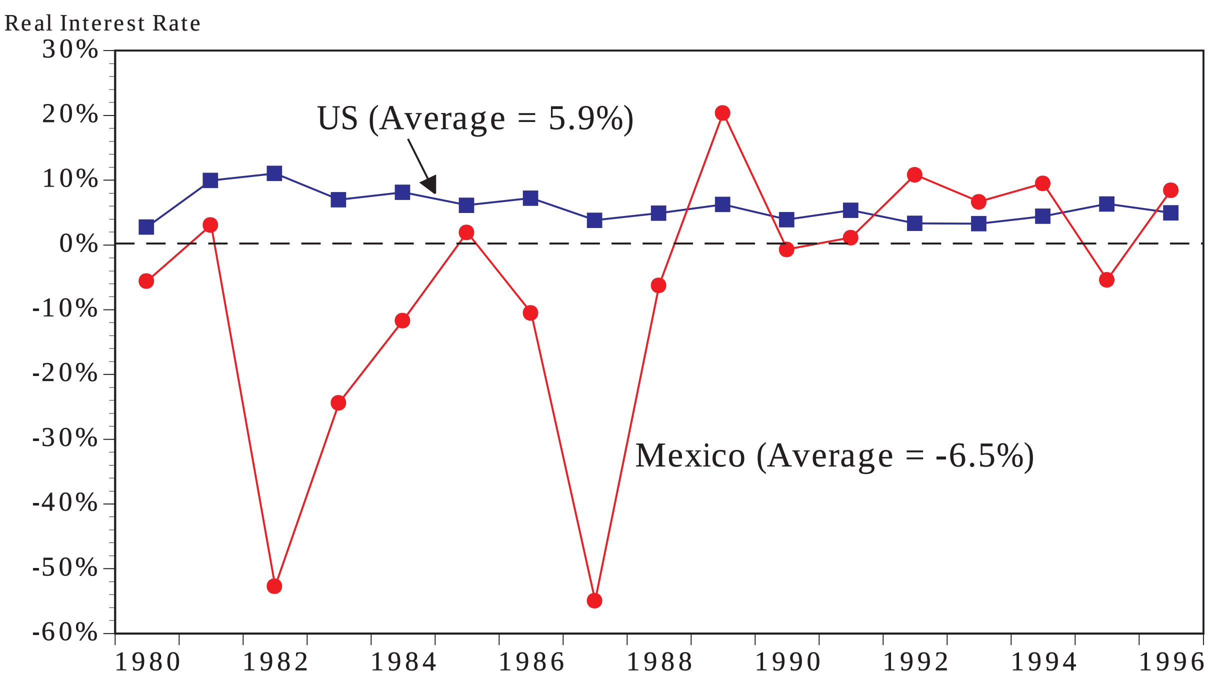
Clearly, the uncertainty of Mexico's currency hinders financing and growth in Mexico. Financing Growth and Development in the Sonora-Arizona Region (Melvin and Solorio) is another study component of the overall "Strategic Economic Development Vision for the Arizona-Sonora Region" that this study is a part of. Melvin and Solorio discuss how there was a credit shortage in Sonora prior to the 1994 peso devaluation, and how the financial crisis just exacerbated their existing credit problems. The oligopolistic nature

Figure 7.1a. Mexican and US Inflation and Preferred Interest Rates, 1980-1996.



Source: Economic Report of the President and La Economia Mexicana en cisias.

Figure 7.1b. Real Interest Rates for the US and Mexico, 1980-1996.



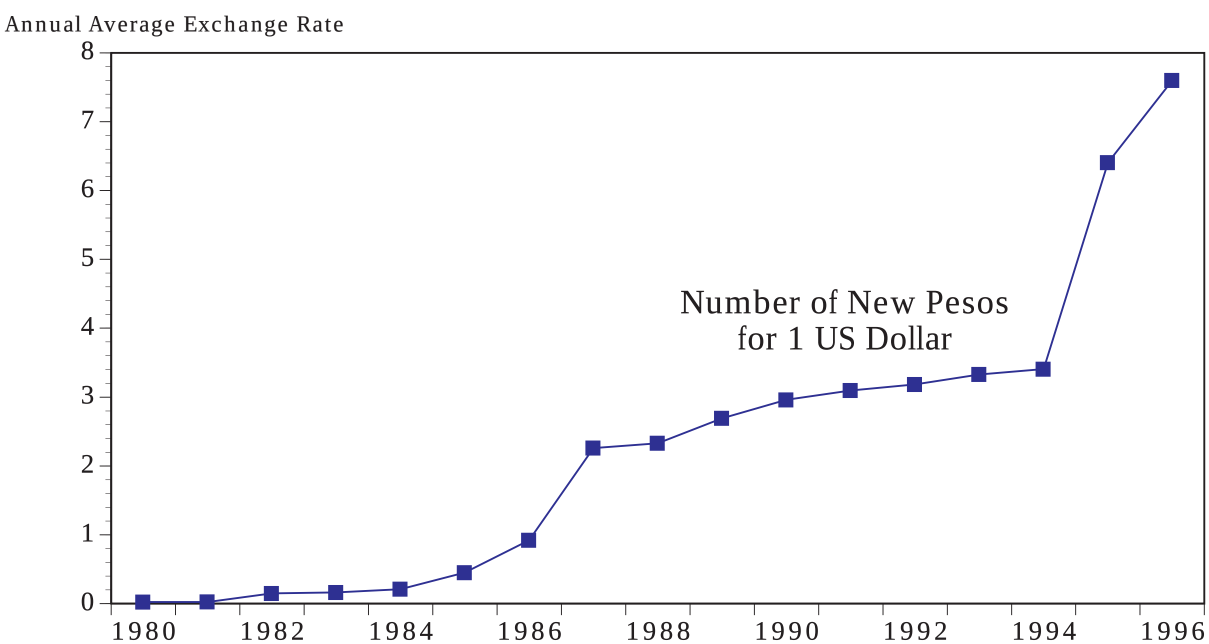
Source: Economic Report of the President and La Economia Mexicana en cisias.

of Mexico's financial system contributed to their credit shortage long before the 1994 peso crisis. Sonora's shortage of credit is widely recognized as a factor in restricting their growth. Opening Mexican financial markets to US institutions more would help ease the credit situation in Sonora. However, low and stable inflation for some time in the Mexican financial market will be required before many US lenders will move into Sonora's credit market.

The inflation rate for Mexico has been a primary force in driving the exchange rate between the US dollar and the new Mexican peso. Figure 7.1c shows how the number of new pesos required to purchase one US dollar has increased from .023 in 1980 to 7.598 in 1996. The 42.4 percent average annual increase in the exchange rate mirrors the 43.7 percent average inflation of Mexico over this period. Since US inflation averaged 3.9 percent between 1980 and 1996, the purchasing power of the new peso has slipped around 2.6 percent annually to the US dollar.

Table 7.1a gives selected farm financial indicators for Sonora and Arizona. Although cash receipts for Sonora were about 3 percent more than for Arizona in 1994, total farm debt for Arizona exceeded Sonora by 16 percent. This would suggest that Sonora's repayment capabilities for debt are no worse than for Arizona. However, Sonora's 25 percent loan default ratio in 1994 indicates that financial hardship is widespread in Sonora. The economic size difference between an average unit in Arizona versus Sonora is one factor in explaining why Sonora has experienced so much more loan default. Sonora has 6 to 9 times as many farms and ranches as Arizona, depending on how a unit is defined. Since cash receipts for the two states have been roughly equal in recent years, on average Arizona's units are 6 to 9 times larger in cash sales than Sonora.

Figure 7.1c Currency Exchange Rate Between the US and Mexico, 1980-1996.



Source: La Economia Mexicana en cifras

Table 7.1a. Selected Farm Financial Indicators in Arizona and Sonora, 1993-95.

	Arizona			Sonora		
	1993	**1994**	**1995**	**1991**	**1994**	**1995**
Total Farm Debt (Million US $)	1,217	1,256	NA		1,080	1,090
Debt in Default (Million US $)					271	172
Default Ratio (default debt/total debt)					25%	16%
Farm Debt to Equity Ratio	11.1%	10.8%	NA			
Farm Debt to Asset Ratio	10.0%	9.8%	NA			
Number of Farms and Ranches[1]	(total)	7,400	7,400	7,400	67,954	45,393
					(more than 5 hectares)	

[1] USDA defines a farm or ranch as "any establishment from which $1,000 or more of agricultural products were sold or would normally be sold during the year." Figures for Sonora are based only on land size (i.e., less or more than 5 hectares).

Source: Arizona Ag. Statistics and SAGAR

As part of the "Financing Growth and Development in the Sonora-Arizona Region" study, an informal survey of Arizona's business individuals was made. When participants were asked, "What would you suggest as ways to stimulate lending from US banks and investors to Mexican entities and to Sonora in Particular?" The most common response was related to increasing the security of the lender. Melvin and Solorio point out that such legal reform requires political acceptability in Mexico and it is doubtful that Mexican citizens will support the improvement of legal recourse to lenders until they are convinced that repeats of the 1994 peso crisis are behind them. Shocks like the peso crisis raise interest rates dramatically for a variable interest rate environment like Mexico and this puts many loans in default. Annual real interest rates have been known to exceed 20 percent in Sonora, as shown earlier in figure 7.1c. Clearly, macroeconomic stability in Mexico is needed before adequate investment capital will flow to Sonora.

7.2 Sources of Credit

This section discusses the sources of credit and financing arrangements that are common in the Arizona-Sonora region. Agriculture accounted for 1 to 2 percent of Arizona's bank loans in 1996. Whereas, in the same year Sonora's agriculture utilized around 23 percent of Sonora's credit granted to agriculture (Melvin and Solorio). Financing for crop, livestock, and food processing sectors are included in this section.

The crop sector of Sonora receives financing from a variety of sources with commercial banks lending 24 percent of all crop loans. Brokerage firms in Sonora along the US border also provide a good share of financing to Sonora producers. Fifty-five percent of the custom-house brokerages interviewed for this study have provided credit in some form to agricultural producers. These sources of credit could vary from leasing machinery or supplies to loaning money. The relationship between brokers and agricultural producers involves long-term mutual trust since more than 56 percent of Sonoran producers interviewed have utilized the same broker for more than 10 years.

Bancomext, a major source of crop loans for Sonora, provided US $143.4 million in 1996 with $112.0 million as short-term credit and the remaining $31.5 million as long-term. Bancomext is a government supported entity that provides loan guarantees and some direct credit to producers that will generate foreign currency through exports. Regions that benefitted the most from this financing were, Navojoa, Hermosillo, Cajeme, Caborca, San Luis Rio Colorado, Guaymas, and Etchojoa. Products that were financed for the export market included garbanzos, wheat, grapes, melons, and other produce.

Regarding other credit sources in Sonora, Banrural and Banco de Mexico (FIRA) loaned $86.5 million in 1996 to support a total of 508,000 acres of crops (about $170/acre of financing). Wheat and corn made up 58 and 30 percent of their financed acreage, respectively. Since 1995 the federal government and the Fondo de Fomento Agropecuario del Estado de Sonora (FOFAES) promoted a new policy to support the crop sector. Main goals were to increase their competitiveness and share of domestic and foreign markets in the long-run through technology transfer, the strengthening of Banrural and FIRA as financing institutions, increased savings through the creation of banks, and increased financing to growers.

As described above in table 7.1a, Arizona's production agriculture had an agricultural debt of $1.3 billion in 1994 with 37 percent from real estate loans and 63 percent non-real estate (AZ Ag. Statistics). Commercial banks (34.4%), individuals and others (26.6%), Farm Credit System (15.9%), life insurance companies (12.5%), and Farmers Home Administration (10.6%) have been the main sources of credit for Arizona.

Consolidation of the US banking industry has affected Arizona like it has every other state. Larger banks have gained market share in the area of small commercial loans (less than $100,000) by using automated procedures for evaluating loans, known as "credit scoring." These expert systems built by larger banks have lowered their cost of banking for small loans. Consequently, the comparative advantage for small banks has moved more into mid-size loans, ranging from $100,000 to $1,000,000. Gilbert notes that recent regulation changes designed to reduce the regulatory burden of small banks could help them maintain banking business in rural communities.

Overall, 29 percent or 27 of Arizona's questionnaire respondents indicated they have been involved with finance and investment activities. Of these individuals involved with financing, 17 (63 percent) have made direct loans or invested in Sonora while 8 (30 percent) indicated they have put together similar financing arrangements in the rest of Mexico. These figures reflect much stronger business ties for Arizona to Sonora than the rest of Mexico. Overall results primarily reflect Finance/Marketing and Crop sector responses since these two groups account for the largest share (about 65%) of investments in Sonora and the rest of Mexico. When asked about the basic loan requirements for making loans in Mexico, responses included trust and reputation, character weighted equal to collateral, non-revocable letter of credit, security in US assets, contract on production allowing for deduction of loan upon delivery and settlement of crop.

Credit default and/or insufficient credit has affected 97 percent of the respondents in Sonora. At least one-third of the respondents have had a problem with loan default in the past. In the last three years, 23 percent have had a loan default problem. These default rates are consistent with state averages for Sonora in 1994. As reported earlier in Table 7.1a, default rates for agriculture loans in 1994 were around 25%! These numbers portray the severity of the financial crisis in Sonora and are likely of great concern for Arizona financiers that have invested or are thinking of investing in Sonora. Questionnaire results revealed that the main sources of financing in Sonora were commercial banks (24%), self-financing (20%), other sources (20%), development banks (14%), savings (13%), and joint ventures (9%). 30 percent of Sonoran individuals have a financing arrangement with a US source.

The livestock sector of Sonora is less dependent on external financing sources than the crop sector. An estimated 80 percent of livestock operators provide their own financing with commercial banks accounting for only 7 percent of loans. However, several ranchers reported problems with obtaining sufficient credit for their operations. 45 percent of surveyed brokers provide some sort of financing to the livestock operators in Sonora. In recent years, loan default has been a more serious problem in the livestock sector than in the crop sector. Loan default in the livestock sector has been as high as 40 percent in the last three years.

Bancomext is the main source of financing for the livestock industry of Sonora. In 1996, the credit provided by Bancomext was US $34.4 million, with $12.8 million short-term and $21.4 million long-term loans. The most supported municipalities were Hermosillo, Navojoa, Carbo, Moctzuma, Sahuaripa, and Magdalena. Credits were mainly for hog and beef cattle activities. In 1995, through Alianza para el Campo, the Federal Government and the FOFAES set mechanisms in place to give credits (US $3 million) in order to increase production and competitiveness. The loans provided were used for animal health, milk production, rangeland establishments, and genetic improvements. Also, a state level program throughout the Patronato para la Infraestructura del Estado de Sonora, gave support to improve their livestock infrastructure.

When Arizona livestock individuals involved with financing or investment activities were asked whether they had provided loans or invested in Mexican business activities, 71 percent (5 out of 7 respondents) said that they had for Sonora. Given that there were 30 livestock “business individuals” that returned a questionnaire, one must also conclude that joint venture activities have been rather limited for Arizona’s livestock industry. Four Arizona livestock participants had joint ventures in Sonora and one of these individuals also had a joint venture agreement somewhere else in Mexico. In all cases, Arizona participants provided financing for their venture with their own capital.

The food processing industry of Sonora has received financial support primarily from Bancomext and state government loans. Bancomext provided US $4.24 million in 1996 for pork processing services and other production. The state granted loans for two cotton gins in Etchojoa and Navojoa that amounted to US $1.5 million. Questionnaire results found that the main sources of financing for small and medium sized firms is their own revenues (39%), loans and investment provided by Arizona sources (18%), and financing for other US states (18%). 50 percent of the custom houses along the border have provided financing to the food processing industry if production inputs for crops are included.

Of Arizona’s food processing individuals involved with financing or investment activities, 60 percent (3 out of 5 respondents) said that they had invested or made loans in Sonora while 50 percent (2 out of 4 respondents) said that they had for the rest of Mexico. When asked about joint venture activities one organization had activities in

Sonora while another had activities in both Sonora and the rest of Mexico. Capital provided by Arizona food processors was rather limited compared to other sectors since 5 percent was the maximum amount of own financing provided in their joint ventures. Two out of three of these ventures were financed primarily by their partners with one foreign partner that provided 95 percent of the financing and the other venture had a national partner that provided 99 percent of financing. One venture had significant bank financing (70 percent of capital) with most of the remaining funds from a national partner (25%).

Overall, high default rates make it more risky to loan in Sonora. High interest, inflation and default rates make Sonora and rest of the Mexico a difficult place to operate for Arizona financiers. These circumstances also make it more difficult for Sonoran agribusiness to secure financing. These concerns should be eases some if Mexico pursues a more stable monetary policy, trade restrictions are minimal, and the Mexican economy resumes a pattern of strong growth.

7.3 Trade and Marketing Issues

This section includes information on the results of interviews from twenty custom-houses along Sonora´s border that offer agribusiness services and Arizona's finance/marketing respondents. The origin and destination of commodity trade along with the movement of products across the border is addressed in this section.

The role of brokers (Arizona term) or custom-houses (Sonora term) is very important for moving products across the border and marketing abroad. Most Sonoran individuals said that they export their products to the US and require custom-house/broker services along the US-Mexican border. However, the marketing and border-crossing process is far from working as efficiently as it should be. For example, forms that have to be filed and bureaucracy that must be dealt with at the border restricts the movement of perishable products.

When Arizona's finance/marketing participants were asked how often (always, frequently, occasionally, never, or not applicable) they have experienced problems in moving their products across the border, 57 percent of respondents said that they *occasionally* experience problems, 14 percent *frequently* have problems, 8 percent indicated that they *always* have problems, and 0 percent indicated that they *never* have problems. Loses at the border are very significant when they occur. Finance and marketing individuals indicated that they have lost entire loads with loses up to $100,000 per load. When asked to identify what agencies have been most difficult to clear in moving products across the border, customs was cited the most often by survey participants.

86 percent of Arizona's food processors surveyed indicate that they use brokers for handling their imports and exports. As expected, Nogales was by far the most common port of entry/exit among the respondents. 67 percent of food processors and marketing individuals and 54 percent of crop individuals indicated that they have an employee who is primarily devoted to taking care of border crossings. This represents an expense that could be reduced with a more streamlined border crossing procedure. Broker respondents from Arizona identified streamlining border crossing formalities as the number one means for enhancing Arizona-Sonora agribusiness.

Among Sonora respondents, 68 percent of the custom-house/broker services are for crops, 42 percent for livestock, and 63 percent for food processing activities. Export destination data reveal that 20.8 percent of Sonora's crop products go to Arizona; 70.6 percent to the rest of the US; and 8.6 percent to other countries. The destination of livestock products is: 2.5 percent to Arizona; 87.5 percent to the rest of US; and 10 percent to other countries. The food processing industry ships 58.3 percent to the rest of the US, 25 percent to Arizona, and 15.8 percent to other countries.

In relation to Sonora's imports, 47 percent of their custom-houses have worked with crop individuals, 37 percent with livestock individuals, and 53 percent with food processing individuals. The origin of imports for Sonora's crop industry is: 33.7 percent from Arizona; 62.2 percent from the rest of the US, and 4.1 percent from other countries. For the livestock industry, Sonora's import origin is strongly Arizona (52.8%); then the rest of the US (40.0%); and other countries (7.2%). The origin of imports for Sonora's food processing industry is first the rest of the US (49.8%); then Arizona (41.0%); and lastly other countries (9.2%).

Interviews revealed that 65 percent of the custom-houses in Sonora export agricultural inputs, primarily livestock and food processing inputs. Arizona was the destination for 20 percent of these inputs, 71.5 percent to the rest of the US, and only 8.5 percent to other countries. More specifically, 30.9 percent of the exports of livestock inputs went to Arizona with the remainder going to the rest of the US. Food processing inputs from Sonora were primarily exported to the rest of the US (71%), then Arizona (23%), and other countries (6%).

Regarding the importation of inputs into Sonora, 70 percent of the custom-houses have provided services to crop individuals; 50 percent to livestock businesses; and 55 percent to food processing industries. The origin of such imports for the crop industry were 18.6 percent from Arizona; 68.6 percent from the rest of the US; and 12.8 percent from other countries. Inputs imported for the livestock industry were; 23 percent from Arizona; 72 percent from the rest of the US; and 5 percent from other countries. Food processing is much less dependent on the rest of the US, accounting for 49.0 percent of imported inputs, then 25.5 percent each comes from Arizona and other countries.

Exchange rate volatility is a risk that agribusinesses face when doing business in Mexico. About 60 percent of Arizona respondents indicated that they are concerned about future peso devaluations. But only 6 percent indicated that they have considered using Mexican peso futures on the Chicago Mercantile Exchange as a way to manage exchange rate risk. Although, an unstable peso is an uncertainty that reduces cross border expansion of agribusiness, the opportunity to reduce exchange rate risk by utilizing the Mexican peso futures exist. Efforts should be made to make local agribusinesses aware of this tool.

7.4 Cluster Analysis

Table 7.4a summarizes strengths, weaknesses, opportunities and threats for Sonora's finance and marketing sector. A key advantage for Sonora is its close proximity to the US border and the strength in business ties that have been developed with Arizona agribusinesses. Problems associated with high loan defaults and poor cooling, shipping, and transportation infrastructure continue to restrict growth. The North American Development Bank (NADBank) came into existence on January 1, 1994 with the passage of NAFTA. To date NADBank has financed 11 projects (6 of the 11 are in Arizona and Sonora) amounting to over $63 million for infrastructure improvement. Virtually all of the moneys have been for projects to improve sanitation and water quality. But in the future it is possible that NADBank will loan moneys for the improvement of infrastructure related to cooling, shipping, and transportation. The biggest threat for Mexico's finance sector is macroeconomic instability. Mexico's inflation in the past has been so variable that it will take many years before a sense of stability and confidence can be regained by citizens and potential investors in Sonora.

Strengths, weaknesses, opportunities and threats for the Arizona finance and marketing sector are summarized in table 7.4b. A primary strength of this industry is the business relationships that have been nurtured over the years with Arizona and Sonora individuals. Trust was the most common item listed by Arizona respondents for making loans in Mexico. Conversely, individuals that are seeking business ventures in Sonora that are not familiar with the trustworthiness of agribusiness individuals are at a disadvantage. This weakness could be partially overcome by having a better system of enforcing legal agreements between Arizona and Sonora agribusiness individuals. A continuation of the financial crisis in Mexico and high loan default rates are a threat to the growth of this sector. Trade wars implemented with snapback provisions or phytosanitary measures also pose a threat to this sector. Arizona's capital and technological expertise combined with lower wages in Sonora present opportunities for joint financing ventures across the border.

High rates of return are also required to attract capital to new ventures that are generally more risky in nature. Companies that have worked closely with universities experience higher rates of return than their counterparts (Roedemeier). As reported in the September 1995 issue of Coopers & Lybrand, Trendsetter Barometer, "Growth companies that utilize university resources boast productivity rates that are 59 percent higher than their industry counterparts, in terms of revenue per employee. Likewise, companies with universities have projected annual revenues that are 21 percent higher and capital investments that are 23 percent greater than their counterparts." Better communication and technology transfer between universities and industry could be one of the better long-term strategies available for attracting more capital to the Region.

Table 7.4a. Assessment of Finance and Marketing Sector for Sonora.

Strengths

- Proximity with potential financing sources in Arizona and other US border states.
- Strong ties and mutual trust between Arizona brokers and Sonora producers (56 percent of Sonora producers have used the same broker for more than 10 years).
- Experience with commercialization services on the Sonora border (e.g., border brokers).

Weaknesses

- Problems with loan default and consequential indebtedness between agribusiness managers.
- Necessity of alternative sources of financing for agribusiness.
- Difficulties in obtaining information on new regulations.
- Political influence can bias agricultural statistics.
- Necessity to enlarge the cooling and shipping infrastructure.
- Deficiencies in crossing the border with merchandise.

Opportunities

- Availability of financing can expand the agribusiness sector.
- Border brokers and custom-houses offering more financing arrange-ments.
- Alternative commercialization services like air and marine ports.
- Promote a better partnership between universities and businesses to improve technology transfer.

Threats

- Abrupt variations with the macroeconomic situation in Mexico (e.g., peso crisis).
- Problems associated with NAFTA (e.g., snapback provisions).
- Inability to handle increased commercial trade flows at the border.

Table 7.4b. Assessment of Finance and Marketing Sector for Arizona.

Strengths

- Proximity to a state with high demand for finance.
- An established distribution system in Nogales that has built years of trust and financing agreements between themselves and Sonoran growers.
- Arizona houses some established marketing companies that have experience in global marketing.

Weaknesses

- Lack of a legal system in Sonora for contract enforcement and property ownership.
- Lack of sufficient linkages and contacts between individuals in both states.
- Difficulty in obtaining the latest regulations.
- Transportation and cooling infrastructure in Sonora is lacking.

Opportunities

- Growing Agribusiness in Mexico needs financing.
- Use of Mexican Peso Futures as a way to hedge exchange risk.
- Lower wages in Sonora combined with Arizona capital and technological expertise presents opportunities for joint ventures across the border.
- Access to Guaymas port as a closer port outlet for Arizona exports abroad.
- Closer ties between universities and agribusiness in exploiting new technologies.

Threats

- Continued economic crisis in Mexico with a high default rate on farm loans.
- Further devaluation of peso.
- Snapback provisions (e.g., tomato war).
- Prolonged delay in setting up a PACA type legal system.

7.5 References

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