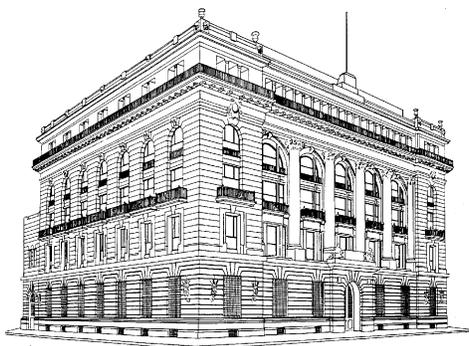


Inflation Report

January – March 2000



BANCO DE MEXICO

APRIL, 2000

BOARD OF GOVERNORS

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FOREWARNING

Figures are preliminary and subject to change.

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I. Introduction

With a view to providing society with more and better analytical tools for evaluating the actions of the monetary authority, the Board of Governors of Banco de México announced in its year 2000 Monetary Program that it would be publishing quarterly inflation reports, thus strengthening its mechanisms for communicating with the public. The introduction of this new element in the management of monetary policy is an additional step in the transition toward an inflation targeting regime.

Banco de México's present monetary policy approach incorporates several essential features:

- (a) the objective of achieving an annual inflation rate not to exceed 10 percent in year 2000;
- (b) the goal of bringing domestic inflation into line with that of Mexico's main trading partners by 2003;
- (c) the practice of constantly evaluating inflation's current situation and outlook, which should serve as the foundation for conducting monetary policy; and
- (d) an emphasis on greater transparency in the Central Bank's operations and more effective communication with the public.

The absence of a stable relationship between growth in the monetary aggregates and the inflation rate has led most of the world's central banks to diminish the importance they assign to the evolution of these aggregates when analyzing inflationary pressures. Some central banks in both developed and developing economies have shifted toward inflation targeting systems. These regimes share two main characteristics: the establishment of explicit inflation targets and the implementation of mechanisms designed to allow for closer communication with society.

As Mexico's inflation has diminished, the short-term relationship between growth in the monetary base and inflation has

become more unstable and, therefore, more difficult to predict. This has reduced the usefulness of the monetary base's growth rate as a benchmark for analyzing inflationary pressures. As a result, the understanding of these pressures must be based on the careful analysis of a series of indicators that provide information about the phenomenon of inflation.

Monetary policy has a delayed effect on the evolution of prices. Therefore, the monetary authority generally reacts when its evaluation of the inflation outlook is not compatible with the proposed targets. Hence, it is important for the authority to provide a periodic account of the different scenarios that could emerge in the future and an explanation of how these scenarios may influence the Central Bank's present and future actions in order to achieve the proposed inflation targets. That is one of the major reasons for publishing this Report.

In addition to this introduction, the document consists of four sections. The first two provide a description of the performance of inflation and the monetary authority's actions in the first quarter of 2000. Although these sections cover past events, the corresponding analysis serves as a basis for identifying trends likely to continue affecting the future course of inflation. The next section contains private sector projections for the evolution of the main determinants of inflation as well as inflation forecasts for the second quarter and the remainder of the year. There is also a description of the monetary authority's inflation outlook for the short and medium term as well as an analysis of potential risks and their effect on Banco de México's monetary policy stance. Finally, the main conclusions of the Report are presented.

II. Recent Evolution of Inflation

This section contains a review of the evolution of inflation during the first quarter and the main factors that affected it.

II.1. Quarterly Performance of Inflation

In the first quarter of 2000 inflation was lower than market players had anticipated. Furthermore, throughout this period, growth in the general price level remained within a range that was consistent with achieving the annual inflation target of no more than 10 percent. The disinflation process was once again led by the prices of goods, although the decline in the inflation rate has also consolidated in the services sector.

Monthly inflation came in at 1.34 percent in January, 0.89 percent in February and 0.55 percent in March. As shown in Table 1, these results compare favorably with private sector forecasts obtained through Banco de México surveys.

Table 1 **Actual and Estimated INPC* Inflation in the January-March Period**
Percent change

	2000		1999	
	Monthly inflation		Monthly inflation	
	Actual	Estimated 1/	Actual	Estimated 1/
January	1.34	1.56	2.53	2.51
February	0.89	1.02	1.34	1.78
March	0.55	0.78	0.93	1.16

* INPC is the National Consumer Price Index (*Índice Nacional de Precios al Consumidor*).

^{1/} Inflation rate forecasted at the end of the preceding month, according to Banco de México's Survey of the Expectations of Private Sector Economic Specialists.

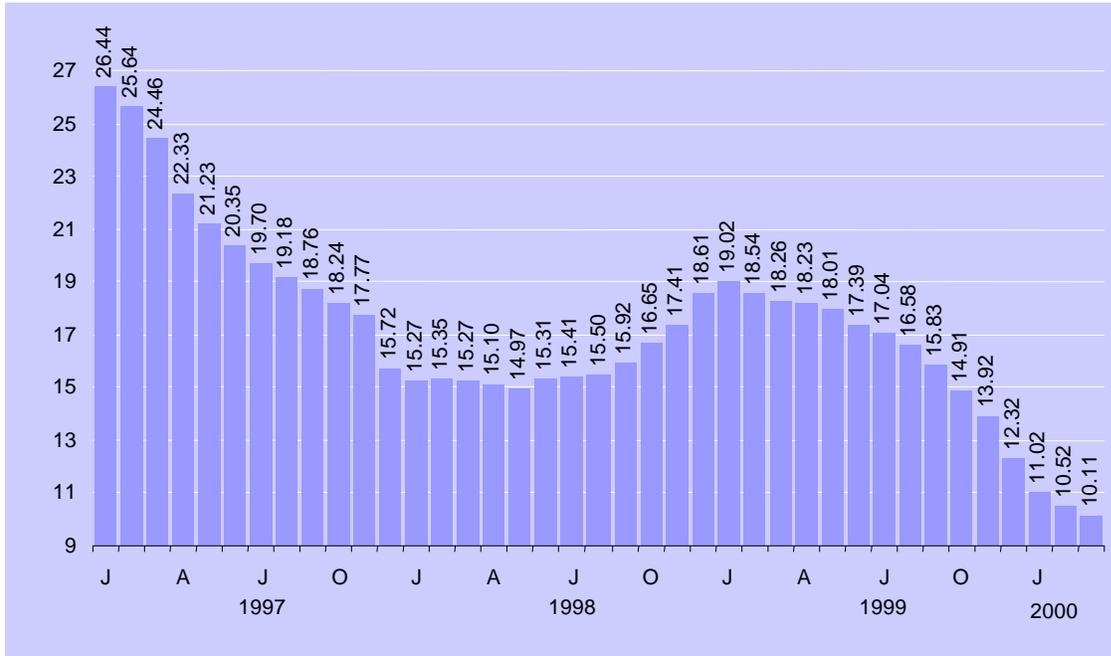
During the period under analysis, there was also a significant decrease in the annual inflation rate, and this supported the downward trend that had begun to manifest itself as of February 1999 (Graph 1). Thus, at the close of March 2000, the annual inflation rate was already 10.11 percent. The progress achieved in controlling inflation becomes even clearer if this figure is compared with the 18.26 percent rate of March 1999. Moreover, accumulated

inflation for the first quarter of this year was just 2.81 percent, the lowest level registered in a similar period since 1994.

Graph 1

National Consumer Price Index (INPC)

Percent annual change

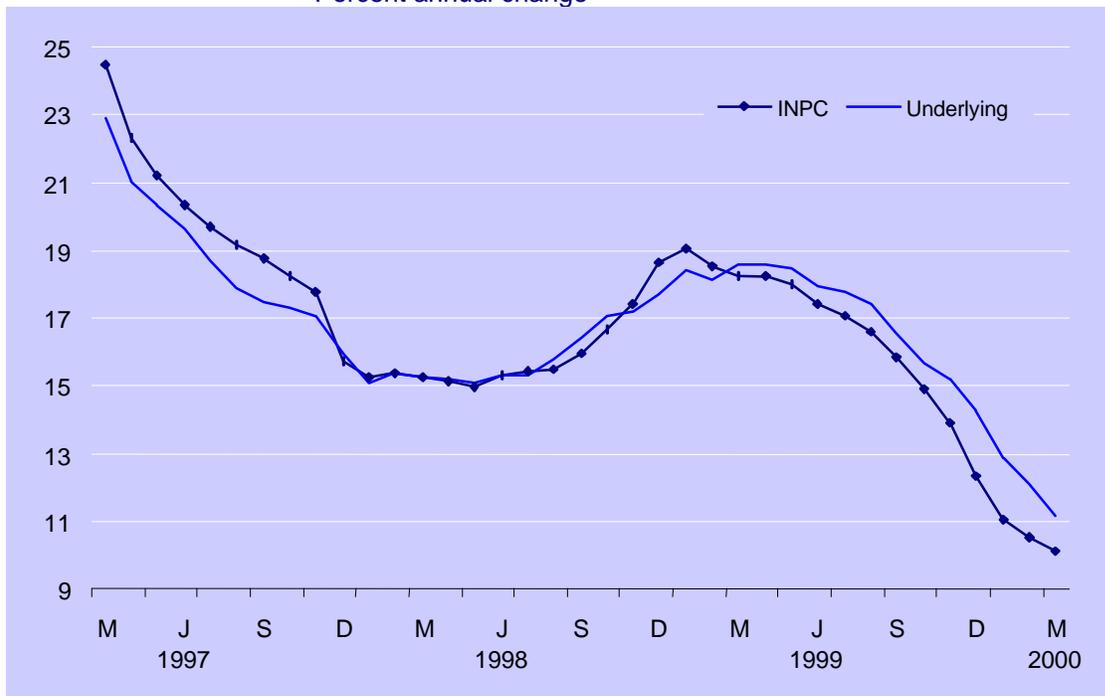


As seen in Graph 2, monthly inflation rebounded in January of this year. This was due to the seasonal increase observed in inflation every January. If the INPC monthly changes in January, February and March 2000 are compared with those registered in the same months of the previous year, the downward trend of inflation remains evident. Similarly, an analysis of the trend series¹ for this indicator shows that, after adjusting for seasonal effects, inflation has continued to decline.

¹ Calculated using the X12 ARIMA statistical procedure.

growth rate of 11.16 percent, as compared to 18.57 percent in March 1999 and 14.24 percent in December of last year (Graph 3).

Graph 3 National Consumer Price Index (INPC) and Underlying Inflation Index
Percent annual change



The fact that since March 1999 inflation measured in terms of the INPC has been lower than underlying inflation must be emphasized. This suggests that, despite a generalized decline in inflation, in the period under analysis there were a number of extraordinary shifts in the prices of some goods and services (which are excluded from the underlying inflation calculation because of their high volatility) that contributed significantly to the decrease in general inflation. Particularly noteworthy was the performance of agricultural prices, which registered a negative annual change in March (Table 2).

Measuring Inflation Trends.

Most central banks that operate monetary policy based on inflation targeting regimes use indicators of the inflation trend or underlying inflation. The Bank of Canada, for example, uses a consumer price index that excludes food, energy and indirect taxes as a guide for its monetary policy. Others, such as the Reserve Bank of New Zealand and the Bank of England, also publish statistical measurements of the inflation trend on a periodic basis. These indicators are constructed based on the assumption that extreme changes in relative prices generally translate into temporary disruptions of the inflation rate that do not alter underlying trends. The inflation trend may be estimated using statistical methods, but may not be measured precisely. It is therefore wise to compare the results of various calculations. If all estimates convey the same message, the monetary authorities may be reasonably confident that their decisions are based on reliable signals. If, on the contrary, estimates vary significantly, the reasons for this divergence must be examined carefully in order to guide monetary policy in the direction most likely to keep the inflation trend on the targeted course.

Banco de México's decision to regularly publish an indicator of underlying inflation in no way implies that it is abandoning changes in the INPC as the target for monetary policy measures. The INPC is a widely accepted indicator that is easily understood by the public, whereas the underlying inflation index provides additional information that is extremely useful when evaluating an outlook that extends beyond the short term.

Table 2 Price Indices: INPC, Underlying Inflation, Agricultural Products, Education, and Prices of Goods and Services Provided or Regulated by the Public Sector

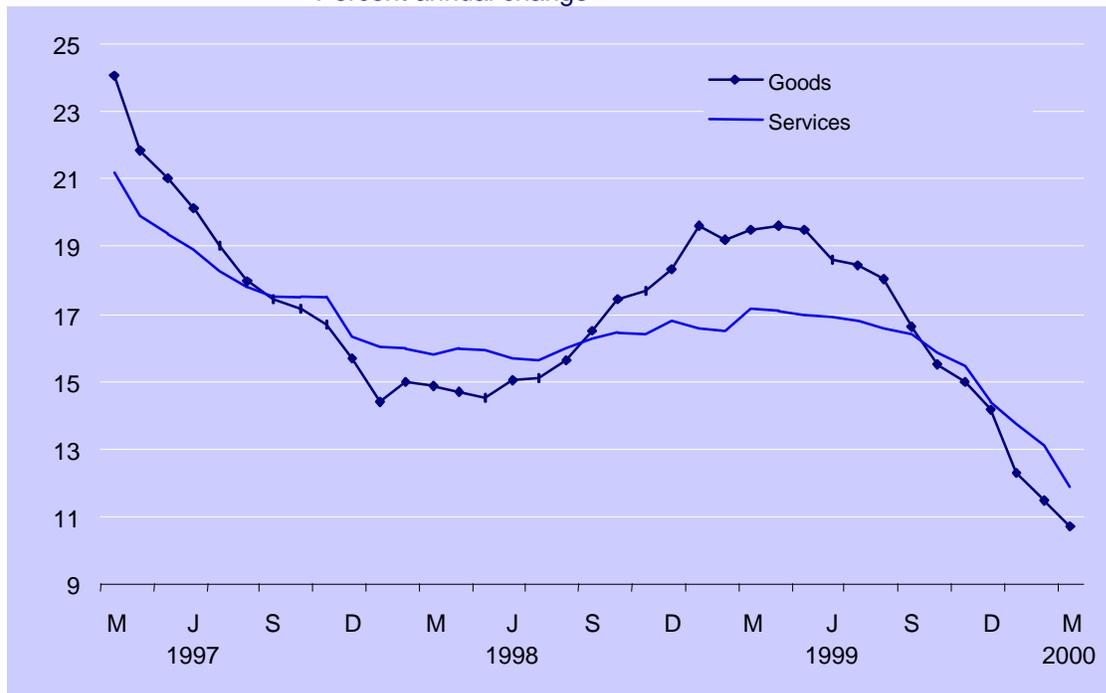
Percent annual change

	March 2000	March 1999
INPC	10.11	18.26
Underlying Inflation	11.16	18.57
Agriculture	-0.17	17.73
Education	17.98	17.18
Prices of Public Goods and Services	12.31	17.63

In order to identify the main causes of inflation's performance during the period covered by this Report, it is useful to divide the underlying inflation index into two categories: goods and services. Generally speaking, goods are internationally tradable merchandise whose prices are largely influenced by variations in the exchange rate. Services are for the most part non-tradable and their prices basically respond to inflation expectations and wages.

As shown in Graph 4, the evolution of underlying inflation for goods has made a significant contribution to the decline in general inflation since February 1999. At the end of March of this year, this index registered annual growth of 10.67 percent, which contrasted with the rate of 14.13 percent recorded in December 1999. In turn, underlying inflation for services came in at 11.89 percent in March, also substantially lower than the 14.40 percent reported in December of last year. The downward trend in both indices shows that disinflation in services has mirrored that of goods although with some lag. This lag is due to the fact that inflation expectations and contractual wage increases have been slow to converge toward levels that are consistent with both the inflation target and actual inflation results.

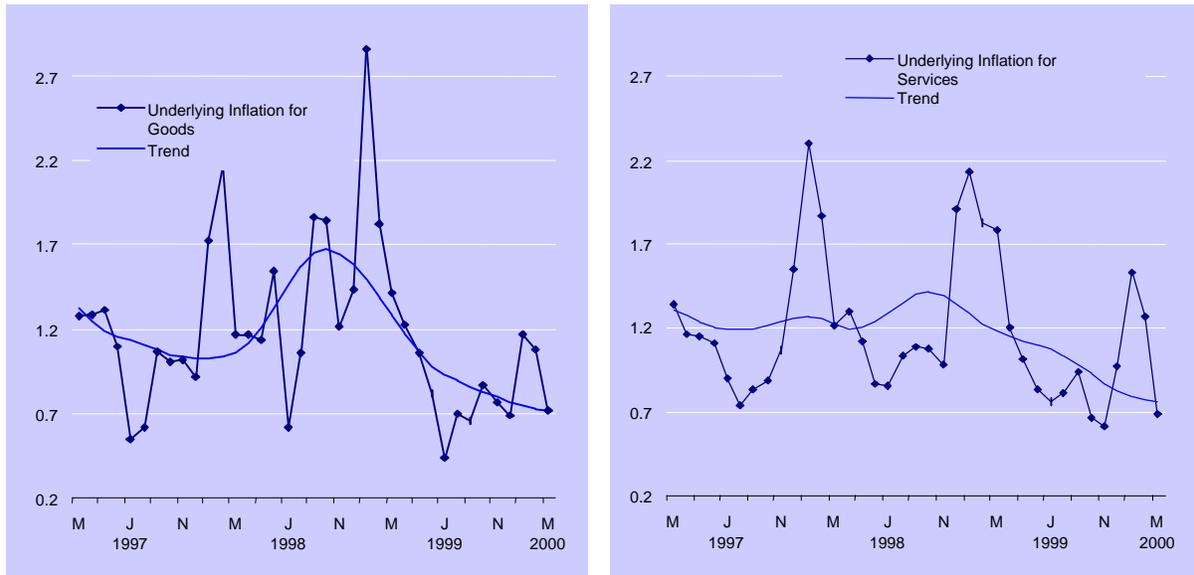
Graph 4 Underlying Inflation for Goods and Services
Percent annual change



Monthly inflation rates for both goods and services include a strong seasonal component, and this explains why the January rebound in both indices did not in either case affect the downward trend in the corresponding annual inflation rates. Graph 5 depicts monthly inflation for goods and services as well as their respective trend series. The latter indicate that disinflation has been more rapid in goods than in services, a phenomenon that has been strongly influenced by the evolution of the exchange rate. The reduction in

monthly inflation for goods also becomes clear if the data registered in January, February and March of this year —of 1.17, 1.07 and 0.72 percent respectively— are compared with the rates seen in the same months of 1999: 2.86, 1.82 and 1.42 percent. Likewise, in the case of services, monthly inflation came in at 1.53 percent in January, 1.27 percent in February and 0.69 percent in March of 2000, as compared to 2.13, 1.83 and 1.78 percent in the same months of the previous year.

Graph 5 Underlying Inflation Indices for Goods and Services
Percent monthly change



In brief, the evolution of inflation over the first quarter of this year showed a clear downward trend. Annual inflation came in at 10.11 percent at the close of March, which compares favorably with the rate of 12.32 percent in December 1999. Underlying annual inflation also fell, although the decline was less marked than in the case of inflation measured by the INPC. A comparison between the performance of INPC inflation, general underlying inflation and underlying inflation for goods and services reveals that the decrease in the growth of prices in general was due both to a drop in the medium-term inflation trend and to factors that could be non-recurring —such as the downturn in the prices of fruit and vegetables and the appreciation of the Mexican peso. The performance of the main determinants of inflation during the period reported is analyzed in greater detail in the following section.

II.2. Main Determinants of Inflation

The main factors that affect the evolution of inflation are: variations in the exchange rate, in wages, in prices of goods and services provided or regulated by the public sector, and aggregate demand pressures. Over the short term, inflation is additionally influenced by transitory phenomena such as changes in relative prices that are highly volatile (the prices of fruit and vegetables, for example). In order to achieve an in-depth analysis of recent inflation movements, these factors will be examined below.

II.2.1. External Environment and the Exchange Rate

In the first quarter of 2000, the external environment had a beneficial impact on the Mexican economy. The main positive elements of this environment were the following:

- (a) the vigorous and persistent expansion in the United States' economy;
- (b) the rise in oil prices; and
- (c) Moody's granting of investment grade status to Mexico's public-sector debt and the improvement in the rating assigned to this debt by Standard & Poor's.

It was recently announced that the United States' economy expanded 7.3 percent in real terms in the fourth quarter of 1999, which was 2.6 percentage points better than expected. That result raised the corresponding annual real growth rate to 4.2 percent. In addition, a number of indicators for the United States' economy released in recent months signal that the rapid expansion seen toward the end of 1999 has persisted². Consequently, U.S. economic growth forecasts for 2000 have been revised upwards and the present consensus among analysts is that the economy will grow 4.8 percent in the first quarter and 4.3 percent for the full year. An unexpectedly robust expansion in that country was therefore among the factors

² The real consumer spending indicator rose at an annual rate of 6.9 percent in January, one percentage point above the figure registered in the fourth quarter of last year. The trend in real spending in construction, meanwhile, climbed at an annualized rate of 29 percent in January, which indicates that annualized quarterly growth in this sector is likely to exceed by far the average of 8 percent posted in the preceding quarter. Finally, the initial estimate for productivity growth of 5 percent in the fourth quarter was revised to 6.4 percent.

that contributed to the increase in Mexican exports, whose favorable impact on Mexico's external accounts helped to maintain the exchange rate at stable levels.

In the first quarter of 2000, international oil prices reached a 10-year high and the price of the Mexican oil mix for export rose sharply, from 21.47 dollars per barrel at the beginning of the year to a maximum of 29.27 dollars in early March, closing that month at 22.21 dollars per barrel. This implied an average price of 24.36 dollars per barrel for the quarter as a whole, a 14.73 percent rise from the price implicit in crude futures quotes at the beginning of the year.

On February 2, Moody's announced that it planned to review its rating on Mexico's foreign public-sector debt, and this announcement prompted an immediate 125 basis-point reduction in the country-risk indicator³. That paved the way for a substantial improvement in medium-term exchange rate forecasts due to expectations of higher capital inflows to Mexico. The granting of investment grade on March 7 and the improved rating assigned by Standard and Poor's the following week helped consolidate those trends.

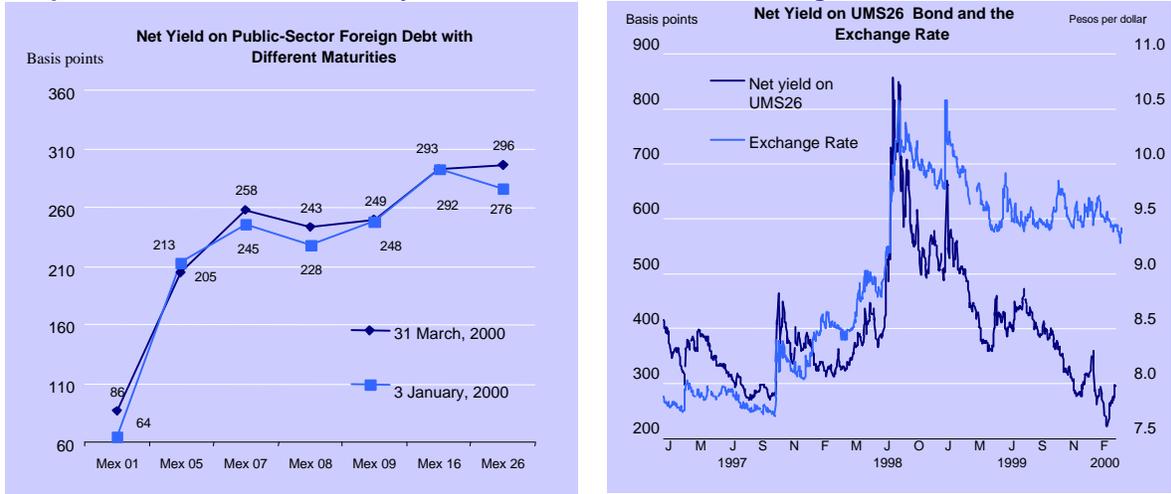
Although the rise in oil prices and the remarkable expansion in the United States' economy have had a positive impact on the performance of the peso exchange rate, these two factors have also contributed to heightening uncertainty about the possible resurgence of inflationary pressures in the U.S. It was this concern that prompted the Federal Reserve to increase the target for the federal funds rate by a total of 50 basis points at its February and March meetings. At the time of writing this Report, this rate stood at 6 percent, some 125 basis higher than a year earlier.

Overall, the balance of these factors was positive and helped to improve perceptions of country-risk for Mexico. The indicator of said risk fell from an average of 339 basis points in the fourth quarter 1999 to just 285 basis points in the following quarter. Nonetheless, volatility in international capital markets in late March had a negative impact on this perception. As seen in Graph 6, the yield on medium- and long-term Mexican debt bonds closed the quarter at practically the same level registered in January 3.

³ Measured as the spread between the net yield on the UMS26 global bond and a United States' Treasury bond with a similar yield.

Graph 6 also illustrates the existing relationship between the behavior of the exchange rate and the net yield on Mexican foreign-debt global bonds due in 2026 (UMS26). As can be seen in the Graph, the exchange rate appreciation has been closely linked to declines in the yield on Mexican debt. The same graph additionally reveals the fact that the net yield on the UMS26 bond reached historic lows in March.

Graph 6 Country-risk Indicators and the Exchange Rate

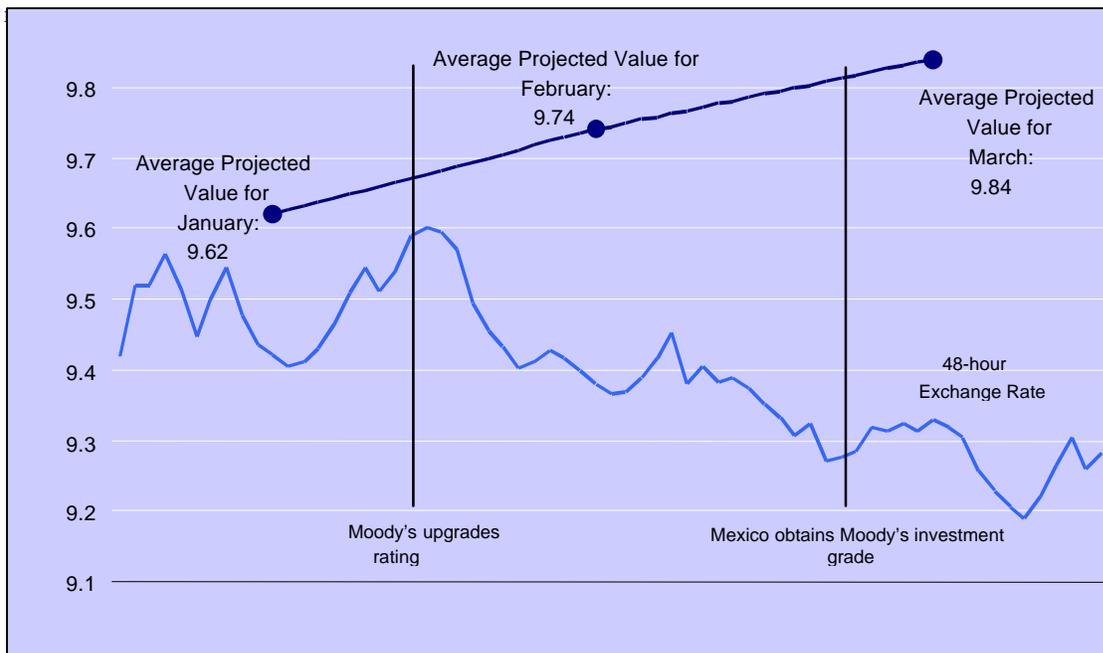


SOURCE: Bloomberg and Banco de México.

The optimism prevailing in international capital markets was reflected in the terms in which the Federal Government was able to issue a 1.5 billion dollar global bond on January 21, since the yield was just 315 basis points above the rate on the United States’ Treasury Bond. In addition, on March 1st, the Federal Government issued a 1,000 million euro Eurobond with a 210 basis points spread over the rate on the German government’s 10-year bond. These transactions, conducted under such favorable conditions, have had a positive impact on the medium-term outlook for the peso exchange rate since they have lessened the likelihood of any difficulty in refinancing the Mexican public sector’s foreign debt through the remainder of the year.

In January, February and March, exchange rate levels were lower than the average values projected by private sector analysts for each of those months as reported in Banco de México’s survey for December 1999. Graph 7 shows that the exchange rate held firm through January, appreciated slightly in February and closed the quarter at 9.26 pesos per dollar.

Graph 7 **Observed and Forecasted Exchange Rate: January-March 2000¹**
Pesos per dollar



¹ Survey of the Expectations of Private Sector Economic Specialists, December 1999, Banco de México.

In sum, the appreciation of the peso exchange rate in the first quarter of the year reflected the positive international environment and the good performance of the Mexican economy. The behavior of the exchange rate contributed to a reduced growth rate of prices as well as to the improvement in inflationary expectations, thereby increasing the likelihood of achieving this year's inflation target.

II.2.2. Labor Market and Wages

In January, nominal per-worker compensation rose at an annual rate between 15.9 percent and 16.7 percent, depending on the sector. Real compensation therefore grew between 4.4 percent and 5.1 percent in annual terms. The sharpest increase was registered in wholesale trade and the lowest growth in retail trade (Table 3). These growth rates refer to per-worker compensation between January 1999 and January 2000, and the figures were therefore influenced by contractual wage increases awarded in this period.

Table 3

Nominal and Real Wages per Worker

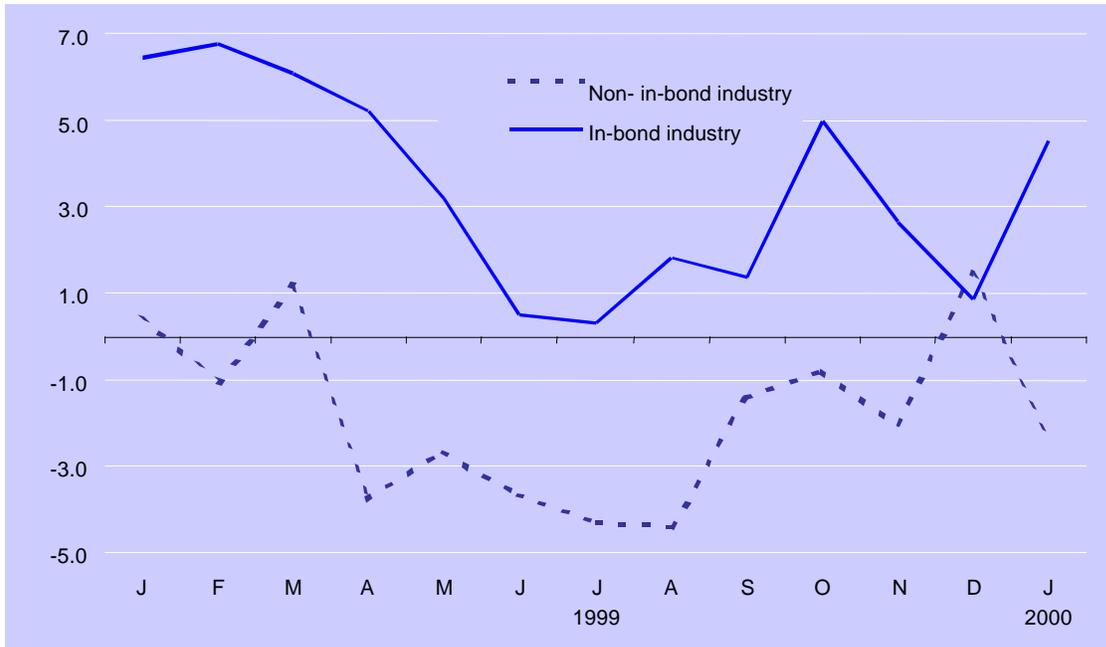
Percent annual change

	Nominal Change					Real Change				
	1999				2000	1999				2000
	Oct	Nov	Dec	Annual	Jan	Oct	Nov	Dec	Annual	Jan
Manufacturing Industry	15.3	16.8	18.3	17.8	16.0	0.4	2.5	5.3	1.1	4.5
In-bond Industry	15.5	17.0	9.9	19.0	16.1	0.5	2.7	-2.2	2.2	4.6
Construction Industry	15.8	20.6	N.A.	18.8	N.A.	0.8	5.8	N.A.	1.4	N.A.
Wholesale Trade	13.7	14.5	13.0	14.7	16.7	-1.0	0.5	0.6	-1.5	5.1
Retail Trade	14.9	18.6	16.6	18.3	15.9	0.0	4.1	3.8	1.6	4.4

Source: INEGI

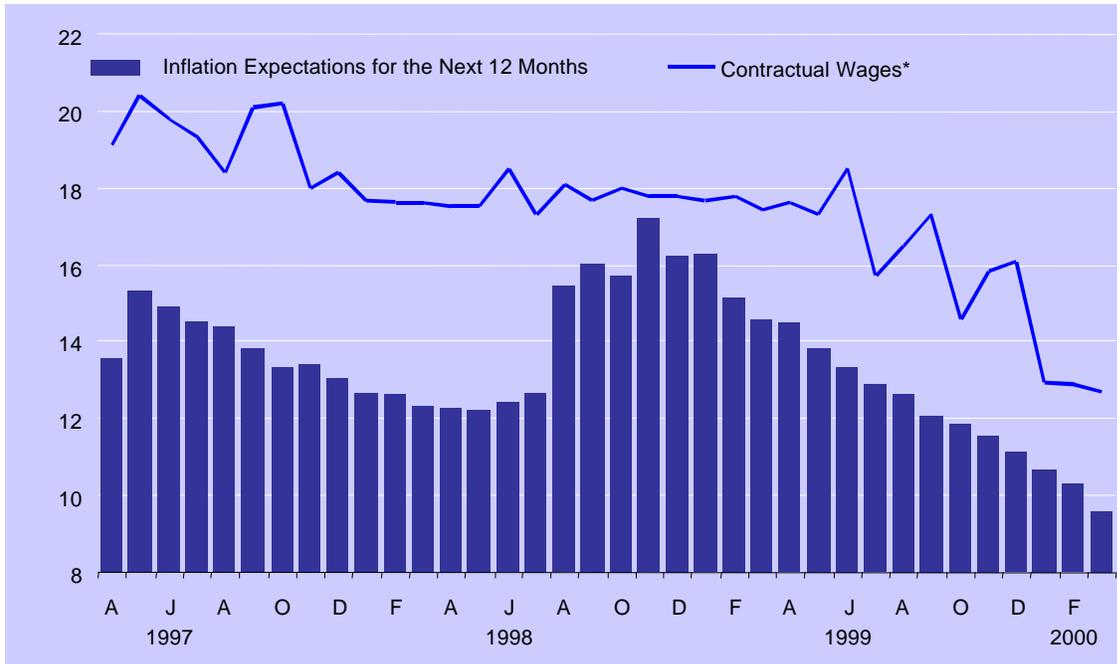
As it was mentioned in the September 1999 Monetary Policy Report, from late 1998 contractual wage revisions have been based on inflation expectations which turned out to be higher than observed inflation. This phenomenon was clearly reflected in the growth rate of unit labor costs in the manufacturing sector as of August 1999. In December of that year, the rise in real wages in the manufacturing sector was above the annual growth of 3.9 percent in labor productivity. Consequently, unit labor costs in the non-in-bond manufacturing sector registered a positive annual growth. Although this phenomenon was reversed in January, the evolution of this indicator requires careful monitoring in order to detect a possible change of course (Graph 8). Unit labor costs rose sharply in the in-bond industry.

Graph 8 **Unit Labor Costs in the Manufacturing Sector**
 Percent annual change



Given the lags in the publication of wage statistics in most productive sectors, the only information available to date regarding the evolution of wages in the period studied relates to contractual wage revisions. Wage increases are generally effective for a year and influence annual growth in compensation during the following 12 months. After remaining practically constant in the first nine months of last year, wage increases were lower in the fourth quarter of 1999 and the early part of 2000. In the last quarter of 1999, contractual wages rose at an average rate of 14.8 percent, as compared to 12.9 percent in January and February 2000. Finally, preliminary data for March indicates a similar increase of 12.7 percent.

Graph 9 Contractual Wages and Expected Inflation for the Next 12 Months
Percent annual change



SOURCE: Survey of the Expectations of Private Sector Economic Specialists, Banco de México & Ministry of Labor.
* Preliminary data for March 2000.

Table 4 depicts growth in contractual wages in sectors that produce manufactured goods—in other words tradable goods—as well as in the services sectors which generally correspond to non-tradables. On average, contractual wages in sectors that produce tradables climbed at a faster rate than those in the non-tradables sector. This difference is probably due to a more substantial rise in production and productivity within the tradable goods sector. Although the difference has persisted, nominal wage increases in both sectors were lower in January and February 2000, notwithstanding further rises in real wages.

WAGE AND SALARY INDICATORS

Information about contractual wages is obtained from the Ministry of Labor (*Secretaría del Trabajo y Previsión Social, STPS*) while data on average compensation in different sectors of economic activity is provided by the National Institute of Statistics, Geography and Information Technology (*Instituto Nacional de Estadística, Geografía e Informática, INEGI*). Below are details of the main features of these items.

i) Contractual wages

The STPS prepares and distributes figures on contractual wage revisions in companies under federal jurisdiction (4,671 in 1999) on a monthly basis. The publication includes information on both the increases awarded and the number of workers who benefit. Wage increases per sector of activity, company size and institutional sector are obtained from this information.

Table 1
Wage Revisions in Companies under Federal Jurisdiction

Number of companies	568	611	624	479	329	362	303	229	341	300	268	257	690	213	n.d.
Number of workers (thousands)	154.8	189.9	226.8	130.3	58.5	44.4	175.2	40.3	53.5	436.3	35.0	22.7	212.0	171.1	n.d.
Annual Wage Increase (%)	17.7	17.8	17.4	17.6	17.3	18.5	15.7	16.5	17.3	14.6	15.8	16.1	12.9	12.9	12.7

n.a. Figures not available
Source: Ministry of Labor

ii) Average compensation in different sectors of economic activity.

The INEGI conducts monthly surveys to gather information about salaries, wages and benefits, making it possible to calculate average compensation in the following sectors: manufacturing, construction, trade and the in-bond export industry.

Table 2
Average Compensation
Percent annual change

Sector	1999												2000
	J	F	M	A	M	J	J	A	S	O	N	D	J
Manufacturing	18.5	17.8	19.3	18.1	19.3	18.4	17.7	17.7	18.3	16.9	17.3	18.5	16.1
In-bond	24.7	24.0	25.7	21.0	18.8	20.6	16.9	19.0	19.0	15.4	17.0	9.9	16.1
Construction	17.0	22.9	18.8	16.3	16.7	20.7	17.8	23.6	16.9	15.8	20.6	n.d.	n.d.
Retail Trade	12.1	15.4	18.3	12.8	16.9	16.5	15.0	14.0	14.9	13.7	14.5	13.0	16.7
Wholesale Trade	17.1	19.2	22.3	19.3	18.5	19.1	20.4	16.9	18.6	14.9	18.6	16.6	15.9

n.a. Figures not available
Source: Prepared by Banco de México using INEGI data.

Labor Market

One reliable indicator of the creation of formal jobs in Mexico is the number of workers affiliated with the Mexican Social Security Institute (IMSS). The total rose 701,000 in 1999 and almost 209,000 in the first quarter of this year.

Table 1
Percent change in the number of Workers affiliated with the IMSS (January 1999 to February 2000)

	Percent		Percent
Chiapas	14.5	San Luis Potosí	7.2
Querétaro	13.3	Jalisco	6.7
Baja California	11.7	Puebla	6.4
Tamaulipas	11.7	Baja California Sur	5.4
Hidalgo	11.3	Michoacán	5.4
Coahuila	10.3	Sonora	5.2
Yucatán	10.1	Veraacruz	5.2
Aguascalientes	9.5	Sinaloa	4.8
Chihuahua	8.8	Morelos	4.6
Colima	8.8	Tabasco	4.5
Tlaxcala	8.6	Distrito Federal	3.9
Zacatecas	8.6	Guerrero	2.0
Nuevo León	8.5	Campeche	1.4
Guanajuato	8.3	Oaxaca	0.1
Durango	7.6	Quintana Roo	-1.5
State of Mexico	7.2	Navarrit	-6.3

The expansion in employment has extended over practically all of the national territory. Indeed, in the 14 month period ending February 2000, the number of workers registered with the IMSS grew more than 10% in seven states. In another 15, there were increases of more than 7.5% and, in fact, only two states, which contribute 2% of the country's affiliated workers, posted a decrease (see Table 1).

The evolution of the open unemployment rate (OUR)¹ in urban areas is another useful indicator of labor demand. In December 1999, the rate came in at 2% of the Economically Active Population (EAP), the lowest level since 1985, when the indicator began to be measured on a nationwide basis. In January-February 2000, the average rate was 2.36% of the EAP, which signaled a rise from the 2.05% registered in the last two months of 1999. Nonetheless, after eliminating seasonal factors, the rate was practically the same in both two-month periods. On average, the open unemployment rate in urban zones for the November 1999-February 2000 period marked a historic low for any four-month period.

Table 2
Indicators of Unemployment and Underemployment in Urban Areas^{a/}

	Number of cities in which there was:		
	A decline	No change	An increase
1st two months of 2000 over 1st two months of 1999			
Open unemployment rate	35	4	6
Percentage of EAP unemployed or working less than 35 hrs per week	36	0	9
Percentage of EAP earning less than minimum wage	36	0	9

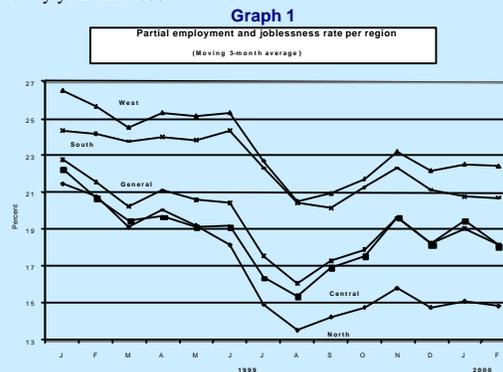
^{a/} Source: Prepared using data from the INEGI's National Urban Employment Survey

¹ The open unemployment rate is defined according to the criteria set by the International Labor Organization. It measures the proportion of the EAP, represented by individuals of 12 years of age or more who, during the period analyzed, have not worked for even one hour during the week, despite looking for a salaried job or trying to self-employ.

Favorable unemployment trends have extended to most of Mexico's urban regions. A comparison between unemployment rates in the first two months of 2000 and figures for the same two-month period of the previous year (see Table 2) shows that the rate fell in 35 of the 45 cities in which data is gathered, remained unchanged in four, and rose in six. Other indicators in Table 2 also reflected improvements in employment. In 36 of the 45 cities covered, the percentage of the EAP who is unemployed or works less than 35 hours per week fell.

The OUR is not necessarily the most suitable indicator for measuring how tight the labor market is. This is due to the high proportion of informal workers in Mexico, who are not considered to be openly unemployed but who are certainly in a situation of underemployment. These individuals may be integrated into the formal sector without causing upward pressures on production costs that could translate into increases in the general price level. A good indicator of the availability of informal workers is the partial employment and joblessness rate (PEJR) which measures the proportion of individuals who are unemployed or work less than 35 hours a week due to market conditions.

In 1998 and 1999, the PEJR averaged 20.4%, but as of April 1999, the rate began to fall, slipping to around 17% in December of that year. While that is still high, a per-region analysis shows that some zones are already displaying moderate levels. This is particularly true of the northern region, where the PEJR was close to 13% by year-end 1999.



There are significant migratory currents toward the interior of Mexico to states with higher per-capita product and a more substantial capacity for job creation. However, this migration only partially mitigates pressures on the labor market, since people's movements do not occur until employment has begun to grow and wages to rise in the target region. Logically, regions with a lower PEJR are those which have the most highly qualified workforce. This indicates that migration from regions with a higher PEJR, where the workforce is less qualified, would only partially reduce labor scarcity in zones with a low PEJR.

Table 4

Contractual Wages by Sector

Percent annual change

	1999			2000	
	Oct	Nov	Dec	Jan	Feb
Manufacturing	17.5	17.1	16.2	13.4	13.6
Other Sectors	14.2	14.8	16.1	12.5	12.2

Source: Prepared by Banco de México using information provided by the Ministry of Labor

During the quarter covered by this Report, the performance of contractual wages was more consistent than on past occasions with the decline in inflation expectations for the following 12 months and with the foreseeable growth in labor productivity. The current gap between contractual wage growth and inflation expectations is narrower than in 1999, and all available evidence suggests that this gap is practically converging toward the feasible increase in labor productivity⁴. Nonetheless, it should be stressed that the private sector inflation forecast for the next 12 months stands at 9.51 percent, which is still high compared to the levels needed to bring Mexico's inflation rate into line with those of its main trading partners by 2003.

Employment has continued to perform well in the early part of 2000. Graph 10a shows that 12'225,498 workers (permanent and temporary urban workers) were affiliated with the IMSS by the close of the first quarter, an increase of 208,578 workers through the year. Graph 10b reveals that the open unemployment rate in urban areas fell to 2.4 percent in February 2000, which meant a 0.80 percentage point decline from the same month of 1999. Similarly, data contained in Graph 10c confirm gains attained in job creation since the underemployment and unemployment indicators continued their downward trends in February, with partial employment⁵ falling to 17.2 percent. The underemployment trend indicates that during the recent economic expansion, a substantial number of workers have moved from low-productivity jobs in the informal sector to better paid and more productive posts in the formal sector. The evolution of employment and real wages during the quarter suggests that the total wage bill grew in this period.

⁴ In the 1998-1999 period, productivity in the non-in-bond manufacturing sector (which boasts one of the highest productivity growth rates) rose at an annual average rate of 3.1 percent.

⁵ This item measures the proportion of individuals who work fewer than 35 hours per week due to market conditions.

Graph 10

Employment and Unemployment Indicators



Source: IMSS and INEGI.

To summarize, nominal compensation increases reported in January remained at high levels due to the delayed impact of contractual wage rises granted in 1999. However, in January, February and March 2000, nominal contractual wage increases were lower because they incorporated the decline in expected inflation. The evidence therefore suggests that the gap between nominal wage growth and target inflation for 2000 is narrower than it was last year. Likewise, the significant expansion in employment and the reduction in the unemployment rate have resulted in some regions of Mexico having reported a scarcity of qualified labor. This phenomenon coexists with high levels of underemployment among less qualified workers. All this illustrates the great educational challenge the Mexican economy faces if the benefits of the recent expansion are to permeate throughout society. Also worth emphasizing in the context described is the importance of monitoring for the possible surge of inflationary pressures stemming from those labor market sectors that are reporting a lack of qualified manpower.

II.2.3. Aggregate Supply and Demand

Data on the evolution of the components of aggregate supply and demand for the fourth quarter of 1999, which were recently published by the INEGI, confirm the consolidation of the expansion trends seen throughout last year.

Annual growth in the fourth quarter of last year was particularly outstanding for private sector consumption and investment, while exports expanded at a slightly lower rate. The

faster annual GDP growth rate reported in the fourth quarter of 1999 was largely due to the fact that domestic demand made a higher contribution to economic growth, while that of exports remained relatively constant. Imports of goods and services rose at a more rapid annual rate in the same period. The combination of all these factors caused the current account deficit to widen in the fourth quarter of 1999.

Table 5 **Aggregate Supply and Demand in 1999**
Percent real annual change

	I Q	II Q	III Q.	IV Q.	Annual
Aggregate Supply	2.4	5.0	7.2	8.3	5.8
GDP	1.8	3.1	4.3	5.2	3.7
Imports of G & S	4.5	11.4	16.6	17.9	12.8
Aggregate Demand	2.4	5.0	7.2	8.3	5.8
Total Consumption	2.1	3.1	3.4	6.7	3.9
Private	2.2	3.3	4.0	7.6	4.3
Public	1.8	1.6	-1.3	1.4	1.0
Total Investment	3.8	6.1	5.2	8.1	5.8
Private	5.0	8.5	9.3	13.2	9.0
Public	-7.8	-18.2	-22.9	-12.5	-15.3
Exports of G & S	7.8	14.2	18.8	14.6	13.9

Source: Mexican National Accounts System, INEGI

Information available to date suggests that the expansion in aggregate supply and demand accelerated in the first quarter of 2000.

With regard to domestic supply, the industrial production volume index grew at an annual rate of 8.16 percent in January, the highest since March 1998 and 1.9 percentage points over the market forecast. This result was based on higher production levels in the four sectors that make up industrial activity, which involved growth of 8.9 percent in manufacturing production, 8 percent in construction, 5.7 percent in electricity and 0.5 percent in mining, as compared to their January 1999 levels. Based on preliminary information, real GDP is expected to have grown at an annual rate which will probably exceed 6 percent in the first quarter of this year. If the trends seen in the first three months persist, real GDP growth in 2000 could exceed the original estimate of 4.5 percent.

Turning to the evolution of the domestic components of aggregate demand, the evidence suggests that in January and February, consumption grew at annual rates that were similar to or in excess of those seen at the end of 1999 (Graph 11). Although

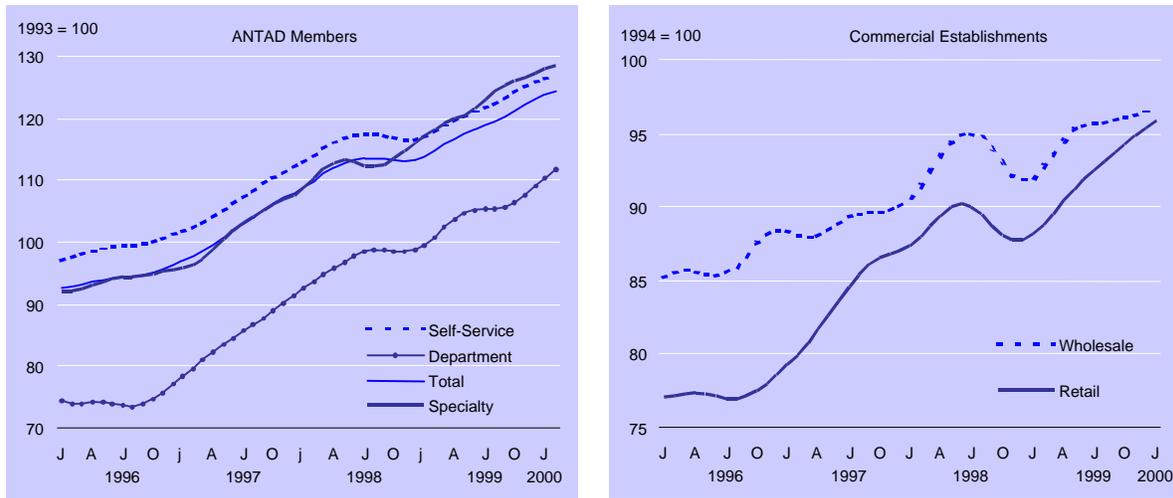
definitive data on growth in consumption is yet unavailable, store sales statistics that are published separately by the National Association of Self-Service and Department Stores (ANTAD) and the INEGI, as well as figures on the consumption of certain goods that are compiled by Banco de México, all point in the same direction. The ANTAD reported that total store sales⁶ rose at real annual rates of 7.7 percent in January and 11.8 percent in February, and this vigorous expansion in the sales of the association's members was observed in all three types of stores: department, self-service and specialty.

According to the INEGI, the retail and wholesale sales of commercial firms reflected respective annual growth rates of 11.2 percent and 6.1 percent in January. Data compiled by Banco de México indicate that domestic sales of certain durable and non-durable goods also rose at a rapid pace. These items include automobiles, which expanded at an annual rate of 54.7 percent in the January-February period. Other consumption items that registered high annual growth rates in this two-month period were food, beverages and tobacco; health and entertainment services; and communications goods and services (Graph 12).

In January and February, imports of consumer goods rose at an average rate of more than 50 percent, a result which confirms the hypothesis that consumption has remained vigorous. However, any analysis of these growth rates must take into account the fact that they are in part affected by the low consumption levels registered in the first quarter of 1999.

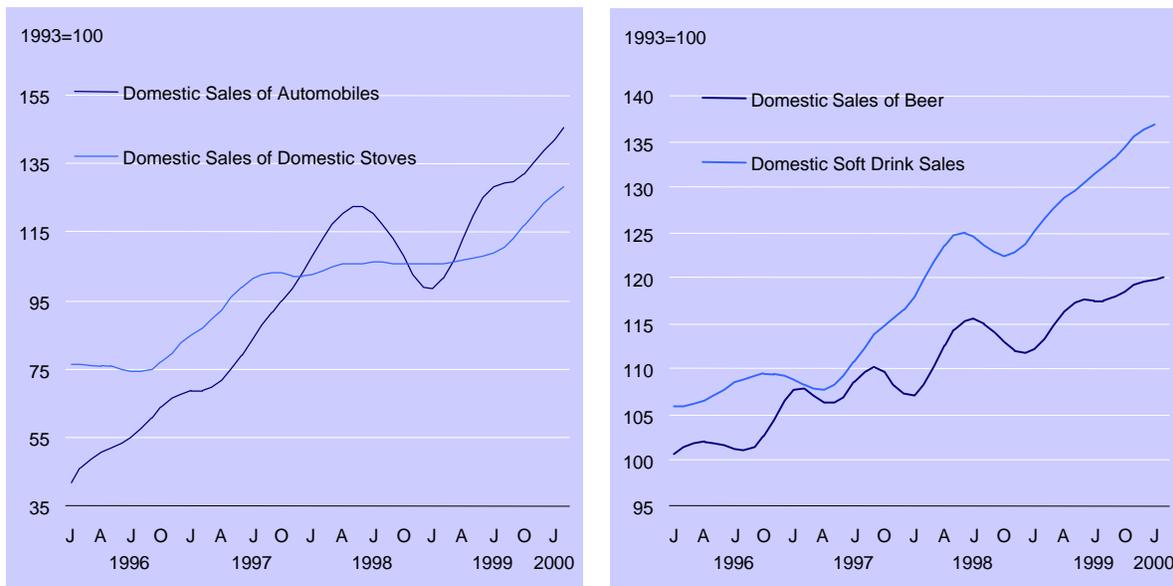
⁶ These incorporate the sales of self-service, department and specialty store chains that participate in this Association, measured in real terms and including sales corresponding to new outlets. The ANTAD currently has 103 member chains with 4,864 stores.

Graph 11 Trade Sector Sales Indices
Trend series



SOURCE: National Association of Self-Service and Department Stores and INEGI, for data on commercial firms.

Graph 12 Sales Indices for some Durable and Non-Durable Goods
Trend series



Investment spending indicators performed in a similar fashion: in January, gross fixed investment grew at an annual rate of 15.9 percent, while sales of some investment goods continued to rise at a vigorous pace.

The following are some of the factors that have contributed to the expansion in domestic demand, particularly private consumption spending: growth in the total wage bill, the rise in average compensation and employment, and a incipient recovery in consumer credit provided by banks and alternative sources. With regard to the latter, consumer credit granted by banks grew at a real annual rate of 3.2 percent in February 2000, a marked contrast with the 17 percent reduction registered in February 1999. Finally, in the first two months of the year, the external demand also grew at a more rapid pace, with manufacturing exports expanding at a 26.7 percent annual rate.

When growth in aggregate demand pushes against supply, inflationary pressures can ensue. Generally, the rise in demand for non-tradable goods is reflected in price increases for these products, while a greater demand for tradable goods translates into a widening of the foreign trade deficit and pressures on the exchange rate, which in turn complicate the abatement of inflation.

During the period under analysis, the prices of non-tradable goods rose more sharply than those of tradable goods. This may be attributed to the following factors: the delayed downward correction in inflation expectations implicit in all types of contracts and, probably, the impact of stronger aggregate demand. To date, aggregate demand pressures have not apparently contributed to increases in wages and in the prices of non-tradable goods that would be incompatible with the inflation target. Nonetheless, the scarcity of qualified labor reported in some regions of Mexico could be a warning signal of inflationary effects associated with a rapid growth in aggregate demand.

Secondly, as it was mentioned earlier, the degree of trade liberalization in the Mexican economy implies that an excess aggregate demand would be translated into a widening trade deficit. This phenomenon could eventually increase the economy's dependency on short-term capital inflows. Under those circumstances, the economy would become more vulnerable to sudden exchange rate adjustments and this would jeopardize the sustainability of the disinflation process.

In order to evaluate the pressures that could be generated by this second scenario, the recent performance of the trade balance should be analyzed. The expansion in domestic demand registered in the first two months of the year translated into substantial growth in

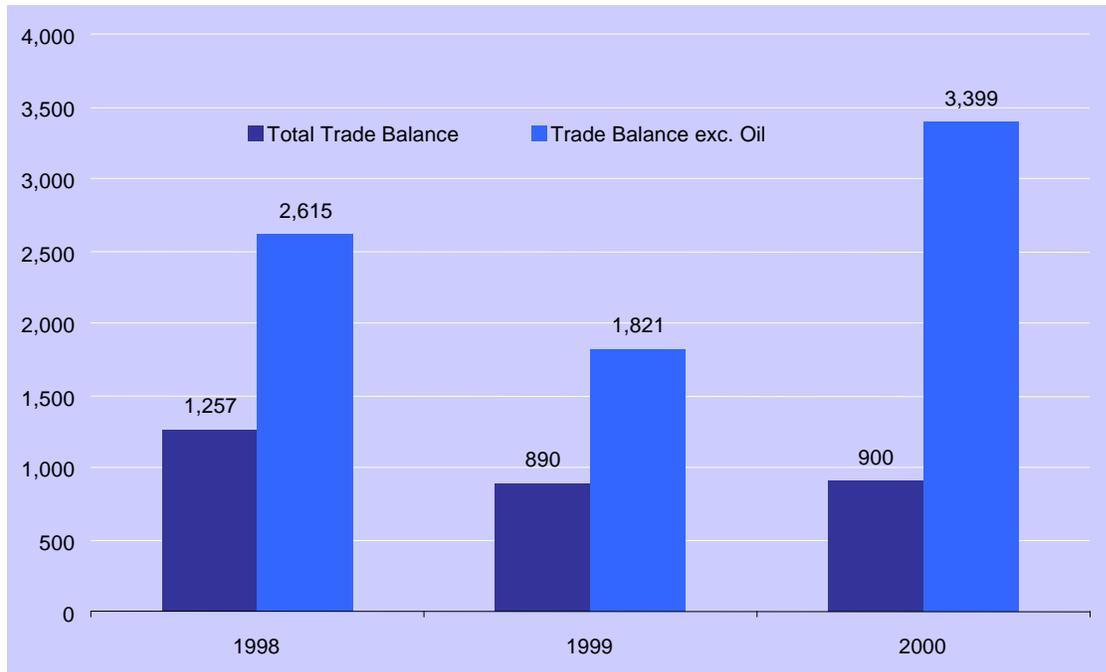
merchandise imports. During this period, total purchases from abroad rose at an annual rate of 31.7 percent, and the rates seen in both months were the highest since April 1998. In the January-February period, imports of merchandise unrelated to exports (that is, excluding temporary imports of inputs that are later incorporated into Mexican exports) climbed 29.6 percent while imports of consumer goods soared to more than 50 percent.

Nonetheless, in the first two months of the year, the monthly trade deficit was lower than the average level seen in the last quarter of 1999. This situation persists even after excluding oil exports and the in-bond industry from the trade balance. This reduction in the trade deficit, despite the vigor of domestic demand, is attributable to three factors: first, the seasonal nature of the trade balance, which generally declines in the first two months of the year; second, the robust expansion posted by various groups of exports (particularly the manufacturing sectors); and third, a sharp rise in GDP.

The study of longer-term shifts in the trade deficit indicates that the level accumulated in January and February 2000 is slightly higher than that seen in the same period of the previous year. This is due to the significant rise in oil exports. Excluding those exports, the trade deficit for the first two months of the year rose 87 percent over the level registered in the same period of 1999. Thus, during the first quarter, pressures on the trade deficit caused by aggregate demand were offset by higher oil revenues and strong export growth. The latter, in turn, is associated with the robust economic expansion in the United States.

Graph 13

Trade Deficit: Total and Excluding Oil, January-February 2000
Millions of dollars



In brief, the evolution of aggregate demand and the external accounts during the first quarter does not appear to have generated inflationary pressures incompatible with the annual inflation target. However, the widening of the non-oil trade deficit and rapid growth in consumption must be monitored carefully, since these phenomena could increase the vulnerability of the economy and jeopardize the process of curbing inflation in the event of sharp oil price adjustments or an eventual slowdown in the United States' economy.

II.2.4. Prices of Goods and Services Provided or Regulated by the Public Sector

The behavior of the prices of goods and services provided or regulated by the public sector has a significant influence on inflation. These prices affect inflation both directly and indirectly via adjustments in economic agents' inflationary expectations.

During the first quarter of 2000, the price index for these goods and services made a major contribution to inflation for the period. This index registered monthly growth rates of 1.80 percent in January, 1.27 percent in February and 0.84 percent in March —

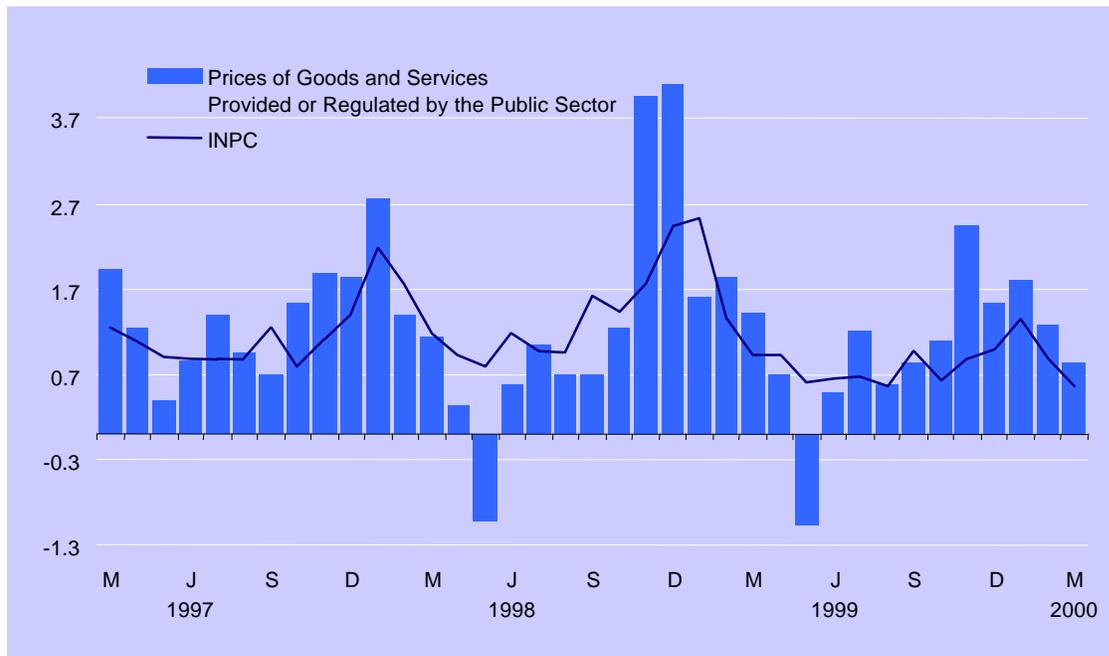
which were higher than the corresponding rises in the INPC (Graph 14). This was due to price hikes on domestic gas, taxi fares and urban bus fares, which for the period rose at accumulated rates of 7.36 percent, 12.65 percent and 7.19 percent respectively.

Although the prices of goods and services provided or regulated by the public sector increased at a more rapid pace than the INPC in the first three months of the year, their evolution has, on the whole, been congruent with the programs announced by the Federal Government and, consequently, with an annual inflation target under 10 percent for 2000.

Graph 14

Price Index for Goods and Services Provided or Regulated by the Public Sector and INPC

Percent monthly change



II.2.5. Public Finances

Public finances have performed in line with the program. In 1999, the public deficit was equivalent to 1.14 percent of GDP, 0.11 percentage points below the level budgeted for that year. Consequently, a sound fiscal stance has continued to make a fundamental contribution to the consolidation of an environment conducive to lower inflation.

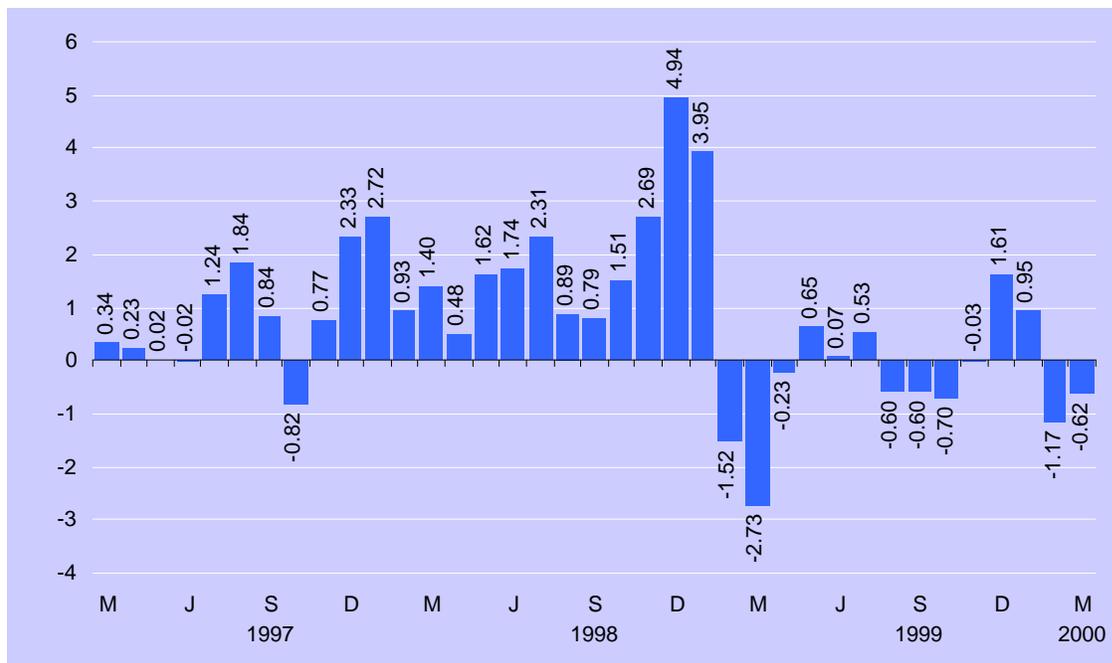
II.2.6. Transitory Phenomena that Affected Inflation

One element that helped moderate inflation during the period under analysis was the evolution of agricultural prices. This price sub-index registered a monthly growth of 0.95 percent in January, and declines of 1.17 percent in February and 0.62 percent in March (Graph 15). Particularly outstanding was the behavior of fruit and vegetable prices, which posted an accumulated reduction of 5.89 percent in the quarter. Therefore, as in 1999, the course followed by agricultural prices in the first quarter of 2000 compensated for the sharp growth that occurred in 1998. On the other hand, quarterly rises of 3 percent in housing, 8.44 percent in domestic services, 12.98 percent in beer and 7.23 percent in corn tortillas had a significant impact on inflation for the period.

Graph 15

Agricultural Goods Price Index

Percent monthly change



II.3. Summary of the Recent Evolution of Inflation

The evolution of inflation in the January-March period was consistent with the trajectory required to achieve the target annual rate of no more than 10 percent.

Annual underlying inflation also fell sharply during the period, but was nonetheless higher than INPC inflation —a gap that has been observed since March 1999. This indicates that, although the long-term inflation trends are clearly set on a downward path, a fraction of the decline in inflation during the first quarter was associated with phenomena that may not be recurrent.

The preceding sections indicated that the prices of goods are still leading the way in curbing inflation. The factor that continues to play a major role in the decline of inflation as measured by this index is the stability of the exchange rate. Meanwhile, price increases on services, which are basically determined by inflation expectations and labor costs, have continued to display a lag when compared to goods prices, despite a consolidation in their downward trend. This lag is due to the fact that contracts negotiated last year and based on pessimistic inflation expectations continue to affect annual inflation results in the services sector. However, there are signs that more moderate contractual wage rises in the early months of this year have had a positive impact on the prices of services.

Labor compensation in the manufacturing sector grew at high annual rates in January, although trends in contractual wage negotiations in the early months of 2000 suggest that they have, to a greater extent than in the recent past, incorporated official inflation expectations and foreseeable growth in labor productivity. This trend suggests therefore that the decline in services price index inflation will probably be sustained through the remainder of the year.

Although to date the evolution of aggregate demand does not appear to have generated inflationary pressures incompatible with the inflation target, the scarcity of qualified labor in certain areas of Mexico indicates that such pressures could emerge in the future. Furthermore, if private sector consumption and investment spending continue to display rapid growth, a window of vulnerability could open if any or a combination of the following three possibilities were to materialize: a drop in oil prices, a slowdown in the United States' economy, or a disruption in the supply of external financing. These circumstances would probably affect the evolution of the peso exchange rate and future inflation.

III. Monetary Policy

The floating exchange rate system and market determined interest rates imply that monetary policy measures interact with the decisions of financial market players to determine the prevailing monetary conditions. The implementation of monetary policy therefore requires a very careful analysis of inflationary pressures in order to adopt a monetary policy stance congruent with the achievement of short and medium term inflation objectives. During the quarter covered by this Report, the analysis concentrated on tracking inflation expectations and contractual negotiations (wages, loan terms, etc.) that had a significant impact on the evolution of inflation. It was also crucial to evaluate whether the decline in nominal and real interest rates in this period was due to lax monetary conditions. These two issues are examined below along with the evolution of the monetary base and other aggregates that may be used as general benchmarks for evaluating monetary policy.

III.1. Monetary Policy Actions

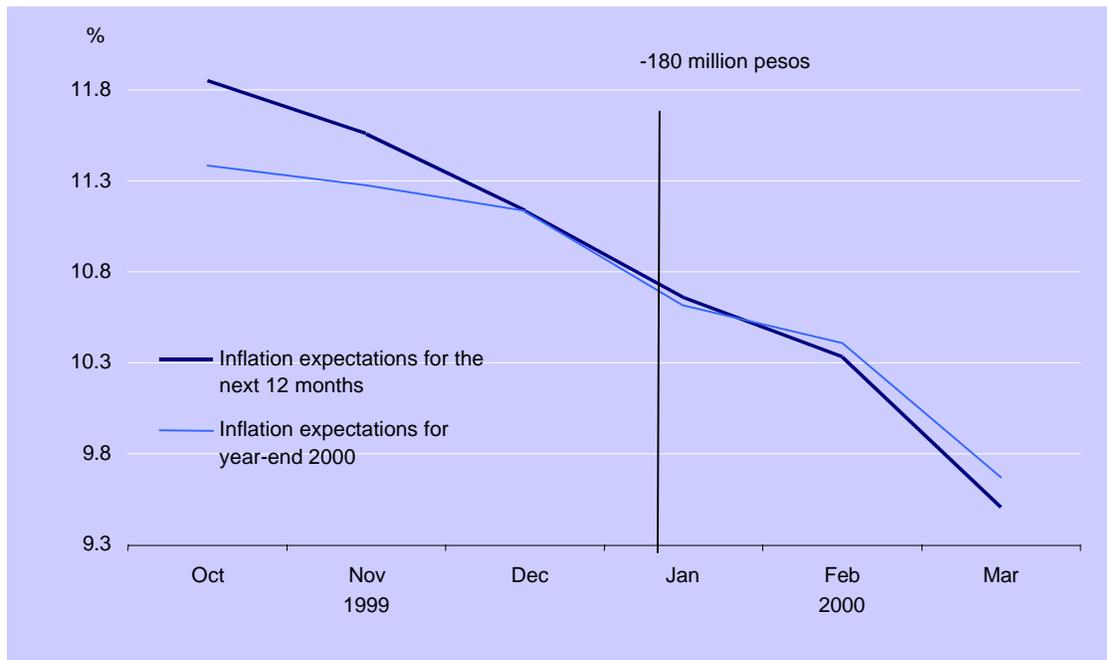
On January 18, the restrictive monetary policy stance was reinforced by increasing the “short” from 160 to 180 million pesos, the later level having remained in effect through the remainder of the quarter. The decision to further tighten monetary policy had a dual purpose: a) to create conditions in the financial, labor and goods and services markets conducive to maintaining inflation under the 10 percent target for 2000; and b) to reinforce the downward trend in inflation, allowing for a definitive convergence with external inflation by 2003.

The decision to increase the “short” was based on pre-emptive criteria and responded to events in the first few weeks of the year that could have led to inflationary pressures incompatible with the goals. The main reasons behind this decision were:

- (a) the sharp decline in inflation in 1999 and in the first few months of this year was not only due to the application of a monetary policy with a restrictive bias, but also to factors that may not be recurrent;

- (b) although the public's inflation expectations for this year have been converging toward the official target since late 1999 and in early 2000, they remain above said target. Since a significant number of contractual wage negotiations is conducted in the first few months of the year, it was extremely important to reaffirm the monetary authority's commitment to price stability; and
- (c) in early January there were a number of price hikes involving changes in relative prices that were incompatible with the annual inflation target. Those adjustments could have influenced both the evolution of other prices and inflation expectations.

Graph 16 Inflation Expectations and Accumulated Balances Objective



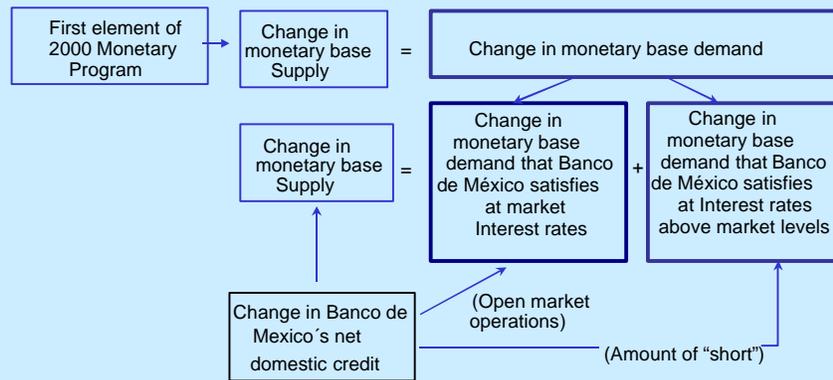
SOURCE: Survey of the Expectations of Private Sector Economic Specialists, Banco de México.

Operation of the Accumulated Balances Objective Mechanism (“Short” and “Long”)

Most of the world’s central banks manage monetary policy by influencing the conditions under which they satisfy liquidity requirements in the money market. These conditions depend on the terms according to which the central bank conducts its open market operations (interest rates, maturities, etc.) as well as on the terms under which commercial banks’ current accounts are held in the central bank (overdraft facilities, remuneration of deposits, penalty rates, etc.). Banco de México allows credit institutions to register negative balances (overdrafts¹) in their current accounts at the end of each day as long as these overdrafts are offset by the end of a 28-day period. In other words, the aim is for credit institutions to register an accumulated balance greater than or equal to zero at the close of such a period.

Based on the above, at the end of each period, Banco de México adds the positive daily balances registered in each bank’s current account and subtracts from them the total overdraft incurred. If this calculation results in a net overdraft for any credit institution, Banco de México charges an interest rate equivalent to twice the market interest rate on 28-day Cetes. If, on the other hand, a bank registers a positive accumulated balance during the measured period, the bank incurs the opportunity cost of having kept idle resources in Banco de México as positive balances are not remunerated by the Central Bank. It is therefore in the interest of credit institutions to maintain their accumulated balance at a net level of zero.

According to the first fundamental element of its monetary program, Banco de México is committed, as a general norm, to adjusting the primary money supply on a daily basis so that it corresponds at all times to the demand for it. Thus, when Banco de México decides to maintain an accumulated balances objective equal to zero, the Central Institute’s open market operations do not induce either overdrafts or positive balances in banks’ current accounts, and the total demand for monetary base is met at market interest rates. This scenario corresponds to a neutral monetary policy stance.



When Banco de México wishes to tighten its monetary policy stance, it establishes a negative accumulated balances objective, better known as a “short”. This means that Banco de México satisfies a small part of the demand for monetary base by inducing an overdraft in banks’ current accounts with the Central Institute. It must be emphasized that at no time does Banco de México withdraw liquidity from the money market by means of the “short”. Since at the end of the measurement period the overdraft will have a cost equivalent to twice the rate on 28-day Cetes, the implementation of a “short” has an immediate effect on short-term interest rates. Similarly, going “long” or adopting a positive accumulated balances objective would imply a relaxation of the monetary policy stance, since Banco de México would, through its open market operations, provide liquidity in excess of the amounts demanded at the prevailing interest rates. This practice would translate into lower short-term interest rates and positive balances in banks’ current accounts with the Central Bank.

While a negative accumulated balances objective (or “short”) influences the conditions under which liquidity is provided to the money market —since a small portion of the demand for monetary base is met at interest rates above market levels— Banco de México always supplies the total liquidity required in order to satisfy the demand for monetary base. Not to do so would have grave consequences for the payments system.

In brief, it is incorrect to suggest that Banco de México’s use of the “short” may result in a decline of the demand for monetary base over the short term. Nonetheless, as the supply of monetary base becomes more costly, it does ultimately stimulate a contraction of this demand.

¹ Within certain limits. See Appendix 4 of 1996 Annual Report

Since the “short” was increased, the public’s inflation expectations⁷ for 2000 have fallen from 11.14 percent in December 1999 to 9.67 percent in March. As shown in Graph 16, expected inflation for 2000 and for the next 12 months has displayed a downward trend that became more acute in January after the “short” was widened. This suggests that monetary policy actions have, in effect, contributed to a major change in inflation expectations.

During the first quarter, there was a sharp decline in real and nominal interest rates on peso-denominated financial instruments. This fact requires careful analysis to determine whether interest rate adjustments have weakened the restrictive monetary policy stance.

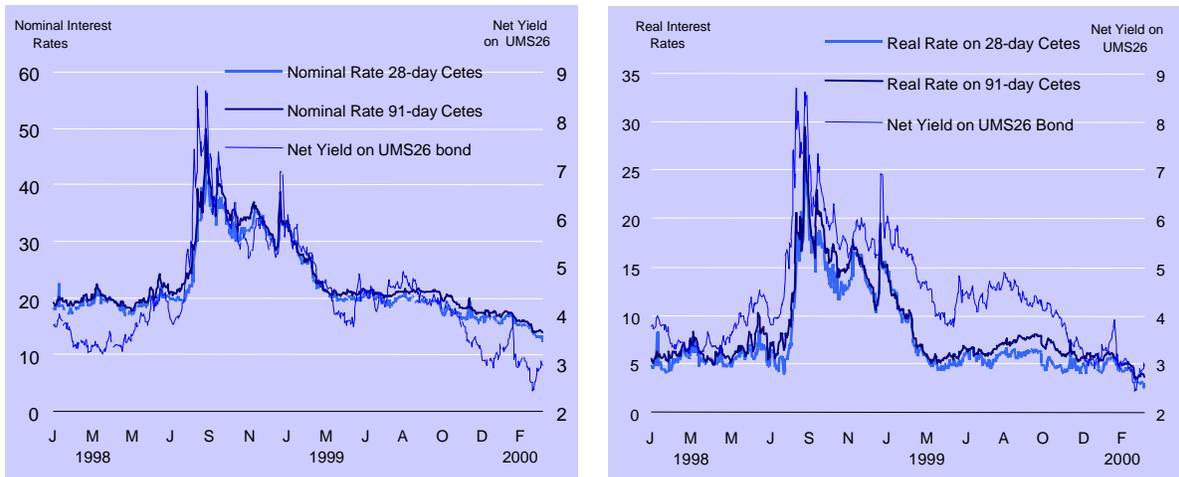
As shown in Graph 17, nominal and real interest rates in Mexico are very closely linked to country-risk, measured as the difference between the yields on a bond denominated in foreign currency issued by the Mexican government (UMS26) and the yield on United States’ Treasury Bonds with similar maturity. During the period in question, domestic interest rates fell in tandem with an improvement in the perception of country-risk. In the January-March period, the average spread between the yields on UMS26 and United States’ Treasury Bonds was 54 basis points lower than in the previous quarter. Similarly, average inflation expectations for the next 12 months fell 143 basis points while nominal rates on 28-day Cetes retreated 190 basis points.

Had domestic interest rates fallen without there being a change in country risk and inflation expectations, Banco de México’s restrictive policy stance would not have been as effective. In that case, the decline in domestic interest rates would have induced a depreciation of the exchange rate as the public would have replaced assets with a decreased risk-adjusted return with others whose yields had remained constant. However, during the quarter under analysis, the exchange rate either appreciated or remained stable while domestic interest rates decreased. This supports the thesis that the monetary policy stance has not been weakened.

⁷ According to the Survey of the Expectations of Private-Sector Economic Specialists conducted by Banco de México.

Graph 17

Nominal Interest Rates, Real Interest Rates and Country Risk
Annual percent



* The net yield on the UMS26 bond is the spread over the yield on United States' government bonds with a similar maturity.

Given the evolution of the aforementioned variables, it may be concluded that the tightening of Banco de México's monetary policy stance was a suitable preventive reaction. The market's response has been clearly reflected in a decline in expected annual inflation and has reinforced the downward trend in inflation.

III.2. Evolution of Monetary Aggregates

As mentioned in the 2000 Monetary Policy Program, insofar as inflation diminishes, the relationship between growth in the monetary aggregates and prices becomes more unstable. Therefore, the performance of the monetary base is no longer a reliable indicator of inflationary pressures. Nonetheless, Banco de México's Board of Governors once again decided to publish a projection for the daily variations in the monetary base through the year in the Monetary Program for 2000. The estimation is congruent with the following assumptions: an annual GDP growth rate of 4.5 percent, annual inflation not to exceed 10 percent, and a 4.9 percent remonetization. This estimated path is used as a reference and complements the examination of other variables that affect inflation.

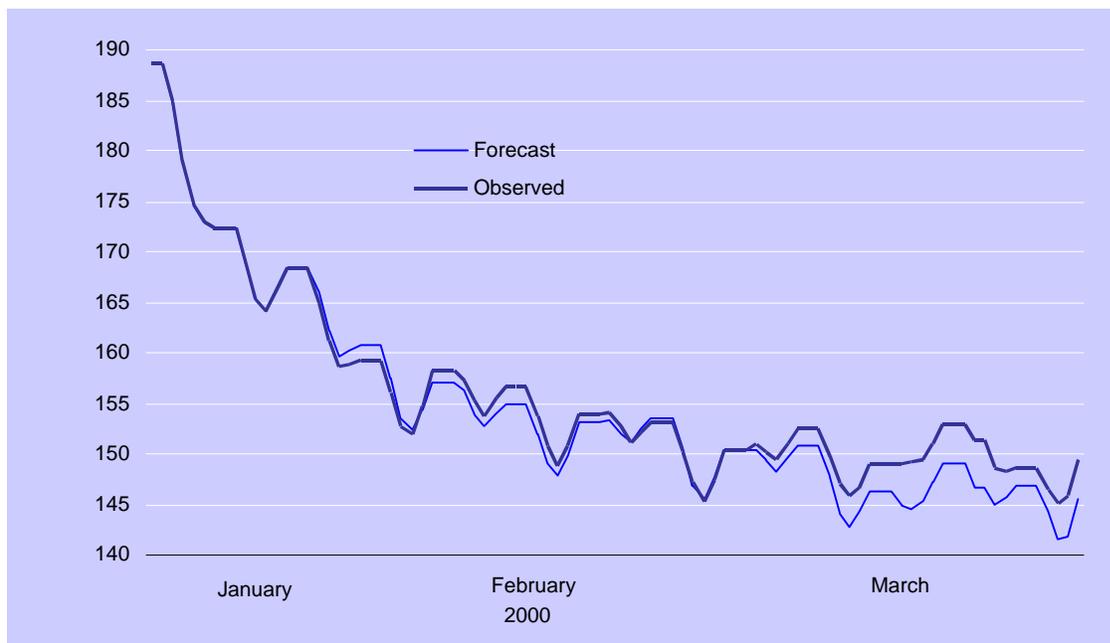
In the first quarter of 2000, the monetary base shrank 35,723 million pesos. Typically, in the early months of the year, the public reduces its holdings of bills and coins that it had accumulated

toward the end of the previous year⁸. Graph 18 compares the observed monetary base path against the estimated path published in the 2000 Monetary Program. This graph shows that the differences between actual and forecast levels were minimal in January and February. In March, however, there was a sharper deviation, which by the end of the month had reached 2.9 percent.

Graph 18

Evolution of the Monetary Base in the First Quarter of 2000

Thousands of millions of pesos



This deviation practically coincides with the announced upper limit of the confidence interval for the monetary base forecast at the end of the year (+/- 3.07 percent). Therefore, the gap seen in March may be attributed to the error intrinsic to any econometric model. Consequently, and given the scarcity of information available this early in the year, it would be premature to offer a definitive explanation. Nonetheless, the deviation of the monetary base could be due to the following reasons, among others:

- (a) a faster-than-expected expansion of the economy results in a greater demand for bills and coins for transaction purposes. The most recent data on the evolution of

⁸ In addition to seasonal factors, such a sharp reduction reflects the return of approximately 18,000 million pesos —the amount of additional liquidity estimated to have been demanded by the public in December 1999 as a result of uncertainty regarding the Y2K problem.

economic activity indicate higher than expected GDP growth; and

- (b) the reduction in inflation expectations has paved the way for lower than anticipated nominal interest rates, which also prompts greater demand for bills and coins as the opportunity cost of maintaining these balances diminishes.

Both the quarterly limit for variations in net domestic credit and the commitment not to reduce net international assets were respected during the period covered by this Report. Thus, while net domestic credit declined 82,628 million pesos, well below the – 40,157 million peso limit⁹, the Central Bank accumulated a total of 4.971 billion dollars in net international assets.

There are currently two mechanisms whereby Banco de México can accumulate net international assets: a) the Central Bank auctions of dollar put options to commercial banks —a system under which Banco de México is prepared to buy up to 250 million dollars a month— and b) the purchases of the foreign currency obtained by the Federal Government and Pemex through their placements of financial instruments on international markets and crude oil exports. These transactions are not conducted through the forex market, although they are carried out at market prices. Banco de México fully sterilizes the monetary impact of its foreign currency purchases.

Of the total of 4.971 billion dollars in net international assets accumulated through the first quarter, 742 million resulted from dollar purchases via the options mechanisms, and 3.853 billion dollars from foreign exchange operations with the Federal Government and Pemex.

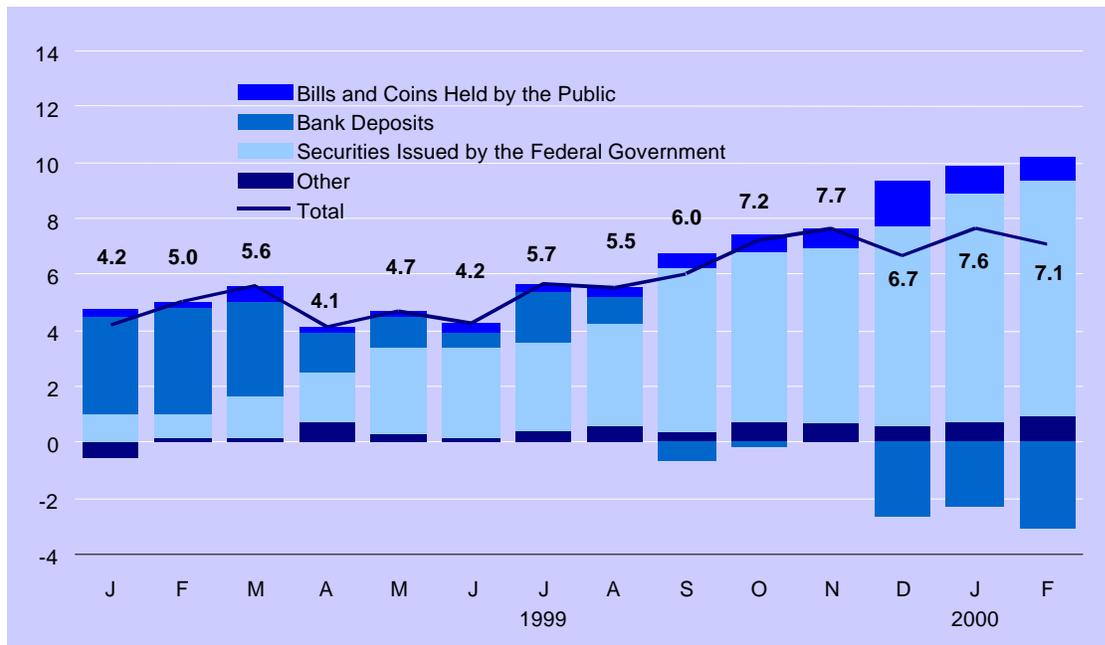
Growth in other monetary aggregates has fallen from December 1999 levels. The narrow M1a monetary aggregate¹⁰, for example, registered real annual growth rates of 10.9 percent in January and 9.6 percent in February. These high rates were due in part to the fact that the stock of this aggregate was at relatively low levels in the same months of last year because of the high interest rates and marked economic uncertainty prevailing at that time. In

⁹ The negative limit refers to the fact that net domestic credit is expected to fall by at least the indicated amount.

¹⁰ The M1a monetary aggregate includes bills and coins in circulation held by the private sector (M1) and by the public sector. Monetary aggregates M1a and M4a are published in more timely fashion than M1, M2, M3 and M4 as the latter exclude public-sector financial savings.

addition, the performance of this aggregate in the first two months of 2000 also reflects the remonetization process that began to intensify as of the second half of 1999. Nonetheless, due to the correction in the demand for means of payment once uncertainty associated with the Y2K problem had abated, the aforementioned real growth rates are lower than the 12.4 percent seen at the end of last December.

Graph 19 **Contributions to the Growth in M4a**
Percent real annual change



In January and February of this year, the M4a monetary aggregate rose at real annual rates of 7.6 and 7.1 percent, respectively. This was fundamentally due to growth in the stock of government securities and a reduction in bank deposits (Graph 19).

The real growth, measured at an annual rate, in both M1a and M4a in the early months of 2000 was congruent with the expansion of economic activity, as well as with lower inflation expectations and lower interest rates. In this regard, financial intermediation by banks has continued to fall, as reflected by lower deposits by the public and a decline in the real stock of financing granted. According to preliminary figures for February, real bank financing shrank 10.9 percent.

IV. Outlook

Monetary policy measures affect the evolution of inflation with a lag, and therefore the monetary authority's decisions must be based on an extremely careful examination of the expected growth of prices. This section will analyze private sector projections for the evolution of the most important determinants of inflation. It also incorporates private sector inflation expectations and, finally, it examines the short and medium term inflation outlook as well as possible risks anticipated by the monetary authority.

IV.1. Forecasts for the Main Determinants of Inflation

Information on private sector expectations about the future performance of variables that influence the evolution of inflation comes from two sources: firstly, from surveys conducted by Banco de México and, secondly, from information implicit in financial and wage contracts.

Most analysts envisage that the external environment will continue to favor the Mexican economy. Specific expectations include:

- (a) 3.6 percent annual growth in the United States' economy in the second quarter and 4.3 percent for the year as a whole; and
- (b) a 21.16 dollar per barrel average price for Mexico's oil export mix in the second quarter and of 18.25 dollars per barrel for the remainder of 2000.

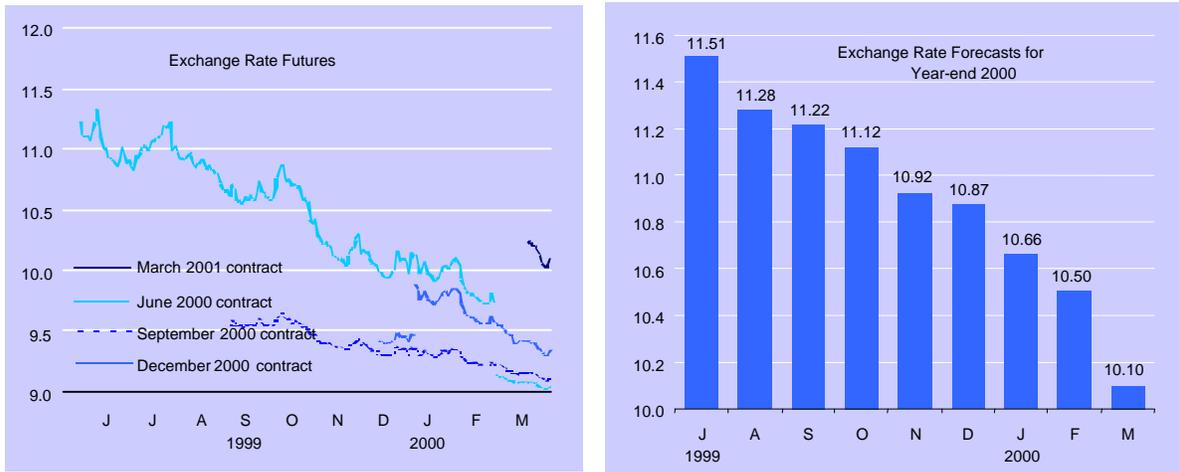
Year-end 2000 exchange rate forecasts gathered through surveys as well as those based on the peso's futures price have progressively diminished through the quarter (Graph 20). To a large extent, this reflects the same issues that explain the appreciation of the spot exchange rate mentioned in section II. At the time of writing this Report, the exchange rate futures price for December 2000 was 9.91 pesos per dollar. According to Banco de México's March survey, the private sector's exchange rate forecast for year-

end 2000 was 10.10 pesos per dollar, while the levels expected for April, May and June were at 9.39, 9.46 and 9.56 pesos per dollar respectively.

Graph 20

Exchange Rate Futures and Exchange Rate Forecasts for Year-End 2000

Pesos per dollar

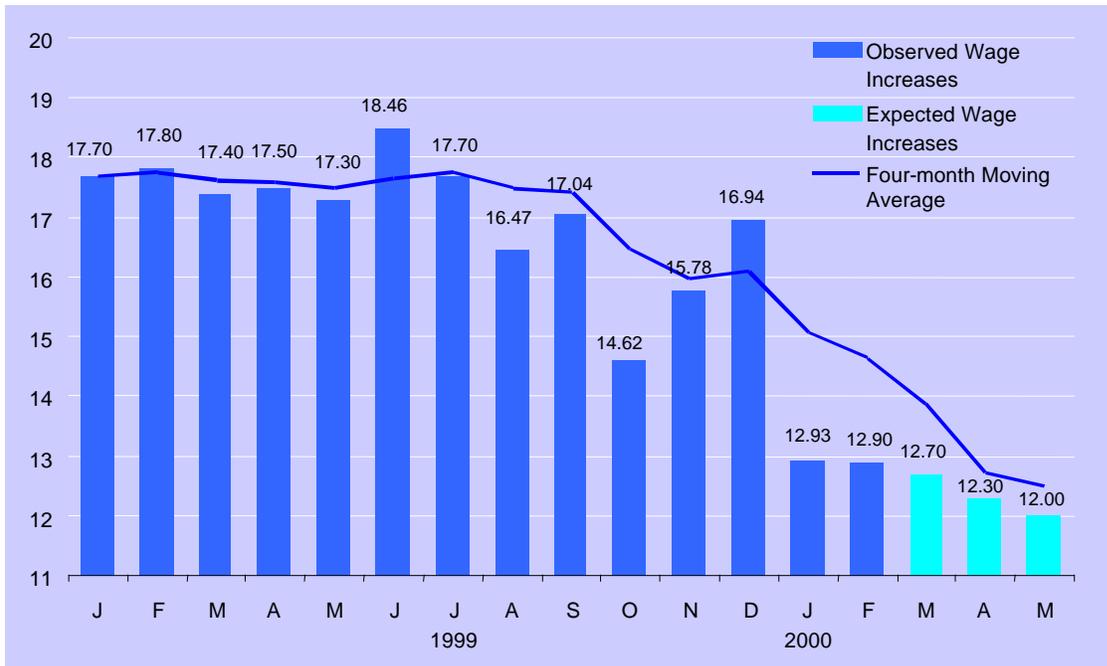


Source: Bloomberg and Survey of the Expectations of Private Sector Economic Specialists, Banco de México.

The evolution of salaries is another factor that affects inflation. Contractual wage negotiations carried out in any given month influence companies' production costs for the following 12 months. Thus, the raises awarded are an indicator of future pressures on costs. In this regard, the moderation of increases in contractual wages seen in the last quarter of 1999 persisted through the first quarter of 2000. This confirms that the attainment of the 1999 inflation target led to greater credibility, causing a downward adjustment in the inflation expectations implicit in these negotiations (Graph 21).

Analysts consulted through Banco de México's surveys anticipate that wage negotiations scheduled for April and May of this year will involve annual raises of 12.3 percent and 12 percent, respectively.

Graph 21 **Increases in Contractual Wages**
Percent



SOURCE: Ministry of Labor. March figures were based on a preliminary result of 12.7 percent. Data for April and May were obtained from private sector forecasts obtained through Banco de México's Survey of the Expectations of Private Sector Economic Specialists.

The most recent survey, conducted in late March, also indicated that analysts anticipate a fiscal deficit equivalent to 1.01 percent of GDP in 2000, which reveals that the private sector foresees no deviations from the fiscal program.

Recent trends in private sector consumption and investment have caused an upward adjustment in forecasts for annual growth in both aggregates. Consumption is now expected to rise 5 percent and investment 10.1 percent, as compared to January projections of 4.3 and 8.8 percent, respectively. The expansion in aggregate demand and an increase in expected export growth also caused the specialists surveyed to revise their annual GDP growth forecast from 4.3 percent in January to 4.8 percent in March. The projected current account deficit for 2000, meanwhile, climbed from 16.047 billion dollars in the December 1999 survey to 17.552 billion dollars in the March poll. Around 68 percent of that deficit is expected to be financed via foreign direct investment.

Indicators obtained by Banco de México about the business climate and confidence levels generally project a very positive scenario: 89 percent of consultants surveyed in March believed that

the business climate for private sector productive activities would improve in the next six months. The remaining 11 percent of respondents said that the business climate would remain unchanged, and none of the specialists expected it to worsen. Indicators regarding confidence about the current economic situation, its near future and current investment possibilities also reflected improvements.

According to those surveyed, the main factors that could hinder economic activity in the coming months include: political uncertainty and the availability of domestic financing (18 percent of responses in each case); possible increases in external interest rates and the soundness of domestic banks (13 percent of responses in each case); and the appreciation of the real exchange rate (9 percent of responses). It is worth noticing that there was a decline in the frequency with which respondents mentioned the high cost of domestic financing as a limiting factor. In the March survey, no consultant mentioned inflationary pressures in Mexico as one of the three main factors likely to hamper growth.

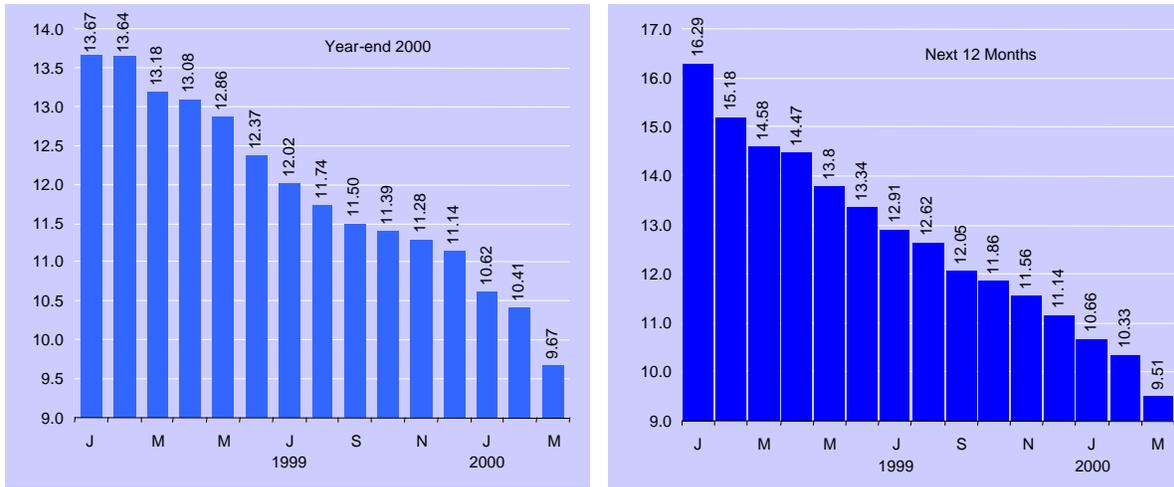
IV.2. Private Sector Inflation Expectations

It has been mentioned already that inflation expectations have fallen dramatically. According to Banco de México's surveys, the inflation forecast for 2000 stood at 13.7 percent in January 1999, but dropped to 10.62 percent by January of this year and to 9.67 percent by March.

The same surveys reflect a declining trend in inflation expectations for the next 12 months (Graph 22): in January 1999 analysts anticipated inflation of 16.29 percent, while in March 2000 the projection had fallen to 9.51 percent. Similarly, projected inflation for 2001 fell from 9.1 percent in the February 2000 poll to 8.76 percent in March. This reduction coincides with the results reported by several surveys conducted by private institutions.

Graph 22

Evolution of Inflation Expectations
Percent annual change



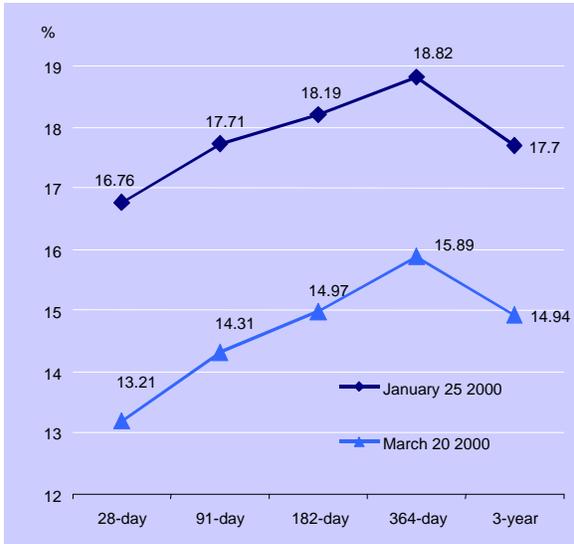
Source: Survey of the Expectations of Private Sector Economic Specialists, Banco de México.

Information incorporated in some financial instruments corroborates the downward path of inflation expectations reported by various surveys. This is clearly depicted by the evolution of nominal interest rates on 91, 180 and 365-day Cetes and on the 3-year bond, all of which have fallen dramatically during the quarter. This pattern is also detected in the performance of the spread between Cetes and Udibonos rates. Since the latter is an indexed security, its yield is expressed in real terms. On the other hand, the nominal yield on one-year Cetes incorporates the real interest rate plus the annual inflation expectation. The difference between the yields of these two instruments is therefore an approximate measure of the inflation rate expected by money market players.

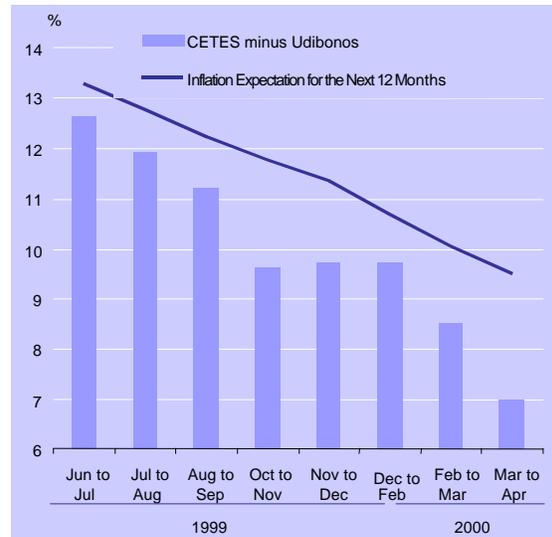
Graph 23 **Nominal Cetes Yield Curve and Yield Spread between Cetes and Udibonos**

Primary auction rates

Nominal Cetes* Yield Curves



Spread between Cetes and Udibonos



* The three-year Cete is issued with fixed-rate coupons.

According to the pertinent Banco de México survey, private sector analysts also trimmed their monthly inflation forecasts for April, May and June. Data obtained in the March survey indicate an expected annual inflation of 9.69 percent for the end of June and a 1.8 percent accumulated inflation for the second quarter.

Table 6 **Monthly and Annual Inflation Expectations**

Percent

	Monthly	Annual
April	0.66	9.83
May	0.57	9.79
June	0.56	9.69

Source: Survey of the Expectations of Private Sector Economic Specialists, Banco de México.

In short, the private sector has favorable expectations about the main determinants of inflation and the evolution of inflation over the next quarter and for the full year.

Table 7

Summary of Private Sector Expectations

Exchange Rate (Year-end 2000)	10.10 (pesos/dollar)	Oil Prices (III & IV quarter of 2000)	18.25 (dollars per barrel)
Exchange Rate (April average)	9.39 (pesos/dollar)	Real Growth in the United States (II quarter)	3.60%
Exchange Rate (May average)	9.46 (pesos/dollar)	Real growth in the United States (2000)	4.30%
Exchange Rate (June average)	9.56 (pesos/dollar)	Annual Inflation Mexico (end of June)	9.69%
Wage Increases (April)	12.30%	Annual Inflation Mexico (Year-end 2000)	9.67%
Wage Increases (May)	12.00%	Real Growth in Mexico (I quarter)	5.60%
Oil Prices (II quarter)	21.16 (dollars per barrel)	Real Growth in Mexico (2000)	4.80%

SOURCE: Survey of the Expectations of Private Sector Economic Specialists and Bloomberg.

IV.3. Short and Medium Term Inflation Outlook and Assessment of Risks

During the period under analysis, the performance of the economy was particularly influenced by four phenomena whose future evolution will, to a great extent, determine the course of inflation and, by extension, the measures adopted by the monetary authority through the remainder of the year.

Firstly, high oil prices and the reduction in country-risk may be viewed as positive supply-side shocks. Phenomena of this nature have a beneficial impact on economic growth and inflation. Their main repercussion has been observed in the forex market through the appreciation and subsequent stabilization of the exchange rate. The phenomena indicated have therefore had a positive influence on inflation and inflation expectations. These shocks are basically the opposite of those the economy suffered during the second half of 1998, when oil prices fell and country-risk rose.

Secondly, the significant increase in the demand for Mexican exports; this additional demand stems mainly from the United States and is driven by the rapid growth in that country's economy. This has also been reflected in the stability of the exchange rate. Ultimately, and in the absence of parallel gains in productivity, the aforementioned phenomenon could have inflationary consequences, since it may exert pressure on the labor market and generate wage rises whose effects could extend into industries that produce non-tradable goods. Over recent months, however, the most significant effect has been its contribution to the sustainability of Mexico's external accounts and exchange rate stability. It has therefore been a factor in favor of declining inflation.

Thirdly, it is noteworthy that the attainment of an inflation rate below the target established for 1999 did reinforce the public's credibility on the inflation target for 2000. Consequently, during the first quarter private sector expectations converged toward the annual inflation target, while contractual wage rises have responded to these movements to a greater degree than in 1999.

Finally, the strong expansion in domestic demand referred to throughout this document has been largely associated with growth in private sector spending. Undoubtedly, were it not for the positive factors analyzed earlier, this expansion would have led to exchange rate pressures as Mexico's external accounts would have deteriorated. Furthermore, should domestic demand grow at an unsustainable rate, upward pressures on wages and on the prices of non-tradable goods could arise. This is therefore a phenomenon that could hamper the decline in inflation.

In the first quarter of 2000, the positive effects on prices of supply-side shocks and growth in foreign demand for Mexican exports had a positive influence on inflation that more than offset any inflationary impact from the rise in domestic demand. As a result, these phenomena contributed to the favorable evolution of inflation expectations, causing prices to grow in line with the proposed targets.

Recent trends in the United States' economy suggest it will remain vigorous through the rest of the year. It also seems likely that oil prices will fall slightly and that capital inflows toward emerging markets will continue. It is expected that international oil prices shall decline slightly and that capital flows to emerging markets will continue. Therefore, the base scenario for the remainder of 2000

assumes that the effect of the external environment on Mexican inflation will be positive and that the restrictive monetary policy stance will be conducive to attaining the stated inflation target.

Nonetheless, the possible reversal of the positive external phenomena analyzed is a risk factor for the base scenario. It is no coincidence that this is already reflected in private sector inflation forecasts for 2001, when analysts expect annual inflation to fall only 0.91 percentage points. In this regard the leading external risk factors that could complicate the future decline in inflation are as follows:

- (a) a drastic deceleration in the United States' economy;
- (b) a sharp decline in oil prices; and
- (c) a greater than expected hike in United States' interest rates or a severe drop in that country's stock market. Either of these factors could prompt investors to adjust their investment portfolios and shift toward fixed-income markets in developed economies, which would reduce capital flows toward emerging markets.

Should any of those scenarios occur, a depreciation of the nominal exchange rate could ensue, which would be a logical movement toward a more depreciated real equilibrium exchange rate. However, given the traditionally high correlation between exchange rate depreciations and inflation in Mexico, such a development could lead to higher inflation expectations that would in turn affect all types of contract negotiations. The monetary authority will therefore remain alert and respond swiftly by tightening its policy stance should any of the described phenomena arise.

On the domestic front, the main risk factor is the possibility that the strong growth of aggregate demand witnessed in the last two quarters could lead to a deterioration of Mexico's external accounts and to increases in the prices of non-tradable goods which may be incompatible with the inflation target. This would be particularly worrying if it were associated with a greater dependency on short-term capital inflows. Since this type of financing is extremely volatile and sometimes responds to phenomena unrelated to the economic fundamentals, an intensification of short-term capital inflows could heighten the vulnerability of the economy. Under those circumstances, the progress achieved toward reducing inflation could

prove unsustainable since, in the event of a severe capital outflow, the nominal exchange rate would depreciate and that would in turn generate inflationary pressures.

In order to weaken possible inflationary pressures in the non-tradable goods sector and maintain the external accounts at reasonable levels, it may be necessary to curb the growth of domestic spending. This would imply more restrictive macroeconomic policies. Under such circumstances, fiscal policy would be the most effective instrument, since a more austere fiscal policy would result in greater public savings and would directly correct excess aggregate spending. The recommendation would also extend to the monetary realm; a greater restriction in liquidity would induce higher real interest rates and this would in turn influence private sector consumption and investment spending. Nonetheless, a more restrictive monetary policy stance could, at least initially, cause a sharper appreciation of the exchange rate that would stimulate spending on tradable goods—an effect that would reduce the effectiveness of monetary policy as a means for adjusting aggregate spending and the external accounts. Therefore, given the limitations of monetary policy, the best way to address the problem of an excessive expansion of aggregate demand and a widening of the external deficit would be a coordinated execution of monetary and fiscal policies.

Should current trends persist, and if the impact on the current account of more vigorous domestic demand continues to be offset by the effects of higher oil prices and rapid growth in non-oil exports, the following scenario could materialize by the end of the year: an inflation rate well below 10 percent, substantially improved inflation expectations for 2001, and a moderate rise in the trade deficit. This scenario would offer favorable conditions for speeding up the disinflation process and converging, by 2003, with inflation rates prevailing in the economies of Mexico's main trading partners.

According to the analysis contained in this Report, the base scenario assumes that in the second quarter of the year the external environment will continue to be favorable for the Mexican economy and support the continued decline of inflation. In this context, the exchange rate should remain relatively stable, inflation expectations should continue to fall, and the latter should be partially reflected in future contractual wage negotiations.

Transitory phenomena that could have a positive influence on the evolution of inflation in the second quarter of the year include the following:

- (a) prices tend to rise at a relatively slow pace in the second quarter of every year; and
- (b) lower summer-time electricity rates come into effect for 11 cities in April and 14 cities in May.

On the other hand, there is one transitory element whose manifestation could have a negative impact on inflation: the prices of fruit and vegetables have already begun to display signs of embarking on a rising trend. Depending on weather conditions and international prices, this situation could lead to a weakening or even a reversal of the contribution that these prices have made in favor of lower inflation.

Taking all the aforementioned factors into consideration, Banco de México anticipates that accumulated inflation in the second quarter of 2000 will be lower than that observed in similar period of 1999 and also below that posted in the first quarter. A reduction in annual inflation figures is expected as well; however, since the inflation rate for April-June 1999 was relatively low, the drop in the annual inflation rate for the second quarter of 2000 will probably be of a lesser magnitude than the one seen in the first quarter.

V. Conclusions

The economic expansion in Mexico has become more solid in the last few months. This outcome has taken place in the context of declining inflation, downward inflation expectations, an upturn in private spending, the sustained momentum of the United States' economy, and a more optimistic perception by local and international investors about the future of the Mexican economy. These positive elements have offset the effects on economic activity of fiscal and monetary restriction.

During the six-month period ending in March, private consumption and investment spending played a major role in the expansion of aggregate demand. Furthermore, the remarkable growth in the United States' economy has stimulated Mexican exports. Despite the lack of definitive data, available information indicates that GDP probably grew at a real annual rate of more than 6 percent in the first quarter of the year.

In each of the months of the quarter under analysis, inflation came in below the levels projected by private sector analysts and, in March, the INPC grew 10.11 percent in annual terms. In the absence of severe domestic or external shocks, inflation measured in terms of the INPC should remain on its course toward the 2000 target —not to exceed 10 percent.

The evidence analyzed in this report indicates that long-term inflation is on a downward trend. However, a comparison between the evolution of underlying inflation and the INPC inflation rate suggests that the rapid reduction in inflation seen in the first quarter was influenced by factors that may not recur: the decline in the prices of fruit and vegetables and the nominal appreciation of the exchange rate.

One factor that has had a positive impact on the descent in the long-term inflation trend is that the private sector's inflation expectations for 2000 now stand at 9.67 percent, which is consistent with the corresponding official target. Contractual wage negotiations in the early months of this year have reflected improved inflation expectations and rises in labor productivity to a greater extent than in 1999. Likewise, expected inflation for 2001 is down to 8.76 percent—in other words, inflation is expected to fall less than one percentage point during that year. Although the latter is clearly a

positive outlook, the inflation rate expected for next year is still too high if convergence towards the inflation prevailing in Mexico's main trading partners is to be achieved by 2003.

Current trends suggest that by December 2000 annual inflation will not exceed 10 percent given the monetary policy stance in force. However, the monetary authority shall remain alert and act promptly if necessary, for several reasons. Firstly, the decline in domestic inflation has benefited from events that may not be recurrent. Secondly, should the favorable external trends be partially reversed and domestic demand continue to grow, excess demand could arise leading to the resurgence of inflationary pressures. Therefore, monetary policy must maintain its restrictive bias, while the "short" shall be opportunely increased if the aforementioned risks materialize. This would minimize the degree to which inflation expectations may be affected by pressures on the prices of non-tradable goods and the exchange rate stemming from excess aggregate demand. The aim would be to consolidate the downward trend in inflation, even in an environment less favorable than that of recent months.

The challenge in terms of monetary policy is to maintain monetary conditions that will consolidate the advances obtained in the disinflation process while ensuring that the expansion in domestic production —required to meet a growing aggregate demand— does not exceed the limits imposed by installed capacity. While the strategic orientation of monetary policy is clear, two fundamental issues must still be taken into consideration when evaluating the specific measures required by changes in the environment: the appropriate timing for implementing monetary policy measures and the magnitude of the necessary adjustment.

During the period prior to the publication of the next Inflation Report in July, the Central Institute will very carefully monitor aggregate demand and the evolution of financial markets in order to evaluate the speed and magnitude of adjustments in the monetary conditions, should they prove to be necessary.

Appendix

Methodology for Calculating Underlying Inflation

In order to maintain price stability, central banks apply monetary policy measures whose effects on the inflation rate materialize with a lag. The monetary authority therefore needs to constantly anticipate future pressures on inflation. Furthermore, since monetary policy actions are taken according to the expected evolution of inflation, when explaining their actions to the public central banks must make some reference to the medium-term outlook for price growth. Consequently, both the implementation of monetary policy and the process of communicating with the public require central banks to use different indicators to identify medium-term inflationary pressures.

Changes in relative prices caused by seasonal factors, revisions to regulated prices (agreed between the government and a small group of firms) and variations in the prices of goods and services provided by the public sector do not generally imply long-lasting pressures on the price level. Therefore, in order to obtain a suitable indicator for medium-term inflationary pressures, prices which have traditionally displayed severe volatility must be eliminated from the calculation.

Most central banks use inflation indicators that eliminate the components of the general price index that have been identified as the most volatile. Table A1 depicts the indicators of medium-term inflation trends used by a number of central banks —almost all of these indicators exclude the most volatile items from the consumer price index. The table provides the name of the index used by each central bank and the excluded elements are identified in brackets.

Table A1 Underlying Inflation Indicators

Central Bank	Underlying Inflation (i.e. Growth in consumer prices excluding:)
Bank of England	- RPIX (interest payments on housing loans)
	- RPIY (the above plus indirect and local taxes)
	- RPIXFE (interest on housing loans plus food, fuel and electricity)
	- TPI (direct taxes)
	- THARP (indirect and local taxes)
Bank of Sweden	- UND1 (financial cost of housing, indirect taxes and subsidies)
	- UND2 (the above plus fuel)
Bank of Spain	- IPSEBENE (energy and non-processed food)
Deutsche Bundesbank	- Net CPI (indirect taxes)
Bank of France	- ULI (food, energy, tobacco and indirect taxes)
Reserve Bank of Australia	- Treasury index (interest payments)
	- Trimmed Mean (15% of the most volatile elements in the basket are excluded each month)
Bank of Canada	- CPIxFET (food, energy and indirect taxes)
	- MEANSTD (each month 5% of the most volatile elements in the basket is excluded)
	- CPIX (the eight most volatile elements in history)
Bank of New Zealand	- CPX (interest payments)
	- CPIXexF&E (the above plus food and energy)
United States Federal Reserve	- Underlying Inflation (food and energy)

A description of the methodology used by Banco de México to calculate Mexico's underlying inflation is presented below. Identification of the most volatile elements in the INPC is based on historical series for the 313 generic products included in the index. The period of reference extends from January 1996 to February 2000. The most volatile generic products are identified by calculating monthly growth rates of the respective prices and comparing those rates against a measure of the monthly inflation trend. The latter is estimated using four different methods:

- (a) X12 ARIMA¹¹,
- (b) average for the next 12 months,
- (c) 12-month centered moving average,
- (d) monthly INPC inflation.

After establishing the monthly inflation trend, deviations between that trend and the monthly growth in the price of each generic product are calculated on a month-to-month basis. The

¹¹ The United States' Census Bureau has for many years used a similar method for calculating trends, known as X11 ARIMA. This method is based on the estimation of seasonal components after smoothing the original series by using moving averages.

squares of the deviations are added throughout the whole of the sample and divided by the number of months to obtain a measure of relative variability for each generic product, which is known as the mean quadratic error.

Table A2 lists the 93 most volatile generic products. It also specifies according to which of the trend measurements the corresponding generic product falls into the most volatile subset. In 81 cases, all four trend measurements place the corresponding generic products in the most volatile subset, and it could therefore be argued that the configuration of the most volatile subset is independent of the trend measurement used.

Table A2 **Most Volatile Generic Products in the INPC**

Generic	Method that places it among the most volatile 35%	Generic	Method that places it among the most volatile 35%
GREEN TOMATO	1, 2, 3, 4	ELECTRICITY	1, 2, 3, 4
LIME	1, 2, 3, 4	CAR OWNERSHIP TAX	1, 2, 3, 4
ONION	1, 2, 3, 4	SUBWAY AND ELECTRIC PUBLIC TRANSPORT	1, 2, 3, 4
POBLANO CHILI	1, 2, 3, 4	INTERNATIONAL LONG DISTANCE CALLS	1, 2, 3, 4
PEAS	1, 2, 3, 4	URBAN BUS FARES	1, 2, 3, 4
CHAYOTE	1, 2, 3, 4	DOMESTIC LONG DISTANCE CALLS	1, 2, 3, 4
SERRANO CHILI	1, 2, 3, 4	COLLECTIVE TRANSPORT	1, 2, 3, 4
ZUCCHINI	1, 2, 3, 4	HIGHWAY TOLLS	1, 2, 3, 4
TOMATO	1, 2, 3, 4	TAXI	1, 2, 3, 4
GREEN BEANS	1, 2, 3, 4	LOCAL TELEPHONE SERVICE	1, 2, 3, 4
AVOCADO	1, 2, 3, 4	PARKING FEES	1, 2, 3, 4
CACTUS LEAVES	1, 2, 3, 4	INTER-CITY BUS	1, 2, 3, 4
CUCUMBER	1, 2, 3, 4	DOMESTIC GAS	1, 4
ORANGES	1, 2, 3, 4	KINDERGARTEN & DAY CARE	1, 2, 3, 4
GUAVA	1, 2, 3, 4	PRIMARY SCHOOL	1, 2, 3, 4
TABASCO BANANAS	1, 2, 3, 4	SECONDARY SCHOOL	1, 2, 3, 4
GRAPEFRUIT	1, 2, 3, 4	HIGH-SCHOOL	1, 2, 3, 4
OTHER FRESH CHILI	1, 2, 3, 4	UNIVERSITY	1, 2, 3, 4
CANTALOUPE	1, 2, 3, 4	SHORT DEGREES & LANGUAGE DIPLOMA	1, 2, 3, 4
PINEAPPLE	1, 2, 3, 4	OTHER ENTERTAINMENT	1, 2, 3, 4
PAPAYA	1, 2, 3, 4	CORN TORTILLA	1, 2, 3, 4
GARLIC	1, 2, 3, 4	JEWELRY & FAKE JEWELRY	1, 2, 3, 4
MANGO	1, 2, 3, 4	BEER	1, 3, 4
GRAPES	1, 2, 3, 4	CAR INSURANCE	1, 2, 3, 4
CABBAGE	1, 2, 3, 4	CIGARETTES	1, 3, 4
CARROT	1, 2, 3, 4	RAILROAD FARES	1, 2, 3, 4
WATERMELON	1, 2, 3, 4	CORN DOUGH	1, 2, 3, 4
OTHER BANANAS	1, 2, 3, 4	PACKAGED BREAD	1, 2, 3, 4
POTATOES	1, 2, 3, 4	OTHER DRIED LEGUMES	1, 2, 3, 4
LETTUCE	1, 2, 3, 4	NON-CARTON MILK	1, 2, 3, 4
PEACH	1, 2, 3, 4	CHILDREN'S PANTS / MATERIALS	1, 2, 3, 4
BEANS	1, 2, 3, 4	CARTON PASTEURIZED MILK	1, 2, 3, 4
DRIED CHILI	1, 2, 3, 4	MUSICAL INSTRUMENTS & OTHER	1, 2, 3, 4
APPLE	1, 2, 3, 4	TOILET PAPER	1, 2, 3, 4
CORN ON THE COB	1, 2, 3, 4	DISPOSABLE TISSUES	1, 2, 3, 4
OTHER LEGUMES	1, 2, 3, 4	SPORTS CLUB FEES	1, 2, 3
PEAR	1, 2, 3, 4	EVAPORATED MILK	1, 2, 3
SHRIMP	1, 2, 3, 4	CANDLES & NIGHT LIGHTS	1, 2, 3, 4
MOJARRA FISH	1, 2, 3, 4	SUGAR	1, 2, 3
OTHER FRESH FISH	1, 2, 3, 4	MEDICAL SUPPLIES	1, 3
SEA BASS & GROUPER	1, 2, 3, 4	CAKES & PIES	1, 2, 3, 4
OTHER SEAFOOD	1, 2, 3, 4	DOMESTIC HELP	1
RED SNAPPER	1, 2, 3, 4	SAUSAGES	1
CHICKEN PARTS	1, 2, 3, 4	KITCHEN FURNITURE	1, 2, 4
WHOLE CHICKEN	1, 2, 3, 4	STOCKINGS & PANTYHOSE	1, 2, 3
HAM	1, 2, 3, 4	MILK CUSTARD	1, 3, 4
EGG	1, 2, 3, 4		

* The methods used to measure inflation trends are: (1) Arima, (2) Average for next 12 months, (3) 12-month centered moving average and (4) INPC.

The 313 generic products are then listed according to volatility, as measured by the mean quadratic error, and each generic product is associated with its respective weighting¹² within the INPC. Starting with the most volatile generic product, the weightings are added from highest to lowest volatility until a certain percentage of accumulated weighting is reached (labeled in the text as X). This makes it possible to identify the subset of the most volatile generic products, whose weight within the INPC is equal to X percent.

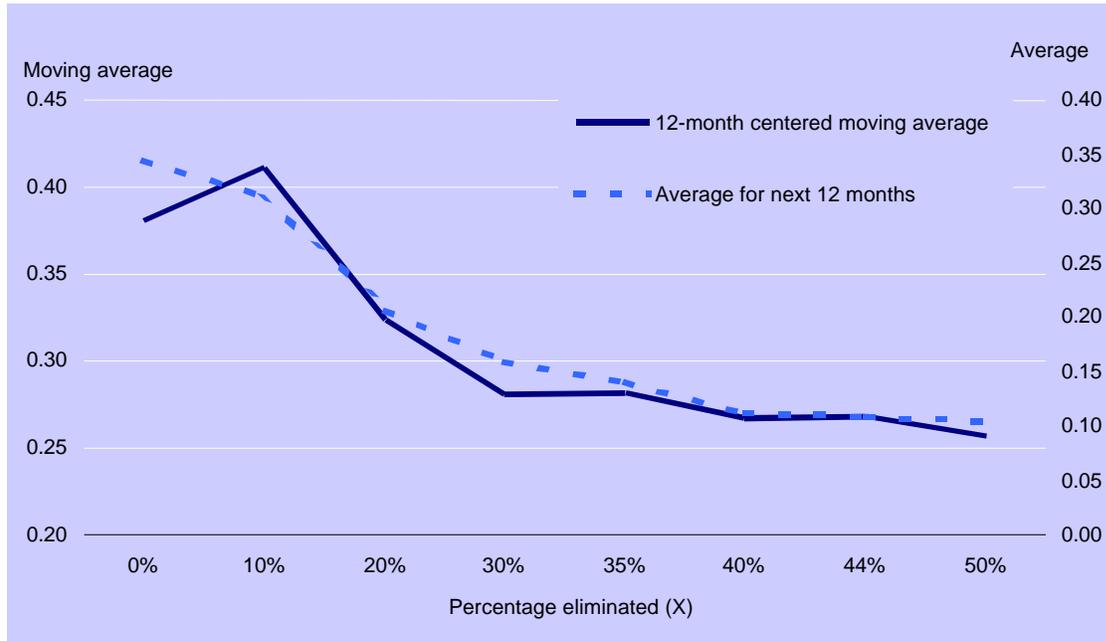
The next step is to construct a price index that includes all components of the INPC except the subset of the most volatile generic products —which account for X percent of the consumer basket. X is then shifted upward (between 0 and 50 percent of the basket) and the process is repeated. This allows for the generation of a number of indices which differ only in the percentage of the consumer basket that is eliminated.

Using the process described, a sequence of price indices from which up to X percent of the most volatile generic products in the INPC are excluded is obtained. To determine which of these measurements is the most efficient indicator of medium-term inflationary pressures, its fit against a measurement of the INPC inflation trend is estimated. Indicators for that trend include the 12-month centered moving average and the average for the next 12 months.

To estimate how well each of these indices fits against the inflation trend, the mean quadratic error between each index and the trend itself is calculated. After conducting this exercise using different values for X, a measure of efficiency of the future inflation trends forecast for each price index that excludes X percent of the most volatile generic products is obtained. In Mexico's case, the performance of the latter item is illustrated in Graph A1.

¹² Weighting is understood as the percentage contribution of the generic product to the INPC.

Graph A1 Mean Quadratic Error and Future Inflation Trend



As the graph shows, the mean quadratic error diminishes as X grows, and the estimation's fit improves. Much of the reduction in the mean quadratic error is achieved by eliminating 35 percent of the most volatile generic products, and thus the efficiency gains in the future inflation trend estimate are maximized.

Of the 93 generic products comprised in 35 percent of the INPC basket, 66 belong to one of the following subindices: Prices of Goods and Services Regulated or Provided by the Public Sector, Agricultural Products, and Education. These subindices are therefore practically entirely represented within the most volatile subset. This can be seen more clearly in Table A3, which identifies all the generic products belonging to these subindices. The generic products that are shaded are those which belong to the most volatile subset.

Table A3: Generic Products Belonging to Subindices of Selected Prices *

REGULATED & PUBLIC GOODS PRICES			EDUCATION		
LONG DISTANCE CALLS	PARKING FEES	ELECTRICITY	KINDERGARTEN & DAY CARE		
TAXI	CAR OWNERSHIP TAX	TELEPHONE LINE	PRIMARY SCHOOL		
URBAN BUS	DOMESTIC GAS	LUBRICATING OILS	SECONDARY SCHOOL		
SUBWAY & ELECTRIC TRANSPORT	LOCAL TELEPHONE SERVICE	LICENSE DUTIES	HIGH-SCHOOL		
INTER-CITY BUS	HIGHWAY TOLLS	GASOLINE	UNIVERSITY		
COLLECTIVE TRANSPORT	LONG DISTANCE CALLS		SHORT DEG. & LANG. DIPLOMA		

AGRICULTURAL PRODUCTS					
FRUIT & VEGETABLES			FISH	MEATS	EGG
OTHER FRESH CHILI	PEACH	POTATOES	MOJARRA FISH	CHICKEN PARTS	EGG
OTHER LEGUMES	CARROTS	ONION	RED SNAPPER	WHOLE CHICKEN	
TABASCO BANANAS	TOMATO	CORN	SEA BASS & GROUPER	HAM	
OTHER BANANAS	CHAYOTE	CABBAGE	OTHER FISH	PORK LOIN	
SERRANO CHILI	AVOCADO	CUCUMBER	SHRIMP	COW LIVER	
POBLANO CHILI	LETTUCE	GARLIC	OTHER SEA FOOD	BEEF STEAK	
GREEN TOMATO	CACTUS L.	ORANGES		BEEF SCRAPS	
ZUCCHINI	GREEN BEANS	LIME		CHOPS	
PEAS	BEANS	GRAPES		BEEF SPECIAL CUTS	
GUAVA	PAPAYA	WATERMELON		OTHER BEEF ORGANS	
DRIED CHILI	PINEAPPLE	MANGO		BEEF GROUND MEAT	
GRAPEFRUIT	APPLE	PEAR		BONELESS PORK	
CANTALOUPE					

* Shaded elements are those identified as being the most volatile.

As the preceding table shows, just 4 of the 13 generic products in the sub-index of Prices of Products and Services Regulated or Provided by the Public Sector, and 9 of the 47 contained in the Agricultural Products sub-index do not fall into the most volatile subset.

Based on all the above, a comparative analysis was made between two measurements for underlying inflation. In order to measure their capacity to anticipate medium-term inflationary pressures, their fit vis-à-vis a measurement of the future inflation trend was estimated. The latter item is defined in two ways: a) as the 12-month centered moving average, and b) as the average for the next 12 months. Table A4 contains the mean quadratic errors in relation to the inflation trend. These errors were calculated for the monthly changes in the INPC after excluding the most volatile subset and for the INPC excluding the subindices of Agricultural Products, Education, and Prices of Goods and Services Regulated or Provided by the Public Sector; practically the same mean quadratic error is obtained for both estimates.

Table A4 **Mean Quadratic Error for Monthly Variations and the Inflation Trend**

	Trend Measurements	
	12-month centered moving average	Average for the next 12 months
INPC excluding most volatile subset	0.166	0.236
INPC excluding sub-indices of agricultural products, education and regulated and public goods prices	0.198	0.266

Based on the above results and with a view to simplifying the presentation of indicators of medium-term inflationary pressures, Underlying Inflation is defined as the measurement that eliminates the following subindices from the INPC: Agricultural Products, Education, and Prices of Goods and Services Regulated and Provided by the Public Sector. In the event of changes in indirect taxes, the underlying inflation measurement will also exclude their direct impact on prices. The above definition of underlying inflation may be modified due to alterations in the performance of the prices of any generic product. Banco de México shall therefore conduct routine reviews of the results of the above methodology. If necessary, the underlying inflation measurement will be revised and any changes made will be announced to the public in a timely fashion.

Finally, it must be emphasized that underlying inflation is only a tool for analysis and communication and not a monetary policy target in itself.