ECONOMIC INTEGRATION IN THE WESTERN HEMISPHERE

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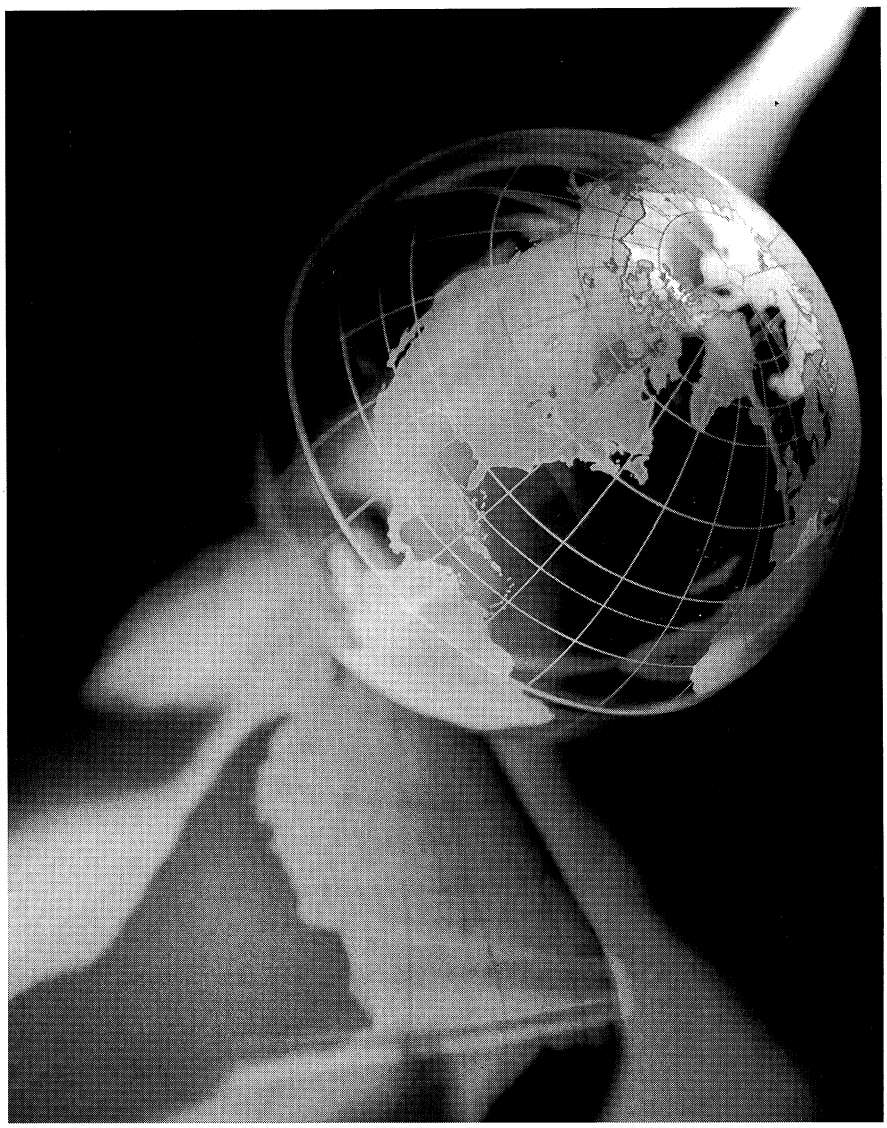

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Learning to Make Markets Work in a Newly Opened Economy: The Mexican Experience

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Mexico has been a pioneer in a mostly unexplored field of Economics: the formation of markets. Since Adam Smith we tend to think that once you liberalize a market, the "invisible hand" will automatically begin to work, and presto ! the market is born, which is a costly mistake indeed. You can ask the Russians about that when they decided to end with Communism.

There should be four basic axioms in the theory of market formation. First, free markets are no panacea for the Economic diseases and uncertainty. Even when you have a free market, something can go wrong, since many agents will not be accustomed to work in this free environment. You must help them to understand that you have to learn to live with risk as part of their lives, and that they can use the market to reduce risks. But again, in a world with uncertainty, you can never win them all. Second, in order to emerge, there is a lot of hard and dirty work to do in order to create the conditions for a stable market to operate. Markets do not grow like mushrooms once the State has decided to reduce its intervention. You have to create the conditions so that the economic agents can freely interact, and you also have to teach these agents how to use market mechanisms in order to manage their risk. Third, the transition to a free market economy should be as gradual as possible, but not so gradual or slow so as to permit the creation of antibodies to the process. And fourth, as a Government you must have the willingness to change an economy that has been unchanged for years, no matter what interests you might hurt.

All these may sound like commonplaces to many of you, but believe me, in Mexico we have discovered all these things by ourselves, by trial and error, and it has not been an easy job. But as athletes say "no pain, no gain". in these lecture I would like to share some of the Mexican Government experiences with you. In order to talk about risk management in a newly opened economy, first you will have to follow me through the jungle of changes that have occurred in the last years in our country. As you will see, risk management is the culmination of a process leading to a free market economy.

The Situation of Mexican Agriculture

In the last 10 years Mexico has undergone one of the most ambitious reform programs of its economy in general, and specifically of its agricultural sector, since the Mexican Revolution in 1910. In fact, Mexico's reform is ambitious not only by Mexican standards, but by international standards too.

For about seventy years the Mexican agricultural sector was one of the most protected. Trade and non-trade barriers, guarantee prices, direct and indirect subsidies and the presence of the Mexican Government as the main buyer of grains and oilseeds, combined with a legal framework in which the State was the owner of all natural resources, and the referee in every dispute on land or resource tenancy were factors that contributed to the stability of the Mexican Agricultural System. In the early years of our Revolution all these things made sense, since the Mexican peasants had been the losers of the old Regime.

Such protection had a cost, a cost that had to be burdened by the consumer, the Government, and at the end by the producers, the same individuals that the system tried to protect. The State bought grains and oilseeds at a price that was two, three and sometimes four times the international reference price of that

product. The consumer did not have access to grains and oilseeds at international prices. In order to prevent inflationary impacts on the economy, the Government implemented a sophisticated indirect subsidy scheme to consumption which led to a conflict of interests in policy design. On one hand, the Government tried to keep the producer's income using guarantee prices, and on the other hand it tried to maintain inflation leashed, using a system of indirect subsidies and price controls.

But there was also an important efficiency cost involved. With the government as owner of the land and natural resources and ill-defined property rights in the rural sector, uncertainty was the name of the game. Private investment in the Agricultural sector declined dramatically, and since peasants were not allowed to rent or sell their lands, they were forced to produce grains and oilseeds with low aggregate value, and with less and less opportunities to increase their production scales or incomes.

As a result, the GDP and income distribution of the Mexican Agricultural sector became more erratic. For example, the Agricultural per capita GDP has been consistently equivalent to one third of the national per capita GDP, nevertheless Agriculture contributes with 8 percent of the total GDP. And the growth rates of the Agricultural GDP has been changing from minus 8 percent to 6 percent and then to almost zero in the last 20 years.

In part, this was due to the fact that only a minimal part of producers, about 10 percent, benefited from the guarantee prices, and produced about 50 percent of all grains and oilseeds. Many of them were competitive at international prices and could be producing vegetables or fruits, but decided to stay in grains because they had the marketing of their products assured. Only about 2 or 3 percent of all producers were growing more internationally demanded products, which accounted for more than 50 percent of the value of all agricultural exports. The rest of producers (about 50 percent of them) were dedicated to self consumption of their crops, or were trying to improve their competitiveness mostly in grains.

Something had to be done, in order to improve the efficiency of the agricultural sector, and it was agreed that the liberalization of the market could be of great help. In 1988, The National Plan for the Modernization of Agriculture 1989-1994 was published. In it, the Mexican government stated its compromise to improve the quality of life in the Agricultural Sector through several policy guidelines that later became reforms, which will be described in the next section.

The Mexican Change of the Agricultural Sector at a Glimpse

How to create a free market where there has been State intervention for the last 70 or 80 years? There are several issues that must be addressed in order to answer that question:

1 Once that you begin with the reforms, you must be consistent. Either you liberalize all the economy or you don't.

2 The liberalization process should be gradual, in order to let the participants get accustomed to the new environment, and at the same time to create a market culture among them.

3 Do not expect that markets will be created by themselves. State intervention substitutes market rules and specifications with artificial norms, and the private sector is not accustomed to participate in a free economy. So you have to create rules and incentives, and above all, you must create an environment of certainty and definition of property rights in order to foster the capital flow to your agriculture.

4 Once that you liberalize, be sure to give the participants the opportunity to manage their risk and protect their income. If you don't, sooner or later you will have to intervene again with higher costs.

Bearing all these points in mind, the reforms began. I will describe them briefly in order, emphasizing their effects. We must think of all reforms in the

a) Reform of the Legal Framework, including agrarian, water and forestry Laws. The first thing to be done was to give clear rules of the game to all participants. With reforms to article 27 of the Mexican Constitution, peasants became the legal owners of the land, and selling, renting and even associating with other producers became legal. The distribution of land finally came to an end. In the case of water and forestry Laws, they define the property rights of the resources, creating incentives to prevent the over exploitation of natural resources.

b) NAFTA, GATT and free trade. Once that the legal framework defines the rules of the game for the efficient use of natural resources in the Agricultural sector, you must define the rules that will level the playground in international trade. The North American Free Trade Agreement (NAFTA) gives Mexico the opportunity to link the producer's decisions to clear market signals, those of international markets. At the same time, you gradually eliminate trade distortions in a clear, certain and transparent way in time. All trade barriers are going to disappear in a maximum of 15 years, and all import permits will be substituted by gradually decreasing tariffs and gradually increasing zero-tariff quotas.

c) Gradual substitution of indirect, trade-distorting subsidies be delinked, direct income support payments. One important step towards market liberalization was taken by the Federal Government in 1991. With the creation of Federal Government, a state owned enterprise that has the mandate of marketing all the wheat, all soybeans, and the sorghum from the Northeast state of Tamaulipas, these products substituted its guarantee price with an "indifference price". Federal Government cannot buy or sell any product. The institution just pays the subsidies required to maintain competitive prices for buyers and a certain level of income for producers. linking their national markets with the international ones.

The support scheme implemented by the Federal Government for wheat, soybeans and sorghum is based on the difference between the agreed price that is paid to the producer by national consumers and the price at which the national consumer is indifferent between buying national or imported crops (indifference price). This difference is the support paid by Federal Government, that is, Agreed Price - Indifference Price = Support.
The indifference price is calculated as follows:

International Price
+ International Basis
+ Handling Costs
+ National transportation costs from the border to the consumption zone of grain

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= International Price in Consumption Zone (IPZC)

To this international price in consumption zone you subtract all the cost that the consumer of national crops would have to absorb if he wanted to be indifferent between buying national or imported Crops:

International Price in Consumption Zone
- National Financial Costs
- National Storage Costs
- Transportation Costs from producing zones in Mexico to consumption zones

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= Indifference Price

The international price of grains, on which all calculations are based, changes on a daily basis for cash operations and varies according to the relevant reference price considered. In the case of forward operations the relevant future reference is taken. This means that international basis, tariffs and other costs are also changing on a daily basis.

The marketing support paid by the Federal Government is the difference between the agreed price and the indifference price. If the international price falls, the indifference price decreases, and since the agreed price is a fixed reference all through the year the marketing support increases to compensate the producer for such reduction. On the contrary, if the international price rises, the marketing support is reduced.

This scheme allows to link the marketing support with international prices, but it also exposes the Mexican Government to price fluctuations.

It is a very innovative program, and as such, another step was taken toward freeing up the agricultural markets of the country. The PROCAMPO program is viewed very favorably by the majority of the producers of the country. At the same time, the processors, or users, of agricultural products are now free to purchase their needed products in the world marketplace. This means that they will realistically have to compete with processors in other parts of the world in order to remain competitive in the Mexican marketplace.

Realizing that this policy shift could be a difficult burden to bear all at once by the agricultural product processors of the country, the Mexican Ministry of Agriculture assisted them through the creation of the agricultural product marketing subsidy. In effect, this subsidy helps to balance the costs of locally produced agricultural products with the lower cost raw materials available in the world marketplace.

Budgetary Implications

The linking of the agricultural product marketing subsidy to the prices of the Futures Contracts in for example, the Chicago Board of Trade created a risk situation for the government of Mexico. The budgetary allocations for the merchandising subsidy were based on specific futures contract values for the products involved. While a rise in prices meant lower subsidy payments to the Mexican processors, a fall in prices could easily mean a budgetary shortfall for ASERCA, the government organization charged with paying the subsidy.

The NAFINSA - ASERCA Hedge Program For Agricultural Products

To help offset this budgetary risk, ASERCA, together with NAFINSA acting as financing agent for the government of Mexico, were authorized by a mandate of the federal government to enter into a hedge program in the international derivatives markets. Working closely with an international broker, NAFINSA

opened a futures and options trading account on behalf of ASERCA, and also signed the ISDA documents authorizing them to enter into a hedge program using over-the-counter derivative instruments.

A hedging strategy had to be designed to cover the risk of falling prices for the estimated crop of wheat, sorghum, soybeans and cotton during the present crop year. Given the price levels, futures price volatility and volume of operations to be conducted, the strategy that was ultimately chosen included price risk protection through the sales of futures contracts at/or above the futures price levels used to allocate the merchandising subsidy budget.

Hedge Implementation

Sorghum

The Tamaulipas sorghum crop was crosshedged through the sale of CBOT corn futures contracts. Several futures contracts in different delivery months were sold, all above the price level used to allocate the merchandising subsidy budget. As the crop was sold in the cash market in Mexico, the crosshedge was liquidated. The fall in CBOT corn futures prices meant that this hedge was liquidated at a profit, thus assisting ASERCA with its subsidy payments to the Mexican animal feed industry.

Wheat

In order to protect the budgetary allocations for the merchandising subsidy to the wheat milling industry, the Federal Government sold Chicago wheat futures contracts on the CBOT, in different delivery months. All contracts were sold at prices that equated or surpassed the futures price level used to allocate the initial budget subsidy payments. At the start of the harvest, Mexican wheat sales were made into the local market and part of the hedge was canceled. Later, when the wheat subsidy program was changed, the balance of the hedge was lifted, with all positions benefiting ASERCA in its budgetary position.

Soybeans

Similar to the sorghum and wheat hedge programs, The Federal Government sold soybean futures contracts in different months on the CBOT to protect its budgetary allocations. Again, all positions were sold at price level used to allocate the subsidy budget. Part of the soybean hedge was lifted when it was determined that the production of soybeans in Mexico would be lower than originally anticipated.

The open hedge position is liquidated as the local Mexican crop is sold.

Procampo, or How to Become a Real Market Economy

As we have seen, this program is great step towards market liberalization, but it is not sustainable in the long run, considering that the Mexican Agricultural Sector will be completely liberated in a maximum span of 15 years. Besides, even though these programs are relatively transparent, they still distort trade by linking production decisions to the payments given by the government, thus generating productive distortions.

The Mexican Government decided to go a step forward by delinking the support schemes from the productions decisions, through a program called PROCAMPO. PROCAMPO is a direct payment support scheme based on a fixed per hectare payment.

Since the grain and oilseed producers are going to be the most affected by the opening of the economy, PROCAMPO focuses on them and compensates them for their average income loss. The Ministry of Agriculture made a census of all eligible lands that were historically cultivated with maize, beans, wheat, soybeans, sorghum, rice, cotton, barley and sunflower seed, and calculated a fixed per-hectare payment based on historical yields of maize and the difference between guarantee and international prices of maize. Since the price differences in maize are the biggest of all products, the support calculated on maize data will be enough to cover the loss of the rest of the products. This payment is calculated according to regions, taking into account productivity and agroclimatic factors. The program will have a duration of 15 years, in which the payment will grow in real terms during the first ten years, and then it will decrease during the last five years of the program .

The agreed and guarantee prices program will be phased out gradually in a transitional period that began in 1994 and is expected to end in 1996. During the transition period, guarantee prices for maize and beans, agreed prices and marketing support will decrease, at the same time that per hectare payments are increased. In this way, the producer will not suffer a meaningful decrease in their income. and a market economy will be reached in a reasonable time.

PROCAMPO will allow the elimination of prices fixed by the government. So, in the future the income of producers will be the sum of the market price that they get for the sale of their crop, plus a fixed payment per hectare. This means that the producer will guide its production decisions according to market signals. But it also means that producers will have to face all market and price fluctuations. That is why we need to foster a market culture among producers, teach them how to use the market in order to protect their incomes. This is the reason why the Mexican Government, through ASERCA. has implemented pilot hedging programs for cotton producers.

Cotton

In an effort to assist the cotton producers in Mexico by protecting the sales price of their product against a fall in prices, Federal Government put together a hedge program using cotton put options in the New York Cotton Exchange. The strike prices of these options depending upon the particular needs of the producers involved in the program. ASERCA acts as a broker without charging in this year any commissions to the producer. The producer pays the premium, entrance and exit commissions ASERCA advises on questions and possible strategies, and they decide when to sell or buy in the cash market. This costs are paid using the PROCAMPO money that they receive, using it also as a collateral for other activities.

It must be emphasized that this is not a speculative program. Only the producers that demonstrate that have the cotton are eligible for participating in the program. The open hedge position is liquidated as the local Mexican crop is sold.

As the price of the cotton futures has fallen in the past 10 weeks, these options have risen in value, and the Mexican producers have had the sales price of their cotton protected. As the cotton is sold into the national

or international markets, and before the expiration of these options, the hedge will be lifted by the respective producing groups by passing their orders to the broker house through ASERCA.

Coffee

On several occasions The Federal Government has analyzed the possibility of establishing a hedge in the coffee markets similar to that which is being used to protect the Mexican cotton producers. The purchase of out-of-the-money coffee puts in the New York Coffee, Sugar and Cocoa Exchange would offer the Mexican coffee producers an excellent means of protecting themselves from any unexpected fall in the incredibly volatile world coffee prices.

Conclusions for the Near Future

The Mexican economy is currently undergoing profound changes. From December 1994 to May 1995, the exchange rate depreciated more than 80%, interest rates soared from 10-15% levels up to 60-80% levels, and the Stock Exchange Index fell 25%.

From the producer's, and thus from the Mexican Ministry of Agriculture's perspective, the devaluation offers an opportunity to speed the liberalization process. On the production side, the devaluation has, by itself, eliminated most distortions in the grains (especially maize) and oilseeds markets, since national prices have adjusted to its international references. Reform needs to focus on the consumption side where distortions, with concomitant opportunities for fraud being alarmingly large.

On the other hand, devaluation means more competitive Mexican exports (for example vegetables and livestock), and a reduction of trade deficits. Incentives for maize production post-devaluation have fallen relatively to those for other field crops. This should lead to a reduction in maize production, which is expected to be more pronounced in irrigated regions than in rained zones.

Assuming that markets are liberated and prices reflect international parities, producers will move into crops with higher economic profitability. It is expected that this may include cotton, sorghum fruits and vegetables, continued cultivations of cereals and oilseed crops in high productivity irrigated zones is also likely.

Unchanged consumer price have dramatically increased the subsidy burden on the Government budget since the devaluation. Rectifying these distortions will substantially increase price to consumers, however.

Assuming that trade is liberalized (i.e. that maize imports above the quota will be permitted duty-free) much more extensive use will be made of imports from the USA, particularly given the much lower cost of storage (due to much lower interest rates) in the USA compared with Mexico. Under certain scenarios white maize could be exported from Mexico post-harvest and reimported in September-October, prior the next Spring-Summer harvest.

As we have seen, creating the conditions for an efficient open agricultural economy in Mexico is no easy business, but we still have to face the ultimate challenge: to create an Agricultural Commodity Exchange, which again involves defining the rules for participants. Regulations on quality, warehouse operations and adequate liaisons with the financial sector are still among the things to come. But believe, we have done things that looked like impossible in the past and we are thinking to make the same in the future.