

# Inflation Report

---

July – September 2007



BANCO DE MEXICO

OCTOBER 2007



*BOARD OF GOVERNORS*

**Governor**

GUILLERMO ORTIZ MARTÍNEZ

**Deputy Governors**

ROBERTO DEL CUETO LEGASPI

EVERARDO ELIZONDO ALMAGUER

GUILLERMO GÜÉMEZ GARCÍA

JOSÉ JULIÁN SIDAQUI DIB



## **FOREWARNING**

*This text is provided for the reader's convenience only. Discrepancies may eventually arise from the translation of the original document into English. The original and unabridged Inflation Report in Spanish is the only official document.*

*Unless otherwise stated, this document has been prepared using data available as of October 30, 2007. Figures are preliminary and subject to change.*



# CONTENTS

## Inflation Report July- September 2007

<b>1. Introduction .....</b>	<b>1</b>
<b>2. Recent Developments in Inflation .....</b>	<b>3</b>
2.1. Inflation .....	3
2.2. Producer Price Index .....	11
<b>3. Main Determinants of Inflation.....</b>	<b>13</b>
3.1. International Environment.....	13
3.1.1. Global Economic Activity .....	13
3.1.2. General Trends of Inflation .....	14
3.1.3. Financial Markets.....	16
3.1.4. Outlook .....	18
3.2. Aggregate Demand and Supply in Mexico.....	19
3.2.1. Employment.....	22
3.2.2. External Sector .....	23
3.3. Costs and Prices .....	24
3.3.1. Wages and Unit Labor Costs.....	24
3.3.2. Administered and Regulated Prices of Goods and Services .....	26
3.3.3. Metals and Food Commodities .....	28
3.4. Monetary and Credit Aggregates .....	30
3.4.1. Monetary Base, Net Domestic Credit and International Assets .....	30
3.4.2. Monetary Aggregates and Financing.....	31
<b>4. Monetary Policy.....</b>	<b>34</b>
<b>5. Prospects for Inflation and Balance of Risks .....</b>	<b>41</b>
<b>6. Monetary Policy Announcements .....</b>	<b>46</b>
6.1. Calendar of Monetary Policy Announcements .....	46
<b>Appendices.....</b>	<b>47</b>
<b>Appendix 1 Some Considerations on Defining Core Inflation .....</b>	<b>48</b>
<b>Appendix 2 Estimating the Effect of the Fiscal Reform on the CPI .....</b>	<b>54</b>
<b>Appendix 3 Implementing Monetary Policy through an Operating Interest Rate Target.....</b>	<b>61</b>







## 1. Introduction

---

World economic activity continued to expand at a solid pace during the third quarter of 2007, mainly as a result of the vigorous growth of emerging market economies. However, recent information suggests a loss of momentum among advanced economies, particularly in the U.S. In the case of this country, the slowdown is mainly attributable to the deterioration of the real estate market.

Food and energy prices have increased significantly worldwide. The former have been driven by a shift in relative prices as a result of increased demand for these products from countries such as China and India (which reflects an improvement in their living standards); greater use of certain grains as inputs for biofuel production, and adverse weather conditions in various regions of the world.

Given the importance of foodstuffs in the consumption basket of emerging economies, some of them have faced significant inflationary pressures. In addition, the fact that in some of these economies the increase in food prices has taken place in tandem with the upper phase of the business cycle has increased these pressures. Although the most advanced economies have also been affected by these price increases, the effect has been of a lesser magnitude and long-term inflation expectations have remained well anchored.

At the beginning of August, the outlook for the real estate market in the U.S. worsened. New concerns arose regarding the credit quality of bonds backed by subprime mortgages, which also affected other type of instruments, in particular commercial paper. These events created problems for the operation of financial intermediaries in at least two dimensions. First, these events led to concerns about the quality of banking assets. Second, as various firms faced problems in the turnover of their commercial paper issues, they used contingent credit lines from banks. As a result, the differentials between interbank interest rates and U.S. Treasuries widened considerably.

In response to these events, some central banks of advanced economies provided liquidity to commercial banks on more favorable conditions. In addition, at the end of the quarter, the U.S. Federal Reserve cut its target for the federal funds rate by 50 basis points, arguing that tighter conditions in credit markets could intensify the correction in the real estate market and affect economic growth.

Not all types of assets have been affected to the same degree by the referred situation. In particular, financial markets in emerging market economies have sorted out this episode of volatility, in most cases, without major problems. This has been due to several factors, such as an improvement in the perception of sovereign risk linked to these economies and the fact that the problem did not originate in these countries. Since subprime mortgages have been the most affected by recent events, contagion to other lower-risk financial instruments has been limited.



During the third quarter of the year, the Mexican economy grew at a higher rate than in the first two quarters. Both domestic and external demand improved as compared with the first half of the year. Economic activity is expected to grow during the second half of the year at a higher rate than in the first half of the year. However, the slowdown in U.S. economic activity expected at the end of 2007 and the beginning of 2008 could have an adverse effect on the Mexican economy.

The development of inflation during 2007 has been influenced by a series of supply shocks, which prompted an increase in both headline and core inflation. In particular, the increase in the international prices of grains and other food products, such as dairy products, has affected significantly the domestic prices of various products that use them as food-processing inputs.

The outlook for inflation has deteriorated in the last months. This is due, first, to the increase in food inflation and the fact that the process of adjustment in relative prices of food products worldwide has not concluded. Second, some firms are expected to try to pass on to consumers the cost associated to the increase in the taxes approved recently by Congress. Although this factor is subject to a high degree of uncertainty and, in the event of materializing, it would affect inflation temporarily, the level at which inflation is at the moment increases the risk of affecting the processes of price and wage determination. Inflation is also subject to further risks, in particular, that its long-term inflation expectations are more than half a percentage point above the inflation target.

The abovementioned possible inflationary pressures take place in an environment where the U.S. economy has been reducing its rate of growth. The risk of a negative scenario for growth in that country materializing has increased, which would mitigate some of the referred risks for inflation. However, most recent information suggests that the economy is not expected to undergo such deterioration that would compensate for the referred pressures.

Monetary policy is currently facing a complex economic situation. Up to now, supply shocks have had limited effects on non-food prices, while wage negotiations apparently have not been affected. Nonetheless, as detailed in Section V of this Report, Banco de México has revised its provisions for inflation upward and the corresponding balance of risks has deteriorated. Consequently, in its press release of October, Banco de México's Board of Governors announced a tightening of monetary conditions by 25 basis points.

This document includes three appendices. Appendix 1 explains Banco de México's decision for changing the definition for the core price subindex. This change implies incorporating to this index the items of the private education price subindex starting January 2008. Appendix 2 describes the methodology for estimating the probable impact of the recently-approved fiscal reform on the CPI. Appendix 3 announces that, starting January 21, 2008, Banco de México will adopt the overnight interbank interest rate as an operating target instead of the *corto*. This change does not imply any modifications to Banco de México's monetary policy stance.

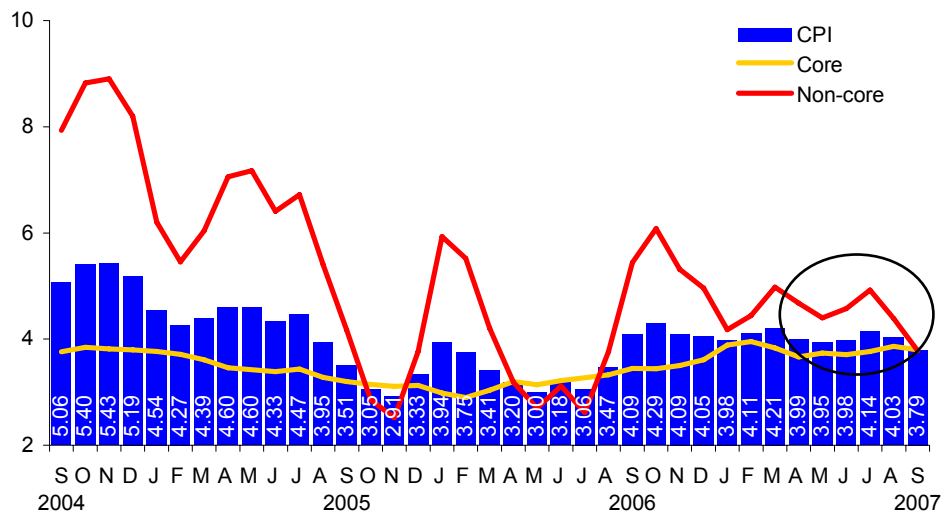
## 2. Recent Developments in Inflation

### 2.1. Inflation

Developments in annual headline inflation during the third quarter of 2007 were as forecasted in the previous Inflation Report. At the beginning of the period, this indicator recorded an increase that reverted in the following two months, closing the quarter at 3.79 percent (in June 2007, this index recorded an annual variation of 3.98 percent, Graph 1).

The rebound in annual headline inflation observed in July was mainly due to the higher incidence of food product (both processed and agricultural) prices. The decline in these prices that took place afterward was associated with the slowdown in the rate of growth of agricultural product prices, given the higher levels of monthly inflation these prices recorded during the same months of the previous year. Nevertheless, this effect was limited due to the growing contribution of processed food prices to inflation.

**Graph 1**  
**Consumer Price Index**  
 Annual percentage change

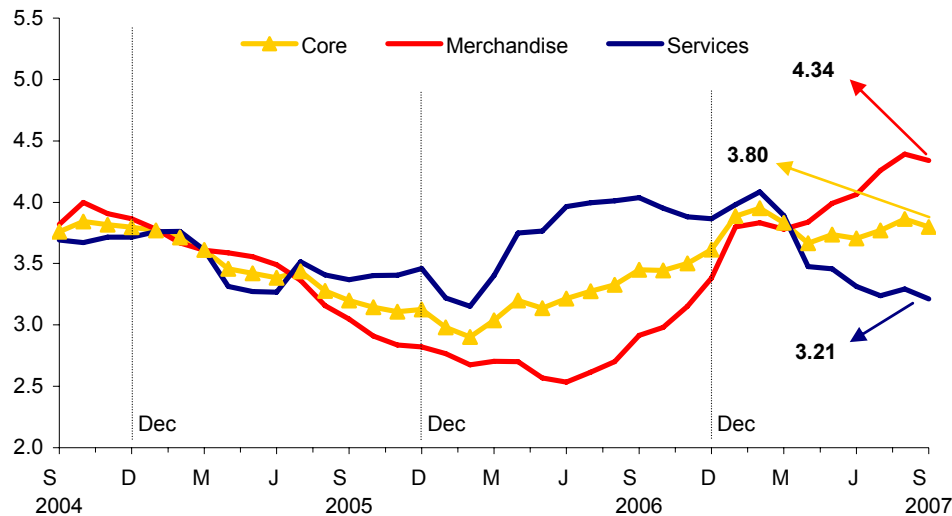


Annual core inflation recorded higher levels during the third quarter of 2007 as compared with the previous quarter, reaching 3.80 percent in September, as compared to 3.70 percent in June (Table 1). These figures were the result of opposite patterns in the annual variations of the merchandise and services subindices (Graph 2). For the merchandise subindex, an upward pattern influenced by the behavior of processed food prices. For the services subindex, a downward pattern due to a reduction in the rate of growth of the prices of the rest of services.

**Table 1**  
**Consumer Price Index and Components**  
 Annual percentage change

	Annual Percentage Change					
	Dec-2006	Mar-2007	Jun-2007	Jul-2007	Aug-2007	Sep-2007
<b>CPI</b>	<b>4.05</b>	<b>4.21</b>	<b>3.98</b>	<b>4.14</b>	<b>4.03</b>	<b>3.79</b>
<b>Core</b>	<b>3.61</b>	<b>3.83</b>	<b>3.70</b>	<b>3.77</b>	<b>3.86</b>	<b>3.80</b>
<b>Merchandise</b>	<b>3.38</b>	<b>3.78</b>	<b>4.07</b>	<b>4.26</b>	<b>4.39</b>	<b>4.34</b>
Food products	5.10	5.92	6.38	6.75	7.07	7.03
Dairy products	3.55	4.19	6.69	8.96	9.55	11.67
Rest of merchandise	2.12	2.20	2.36	2.42	2.41	2.34
<b>Services</b>	<b>3.87</b>	<b>3.89</b>	<b>3.31</b>	<b>3.24</b>	<b>3.29</b>	<b>3.21</b>
Housing	3.73	3.59	2.95	2.89	2.92	3.01
Own housing	3.45	3.17	2.34	2.29	2.39	2.54
Rest of services	4.02	4.25	3.74	3.65	3.73	3.45
Travel packages	3.70	7.10	1.80	-0.72	0.11	-1.31
<b>Non-core</b>	<b>4.96</b>	<b>4.98</b>	<b>4.58</b>	<b>4.93</b>	<b>4.39</b>	<b>3.78</b>
<b>Agriculture</b>	<b>8.30</b>	<b>8.67</b>	<b>6.68</b>	<b>8.25</b>	<b>6.12</b>	<b>3.52</b>
<b>Fruits and vegetables</b>	<b>15.46</b>	<b>13.59</b>	<b>3.97</b>	<b>8.27</b>	<b>3.97</b>	<b>-0.60</b>
Tomato	10.18	-37.02	-6.72	30.32	7.40	-15.62
Onion	186.09	269.36	23.22	-28.61	-25.08	-32.04
<b>Livestock products</b>	<b>3.69</b>	<b>5.53</b>	<b>8.35</b>	<b>8.23</b>	<b>7.54</b>	<b>6.57</b>
Eggs	15.79	22.67	14.23	16.18	9.17	11.96
Beef	-0.40	1.37	5.63	5.50	5.13	4.32
Poultry	8.39	9.81	15.97	15.01	16.32	12.10
<b>Administered and Regulated</b>	<b>3.14</b>	<b>3.07</b>	<b>3.23</b>	<b>3.13</b>	<b>3.03</b>	<b>3.23</b>
<b>Administered</b>	<b>4.42</b>	<b>3.43</b>	<b>3.71</b>	<b>3.68</b>	<b>3.74</b>	<b>4.16</b>
Low-octane gasoline	5.59	4.46	3.66	3.90	3.94	4.42
High-octane gasoline	8.46	8.73	8.08	8.17	8.26	8.69
Electricity	5.07	3.87	2.95	2.04	2.04	2.72
Gas for residential use	1.53	0.71	3.65	4.06	4.21	4.33
<b>Regulated</b>	<b>1.83</b>	<b>2.69</b>	<b>2.76</b>	<b>2.59</b>	<b>2.34</b>	<b>2.33</b>
<b>Education</b>	<b>5.71</b>	<b>5.60</b>	<b>5.63</b>	<b>5.65</b>	<b>5.89</b>	<b>5.67</b>

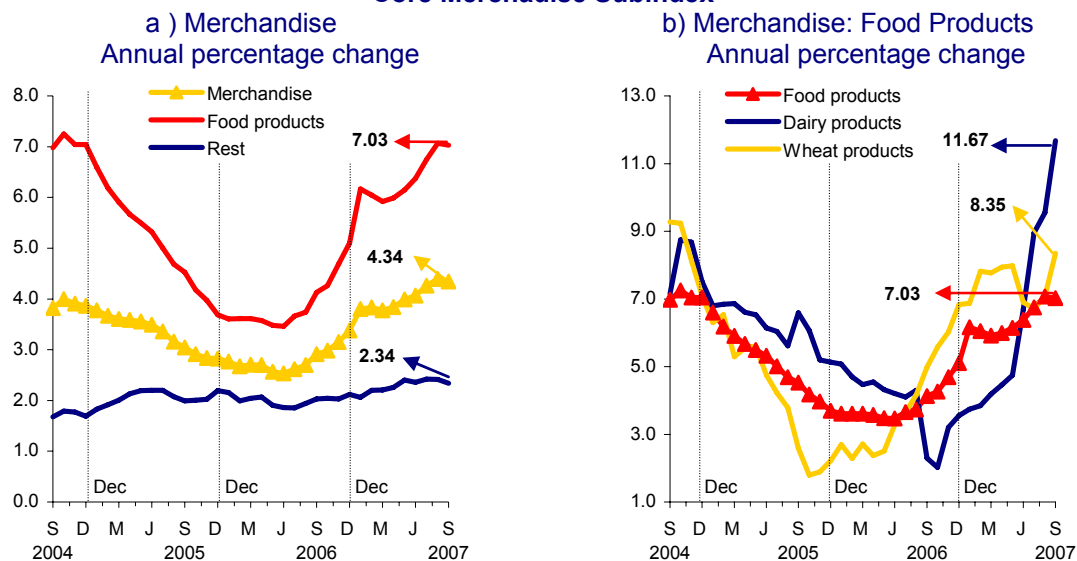
**Graph 2**  
**Core Price Index**  
 Annual percentage change



The merchandise price subindex contributed to a great extent to the high levels of core inflation during the third quarter of 2007. The annual growth rate of this subindex reached 4.34 percent in September 2007, 0.27 percentage

points above its June figure. This result was due to the higher incidence of processed food prices, particularly the increases observed in the prices of dairy and wheat products (Graph 3, Box 1).

**Graph 3**  
**Core Merchandise Subindex**



The annual growth rate of dairy product prices increased from 6.69 percent in June to 11.67 percent in September 2007 (Table 2). This increase was mainly due to a combination of various shocks that have affected the international prices of these products. Among these shocks are the higher costs of animal feed inputs for milk production, the end of export subsidies in the European Union, and adverse weather conditions which have affected production in Australia. The growing demand for powdered milk from Asian countries has also added to the aforementioned.

**Table 2**  
**Consumer Price Index: Dairy Products**  
**Annual percentage change**

	Original Weight	2006	2007								
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Dairy products</b>	<b>3.00</b>	<b>3.55</b>	<b>3.74</b>	<b>3.85</b>	<b>4.19</b>	<b>4.46</b>	<b>4.75</b>	<b>6.69</b>	<b>8.96</b>	<b>9.55</b>	<b>11.67</b>
Pasteurized and fresh milk	1.86	4.85	4.89	4.68	5.01	4.99	5.01	7.06	9.58	9.99	12.04
Powdered milk	0.12	4.42	4.84	5.45	5.48	6.01	8.02	12.23	13.57	13.63	15.15
Evaporated, sweetened and condensed milk	0.05	5.08	5.16	5.19	5.47	6.20	6.42	6.30	6.56	5.48	7.73
Fresh unripened cheese	0.24	0.21	0.82	2.36	3.13	3.88	5.35	6.46	8.38	9.12	12.14
Yogurt	0.20	-1.56	-1.15	-1.52	-1.62	-0.12	-0.53	1.73	3.61	3.88	4.98
Stretched curd/string ( <i>Oaxaca</i> ) or broiler ( <i>Asadero</i> ) cheese	0.15	1.10	1.92	3.24	3.83	4.27	4.12	5.64	8.20	9.20	12.25
Cream	0.10	2.77	2.01	0.71	0.14	1.07	2.02	3.19	4.55	6.38	7.78
<i>Manchego</i> or <i>Chihuahua</i> cheese	0.10	-0.08	1.30	2.32	2.74	3.88	5.57	8.86	10.73	12.35	15.21
Other types of cheeses	0.07	0.42	1.36	3.47	4.42	5.76	7.05	7.60	9.73	11.68	14.91
Ice cream	0.05	2.47	2.91	3.17	3.60	3.69	3.38	3.05	4.38	5.35	5.66
American yellow cheese	0.03	1.58	1.42	1.52	2.30	2.10	2.28	5.21	5.61	7.98	11.14
Butter	0.02	6.67	6.13	5.69	5.98	5.43	5.10	6.29	9.48	12.16	14.32

In September 2007, wheat product inflation was 8.35 percent, 1.45 percentage points above its June figure (Table 3). The higher growth rate of prices of both bread and other wheat-related products is associated with the significant increases in the international prices of wheat (see Section 3.3.3).

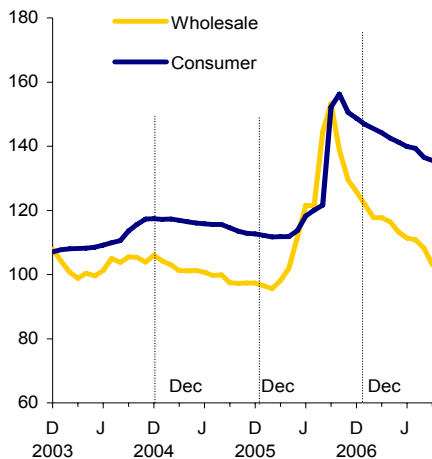
**Table 3**  
**Consumer Price Index: Wheat Products**  
Annual percentage change

	Original Weight	2007									
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Wheat products</b>	<b>1.61</b>	<b>6.83</b>	<b>6.88</b>	<b>7.82</b>	<b>7.77</b>	<b>7.94</b>	<b>7.98</b>	<b>6.90</b>	<b>6.71</b>	<b>7.08</b>	<b>8.35</b>
Sweet rolls	0.53	10.11	9.90	10.22	9.45	9.25	9.76	8.22	8.38	8.02	9.02
White bread	0.22	8.91	10.37	10.45	9.81	10.32	9.44	7.22	6.94	8.24	10.73
Tin loaf	0.18	6.44	6.40	11.14	12.50	13.14	12.32	11.16	8.73	8.16	10.56
Pastries and cakes	0.06	5.36	6.10	8.11	9.80	9.31	9.18	8.94	8.57	8.61	10.22
Soup pasta	0.14	0.03	-0.49	-0.18	1.28	2.27	2.47	1.99	2.65	5.32	7.27
Popular cookies	0.08	4.16	3.65	3.22	2.92	3.34	4.46	3.15	2.59	4.28	4.80
Whole-wheat tortillas	0.07	5.34	6.55	10.66	10.79	10.78	10.71	10.37	10.33	11.06	12.90
Other cookies	0.05	2.26	2.09	2.55	2.80	3.12	2.95	2.69	2.20	3.50	5.85
Whole-wheat flour	0.03	5.16	7.39	8.08	9.15	7.59	8.49	8.83	8.13	8.29	8.85
Cereal flakes	0.26	3.20	2.27	2.39	2.29	2.51	2.34	2.64	3.11	3.30	2.44

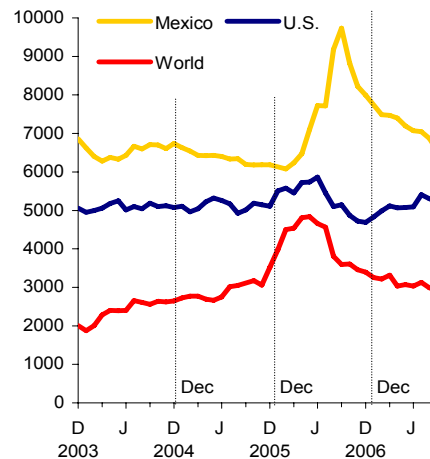
The higher growth rate of the core food subindex eased due to a reduction in the annual variation of sugar prices. However, although consumer prices of sugar have decreased, they have done so in a lower proportion as compared with outlet prices, and the latter are 25 percent above U.S. prices (Graph 4). The aforementioned, despite the federal government decree that since May 9, 2007 import duties for U.S. sugar were to be significantly reduced.<sup>1</sup>

**Graph 4**  
**Sugar Prices**

a) Consumer and Wholesale Prices Indices



b) International and Domestic Prices Pesos per ton



<sup>1</sup> Import duties for sugar from the U.S. decreased from 288 to 35.31 US dollars per ton.



**Box 1**

**Food Prices: International Experience**

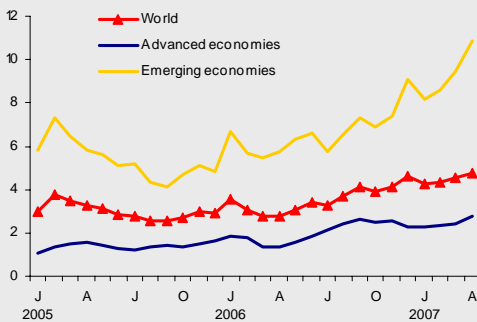
Food prices in Mexico have grown at a higher annual rate since the second half of 2006. Food prices have increased worldwide, however, it has been in emerging economies where the increase has been of greater magnitude and has had a greater impact (Table 1 and Graph 1). This box describes recent developments with food prices in a broad range of countries and comments on the main factors driving food prices.

**Table 1**  
**World Food Inflation**

	World	Advanced Economies	Emerging Economies
Jan-05	3.0	1.1	5.8
Jun-05	2.8	1.3	5.1
Dec-05	2.9	1.6	4.8
Jan-06	3.6	1.9	6.7
Feb-06	3.1	1.8	5.7
Mar-06	2.8	1.4	5.5
Apr-06	2.8	1.4	5.7
May-06	3.1	1.6	6.3
Jun-06	3.4	1.8	6.6
Jul-06	3.3	2.1	5.8
Aug-06	3.7	2.4	6.5
Sep-06	4.1	2.6	7.3
Oct-06	3.9	2.5	6.9
Nov-06	4.1	2.5	7.4
Dec-06	4.6	2.3	9.1
Jan-07	4.2	2.2	8.2
Feb-07	4.3	2.3	8.6
Mar-07	4.5	2.4	9.5
Apr-07	4.7	2.8	10.9

Source: World Economic Outlook (October 2007), IMF.

**Graph 1**  
**World Food Inflation**



Source: World Economic Outlook (October 2007), IMF.

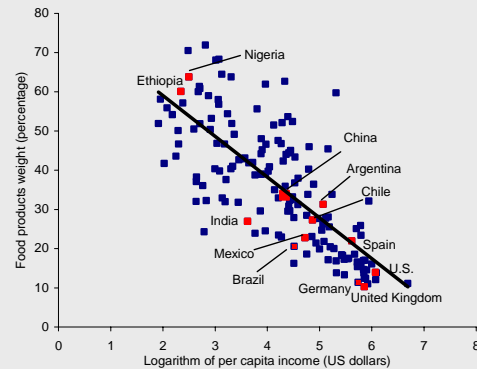
Increases in food inflation worldwide have varied in both magnitude and velocity, depending on each country's traditions and customs, weather, government's administrative decisions, and additional factors that could affect the trade of food products (e.g. levels of competition, and legal framework).

The incidence of the referred increases on headline inflation in each economy varies mostly as a result of differences in the share of this group of items in the population's spending. In particular, at the international level, the weight of food products in the consumer price indices has a negative correlation with per capita income levels (Graph 2). In addition, emerging market economies have recorded higher increases in food inflation than European countries (Table 2 and Graph 3). This is mainly associated with a diet less-dependant on corn, and to dairy product prices increasing less in Europe.

The group of food products whose prices have increased the most coincides in many countries: grains and by-products, dairy products, and meats and vegetables. Such increases are attributed to both structural and current economic factors. On the one hand, world demand for foods has escalated as a result of a greater development in certain Asian economies. On the other, additional factors have arisen since mid-2006, which have contributed to raise food prices.

The cycle of price increases in food products began with a significant increase in corn prices (in November 2006, the annual rate of increase in the international price of corn reached a peak of 95 percent). The increase in corn prices mainly responded to two factors: first, an observed and expected increase in the demand for this grain for bioenergy production, and, second, to a lower-than-expected corn harvest during 2006 in the U.S.

**Graph 2**  
**Food Product Weights in Consumer Price Indices and Per Capita Income**



Source: World Economic Outlook (October 2007), IMF.

**Table 2**  
**Annual Food Inflation: International Experience**

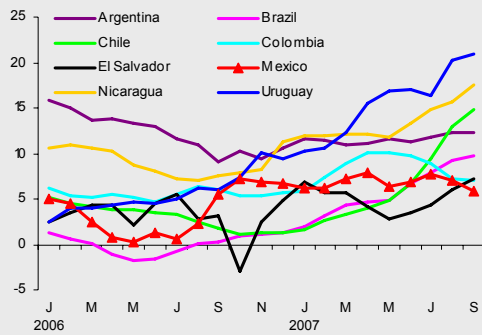
Country	2006		2007	C-A	C-B
	Sep A	Dec B	Sep C		
<b>America</b>					
Argentina	9.10	10.52	12.28	3.18	1.76
Brazil	0.33	1.23	9.70	9.36	8.46
Canada	2.84	2.23	1.93	-0.91	-0.30
Chile	1.80	1.28	14.84	13.04	13.55
Colombia	6.02	5.69	6.96	0.95	1.28
El Salvador	3.06	4.85	7.13	4.07	2.28
United States	2.51	2.13	4.46	1.95	2.33
Mexico					
Foods Total <sup>1/</sup>	5.56	6.76	5.90	0.34	-0.86
Foods Core	4.13	5.10	7.03	2.90	1.93
Nicaragua	7.58	11.26	17.60	10.02	6.34
Uruguay	6.09	9.37	20.87	14.78	11.50
<b>Asia</b>					
China	2.40	6.30	16.90	14.50	10.60
Japan	1.60	0.81	0.10	-1.50	-0.71
<b>Europe</b>					
Germany	3.05	2.65	2.69	-0.37	0.03
Spain	4.77	3.18	3.47	-1.30	0.29
France	2.76	1.79	1.30	-1.45	-0.49
United Kingdom	3.71	4.47	3.78	0.06	-0.69
<b>Africa</b>					
South Africa	8.53	8.12	11.92	3.39	3.80

Source: Statistics Bureaus of different countries, Bloomberg, and Banco de México.

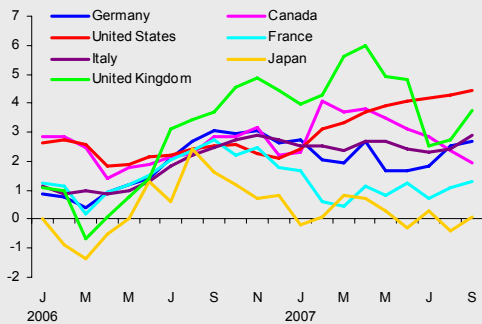
1/ Does not include spirits and tobacco.



**Graph 3  
Annual Food Inflation  
A. Latin America**



**B. Advanced Economies (G7)**



Source: Statistics Bureaus of different countries, Bloomberg, Banco de México, and OECD.

The increase in corn prices created an incentive to use more land to produce corn, using areas that were traditionally destined for other grains, such as wheat and soy (Table 3). The reduction in sown areas for both grains generated a decline in their supply and, therefore, prices of both grains rose in 2007. Adverse weather conditions worsened the problem in major producers such as Australia, Canada, U.S., and the European Union (Table 4). As a result, in September 2007, wheat and soy prices grew at annual rates of 111.41 and 69.33 percent, respectively (Graph 4).

**Table 3  
Yellow Corn Production: U.S.**

Year	Area <sup>1</sup>		Returns <sup>2</sup>	Production <sup>3</sup>	Unit Price <sup>4</sup>	Production Value <sup>5</sup>
	Sown	Harvested				
2007	92,888	85,418	155.8	13,307,999	n.a.	n.a.
2006	78,327	70,648	149.1	10,534,868	3.2	33,837,454
2005	81,779	75,117	148.0	11,114,082	2.0	22,198,472
2004	80,929	73,631	160.4	11,807,086	2.1	24,381,294
2003	78,603	70,944	142.2	10,089,222	2.4	24,476,803

Source: U.S. Department of Agriculture.  
<sup>1</sup> Thousand acres. <sup>2</sup> Bushel. <sup>3</sup> Thousand bushels. <sup>4</sup> USD/Bushel.  
<sup>5</sup> Thousand USD.  
 n.a. Not available.

The increase in corn prices also affected the costs of inputs for meat products, as well as for milk and dairy products (Graph 5). The growing world demand for meat products, especially from Asia, exacerbated this phenomenon (Graph 6). Milk consumption in China increased 118.30 percent between 2000 and 2005. In the case of dairy products, their cost structure was subject to additional pressures from the canceling of export subsidies in the European Union (which affected significantly

powdered milk prices) and the higher production costs originated by the continuous drought in Australia (fourth exporter of powdered milk in the world) since 2001. The changes in the export subsidies policy for dairy products in the European Union did not lead to significant increases in the prices of those products in Euro countries due to the nature of the subsidies.

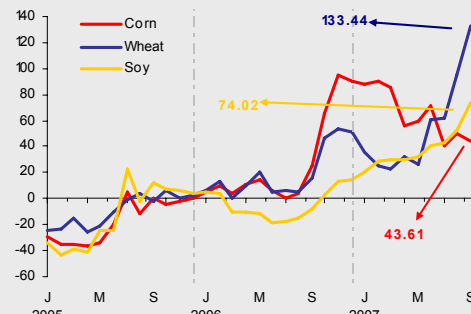
**Table 4  
World Wheat Production  
Million Metric Tons**

	2005 / 2006		2006 / 2007 (Estimated)		2006 / 2007 (Forecasted)	
	Initial Stock	Production	Initial Stock	Production	Initial Stock	Production
<b>World</b>	151.01	622.64	149.16	593.07	125.08	606.24
<b>Main Exporters</b>						
Australia	42.66	199.00	43.32	175.16	24.92	177.13
Canada	6.70	25.37	9.73	9.90	3.21	21.00
U.S.	7.92	26.78	9.71	25.27	6.92	20.30
European Union 25	14.70	57.28	15.55	49.32	12.40	57.53

Source: U.S. Department of Agriculture.

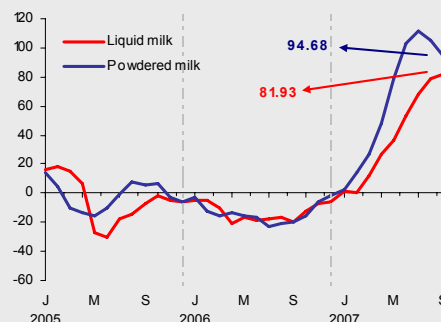
<sup>1</sup>/Includes: Germany, Austria, Belgium, Cyprus, Denmark, Slovakia, Slovenia, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, and Sweden.

**Graph 4  
International Grain Prices:  
Annual Variation**



Source: Bloomberg.

**Graph 5  
International Milk Prices:  
Annual Variation**

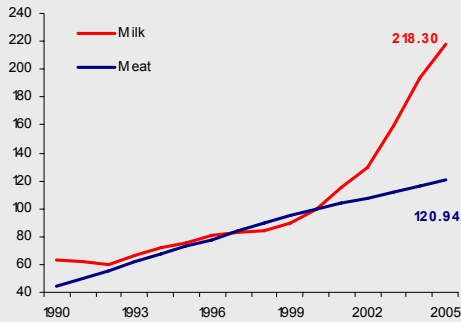


Source: Bloomberg.



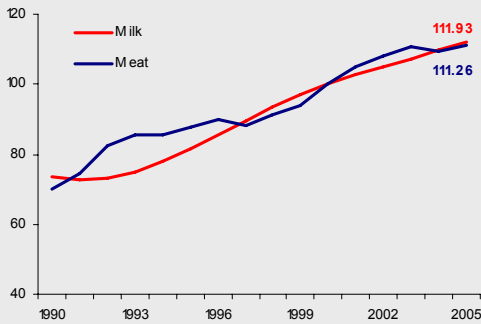


**Graph 6**  
**A. Consumption of Milk and Meat: China**  
Index 2000=100



Source: United Nations Food and Agriculture Organization (FAO).

**B. Consumption of Milk and Meat: India**  
Index 2000=100



Source: FAO.

As for the higher pace of increase of vegetables prices, it has affected a reduced number of countries and has been more closely associated with adverse weather conditions. Indeed, recently, excessive rain has predominated in the Northern Hemisphere, while in the Southern Hemisphere temperatures have dropped significantly.

Food prices are likely to remain relatively high over the coming years, since the growth of world demand for grains and meat products responds directly to the greater economic development that has been attained by some Asian countries, such as China and India. The greater use of bioenergetics –which use corn as a basic input- has become more profitable as prices of mineral fuels have increased. In addition, under demand pressures, grain production tends to respond slowly due to limiting factors such as the areas available for sowing and restrictions to use high yield seeds.

The increase in food prices has affected the economies of various countries according to whether they are net exporters or net importers of food products. In the former situation are countries such as Argentina, Australian, Bolivia, Canada, Chile, U.S., and New Zealand, which have benefited from an increased value of their products. The opposite has been the case in countries that are net importers of foodstuffs, such as various economies with low per capita income levels in Africa and Asia. Mexico, which is a middle-income country and is a net importer of foodstuffs, in 2006 recorded a trade deficit in foodstuffs of -1.8 billion US dollars (-0.21 percent of GDP).

Thus, the increase in food prices has led to higher inflation in a

broad range of countries, particularly emerging market economies. Thus, in the cases of China, Uruguay, Chile, Brazil, and Nicaragua, the increase in annual headline inflation between August 2006 and the same month of 2007 is mainly explained by the developments in food prices (Table 5).

The increase in food products prices worldwide has affected countries with different income levels unequally and these conditions are also observed at the domestic level. Low income families are the most affected, as they usually spend a higher proportion of their income on the purchase of foodstuffs.

**Table 5**  
**Annual Headline Inflation and Food Products Incidence**

Country	Annual Inflation		Incidence of Food Products <sup>1/</sup>		B-A	D-C
	Sep-06 (A)	Sep-07 (B)	Sep-06 (C)	Sep-07 (D)		
<b>America</b>						
Argentina	10.44	8.56	3.25	4.33	-1.88	1.08
Brazil	3.70	4.15	0.07	1.97	0.45	1.90
Canada	0.74	2.47	0.47	0.33	1.73	-0.14
Chile	2.81	5.85	0.45	3.64	3.04	3.19
Colombia	4.58	5.01	1.85	2.17	0.43	0.32
El Salvador	4.24	4.30	1.02	2.34	0.06	1.33
U.S.	2.06	2.76	0.34	0.60	0.69	0.26
Mexico <sup>2/</sup>	4.09	3.79	1.17	1.26	-0.30	0.09
Mexico <sup>3/</sup>	4.09	3.79	0.62	1.05	-0.30	0.43
Nicaragua	7.49	11.58	3.18	7.39	4.09	4.21
Uruguay	6.60	8.90	1.78	6.08	2.30	4.30
<b>Asia</b>						
China	1.50	6.20	0.79	5.58	4.70	4.79
Japan	0.60	-0.20	0.41	0.03	-0.80	-0.39
<b>Europe</b>						
Germany	1.01	2.36	0.27	0.24	1.35	-0.03
Spain	2.92	2.68	0.98	0.73	-0.24	-0.25
France	1.23	1.52	0.38	0.18	0.29	-0.20
United Kingdom	2.39	1.75	0.33	0.34	-0.64	0.01
<b>Africa</b>						
South Africa	5.25	7.19	1.91	2.70	1.94	0.79

Source: Banco de México estimates.

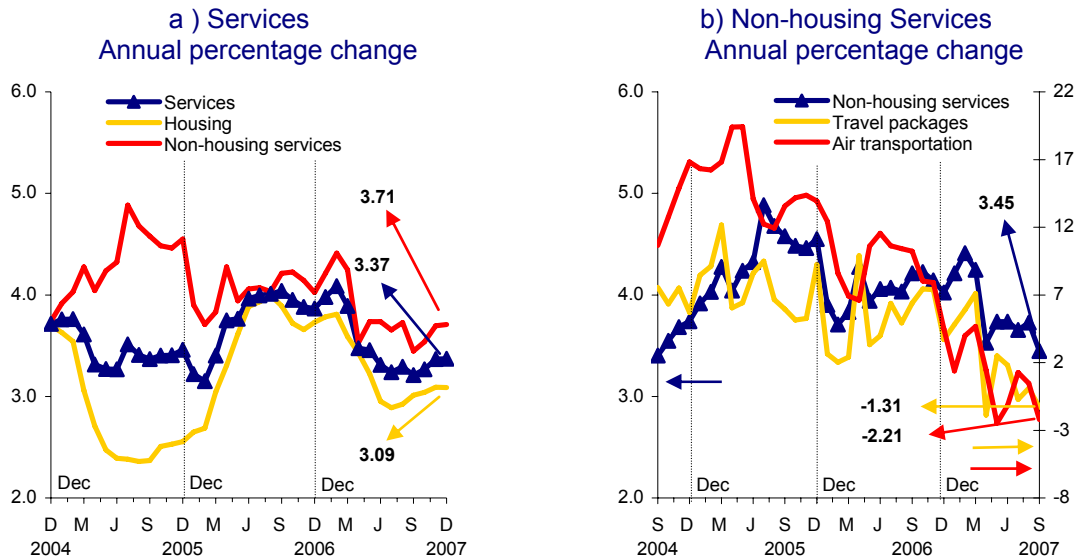
1/This measure explains the contribution of price increases in food products on annual headline inflation for each country. Incidence calculations are obtained by multiplying the annual variation of the subindex (in this case, food products) by its weight in the CPI basket, adjusted by the relative price (in the case of China and Brazil, the last adjustment was not done due to lack of information).

2/Corresponds to the group processed foods and agricultural products.

3/Corresponds to the group food products included in core inflation.

At the end of the third quarter of 2007, the services price subindex recorded an annual variation of 3.21 percent, 0.10 percentage points below its June figure. This reduction was due to a reduced rate of growth of non-housing services prices, being the most noteworthy those related to air transportation and travel package services (Graph 5).

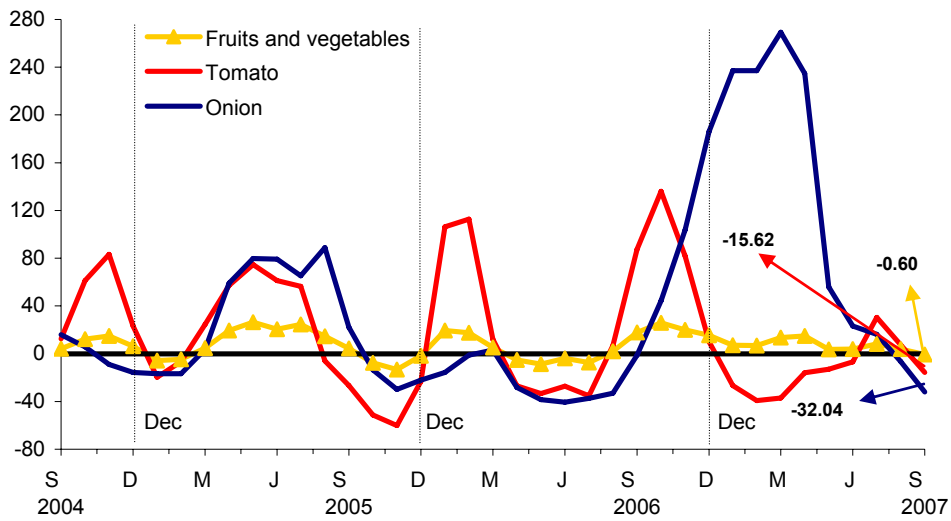
**Graph 5**  
**Core Services Subindex**



Annual non-core inflation fluctuated significantly during the analyzed quarter. In September 2007, this indicator recorded 3.78 percent, 0.80 percentage points below its June figure. This reduction was mainly determined by the behavior of the agricultural price subindex, whose average monthly inflation during the third quarter of 2007 was below that recorded during the same period of 2006. As for the rest of the components of the non-core price index, the subindex of administered prices of goods and services recorded an increase of 0.45 percentage points in its annual growth rate (see Section 3.3.2), as well as stagnation in the slow disinflation process undergone by the private education price subindex.

The price subindex of agricultural products recorded an annual variation of 3.52 percent in September 2007, as compared with 6.68 percent in June. This figure was the result of a reduction in both price subindices of fruits and vegetables and livestock products. In both cases, during the third quarter of 2007 prices of these groups increased less than in the same months of 2006. The price subindex of fruits and vegetables contributed the most to this result, because prices of these products rose significantly during the third quarter of the previous year due to heavy rain and hurricane Lane (Graph 6). The crops that have contributed to the higher volatility of this subindex are tomato and onion, whose prices fluctuated significantly and have a high weight in the CPI basket (0.4953 and 0.1359 percent, respectively).

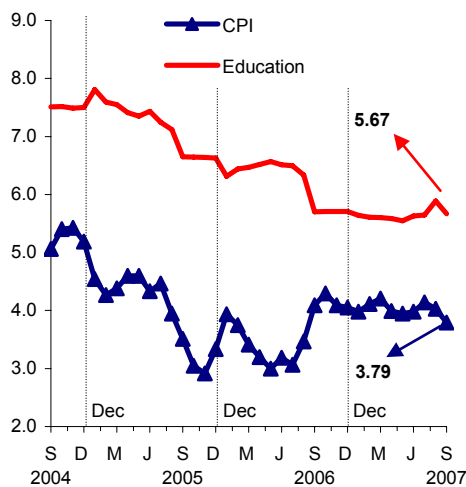
**Graph 6**  
**Fruits and Vegetables Price Index**  
Annual percentage change



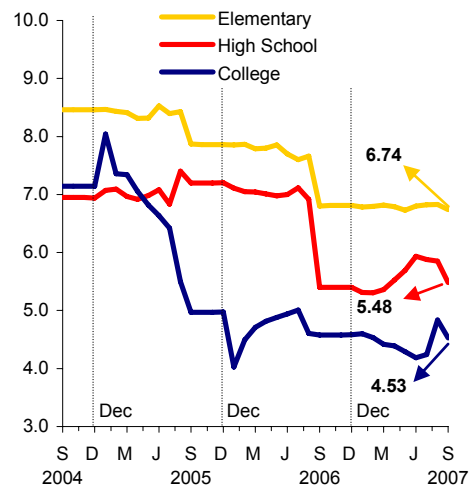
In September 2007, the private education price subindex recorded an annual variation of 5.67 percent, while in June, 5.63 percent (Graph 7a). Thus, this sector, which had already been converging slowly to headline inflation, continued to grow at high rates regarding school fees, especially those corresponding to basic education (Graph 7b).

**Graph 7**  
**Private Education Price Subindex**

a) CPI and Private Education  
Annual percentage change



b) Education by Level  
Annual percentage change

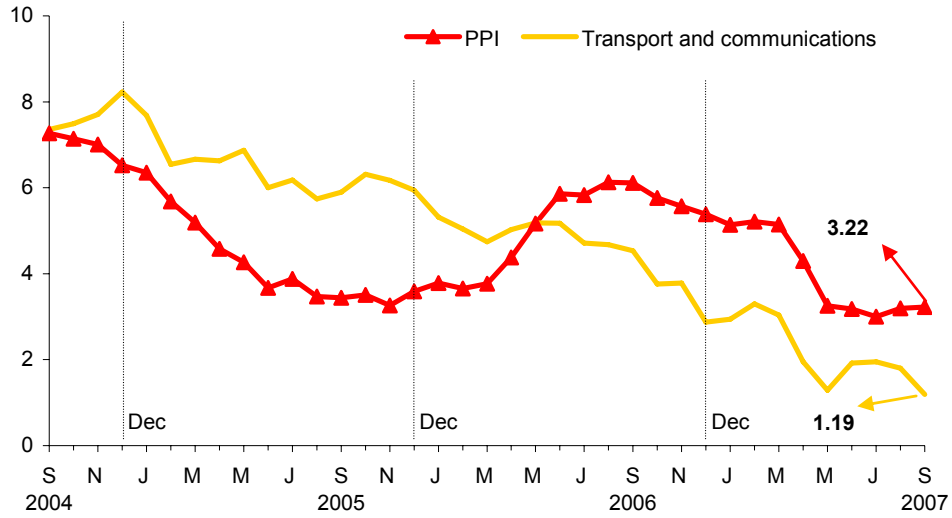


## 2.2. Producer Price Index

The Producer Price Index (PPI) of merchandise and finished goods, excluding oil, recorded an annual variation of 3.22 percent at the end of the third quarter of 2007 (Graph 8), 0.04 percentage points above its June figure. Among

its components, there was a significant reduction in the annual growth rate of transportation-related fees (both air and land passenger transportation).

**Graph 8**  
**Producer Price Index excluding Oil**



## 3. Main Determinants of Inflation

---

### 3.1. International Environment

Global economic activity remained strong during the third quarter of 2007. Timely indicators suggest that the expansion of emerging market economies compensated part of the loss of dynamism of advanced economies. Nonetheless, the recent disruption in credit markets has increased downward risks, particularly in the U.S. Although inflation expectations globally remained contained during the quarter, several economies recorded greater inflationary pressures as a result of the strong expansion of domestic spending, higher oil prices and additional increases in food prices, among other factors. In International financial markets, the deterioration of the subprime mortgage market in the U.S. was followed by a loss of confidence and a liquidity crisis. These phenomena extended to other markets, generating a perception of higher global credit risk. Although the actions implemented by the central banks have reassured markets, uncertainty has not dissipated and concerns over the potential impact of these events on the world economy prevail.

#### 3.1.1. Global Economic Activity

During the second quarter of 2007, the U.S. economy continued to grow below its potential. GDP increased at an annualized quarterly rate of 3.8 percent (0.6 percent during the period January-March). However, this figure does not allow for an adequate assessment of the economy's strength, because recently GDP growth has fluctuated sharply on a quarterly basis. The annual rate of growth of GDP, which may provide a better gauge of the trend of economic activity under current conditions, was 1.9 percent during that period (1.5 percent during the first quarter).

Economic activity apparently recorded a moderate expansion during the period July-September. Timely information suggests an expansion of aggregate demand, despite the additional decline of residential investment. The various indicators for the real estate sector deteriorated sharply during the quarter, thus leading to a significant weakening in home prices. Although the trajectory of new capital goods orders suggests a modest expansion of non-residential investment, net exports rose significantly under the stimulus granted by the depreciation of the exchange rate. In addition, consumption continued to grow at a pace similar to that recorded during the first half of the year, although risks have increased due to the reduction of real estate wealth and a slower pace of employment creation.

It is still too soon to evaluate the impact on the economy of the recent episode of volatility in financial markets. The rate of growth of GDP is expected to be affected significantly, due to the crisis' direct incidence on residential investment and its indirect effect on various variables through tighter credit conditions. Nonetheless, the unusual character of the crisis complicates the assessment of the magnitude and duration of its effects. In this context, analysts have been revising downward their growth forecasts for the second half of the year and, more markedly, for the first half of 2008. Thus, economic activity is expected to weaken during the fourth quarter of 2007 and GDP is projected to grow during the year by 2.0 percent, i.e., below its potential.

Other advanced economies also showed signs of slower growth. In the Euro area, although the slowdown of growth during the second quarter (2.5 percent at an annual rate vs. 3.1 percent during the previous quarter) could be temporary, uncertainty prevails over the impact on economic activity of the tightening of conditions in international credit markets –which has been reflected in the recent fall in confidence indices- and of the appreciation of the euro. In Japan, the annual rate of growth of GDP slowed during the period April-June (from 2.6 percent in the first quarter to 1.6 percent in the second) and timely indicators suggest a moderate expansion during the third quarter.

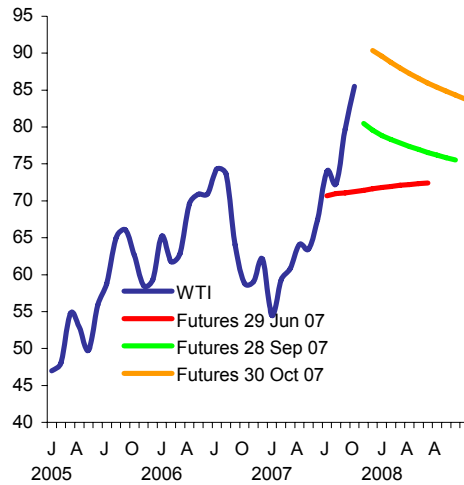
For their part, emerging market economies continued to grow vigorously. During the third quarter of 2007, China's GDP increased at an annual rate of 11.5 percent. Thus, the Chinese economy is expected to make the largest contribution of any country to world economic growth (in terms of GDP adjusted for purchasing power parity) in 2007. The Indian and Russian economies also continued to grow at high rates during the same period.

In Latin America, economic activity remained robust during the period July-September, although growth is expected to moderate in 2007. The latter would partly reflect the impact on some economies of the slowdown in the US. Contrary to what is expected for other Latin American economies, analysts anticipate that both Brazil and Chile will grow at a higher rate in 2007 than in 2006.

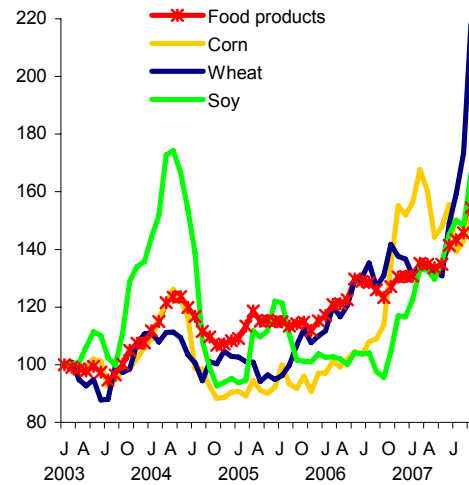
### 3.1.2. General Trends of Inflation

Oil prices remained high during the third quarter and the price of the West Texas Intermediate (WTI) reached a record high at the end of September. On average, the price of the WTI was 75 USD per barrel, i.e., nearly 10 USD above its average during the previous quarter. Prices were influenced by the solid growth of demand, tighter supply conditions –associated with the resurgence of geopolitical turmoil, lower production in non-OPEC countries, and the impact of hurricanes in the Atlantic Ocean- and a reduction in crude oil inventories. Oil prices rebounded despite concerns over the possibility of lower growth worldwide and the announcement, in mid-September, that OPEC would increase its production quotas in 500 thousand barrels per day since November 1 of this year. Oil prices continued to increase in October. The price of the WTI reached new historical highs on October 29 of 93.5 USD per barrel –mainly because of geopolitical turmoil in the Middle East and the perception of disequilibrium between supply and demand conditions on the eve of the winter season.

The index for non-oil commodity prices published by the IMF showed another increase during the third quarter (13 percent in annual terms), although at a rate below that observed in the previous quarter (19.4 percent). This index has been increasing significantly in the last 5 years, recording a yearly average growth of 15.2 percent during such period.

**Graph 9  
Commodity Prices**
**a) Oil Price: Spot and Futures  
USD per barrel**


Source: Bloomberg.

**b) Commodity Prices  
1995=100**


Source: IMF, Commodities Unit of the Research Department; Intereconomics, Economic Trends.

Food prices have been the main contributor to the increase in the non-fuel commodities price index in recent months. Foodstuffs account for almost 42 percent of the index and grew at an annual rate of 17.4 percent during the third quarter vs. 7.5 percent during the second (Graph 9). The pace of increase of basic metal prices moderated. Although the annual growth rate of basic metal prices remains high (14.3 percent during the third quarter), the level of the index for those products fell nearly 14.5 percent from its peak in May to September (for more details, see section 3.3.3 of this Report).

As a result of the rebound in food and energy prices, the overall consumer price index in the U.S. achieved at the end of the third quarter its highest annual rate of increase in 2007 (2.8 percent), after having recorded its lowest figure in August (2 percent). Core inflation, which excludes food and energy, showed an annual variation of 2.1 percent in September, below the peak in September 2006 (2.9 percent). The latter reflects, to a large extent, moderate increases in wages despite a rate of unemployment that remains at low levels. On the other hand, the increases in the cost of food and energy and the depreciation of the US dollar have not affected significantly long-term inflation expectations, which remain well anchored.

In the Euro area, consumer price inflation was 2.1 percent at an annual rate in September, above the reference value determined by the European Central Bank (ECB), after having been below this value for 12 months. This rebound is mainly the result of the recent increase in crude oil prices and the effect of a low basis of comparison during the previous year. The ECB considers that the inflation rate will remain significantly above 2 percent during the last months of this year. In Japan, the consumer price index recorded a negative annual variation in September (-0.2 percent).

Various emerging market economies have been subject to greater inflationary pressures in recent months, as a result of the combination of several



factors, such as the significant growth of their economies, the strong increase in commodity prices, particularly oil and food, and the higher contribution of foodstuffs in their price indices. The case of China is particularly noteworthy, as consumer inflation increased from a minimum of 0.8 percent in March 2006 to 6.2 percent in September 2007. Some Latin American countries have also recorded higher inflation in recent months.

### 3.1.3. Financial Markets

Financial market conditions in various advanced economies deteriorated at the end of June, leading to a liquidity crisis in the first week of August.

The intensification of problems regarding the recovery of subprime mortgages in the U.S. at the end of the second quarter led to increased concerns over the valuation of mortgage-backed securities. The resulting contraction in financing through these instruments affected various financial intermediaries with a high exposure to this type of mortgages. The initial losses suffered by some intermediaries were largely unexpected and revealed the difficulties of accurately evaluating the risks linked to certain credit derivatives. The problems also affected the financial institutions of other countries, especially in Europe. The rapid contraction of financing through collateralized debt obligations forced many intermediaries to increase their liquidity by selling other assets or using contingent credit lines granted by banks. The uncertainty about which financial intermediaries had suffered losses that could jeopardize their solvency, and the rapid and forced expansion of credit by several banks, raised concerns regarding counterparty risk in various financial market operations, thus increasing investors' need for liquidity and security. Thus, the disruption in the functioning of credit markets rapidly extended beyond the original source of the problem, generating a perception of higher credit risk worldwide. In this context, the contraction in credit availability for the financing of higher-risk mortgages extended to other mortgages, to the corporate bond market, and to the interbank market, although contagion varied across assets. At the same time, the yield on U.S. Treasuries –particularly short term- fell considerably as market participants demanded more liquid and secure investments (Graph 10).

The response of the main central banks to the disruption in credit markets was initially centered on providing liquidity to the banking system. In order to achieve this purpose, several central banks extended the terms of their rediscount operations and the type of paper accepted in these operations and, in some cases, reduced their cost.<sup>2</sup> The Federal Open Market Committee (FOMC) had kept its balance of risks unchanged and the pause in monetary policy actions had extended up to August. However, in its September meeting the FOMC decided to reduce the target for the federal funds rate by 50 basis points and warned over significant downward risks for economic activity due to the problems in financial markets. In August, the ECB and the Bank of Japan decided to keep their reference rates unchanged.

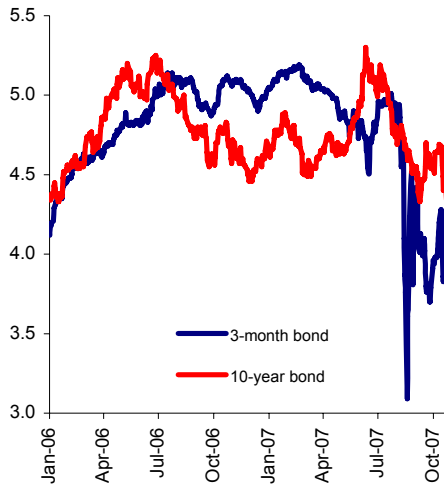
---

<sup>2</sup> Since August 9, the Federal Reserve, the European Central Bank and the Bank of Japan injected a considerable amount of resources to their financial systems. The central banks of Australia and Canada also intervened. As a complementary measure, on August 17, the Federal Reserve cut its discount rate by half a percentage point to 5.75 percent, while loosening the term conditions in rediscount operations with private banks.



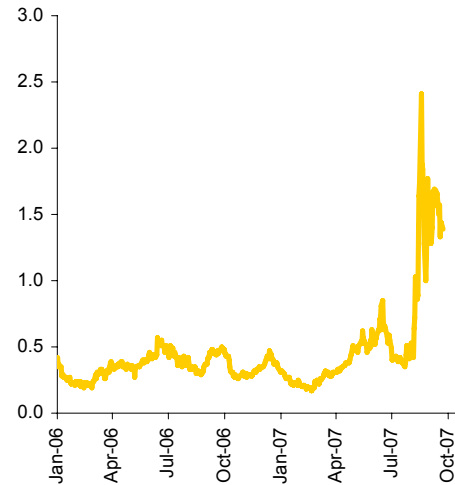
**Graph 10**  
**U.S. Interest Rates**  
Annual percent

a) Yield on 10-year U.S. Treasury Bond, Federal Funds Rate, and 10-year and 3-year Bond Spread



Source: Bloomberg.

b) Differential on 3-month Libor and 3-month U.S. Treasuries



Source: Bloomberg.

Although by the end of October the situation had improved, the uncertainty had not completely dissipated, as suggested by the high differential between the interbank interest rate in the Eurodollar market and the yields on U.S. Treasuries. Given the risk of negative effects on economic activity, the disruption in markets modified expectations on Federal Reserve actions. This reflected in the futures curve for the federal funds rate.

The events during the quarter altered the outlook for monetary policy not only in the U.S., but also in the Euro area and in the United Kingdom. However, this was not generalized. Emerging market economies, as well as some advanced economies were not overly affected by the crisis and many of them continued to face significant inflationary pressures. Thus, various central banks adhered to the policy of increasing their reference rates during the third quarter and kept an upward balance of risks for inflation (Table 4).

Stock markets in advanced economies fell sharply at the beginning of the liquidity crisis, although losses were small compared with past episodes of volatility and they had been mostly reverted by the end of the third quarter. On the other hand, the depreciation of the US dollar resumed since the beginning of the liquidity crisis. The US dollar effective exchange rate had recovered some ground at the beginning of the quarter; however, from the first week of August to the end of September, the effective exchange rate against major currencies had fallen 3.3 percent, reaching on September 20 a record low in 45 years.<sup>3</sup> The euro also weakened somehow as it became known that certain European intermediaries had suffered losses on their mortgage investments in the U.S., but recovered

<sup>3</sup> The Federal Reserve's effective exchange rate index is the dollar's average foreign-exchange value against 7 currencies, which are weighted according to the level of importance of the corresponding trading partner with the U.S. On October 30, the effective exchange rate for the US dollar reached a new minimum.

against the US dollar, reaching a new historical maximum at the end of the third quarter.

**Table 4**  
**Changes in the Monetary Policy Stance**

	Policy Rate		Changes First Half 2007	Changes 2007-III	Inflation Annual and Target <sup>1/</sup>	Inflation Risks	Factors Influencing Risks Upward
	Level at 30/10/07	Changes 2006					
<b>Canada</b>	4½	(+) 1	=	(+) ¼	2.5	2±1	Balanced
<b>Estados Unidos</b>	4¾	(+) 1	=	(-) ½	2.8	d.n.a.	Upward Capacity utilization, oil prices, and food products.
<b>Norway</b>	5	(+) 1¼	(+) 1	(+) ½	-0.3	2.5	Upward Capacity utilization and labor costs.
<b>United Kingdom</b>	5¾	(+) ½	(+) ½	(+) ¼	1.8	2	Balanced
<b>Sweden</b>	4	(+) 1½	(+) ½	(+) ¼	2.2	2±1	Upward Labor costs due to lower productivity, and oil and food prices.
<b>Switzerland</b>	2¼ - 3¼	(+) 1	(+) ½	(+) ¼	0.7	<2	Upward Capacity utilization, oil and import prices.
<b>Euro Zone</b>	4	(+) 1¼	(+) ½	=	2.1	<2	Upward Capacity utilization, oil and food prices, administered prices and indirect taxes.
<b>Australia</b>	6½	(+) ¾	=	(+) ¼	1.9	2-3	Upward Capacity utilization.
<b>New Zealand</b>	8¾	=	(+) ¾	(+) ¼	1.8	1-3	Upward Capacity utilization, oil and food prices.
<b>South Korea</b>	5	(+) ¾	=	(+) ½	2.3	3±0.5	Balanced
<b>China <sup>2/</sup></b>	7.29	(+) 0.54	(+) 0.45	(+) 0.72	6.2	d.n.a.	Upward Labor costs, oil and food prices, inflation expectations.
<b>Malaysia</b>	3½	(+) ½	=	=	1.8	d.n.a.	Balanced
<b>Thailand</b>	3¾	(+) 1	(-) 1½	(-) ¼	2.1	0-3.5	Upward Oil prices and basic goods and services.
<b>Taiwan</b>	3¾	(+) ½	(+) ¾	(+) ⅙	3.1	d.n.a.	Upward Capacity utilization, prices of oil and commodities.
<b>Russia</b>	10	(-) 1	(-) 1	=	9.4	6.5-8	Upward Capacity utilization.
<b>Brazil</b>	11¼	(-) 4 ¾	(-) 1 ¼	(-) ¾	4.2	4.5±2	Upward Domestic demand, commodity prices.
<b>Colombia</b>	9¼	(+) 1½	(+) 1 ½	(+) ¼	5.0	3.5-4.5	Upward Domestic demand.
<b>Chile</b>	5¾	(+) ¾	(-) ¼	(+) ¾	5.8	3±1	Upward Oil and food prices, labor costs.
<b>Peru</b>	5	(+) 1¼	=	(+) ½	2.8	2±1	Upward Domestic demand and prices of imported inputs.
<b>South Africa</b>	10 ½	(+) 2	(+) ½	(+) ½	7.5	3-6	Upward Oil and food prices, domestic demand.

<sup>1/</sup> Figures for inflation and interest rates are reported in percent. For all countries, inflation data corresponds to September.

<sup>2/</sup> The policy rate refers to the rate set by financial institutions for 1-year loans.

Source: Official web sites of central banks of referred countries.

d.n.a.: Does not apply.

Financial conditions in emerging market economies were not affected as significantly as in advanced economies. Greater risk aversion was reflected in an increase in sovereign debt spreads for these countries, but the adjustment was smaller than that recorded during previous periods of turbulence and than the increase in spreads of high yield corporate debt instruments in the U.S. Indeed, sovereign risk spreads remained close to historical lows. Unlike previous episodes of uncertainty, emerging stock markets performed less unfavorably than those of advanced economies. Many emerging market indices surpassed their previous peaks in early October. These results were due, among other factors, to a reduced exposure of these countries to U.S. mortgage securities and to the improvement observed in fundamental economic conditions in recent years.

### 3.1.4. Outlook

The outlook for growth in advanced economies has been undergoing downward revisions since the beginning of the third quarter. The liquidity crisis that affected credit markets raised uncertainty over the performance of these economies, and especially of the U.S. economy. On the one hand, it is still too early to appraise the full effects of the financial crisis on the real sector and, on the other, the unusual nature of the recent events makes it difficult to anticipate with any precision its possible effects. Although the probability of a recession in the U.S. is considered to be low, downward risks for economic activity have increased, due to both the aforementioned factors and to the possibility that the weakness in the residential sector extends to other sectors of the economy, even though up to now no evidence seems to confirm that this is taking place.

The risk of a rebound in world inflation has apparently diminished, given expectations that the slowdown in the U.S. and other advanced economies will lessen pressures on capacity utilization. However, the risks have not disappeared, as the prices of energy remain high and food prices continue to increase. Exchange rate depreciation is another factor that adds to the inflationary risks in the U.S. In addition, in some countries demand pressures on inflation continue to prevail.

On the other hand, the readjusting in the rate of growth of various economies, together with the cumulative depreciation of the US dollar, creates a more favorable environment for an orderly unwinding of current account global imbalances. However, the implications of the recent liquidity crisis on the financing of the U.S. current account deficit are still uncertain.

### **3.2. Aggregate Demand and Supply in Mexico**

During the third quarter of 2007, economic activity grew at an annual rate above that observed during the second quarter. In general terms, both the development of aggregate demand and production were affected by the external environment, which was characterized mainly by the following two aspects: first, the moderate growth exhibited by the U.S. economy, and, second, the significant dynamism of external demand from the rest of the world (non-U.S. market).

In general terms, aggregate demand was characterized by the following factors: i) domestic demand grew at a slightly higher rate than in the first half of the year; ii) the development of domestic demand originated from consumption expenditure growing at an annual rate during the third quarter higher than that observed during the first half of the year<sup>4</sup> and investment growing at similar annual rates in both periods (Graph 11a);<sup>5</sup> and, iii) the increase in exports of goods and services, particularly exports of goods, grew at a rate higher than in the first half of the year.

GDP growth during the third quarter was boosted by external demand, despite the various aspects of the external environment, which did not have a positive effect on economic activity. Among these are: i) the slowdown of demand from the U.S., due to both an improvement in automotive exports and a lack of dynamism of the rest of non-oil exports; ii) revenues from workers' remittances increased slightly at an annual rate, thus implying that this variable contributed less to private consumption growth; and iii) the prices of various primary-related products imported by Mexico, including food products, increased in 2006 and 2007 in international markets. In contrast, a positive aspect of the external environment was that during the third quarter, the demand from the rest of the world (non-U.S. market) grew vigorously, thus creating a positive effect on manufacturing production.

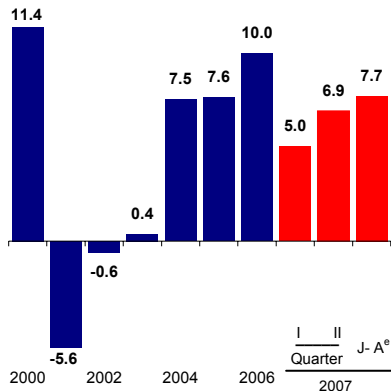
---

<sup>4</sup> Private consumption indicators reveals that ANTAD sales (Wal-Mart included) during the third quarter grew at an annual rate of 9.2 percent, as compared with 11.8 and 9.1 percent during the first and second quarters of the year and 14.7 percent during the entire 2006.

<sup>5</sup> During the period July-August, investment is expected to have increased 7.7 percent in annual terms, after having grown 5 and 6.9 percent during the first and second quarters of the year (10 percent during the entire 2006).

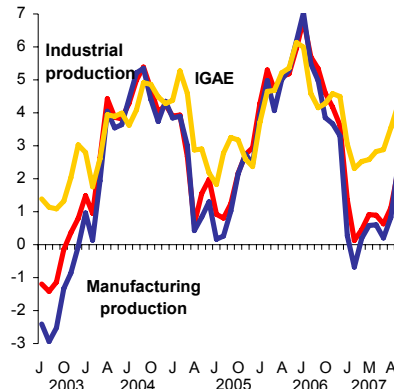
**Graph 11**  
**Domestic Demand and Production Indicators**

a) Gross Fixed Capital Formation  
Annual percentage change



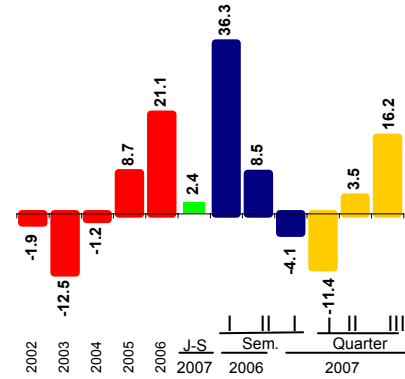
e: Estimated.  
Source: INEGI.

b) IGAE and Industrial Production  
Annual percentage change of  
seasonally adjusted data and  
2-month moving average



Source: INEGI.

c) Automotive Production  
Annual percentage change of number  
of units



Source: Prepared by Banco de México with data from AMIA and ANPACT.

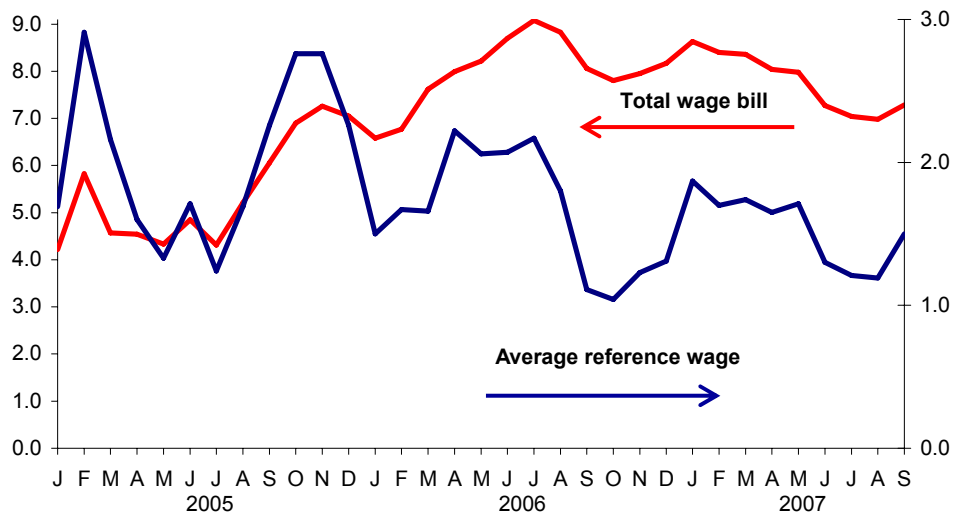
Several domestic factors might have likely contributed to limit private consumption growth during the third quarter. On the one hand, although financing for consumption (including housing) continued to grow at higher annual rates in real terms, these were below those previously recorded. On the other, consumption could also have been affected by the slowdown in the total wage bill in real terms in relation to its growth during the first half of the year, mainly in the formal sector of the economy (Graph 12). The latter reflected both a moderate growth of real earnings as well as a lower growth of employment creation.<sup>6</sup>

As for the development of aggregate supply during the third quarter of 2007, two issues must be mentioned: on the one hand, GDP growing at a higher rate than in the first two quarters of the year;<sup>7</sup> and, on the other, an increase in imports of goods and services, which was higher than that observed during the first half of the year, having the most noteworthy results imports of intermediate goods. By sector, GDP growth during the quarter responded to annual increases in its three sectors, recording the highest growth the sector of services and agriculture than in the industrial sector.

<sup>6</sup> During the third quarter of 2007, the total wage bill in real terms in the formal sector grew at an annual rate of 7.1 percent, after having increased 8.5 and 7.8 percent during the first and second quarters of the year, respectively. In the case of the IMSS average reference wage, it grew at an annual rate of 1.3 percent in real terms during the third quarter, while 1.8 and 1.6 percent during the first and second quarters, respectively.

<sup>7</sup> Regarding GDP indicators, the Global Indicator of Economic Activity (*Indicador Global de la Actividad Económica*, IGAE) recorded an annual increase of 4.6 percent during the period July-August 2007 (3.1 percent during the first eight months of the year), as a result of increases in its three sectors: industrial (2.4 percent); services (5.3 percent); and agricultural (8.3 percent).

**Graph 12**  
**Total Wage Bill and Average Earnings in Real Terms in the Formal Sector**  
 Annual percentage change of seasonally adjusted data



Source: IMSS. Seasonal adjustments by Banco de México.

During the analyzed quarter, some events occurred that affected negatively production. Some weather events affected negatively agricultural production. In addition, the attacks to PEMEX oil refining plants interrupted the supply of natural gas in ten states for some days, thus affecting their economic activity, especially in the case of the manufacturing industry.<sup>8</sup>

Industrial production grew moderately at an annual rate during the third quarter of 2007, although significantly better than in the first two quarters of the year (Graph 11b).<sup>9</sup> These results were mainly attributed to its most important sector: manufacturing, mainly as a result of the recovery of the automotive industry (Graph 11c), which was influenced by external demand. In this industry, vehicle production for the domestic market fell at an annual rate, as a result of a strong contraction in domestic sales. The latter has been associated with a considerable increase in used-car imports.

Based on the aforementioned, and considering the performance of other indicators of economic activity, GDP is expected to have grown close to 4 percent at an annual rate during the third quarter of 2007, after having grown 2.7 percent during the first half of the year.

The growth of economic activity during 2007 has not implied pressures on its production capacity, which might have passed on to prices. In this regard, the following must be noted: i) both GDP and domestic expenditure grew moderately in annual terms during the quarter, preventing the gap between the rate of growth of both items from widening; ii) GDP growth during the third quarter was close to its expected potential, while indicators of output gap remained in

<sup>8</sup> The states affected by the explosions were Aguascalientes, Distrito Federal, Guanajuato, Jalisco, Estado de México, Michoacán, Puebla, Querétaro, San Luis Potosí, and Tlaxcala. These 10 states generate more than 50 percent of the country's manufacturing production.

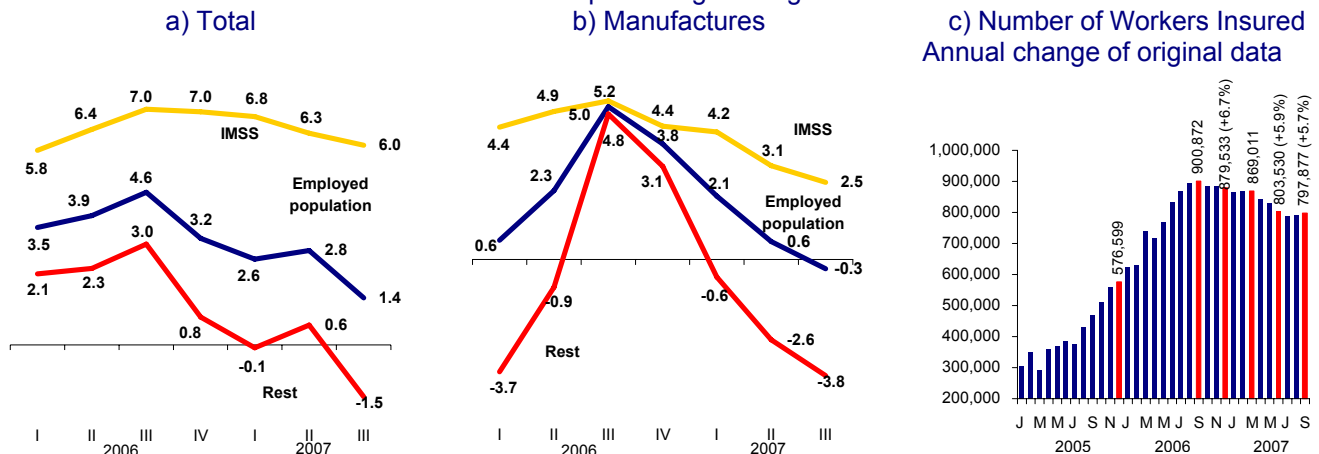
<sup>9</sup> Industrial production growth during the period July-August 2007 was 2.4 percent as compared with 0.6 percent during the first half of the year. The improvement during this period is attributed to the manufacturing sector, which grew at an annual rate of 2.7 percent, after having done so -0.2 and 0.4 percent during the first and second quarters, respectively.

general terms close to zero; iii) in the particular case of the manufacturing industry, the modest growth recorded during the year has not been influenced by domestic demand, but basically, by external demand; and iv) in recent years, the country's production capacity has strengthened significantly due to an increase in investment expenditure, which has allowed for increased investments in more modern and productive projects.

### 3.2.1. Employment

During the third quarter of 2007, job creation in the total economy grew at a slower rate, albeit only slightly in the formal sector. The improvement in the rate of growth of GDP during the quarter as compared to that observed during the first half of the year did not strengthen the demand for labor. The results of the Occupation and Employment Survey (*Encuesta Nacional de Empleo* from INEGI), which reveal that the rate of growth of employed population in the country has moderated during the year (Graph 13a y b), confirm the aforementioned. In general terms, during the third quarter of 2007, the labor market was characterized by: i) employment in the formal sector continued to grow significantly, measured by the number of workers insured by the IMSS.<sup>10</sup> Nonetheless, this indicator slowed down slightly (Graph 13c); ii) formal employment continued to grow more in temporary jobs in urban areas than in permanent jobs;<sup>11</sup> and, iii) the moderate rate of growth of total employment in the country has included several sectors, albeit being most evident in the manufacturing sector (Graph 13b).

**Graph 13**  
**Total Employed Population and Workers Insured by the IMSS**  
 Annual percentage change



Source: INEGI and IMSS. Employed Population data was obtained from the National Employment Survey (*Encuesta Nacional de Ocupación y Empleo, ENOE*) from INEGI and includes the secondary and services sectors. Both government and international organizations are excluded from the latter. Figures for Employed Population for the third quarter of 2007 are estimated by Banco de México. IMSS data includes the same sectors and the item Rest is obtained by deducting the number of workers insured by the IMSS from the employed population from the ENOE.

At the end of the third quarter, the number of workers insured by the IMSS continued to grow at a significantly annual rate in several tertiary activities,

<sup>10</sup>In previous reports it has been mentioned that the increase in the number of workers insured by the IMSS could also be reflecting greater fiscalization efforts by this entity, considering that the annual rate of growth of this indicator of formal employment has exceeded significantly that of GDP.

<sup>11</sup>At the end of September 2007, the referred annual increase was made up of 382,769 insured workers in permanent jobs (48 percent of the total variation) and 415,108 temporary workers in urban areas (52 percent of the total).

such as commerce (170,115 workers and a 6.3 percent at an annual rate), services for firms, individuals, and families (308,339 workers and 9.9 percent at an annual rate), and social and community services (59,430 individuals and 3.9 percent at an annual rate). At the end of the quarter, the number of workers in the manufacturing industry insured by the IMSS increased by 109,364 (2.7 percent), after having done so by 157,150 and 101,259 (4.1 and 2.6 percent, respectively) at the end of last year and June 2007.

### 3.2.2. External Sector

During the third quarter of 2007, the current account of the balance of payments recorded a moderate deficit, which was above that recorded during the same quarter of the previous year. The increase in this balance is explained by the following factors: a) a slight improvement in the expansion of domestic expenditure and production during the quarter, which implied an increase in imports of merchandise, especially of intermediate goods; and b) a significant increase in its annual comparison of unit values or average import prices of several agricultural commodities and food products, which raised their import value.<sup>12</sup>

During the third quarter of 2007, Mexico's external sector was characterized by the following:

- i) Non-oil exports grew at a higher rate than in the first two quarters of the year.<sup>13</sup> This improvement partly reflected the rebound in automotive exports. The latter contrasts with the reduction exhibited by this type of exports during the first half of the year.<sup>14</sup>
- ii) In regional terms, the expansion of non-oil exports during the third quarter (11 percent) was mainly the result, just like in the first half of the year, of both the moderate growth of automotive exports to the U.S. (7.2 percent increase) and a significant increase of those destined to the rest of the world (32.1 percent increase, Graph 14 a and b).
- iii) The value of oil exports grew at a positive annual rate, after having fallen during the previous three quarters. This result is attributed to the increase in the average price of the Mexican crude oil export mix, given that, in its annual comparison, the volume of exported crude oil remained practically unchanged. As for foreign trade of oil products, gasoline imports continued to stand out, reaching, during the first nine

---

<sup>12</sup> During the period January-September 2007, the value of Mexican imports of 127 products that are either agricultural-animal origin inputs or selected food products was 8,751 million US dollars. During this period, the unit value of these imports exceeded by 25.3 percent the one recorded in 2005, period in which these values on average had remained stable. Consequently, the value of these imports was raised by 1,759 million US dollars in relation to the amount that resulted from keeping the unit prices observed in 2005 unchanged.

<sup>13</sup> During the third quarter of 2007, total exports grew at an annual rate of 11.1 percent (4.3 percent during the first half of the year). This figure was the result of annual increases of 11.9 percent in oil exports (-8.4 percent during the first half of the year) and 11 percent in non-oil exports (6.9 percent during the first half of 2007).

<sup>14</sup> The value of automotive exports increased by 18.3 percent in annual terms during the third quarter, after having decreased -1.1 percent during the first half of the year (-5.8 and 3.4 percent variations, respectively during the first and second quarters). During the first nine months of 2007, 76 percent of exported vehicles were destined to the U.S. market.

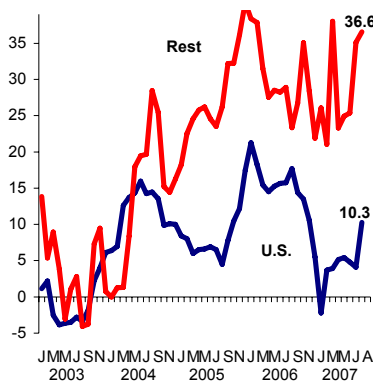


months of the year, a total equal to 27.4 percent of the value of crude oil exports.

During the third quarter of this year, revenues from workers' remittances totaled 6,339 million US dollars (annual increase of 2.7 percent), after having slightly increased during the first half of the year (0.7 percent; Graph 14c). The latter result implied that in the first nine months of 2007 workers' remittances amounted to 18,198 million US dollars, an increase of 1.4 percent as compared with figures for the same period of 2006.

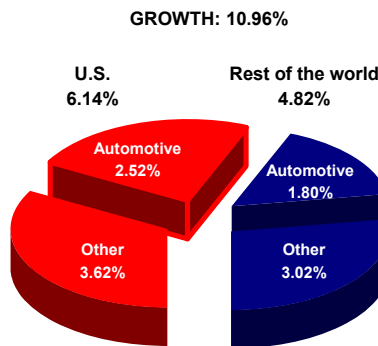
**Graph 14**  
**External Sector Indicators**

a) Non-oil Exports to the U.S. and the Rest of the World  
Annual percentage change of seasonally adjusted data<sup>1/</sup>



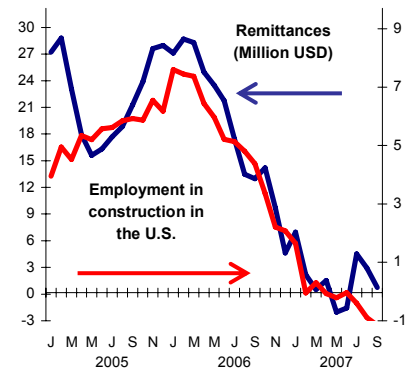
<sup>1/</sup> Two-month moving average, except in 2007.  
Source: Banco de México.

b) Contribution of Different Markets to Non-oil Exports Growth:  
Third Quarter 2007  
Percent



Source: Banco de México.

c) Workers' Remittances in Mexico and Employment in Construction in the U.S.  
Annual percentage change of seasonally adjusted data<sup>1/</sup>



<sup>1/</sup> Two-month moving average, except in 2007.  
Source: Banco de México and Bureau of Labor Statistics (U.S. Bureau of Labor).

The aforementioned information, together with other items of the external accounts, allow for estimating that during the third quarter of 2007, the current account of the balance of payments recorded a deficit of approximately 1.5 billion US dollars. Based on the latter, this account would have accumulated during the first nine months of the year a 4.9 billion US dollar deficit, equal to 0.7 percentage points of GDP. As for the capital account, it is expected to have recorded a surplus of around 4.8 billion US dollars (including errors and omissions) during the third quarter of 2007. This figure would be the net result of the following concepts: revenues from foreign investment (both direct and portfolio); external financing for Pidiregas projects; and, outlays from payments of public sector foreign debt. During the third quarter of 2007, Banco de México's net international reserves increased by 3,285 million US dollars. At the end of September 2007, the stock of such reserves was 73,224 million US dollars.

### 3.3. Costs and Prices

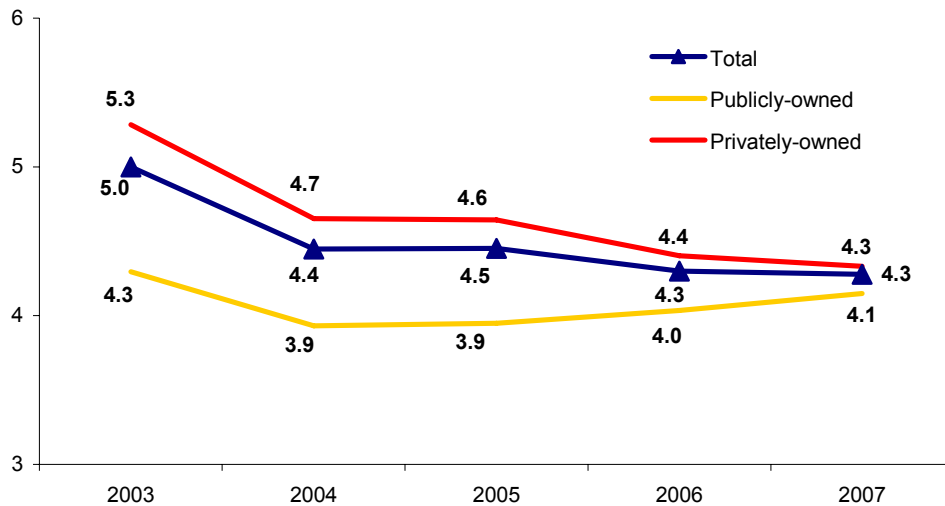
#### 3.3.1. Wages and Unit Labor Costs

Contractual wages negotiated during the third quarter of 2007 increased by 4.3 percent on average, the same figure as that observed during the same



period of the previous year. Average increases granted by publicly and privately-owned firms were, in both cases, of 4.3 percent, while in the same quarter of 2006 these increases were 4.1 and 4.4 percent, respectively. During the period January-September of this year, contractual wages recorded the same average increase as in the same period of the previous year (Graph 15).

**Graph 15**  
**Contractual Wage Average Increases (January- September)**  
 Percent



Labor productivity in the manufacturing industry fell at a lower annual rate during the second quarter of 2007 as compared with the previous quarter (Table 5). In July, this indicator rose at an annual rate of 2.5 percent, mainly associated with the expansion of the automotive industry that month. Unit labor costs (*Costos Unitarios de la Mano de Obra*, CUMO) recorded during the second quarter an annual variation slightly below that of the first quarter, while in July this figure was -1.7 percent.

**Table 5**  
**Earnings, Labor Productivity and Unit Labor Costs in Manufacturing Industry**  
 Annual percentage change

	2005	2006		2007			
	Jan-Dec	Jan-Jul	Jan-Dec	I	II	Jul	Jan-Jul
Labor productivity <sup>1/</sup>	2.1	4.6	3.5	-1.5	-0.3	2.5	-0.4
Average real earnings	-0.2	0.8	0.5	0.1	1.0	0.8	0.6
ULC	-2.2	-3.5	-2.8	1.6	1.4	-1.7	1.0
Production	1.3	5.7	4.9	-0.2	0.4	2.4	0.5
Employment	-0.8	1.1	1.3	1.3	0.7	-0.1	0.9

Source: Prepared by Banco de México with data from INEGI.

<sup>1/</sup>Estimates of manufacturing labor productivity from January 2007 onward are based on the Index of Manufacturing Production's Physical Volume (*Índice de Volumen Físico de la Producción Manufacturera*, IVFPM) because INEGI stopped releasing IVFPM transformation industry statistics.

### 3.3.2. Administered and Regulated Prices of Goods and Services

At the end of the third quarter of 2007, the price subindex of administered and regulated prices of goods and services recorded an annual variation of 4.16 percent, after having been 3.71 percent in July (Graph 16). This increase was due to two factors. First, gasoline prices at the border decreasing during the third quarter of 2006, in contrast with the analyzed quarter, where they remained unchanged. Thus, as the base of comparison decreased, the annual measure of the rate of change increased. Second, gas for residential use grew at its highest annual rate, recording smaller price reductions during the third quarter of 2007 than in the same period of the previous year.

The annual inflation of electricity tariffs slightly decreased during the third quarter of 2007, given that from June to September it declined from 2.95 to 2.72 percent. The relatively low level of growth, at an annual rate, of electricity tariffs was also the result of a high base of comparison used to calculate them. In particular, the additional charges on high consumption of electricity (DAC tariffs) grew at a slower rate during the third quarter of 2007, as metal prices increased, albeit not like during the same period of the previous year.<sup>15</sup>

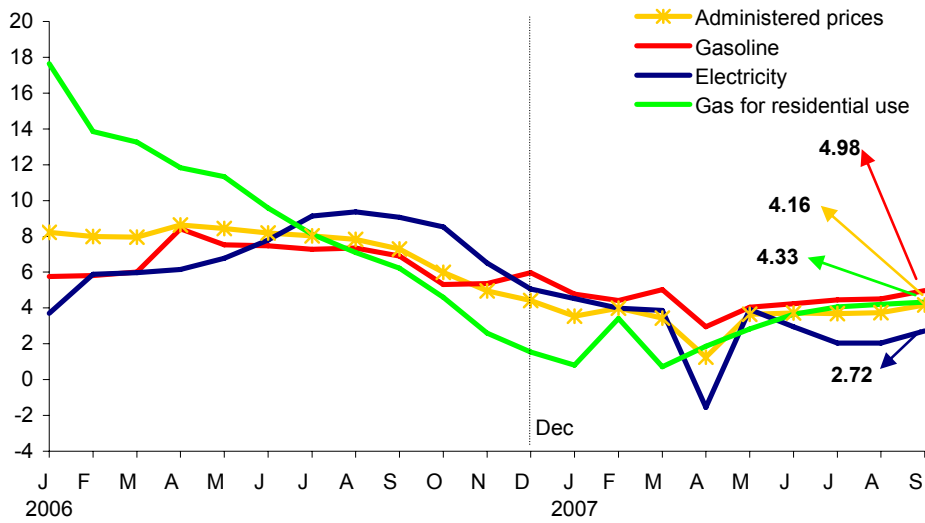
During the third quarter of 2007, international prices of gasoline and LP gas rose more than expected at the beginning of that period (Graph 17). This was mainly due to two factors: in the case of gasoline, first, to a world demand for fuels that has expanded at a rate higher than that of supply; and, second, to the unfavorable weather conditions that prevailed during the hurricane season and affected oil production in the North Atlantic coast. In the case of natural gas, where significant inventories of this fuel have accumulated worldwide, the opposite took place as price references turned out to be below expected figures at the beginning of the quarter. During the analyzed period, fuels futures fluctuated in different directions. In October, futures for gasoline and LP gas increased as compared with the previous month while those for natural gas decreased (Graph 18).

---

<sup>15</sup> High-consumption residential electricity tariffs are adjusted on a monthly basis according to the following formula:  $F = 0.8 \cdot \text{TIP} + 0.2 \cdot \text{TCC}$ . The first term in the equation (TIP), is comprised of three arithmetically averaged PPI subindices: Metal Products, Machinery and Equipment, Basic Metal Industries and Other Manufacturing Industries. The second term (TCC) represents price costs of the following fuels used for electricity generation: imported and domestic fuel-oil, natural gas, industrial diesel, and imported and domestic coal.



**Graph 16**  
**Administered Prices Subindex**  
 Annual percentage change

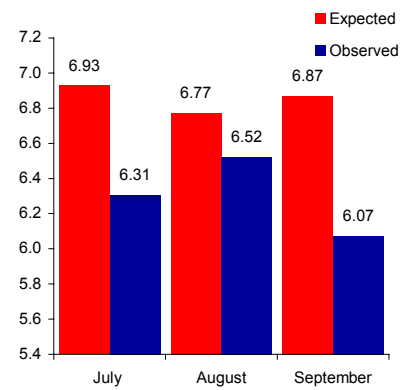
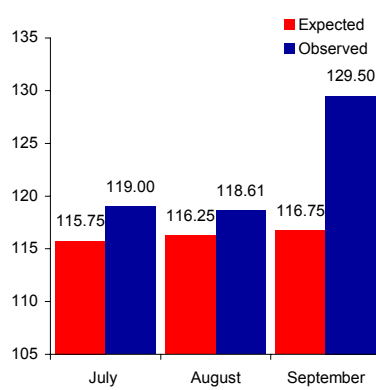
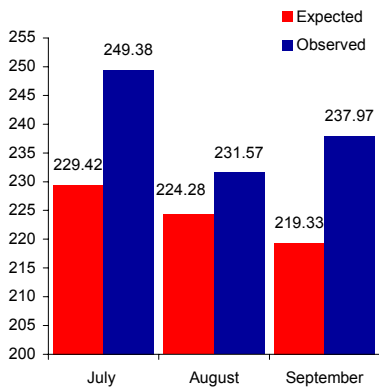


**Graph 17**  
**International Energy Prices: Observed and Expected**<sup>1/</sup>

a) Gasoline<sup>2/</sup>

b) L.P. Gas<sup>3/</sup>

c) Natural Gas<sup>4/</sup>



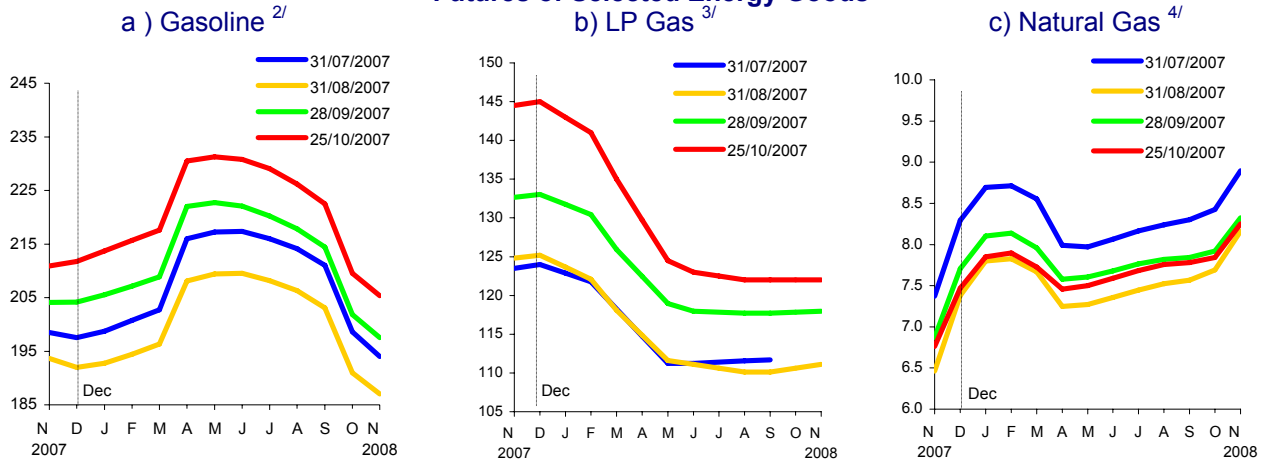
1/ Prices expected at the beginning of the quarter based on prices of average futures contracts of the reference month (New York Mercantile Exchange, June 29, 2007). Observed prices correspond to the average of the reference period.

2/ Texas. US cents per gallon.

3/ Mont Belvieu, Tx. US cents.

4/ Tetco, Tx. USD per MMBtu.

**Graph 18**  
**Futures of Selected Energy Goods <sup>1/</sup>**  
 b) LP Gas <sup>3/</sup>



1/ Futures prices correspond to the average of 10 days prior to the dates specified in the graphs. Data source: New York Mercantile Exchange.

2/ US cents per gallon.

3/ US cents.

4/ USD per MMBtu.

The annual variation of the subindex of regulated prices decreased from 2.76 to 2.33 percent from June to September 2007. The favorable results of this indicator were mainly attributed to the fact that public transportation fares in cities with a high weight in the CPI did not increase during the analyzed period.

### 3.3.3. Metals and Food Commodities

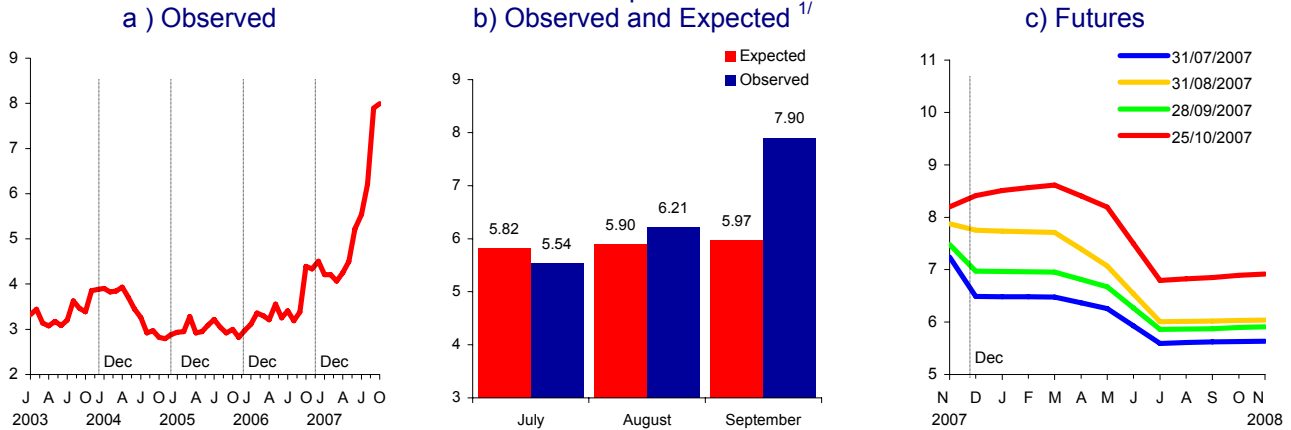
The recent developments in the international prices of food commodities have affected significantly the path of inflation in several countries (Box 1). This phenomenon could worsen due to the higher-than-expected increase in wheat prices during the third quarter of 2007 (Graph 19). Moreover, international prices of milk have continued to increase since the beginning of the year.

International prices of wheat increased 51.2 percent between July and September 2007, while their futures were revised upward. This increase was mainly due to two factors: first, a global reduction in sown areas, after having been substituted and used for corn, and, second, adverse weather conditions, which affected wheat production this year (Box 1).

The international prices of liquid and powdered milk increased once more during the third quarter of 2007. These food products recorded in September 2007 an annual rate of change of 81.9 and 94.7 percent, respectively. The recorded price increases were higher than those expected at the end of June and futures for both types of milk were at higher levels than those observed at the end of June (Graph 20).



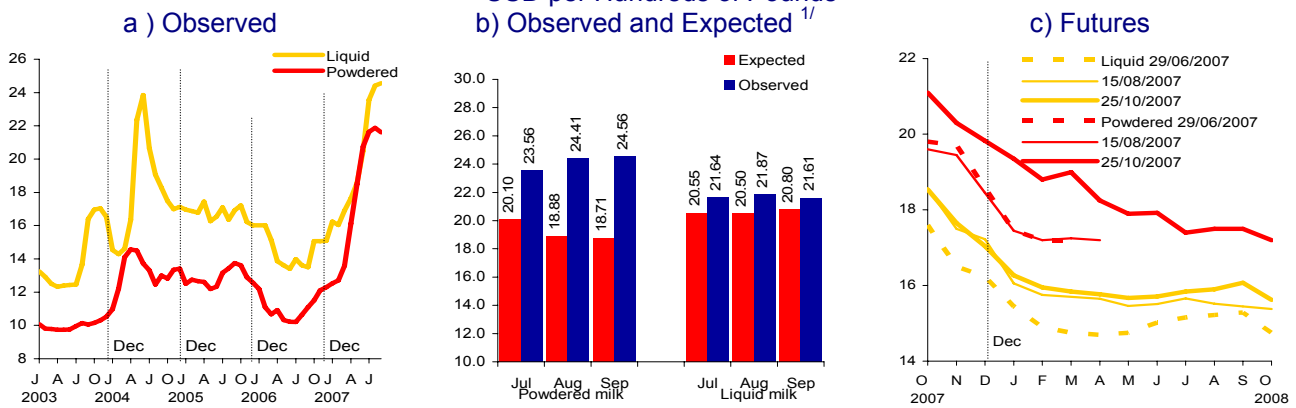
**Graph 19**  
**International Prices of Wheat**  
USD per Bushel



<sup>1/</sup> Prices expected at the beginning of the quarter based on prices of average futures contracts of the reference month (Chicago Mercantile Exchange, June 29, 2007). Observed prices correspond to the average of the reference period.

During the analyzed quarter, the international prices of corn recorded lower levels than those expected at the end of the previous quarter, due to increased production. In the case of soy, it recorded price increases lower than those expected because the sown area for this grain decreased worldwide.

**Graph 20**  
**International Prices of Liquid and Powdered Milk**  
USD per Hundreds of Pounds



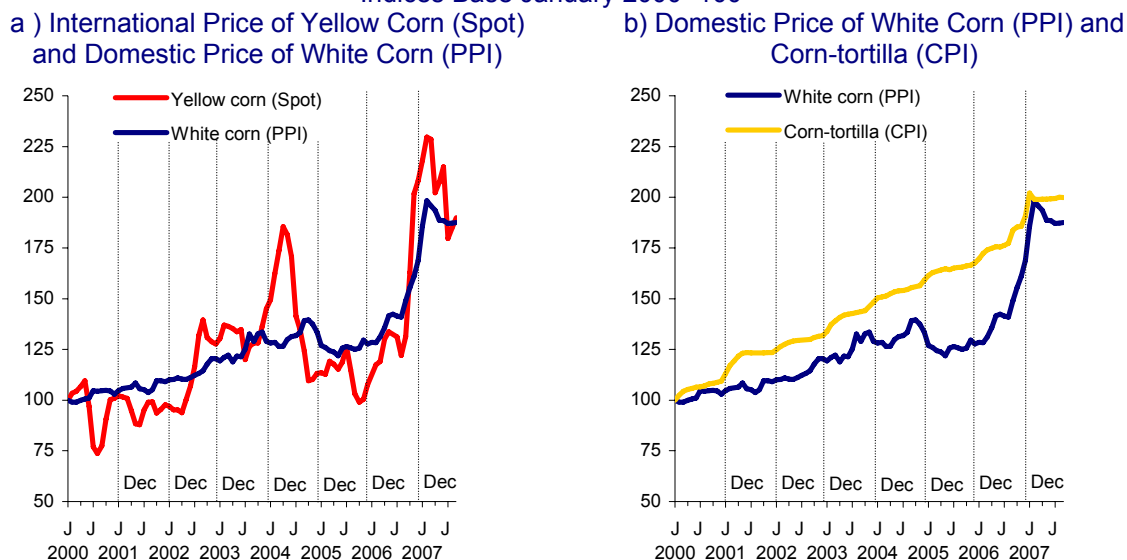
<sup>1/</sup> Prices expected at the beginning of the quarter based on prices of average futures contracts of the reference month (Chicago Mercantile Exchange, June 29, 2007). Observed prices correspond to the average of the reference period.

The increases in the international prices of yellow corn during the third quarter of 2007 immediately affected the prices of white corn in Mexico. However, since March 2007, the reductions in the international prices of yellow corn have affected to a lesser extent the prices of Mexican white corn. In particular, international corn reference prices decreased by 17.3 percent between February and September 2007, while during the same period the domestic price of white corn decreased by only 5.4 percent. The reduction in wholesale prices of white corn has nevertheless not been reflected in a decline in tortilla prices (Graph 21).

The international prices of copper fluctuated slightly during the third quarter of 2007. However, futures for this metal at the end of the analyzed period were at higher levels than those observed at the end of the previous quarter. The

international prices of steel rod increased during the analyzed period, while the prices of this metal in the U.S. remained stable.

**Graph 21**  
**Prices of Yellow Corn, White Corn, and Corn-tortilla**  
 Indices Base January 2000=100



### 3.4. Monetary and Credit Aggregates

#### 3.4.1. Monetary Base, Net Domestic Credit and International Assets

During the third quarter of 2007, the rate of growth of the monetary base continued on a downward trend. During the period July-September, this variable grew at an annual nominal rate of 11.6 percent, after having recorded 15.7 and 12.7 percent during the first two quarters of the year. During the third quarter of 2006, the monetary base grew 18 percent.<sup>16</sup> These results indicate that although the increase in the demand for money has eased, the remonetization process continues.<sup>17</sup>

During the January-September 2007 period, net international assets increased by 5,888 million US dollars, thus reaching 82,192 million.<sup>18</sup> During this

<sup>16</sup> Variations calculated based on the quarterly average of daily stocks.

<sup>17</sup> As mentioned in previous Reports, when the economy transits from an environment of high inflation that erodes the purchasing power and discourages its demand, to an environment of low and stable inflation, the demand for money usually increases as agents gradually replenish their bills and coins. This phenomenon is reflected in a gradual increase in the monetary base measured as a percentage of GDP and is known as remonetization process. In the case of Mexico, the monetary base as a percentage of GDP was 3.82 percent during the second quarter of 2006, 4.01 percent during the fourth quarter of 2006, and 4.19 percent during the second quarter of 2007.

<sup>18</sup> For a definition of international assets and international reserves refer to the glossary of Banco de México's weekly balance sheet bulletin (*Boletín Semanal sobre el Estado de Cuenta del Banco de México*). Banco de México's broad credit position vs. the domestic market (net domestic credit) is obtained by subtracting international assets from the monetary base; i.e., financing granted or received domestically by the central bank. The international reserves definition excludes Banco de México's short-term (less than six months) foreign currency liabilities.



period, the monetary base decreased by 37,380 million pesos. As a result, Banco de México's net domestic credit decreased by 101,442 million pesos during the period (Table 6).

**Table 6**  
**Monetary Base, International Assets, and Net Domestic Credit**  
Millions

	Stocks		Annual % Change	Cash Flows in 2007			
	At Dec. 31 2006	At Sep. 30 2007	At Sep. 30 2007	Quarter			Accumulated in Sep. 30 2007
				I	II	III	
(A) Monetary base (pesos)	449,821	412,441	12.3	-40,007	-1,087	3,714	-37,380
(B) Net international assets (pesos) <sup>1/2/</sup>	824,967	898,485	-2.1	-5,090	22,230	46,922	64,062
Net international assets (USD) <sup>2/</sup>	76,304	82,192	-1.5	-421	2,051	4,259	5,888
(C) Net domestic credit (pesos) [(A)-(B)] <sup>1/</sup>	-375,145	-486,044	-11.7	-34,918	-23,317	-43,208	-101,442
(D) International reserves (USD) [(E)-(F)] <sup>3/</sup>	67,680	73,224	8.8	1,516	744	3,285	5,544
(E) Gross reserves (USD)	76,330	82,168	-1.5	-479	2,083	4,234	5,838
PEMEX				2,573	3,087	3,437	9,097
Federal government				-2,132	-412	-708	-3,251
Sale of US dollars to banks <sup>4/</sup>				-1,996	-1,407	-504	-3,907
Other <sup>5/</sup>				1,076	815	2,009	3,899
(F) Liabilities with less than six months to maturity (USD)	8,650	8,944	-44.6	-1,995	1,339	950	294

<sup>1/</sup> Net international assets' cash flows in pesos are estimated based on the exchange rate applied to each transaction.

<sup>2/</sup> Net international assets are defined as gross reserves plus credit agreements with foreign central banks with more than six months to maturity, minus total liabilities payable to the IMF and credit agreements with foreign central banks with less than six months to maturity.

<sup>3/</sup> As defined by the Law governing Banco de México.

<sup>4/</sup> Daily sales of US dollars according to the mechanism to reduce the pace of international reserve accumulation (see Foreign Exchange Commission's Press Release of March 20, 2003).

<sup>5/</sup> Includes yields on net international assets and other transactions.

### 3.4.2. Monetary Aggregates and Financing

During 2007, the monetary aggregates exhibited a lesser dynamism than that observed during the previous year (Graph 22a). This has taken place in a context where economic activity has grown at a slower rate than in 2006. The annual nominal variation of the monetary aggregate M1 followed a downward path up to July of this year. Later, in August, its rate of growth increased (10.4 percent). As for the broad monetary aggregates, the monetary aggregate M2 –resident savings in domestic financial instruments- grew at an annual nominal rate of 12.1 percent in August, figure similar to the average observed between 2003 and 2005.

Up to the second quarter of 2007, the annual flow of the economy's financing sources accounted for 3.3 percent of GDP (Table 7). As mentioned in previous reports, the lesser use of financial resources by the public sector in the last years has freed resources to finance the private sector. During the analyzed period, the flow of financing to households accounted for 1.8 percentage points of GDP while resources destined to finance firms amounted to 2.5 percent of GDP.<sup>19</sup>

<sup>19</sup> The annual flow of financing to households and firms up to June 2007 was affected by a change in CNBV accounting standards, which state that since January of this year, credit statistics of commercial bank and Sofoles should reclassify bridge financing for housing construction from mortgage loans (households) to credit to firms. This has implied a reduction in the stock of mortgage loans and an expansion in the stock of loans to firms since January 2007. Without this reclassification, resources to finance households and firms would have been 2.3 and 1.9 percent of GDP, respectively, during the analyzed period.

**Table 7**  
**Total Financial Resources (Uses and Sources)**  
Percentage of GDP

	Stocks at June 2007		Annual Flows		
	%GDP	% Structure	2005	2006	Jun 2006 - Jun 2007
<b>Total sources</b>	<b>71.7</b>	<b>100.0</b>	<b>7.8</b>	<b>5.5</b>	<b>3.3</b>
M4	54.8	76.4	7.5	7.0	5.1
Foreign financing	16.9	23.6	0.3	-1.5	-1.7
<b>Total uses</b>	<b>71.7</b>	<b>100.0</b>	<b>7.8</b>	<b>5.5</b>	<b>3.3</b>
International reserves <sup>1/</sup>	7.8	10.9	0.9	-0.1	-1.0
Public sector (HSPSBR) <sup>2/</sup>	34.5	48.1	1.4	0.9	0.8
States and municipalities	1.5	2.0	0.1	0.0	0.1
Private sector	30.0	41.9	2.8	4.4	4.2
Households	13.8	19.2	2.0	2.4	1.8
Consumption	4.9	6.9	1.2	1.2	1.1
Housing <sup>3/</sup>	8.9	12.3	0.7	1.2	0.7
Firms	16.3	22.7	0.9	2.0	2.5
Credit granted by financial intermediaries <sup>4/</sup>	7.8	10.9	0.3	1.3	1.8
Issuance of debt instruments	1.7	2.4	0.0	0.1	0.1
External	6.7	9.4	0.6	0.6	0.6
Other concepts <sup>5/</sup>	-2.1	-2.9	2.6	0.3	-0.8

Note: Figures may not add up due to rounding.

1/ As defined by the Law governing Banco de México.

2/ Historical Stock of Public Sector Borrowing Requirements (*Requerimientos Financieros del Sector Público*, SHRFSP), as reported by the Ministry of Finance (SHCP).

3/ Total portfolio of financial intermediaries and of the National Employees' Housing Fund (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT). Includes debt-restructuring programs.

4/ Total portfolio of financial intermediaries and of the Includes debt-restructuring programs.

5/ Refers to non-sectorized assets, capital accounts and results, other assets and liabilities of both commercial and developments banks, Banco de México, non-bank financial intermediaries and INFONAVIT, and non-monetary liabilities from IPAB, among others.

During this year, commercial banks credit to the non-financial private sector has grown at high rates. Commercial banks direct performing credit to households grew at a real annual rate of 25.7 percent in August of this year (Graph 22b). Regarding its components, direct performing credit for consumption grew at real annual rate of 25.9 percent, while mortgage credit exhibited a real annual variation of 25.2 percent (Graph 22c).<sup>20</sup>

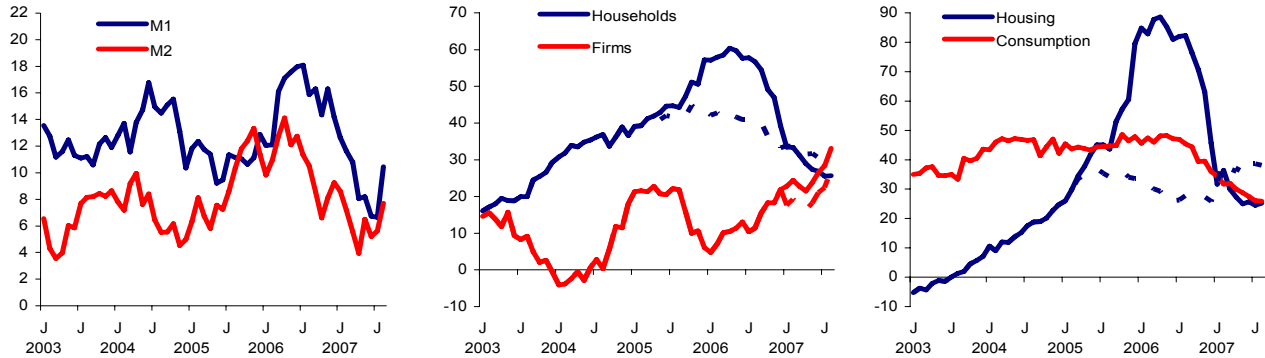
As for financing to firms, the rate of growth of commercial banks direct performing credit to firms has followed an upward trend during 2007 (Graph 22b). In August, financing to firms recorded a real annual variation of 33.1 percent.<sup>21,22</sup> On the other hand, the growth rate of the stock of medium-term private securities has remained relatively stable during the year, recording in August a real annual increase of 4.4 percent.

<sup>20</sup> In August 2007, the delinquency rate of credit to households (the ratio of overdue direct portfolio to total direct portfolio) was 4.4 percent (5.3 percent for consumer credit and 2.6 percent for mortgage credit), figure 1.1 percentage points above that observed in August 2006. Considering the components of consumption, the delinquency rates were as follows: 6.4 percent for credit granted through credit cards and 3.6 percent for credit for consumption of durable and other type of goods, which meant an increase of 1.5 and 1.0 percentage points in the last twelve months. As mentioned in previous Reports, this increase in overdue portfolio is due, among other factors, to the growth of commercial banks credit to individuals with no previous credit history, which thereby represent a higher credit risk.

<sup>21</sup> Excluding the effect of the reclassification of bridge financing from mortgage loans to loans for firms, commercial banks' performing direct credit to firms grew at a real annual rate of 26.9 percent in August 2007.

<sup>22</sup> The delinquency rate of commercial banks' credit to firms was 1.1 percent in August 2007, the same figure as in August of the previous year.

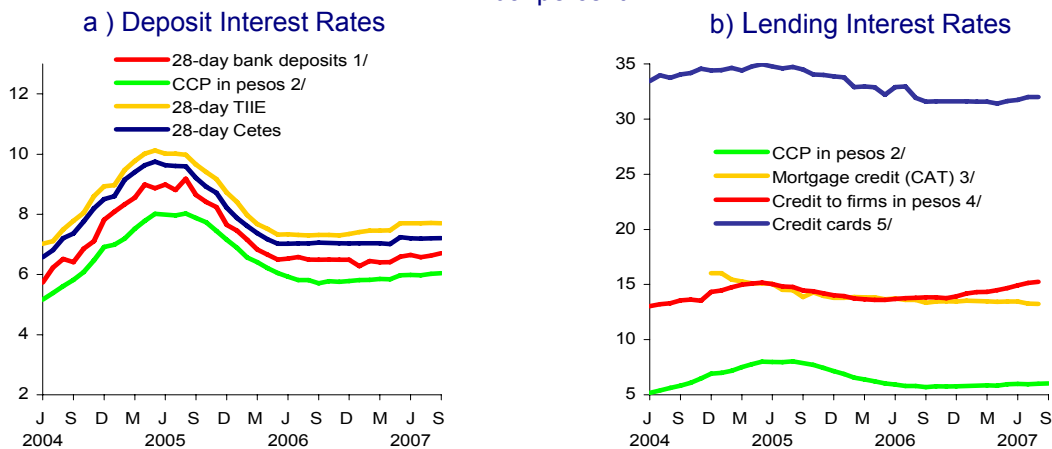


**Graph 22**
**Monetary Aggregates and Commercial Bank Performing Credit to the Non-financial Private Sector**  
 a) Monetary Aggregates  
 Nominal annual percentage change  
 b) Credit to the Private Sector:  
 Households and Firms<sup>1/2/</sup>  
 Real annual percentage change  
 c) Credit to Households<sup>2/</sup>  
 Real annual percentage change


1/ Performing loans to households include banks' purchase of Sofoles mortgage portfolio.

2/ According to CNBV regulations, it includes reclassified bridge financing from mortgage loans to loans to firms since January 2007. In Graph 22b and c, and in the cases of household and mortgage loans, the dotted line excludes the purchasing of Sofoles performing loans portfolio and reclassified bridge financing for construction. In Graph 22b, and in the cases of financing to firms and to construction, the dotted line excludes the effect of reclassified bridge financing for construction.

As mentioned in previous Reports, banks' interest rates for household credit are still high. During 2007, lending interest rates for household credit, both consumer and mortgage credit, have remained relatively stable (Graph 23). During the year, banks' average interest rate for credit to firms has slightly increased, from 14.2 percent in January to 15.2 percent in August. This increase is mainly explained by the granting of credit to smaller-size firms, which usually are considered as higher credit risk entities.

**Graph 23**
**Bank Deposit and Lending Interest Rates in Pesos**  
 Annual percent


1/ Monthly average of payable rates (individuals and firms) settled in over-the-counter and trading floor operations.

2/ Includes term liabilities of banks in pesos, except liabilities from subordinate liabilities to be converted into capital, from the granting of guarantees, and from operations among credit institutions.

3/ Average of indicator that summarizes the Annual Percentage Rate of Charge or APRC (*Costo Annual Total*, CAT) and comprises costs due to interest rates, commissions, bonuses, obligatory insurance, and other financial services. Mortgage lending figures are obtained from the Simulator of Mortgage Credits available at Banco de México's web page (<http://www.banxico.org.mx>).

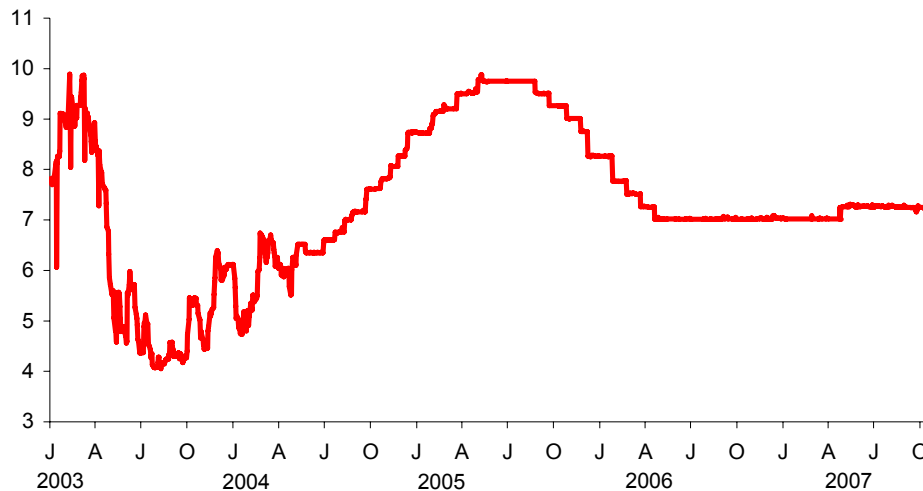
4/ Simple average of nominal interest rates on credits granted by commercial banks in pesos during the period. Information obtained from the regulatory report R04C of the National Banking and Securities Commission (*Comisión Nacional Bancaria y de Valores*, CNBV).

5/ Simple average of interest rates excluding VAT charged by banks including all credit card traditional products according to the report "Bancos: tasas de interés de tarjetas de crédito" by Infosel.

## 4. Monetary Policy

In October of this year, the Board of Governors of Banco de México decided to tighten monetary conditions by 25 basis points. Thus, the overnight interbank interest rate rose to 7.50 percent (Graph 24).

**Graph 24**  
**Interest Rates**  
 Overnight Interbank Interest Rate  
 Annual percent



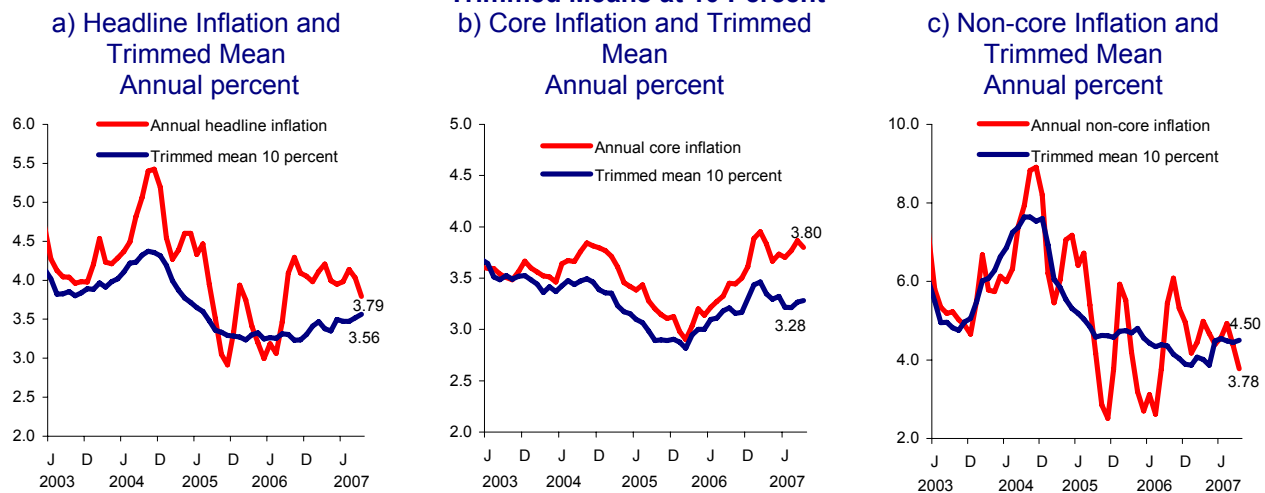
In 2007, inflation in Mexico has been affected negatively by several supply shocks that prompted an increase in both headline and core inflation. These shocks have been persistent and of considerable magnitude and have originated from significant increases in the international prices of food products.

As mentioned previously, Banco de México follows a wide set of indicators and statistics to evaluate the current conditions that affect inflation and its outlook. Some of these are useful to analyze the recent history of inflation and, currently, to detect the items that are being mostly affected by these shocks; others, can be used to obtain information on economic agents' outlook for inflation. Both types of indicators are useful to analyze the main determinants of the price formation process in the economy, and also serve as inputs in various exercises and models used by Banco de México to forecast inflation.

Among the first set of indicators are the trimmed means of inflation, which exclude the effect of item prices that have undergone extreme variations (both the highest and the lowest), and, therefore, contain information on the recent *trend* of inflation. In the case of headline inflation, Graph 25a shows that during the third quarter its trimmed mean followed an upward trend, reaching 3.56 percent in September, 23 basis points below headline inflation. It can be said that the gap between headline inflation and its trimmed mean has been narrowing for some months, which mainly is reflected in the behavior of non-core inflation (Graph 25c).

As for core inflation, since the second quarter of 2007, the trimmed mean for core inflation began to follow a downward trend, which was interrupted in the last two months of the third quarter. Nevertheless, Graph 25b shows that, in general, the gap between core inflation and its trimmed mean has been widening since last year and that, currently, the latter is at 3.28 percent, 52 basis points below core inflation. This reflects that the effects of the most severe shocks undergone by inflation in the last months have concentrated in various items of the group of processed foods of the merchandise price subindex. Such is the case of sugar and corn-tortilla during the second half of 2006 and at the beginning of 2007, and dairy and wheat products during 2007.

**Graph 25**  
**Headline Inflation and Inflation Indicators excluding the Contribution of Extreme Upper and Lower Trimmed Means at 10 Percent<sup>1/</sup>**



<sup>1/</sup>The trimmed mean excludes the contribution of extreme variations in certain items' prices from headline inflation. To strip these variations, the following calculations are done: i) monthly seasonally adjusted variations of CPI prices are arranged in descending order; ii) the items with the highest and lowest variation are excluded, considering up to 10 percent of the CPI basket, respectively, in each distribution tail; and, iii) with the remaining items, which, by construction, are located at the center of the distribution, the trimmed mean indicator is constructed.

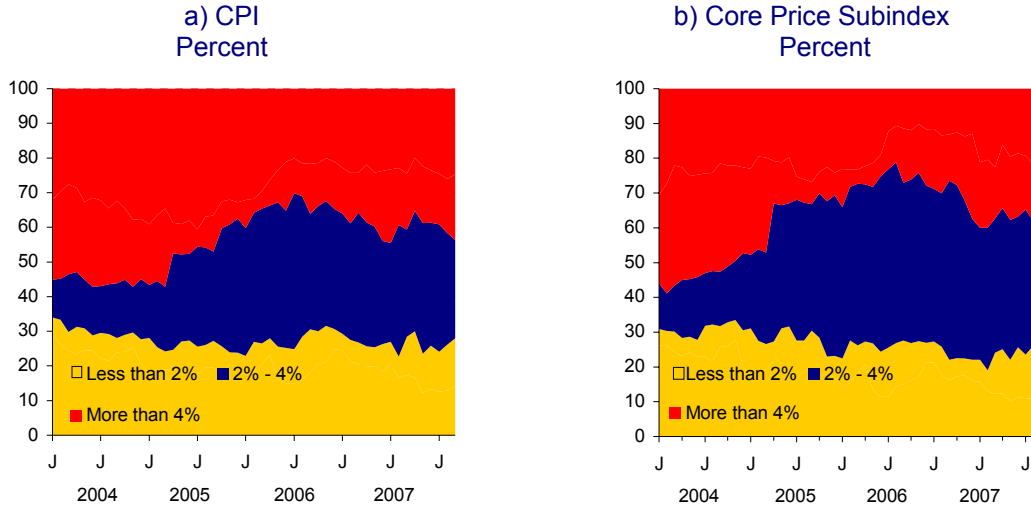
A set of indicators that offers information on the items that are being affected the most by the referred shocks is computed using the share of the CPI and core baskets corresponding to those price items exhibiting annual variations in a specific range.

In the case of the CPI, during the last months, the share of the basket whose prices have been growing above 4 percent in annual terms increased (red shaded area, Graph 26a), which is mainly due to the recent developments in non-core inflation.

In the case of the core price subindex, in the last months, the share of the basket that has been growing at rates equal or below 4 percent has remained relatively stable, although the increase recorded in 2006 by the proportion of the

basket recording annual variations above 4 percent has not reverted. This increase mainly included sugar, corn, and wheat-related food products.<sup>23</sup>

**Graph 26**  
**Share of Items in the CPI and in the Core Price Subindex with Annual Price Variations within a Range <sup>1/</sup>**



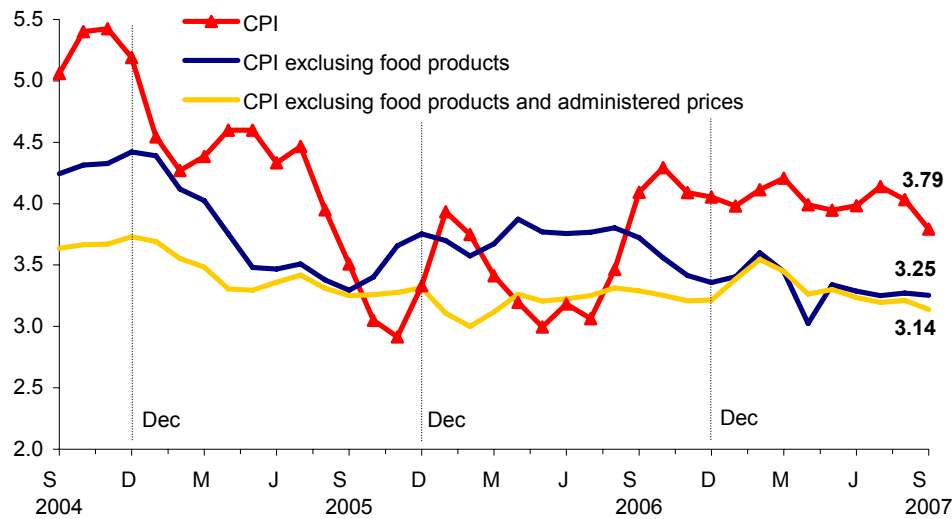
1/ The share of a price index's basket whose annual price variations fall within a range is calculated as follows: i) interest ranges are defined; ii) annual inflation of each of the items of the price index is calculated; iii) items are classified in the interest ranges according to their annual inflation; and, iv) the weights of the items in each range are added.

An exercise that allows for measuring more accurately the effect of price increases in food products on headline inflation consists of constructing a price index that excludes from the CPI basket food products, both those included in the group of agriculture and livestock products and those included in the group of food products of the merchandise core price subindex. Graph 27 shows that from the fourth quarter of 2006 to the third quarter of 2007, headline inflation has been, on average, 70 basis points above the inflation indicator excluding food products.

Graph 27 presents the annual variations of an additional price indicator that results from excluding the group of administered prices from the CPI that excludes food product prices. As shown, in the last years, the development of these prices has created *additional* pressures, besides those originated by food product prices on headline inflation, which have moderated during 2007. Indeed, the annual variation of the CPI excluding food product prices and administered prices was 3.14 percent in September, 65 basis points below headline inflation.

<sup>23</sup> Among the food items of the merchandise core subindex that during 2006 moved from the range with annual variations in their prices below 4 percent to that above 4 percent are: i) sugar-related products: Sugar, Bottled Soda, Sweet Rolls, Pastries and Cakes, and Other Canned Fruit Products; ii) corn-related products: Corn, Corn Flour and Dough, Chicken in Pieces, Whole Chicken and Eggs; and, iii) wheat-related products: Wheat Flour, Wheat-flour Tortillas, White Bread, and Tin Loaf.

**Graph 27**  
**Inflation excluding Food Product Prices and Administered Prices of Goods and Services <sup>1/</sup>**  
 Annual percentage change



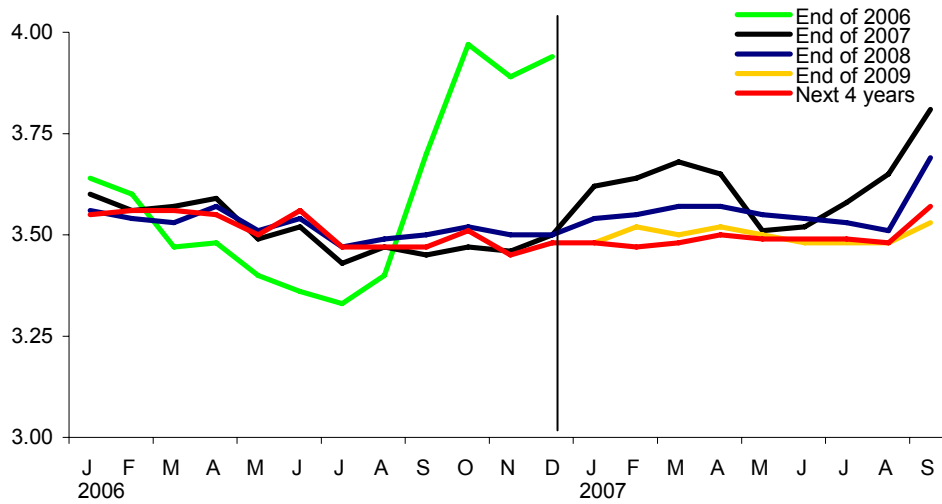
<sup>1/</sup> Inflation excluding food products excludes from the CPI basket the items from the group of agricultural products and the group of processed foods and beverages of the merchandise price subindex (except tobacco-related items). This indicator accounts for 77.86 percent of the CPI basket. In the case of inflation excluding food product prices and administered prices, all items from the subindex of administered prices are excluded from the CPI basket. This indicator accounts for 70.09 percent of the CPI basket.

As for the second set of indicators, i.e., those associated with inflation expectations from economic agents, two archetypes are presented. The former refers to information on inflation expectations obtained directly from the survey conducted every month by Banco de México among private sector economic analysts, while the latter refers to information on inflation expectations obtained from financial market instruments.

As mentioned in previous reports, expectations for headline inflation for medium and long terms (end of 2008, 2009, and average for the next 4 years) had remained relatively stable during the entire year. However, in September, practically all of them were revised upward in relation to those reported in August: those corresponding to the end of 2008 increased from 3.51 to 3.69 percent, those for the end of 2009 increased from 3.48 to 3.53 percent, and those for the average for the next four years increased from 3.47 to 3.57 percent (Graph 28).<sup>24</sup> On the other hand, and as expected, in view of the supply shocks that have materialized, expectations for headline inflation for the short term (end of 2007) have been revised upward considerably.

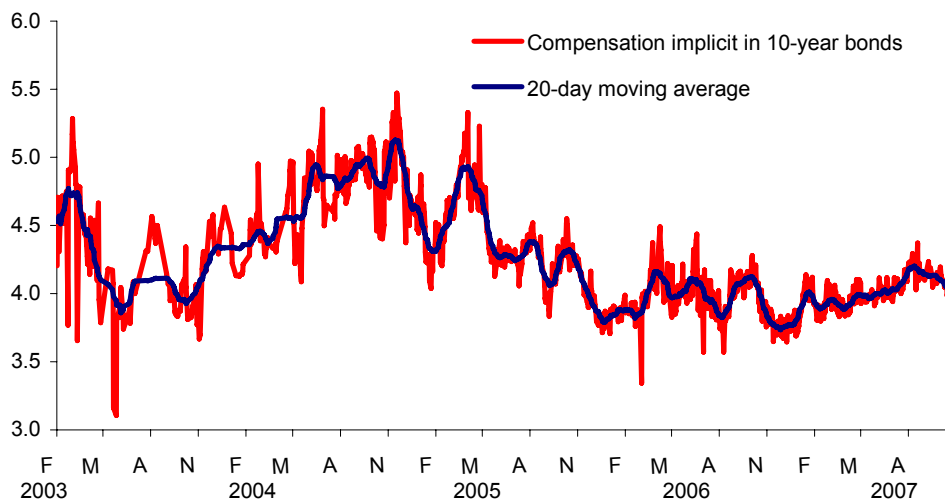
<sup>24</sup> Inflation expectations from the Infosel survey show similar results. Those for the end of 2008 were revised upward from 3.51 percent (August 31, 2007) to 3.71 percent (October 26, 2007); those for the end of 2009 were revised upward, from 3.42 to 3.50 percent during the same period, and those corresponding to the average for the next four years were revised from 3.45 to 3.48 percent.

**Graph 28**  
**Inflation Expectations: Banco de México Survey**  
 Annual percent



Information obtained from the yields on different assets in the market is also useful to evaluate the development of inflation expectations. In particular, an indicator that contains information about long-term inflationary pressures is the compensation for inflation (inflation expectations plus a risk premium) that investors demand for holding peso-denominated long-term bonds. This indicator is obtained by subtracting from the nominal yield on the 10-year bond, the real yield associated with indexed-debt instruments (Udibonos) with the same maturity (Graph 29). Since the second quarter of the year, this indicator has been following an upward trend, although in the last weeks this pattern seems to be reverting.

**Graph 29**  
**Compensation for Inflation and Inflationary Risk on Long-term Bonds**  
 Annual percent





The previous analysis, together with information presented in the rest of this Report, reveals that monetary policy currently faces a complex economic situation.

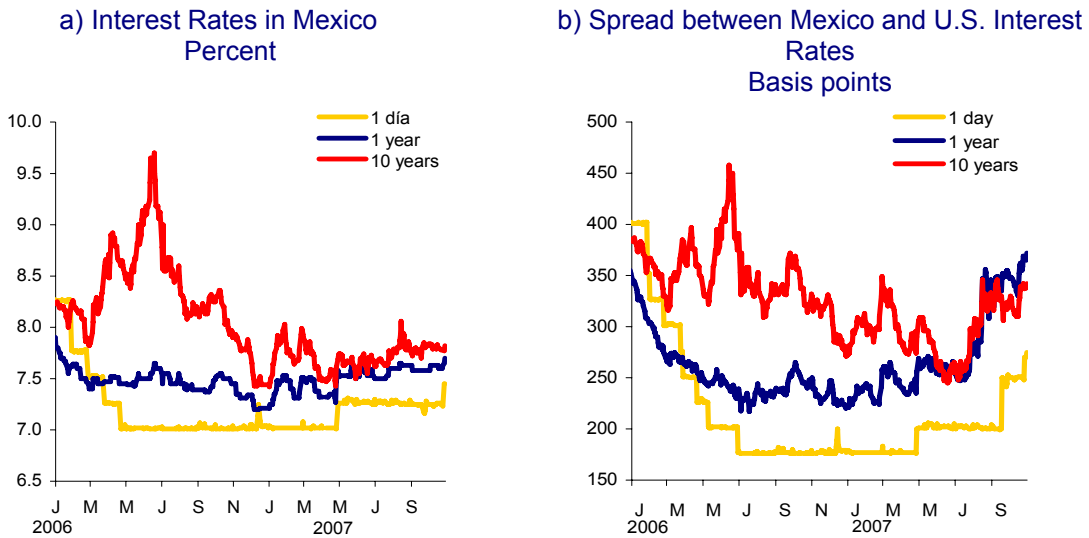
On the one hand, apparently no generalized inflationary pressures from the demand-side exist, wage negotiations have not deteriorated, and long-term inflation expectations have not changed significantly. The aforementioned, despite the number, persistence and magnitude of the supply shocks that have taken place, and the higher levels recorded by different indicators of inflation during many months.

On the other hand, additional inflationary pressures are expected in the short term if some firms pass on to consumers (via prices) the increase in the recently-approved taxes. Although it is highly uncertain that firms can pass on to consumers the increased costs they face and, in that case, the expected effect of the fiscal reform on inflation is temporary and moderate, the higher levels of inflation recorded up to now increase the risk of affecting the price and wage determination processes. Indeed, in addition to these risks, others mentioned by Banco de México should be considered, in particular, that the process of adjustment in relative prices of food products worldwide apparently has not concluded, and inflation expectations for the long term in our country are more than half of a percentage point above the inflation target.

Nonetheless, and as mentioned in sections 3.1 and 3.2 of this Report, the downward revision in forecasts for growth in the U.S. -and the higher uncertainty associated with such previsions- increase the risks regarding prospects for economic activity in Mexico. As the scenario for growth in the U.S. deteriorates, it would affect the aforementioned risk factors faced by inflation in the opposite way. However, most recent data indicates that although the U.S. economy is slowing gradually, it is not expected to deteriorate in such a way to compensate for the referred inflationary pressures.

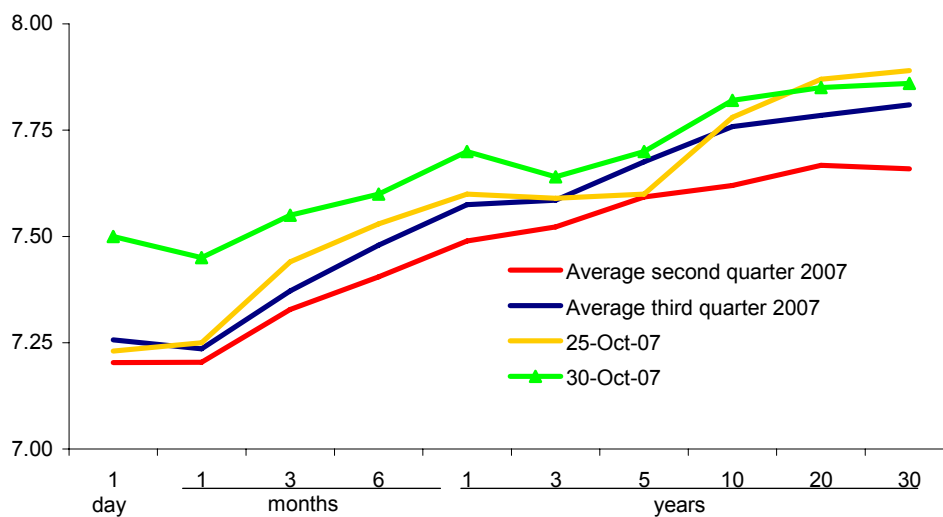
Based on the previous considerations, the Board of Governors of Banco de México decided to tighten monetary conditions by 25 basis points in October, in order to contribute, on the one hand, to prevent the process of price determination from being contaminated and, on the other, to moderate inflation expectations.

This measure, together with the 50 basis point reduction in the U.S. federal funds rate on September 18, contributed to increase significantly the differentials in short-term interest rates between both countries (Graph 30b). Although domestic interest rates for longer terms are relatively low (Graph 30a), the decline in interest rates of U.S. Treasuries originated by the higher demand for low-risk instruments, has implied that the differentials in interest rates between Mexico and the U.S. for longer terms have also increased significantly in the last months (Graph 30b).

**Graph 30**  
**Interest Rates**


It is worth mentioning that given the reduction in appetite for risk in international financial markets during the last years –generated by the uncertainty resulting from the worsening of mortgage loan portfolio in the U.S.- domestic financial markets have adjusted, in general, in an orderly fashion and in small magnitudes. This result is due to multiple factors, such as the improvement in the perception of sovereign risk, and the development and consequent deepening of the Mexican exchange and money markets.

Finally, the increase in short-term interest rates as a result of the monetary policy decision, together with the behavior of long-term interest rates, prompted the yield curve in Mexico to flatten in recent days (Graph 31).

**Graph 31**  
**Interest Rates**  
 Yield Curve in Mexico  
 Percent




## 5. Prospects for Inflation and Balance of Risks

Banco de México's expected economic scenario is based on the following considerations:

- i) Prospects for GDP growth in the U.S. have been revised gradually downward in the last months. This revision has been less marked in the case of industrial production due, among other factors, to the depreciation of the U.S. real exchange rate and how it is expected to mitigate the reduction of manufacturing growth. In particular, the quarterly rate of growth during the period October-December 2007 and during the first quarter of 2008 is expected to slow down gradually, while economic activity is expected to recover during the rest of 2008. Currently, forecasts for growth and industrial activity in 2008 are 2.4 and 2.8 percent, respectively. This scenario and figures are the result of the consensus in the market prevailing at the time of publishing this Report, i.e., analysts' forecasts average. Nonetheless, for different reasons exposed in this Report, this scenario is subject to a high degree of uncertainty. In particular, the risks associated to a more adverse scenario for growth have increased.
- ii) Access to international financing is not expected to deteriorate. The recent episode of volatility in financial markets has been mainly influenced by the problems associated with the recovery of low-quality mortgage portfolio in the U.S. Although this situation prompted risk premia of other financial assets -particularly subprime mortgage-backed assets- to increase and a reduction in financing granted through these instruments, up to now, risk premia associated with emerging economies assets have not been affected significantly.

Based on the aforementioned, Banco de México's base scenario for the Mexican economy is as follows:

**Growth:** Around 3.2 percent in 2007 and between 3.25 and 3.75 percent in 2008.

**Employment:** Creation of around 800 thousand jobs in the formal sector in 2007 and 700 thousand during 2008 (number of workers insured by the IMSS).

**Current Account:** Current account deficit of around 1 percentage point of GDP in 2007 and 1.2 percent in 2008.

**Inflation:** considering the recent development of economic activity in Mexico, and the outlook for economic activity and the U.S. economy, no significant inflationary pressures originated by the phase of the cycle the Mexican economy is undergoing nowadays (i.e., demand-side pressures) are currently expected.

However, as mentioned in this and other previous Reports, during 2006 and throughout 2007, inflation in Mexico has been influenced by a series of supply shocks, mainly from the food sector. These shocks have been very persistent and of significant magnitude. Although the effects of these shocks on inflation are

anticipated to be temporary, inflation has increased and remained high for a long period.

The monetary authority thus faces a complex economic situation, which is expected to become more complicated during 2008.

Provisions for inflation for the next year must consider additional increases in prices in view that some firms could pass on to consumers the higher tax burden they face as a result of the fiscal reform.

- First, the fiscal reform is expected to create once-and-for-all adjustments in the general price level meaning that the effect on annual inflation will be temporary. The estimation of this impact is between 40 and 50 basis points for 2008 and between 2 and 5 basis points for 2009.
- Second, estimates of the referred impact depend on two main factors. On the one hand, in those cases where firms experience an increase in their fiscal burden, their capacity to pass on to consumer prices part of their higher costs is uncertain. This capacity depends, among others, on market concentration prevailing in each sector, and competition from foreign products faced by each industry. On the other hand, the greater the heterogeneity among firms in each sector, the higher the uncertainty about the increase in taxes that will be passed on to prices. In general terms, the pass-through to consumers via prices will be of lesser magnitude as long as they have more substitution alternatives and markets within each sector are more competitive (see Appendix 2).

Banco de México will continue to evaluate thoroughly these elements in the next months.

Among the assumptions used in the inflation forecasts, electricity tariffs and prices of LP gas are expected to increase in 2008 and 2009 at a rate similar to that of 2007. Considering the new taxes, during the same years, gasoline prices are expected to increase slightly above this year's rate of change.

In addition, during 2008, the subindex of regulated prices is expected to be a source of inflationary pressures of greater magnitude than that observed in the past three years in view that public transportation fares could be revised in some cities.

Monetary authority's decisions are based on a thorough assessment of the current economic conditions and the prospects for inflationary conditions to be faced. In this context, it is important to consider that the channels of the monetary policy transmission mechanism operate in horizons of between 6 and 8 quarters. Therefore, the prospects for inflation need to be evaluated within a 2-year horizon.

Table 8 presents Banco de México's baseline scenario in half-percentage point intervals for average quarterly inflation in annual terms for the next eight quarters. Following are some of the most noteworthy aspects of this projection:

- Headline inflation is expected to follow an upward trend during the first half of 2008 and peak during the second quarter of that year. During the second half of that year, headline inflation could start to follow a



moderate downward trend, once the supply shocks associated with the increases in recent months in food products prices start to fade. During 2009, headline inflation is expected to follow a sharper downward trend, once the expected effects of the grater tax burden related to the fiscal reform start to dissipate. Annual headline inflation is expected to come close to the 3 percent inflation target during the third quarter of 2009, instead of 2008, as previously forecasted.

- The forecasting exercise considers that the impact the flat tax/single-rate business tax (*Impuesto Empresarial a Tasa Única*, IETU) could have on prices will mainly take place during the first half of next year. In particular, the referred effect is assumed that will be distributed during such period, when firms will be able to evaluate the effect of the tax on their cost structure. It is worth noting that the evaluating period could be relatively short, given that firms must make the provisional payments of the new tax starting the first month of next year. However, the assumption used in relation to the temporary nature of the impact of the IETU on prices (and, therefore, on annual inflation) is a factor of additional uncertainty for the forecasting exercise.
- Despite the aforementioned, the lower annual inflation that might be observed during the first quarter of 2008 in relation to the second quarter, would be the result of the former being calculated using a higher base of comparison. At the beginning of 2007, corn-tortilla prices increased considerably. This event is not expected to repeat. As this effect is absorbed during the first quarter of 2008, annual headline inflation is anticipated to exhibit an arithmetic rebound during the second quarter.
- In addition to the effect that the higher taxes could have on inflation, next year, the annual estimates of this indicator will be affected by the increase in the prices of various dairy and wheat-related products, and cigarettes. In this regard, in absence of additional supply shocks, the effects on inflation of the referred price increases will begin to fade in the third quarter of 2008, thus inducing a moderate downward trend that will be more marked in 2009 when the estimated impact of the fiscal reform fades.

**Table 8**  
**Projection Base Scenario for Annual Headline Inflation**  
Quarterly Average in Percent

Quarter	Inflation
2007-IV	3.50 - 4.00
2008-I	3.75 - 4.25
2008-II	4.00 - 4.50
2008-III	4.00 - 4.50
2008-IV	3.75 - 4.25
2009-I	3.50 - 4.00
2009-II	3.50 - 4.00
2009-III	3.00 - 3.50

By construction, any forecast exercise is subject to a certain degree of uncertainty since it is, among other factors, conditioned to the information

available at the time of estimating the forecast exercise. For this reason, forecasts must be interpreted considering all associated risks involved. Following is a balance of the most important risks surrounding the current prospect for inflation for the following two years:

- i) The mentioned supply shocks (food prices), as well as the possible effects (although uncertain and of a once-and-for-all nature) the new taxes could have on the price level, could contaminate other prices and/or wages. Should the latter materialize, inflation expectations could be affected and, consequently, inflation could increase more than initially expected.
- ii) Uncertainty prevails regarding prices of certain food products, particularly those that use grains as inputs. In addition, the risk of adverse weather conditions affecting the supply of fruits and vegetables, and therefore, their prices, should not be discarded.
- iii) Most recent information suggests a slowdown in the U.S. economy. The perception that this slowdown could be higher than the one currently expected is high. This scenario could materialize through different channels.

First, a further deterioration of the mortgage portfolio could lead to lower residential investment. Second, if this deterioration affects real estate prices, consumer confidence could be reduced and household spending in that country could also decline. Third, financial intermediaries would resent any additional deterioration of real estate-backed portfolio, which could tighten credit conditions for other economic agents.

If this scenario materializes, the Mexican economy could face a reduction of growth in economic activity due, among other factors, to: a) a contraction of external demand for Mexican products; b) a decline in remittances sent by Mexicans residing in that country; and, c) tighter access to international financing.

However, under the aforementioned scenario, expenditure would be expected to grow less in Mexico, thus mitigating certain upward risks for inflation.

- iv) Volatility in international financial markets could increase.

Considering the upward revision in its forecasts for inflation, and the risks these forecasts are subject to, the Board of Governors of Banco de México decided in October to tighten the monetary conditions by 25 basis points. This measure aims at preventing, on the one hand, the price and wage determination processes from being contaminated, and, on the other, at moderating inflation expectations. The Board will remain attentive to the balance of risks in terms of the revised forecasts in order to attain the inflation target.

Summing up, the performance of the Mexican economy in the next months will mostly depend on various shocks, among which are the slowdown of the U.S. economy, the increase in certain food product prices, the impact the fiscal reform could have on consumer prices, and the response of economic policy



to these shocks. In this context, it is worth mentioning that, in addition to monetary policy, other economic policies are relevant in contributing to guide the economy towards low inflation equilibrium and enough growth in order to gradually increase Mexicans welfare.

Although it plays a key role, in the long term, monetary policy is not the only mechanism to guarantee macroeconomic stability and foster the conditions for growth. In the short term, it is also not the only economic policy instrument that must be adjusted in response to the various shocks that an open economy is subject to under the current global environment. In regards to the latter, monetary policy must be complemented by other actions to assure that the economy is able to face different shocks at the lowest cost in terms of growth and inflation.

A first element to consider is the role of fiscal policy. In particular, as it has been emphasized for many years, sound public finances are necessary for the good functioning of the economy. In the short term, sound public finances can contribute to reduce inflationary pressures. In the long term, efforts to increase public saving by expanding infrastructure in human and physical capital, increases the economy's productive capacity and therefore releases future inflationary pressures by boosting the country's potential growth, as pointed out by the Federal Government. Reducing public finance's dependence on oil is a necessary step to consolidate economic stability. In this context, the recently-approved fiscal reform is a significant step in the right direction.

A second relevant policy under the current economic conditions is the competition policy. Although the new taxes are expected to affect consumer prices in the short term, their magnitude is uncertain and depends on several factors. One of these is how firms will be able to pass on to consumer via prices the higher costs they face due to the reform. The responsible authorities must prevent firms from trying to coordinate themselves to raise their prices above what, under an environment of competitive markets, these firms would adjust naturally given the tax burden they face due to the fiscal reform.

Beyond the importance of competitive markets to mitigate the likely impact of the tax reform on prices, Banco de México has stressed the urgent need to promote greater competition in key economic sectors in the country, in order to diminish costs and foster greater efficiency and quality of goods and services.

Finally, given the current economic conditions, monetary policy will be very attentive in order to induce inflation to converge to its target. These efforts will indeed be more effective if they are complemented by other economic policy actions.



## 6. Monetary Policy Announcements

### 6.1. Calendar of Monetary Policy Announcements

This calendar includes eleven dates, one each month, except in December, which includes one for the announcements on monetary policy decisions and another for the press release explaining the adopted decisions. Nevertheless, Banco de México reserves its right to modify the monetary policy stance in dates different than those pre-established in the calendar, in the case of extraordinary events that would require for the central bank's intervention.

#### **Calendar of Monetary Policy Announcements, Monetary Policy Press Releases, and Inflation Reports for 2008**

Month	Monetary Policy Announcements and Press Releases	Inflation Report
January	18	30 <sup>1/</sup>
February	15	
March	14	
April	18	30
May	16	
June	20	
July	18	30
August	15	
September	19	
October	17	29
November	28	

<sup>1/</sup> Includes Monetary Program for 2008.



## Appendices

---

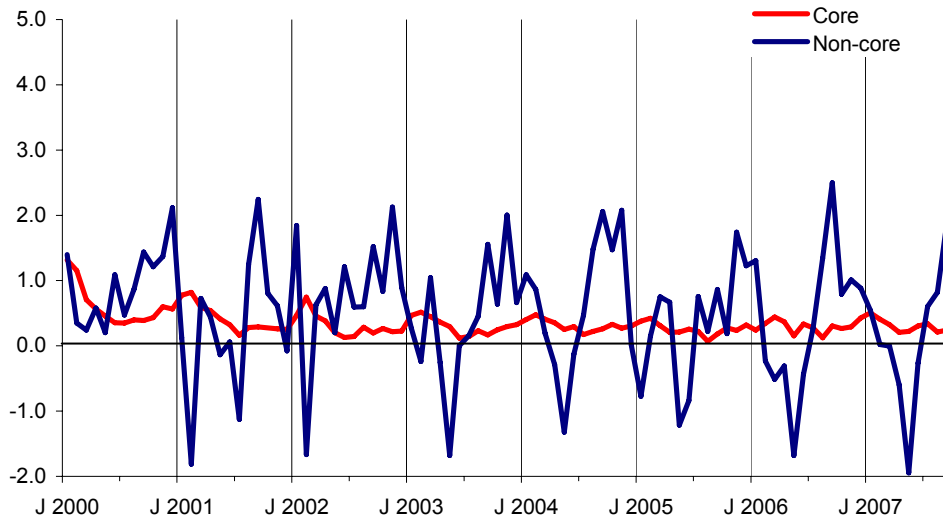
## Appendix 1

### Some Considerations on Defining Core Inflation

The prices of certain items included in the Consumer Price Index (CPI) are volatile and could complicate the identification of the general trend of inflation in Mexico. For this reason, the Consumer Price Index is broken down into a core and non-core component. Those price indices that do not allow the inflation trend to be read appropriately because of their features are included in the non-core index. The rest of the prices are included in the core index. Under this context, the core index turns out to be a more reliable indicator of the inflation trend and of the pressures inflation can be subject to in the medium term.

Although in some cases the prices included in the non-core price index are determined by the domestic market, in most cases they are fixed according to their international references (e.g. the prices of certain livestock products), to government-administrative decisions (e.g. taxes on vehicle property, and gasoline, among others) or to weather conditions (agricultural products). The aforementioned usually means that the non-core price index is subject to higher variability and any increase in its prices is more difficult to predict as compared to the core index. The development of these prices usually reflects the incidence of shocks which not necessarily are an indicator of the medium-term inflation trend or of the monetary policy stance (Graph 32).

**Graph 32**  
**Monthly Core and Non-core Inflation**



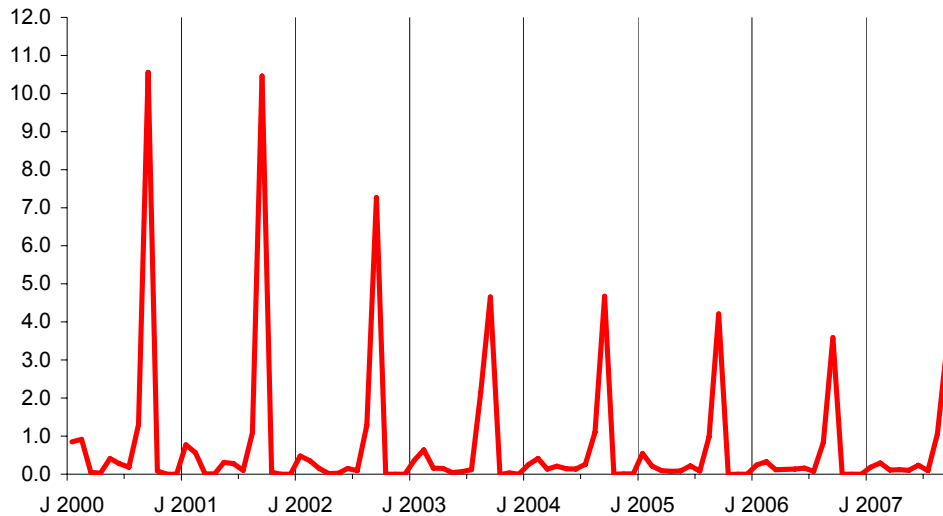
Source: Banco de México.

The prices of private education services share some of these features and therefore represent an additional source of volatility for the CPI. School fees usually increase at the beginning of each school term and remain relatively stable for the rest of the year. They increase considerably in August, September, and January (Graph 33). As the level of inflation has decreased gradually, this



stationary pattern has become a prevalent factor for determining private education fees and, therefore, their behavior has become more predictable. The opposite pattern is observed with other components of non-core inflation. The regular stationary pattern of the private education price subindex can be traced when analyzing its monthly rate of growth or when contrasting its annual rate of growth with that of other subindices that currently make up the CPI non-core price index (Graph 33 and Graph 34). Thus, after stripping the effects of this stationary pattern, school fees have followed a pattern similar to the rest of the services included in the core price subindex, albeit growing at relatively higher rates.

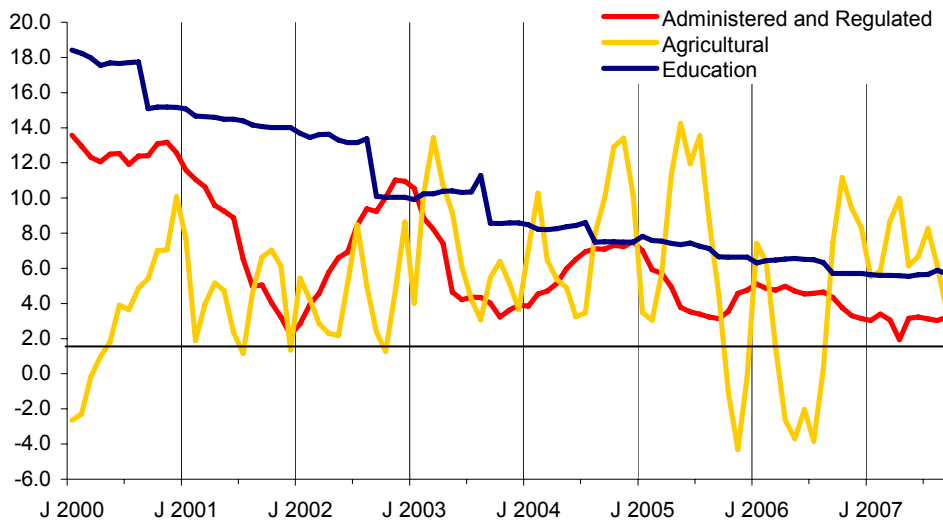
**Graph 33**  
**Private Education Subindex**  
**Monthly Variation (Percent)**



Source: Banco de México.

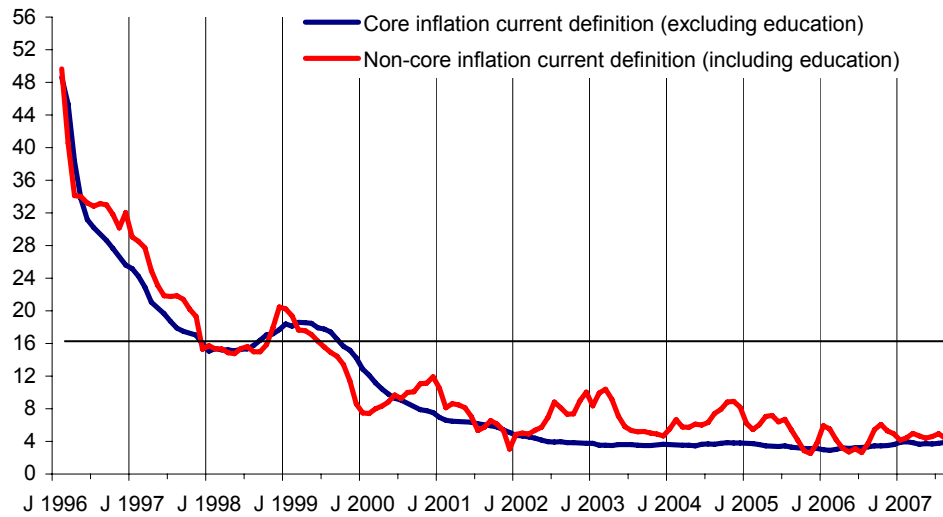
The abovementioned suggests that, nowadays, including the private education price subindex as a component of the core price index instead of the non-core price subindex is a feasible measure that could provide a better estimate of inflationary pressures in the medium term, while non-core inflation –excluding the private education price subindex- could become a more reliable indicator of the many supply shocks that affect headline inflation temporarily and very unpredictably. As shown in Graph 35 and Graph 36, in general terms, core inflation including education is a more accurate indicator of the general trend of non-core inflation than core inflation excluding education.

**Graph 34**  
**Non-core Subindices**  
**Annual Variation (Percent)**



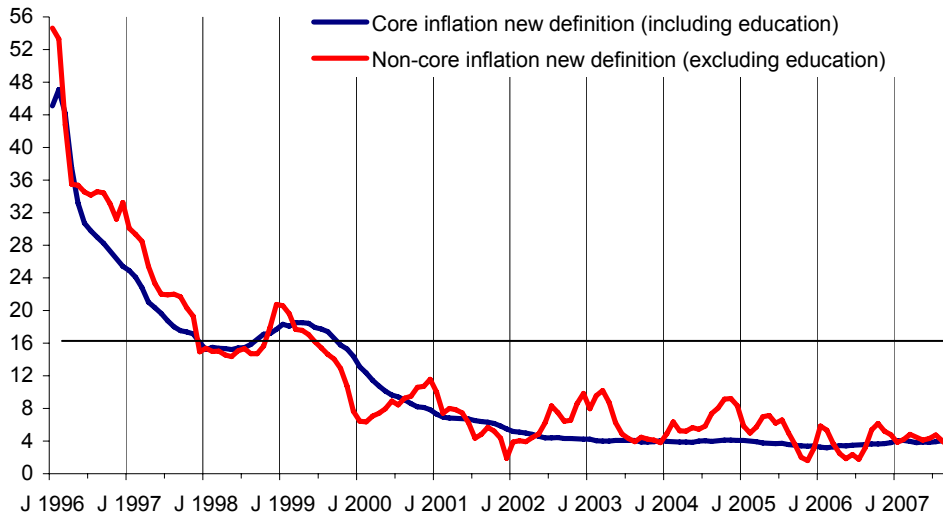
Source: Banco de México.

**Graph 35**  
**Annual Core and Non-core Inflation: Current Definition**



Source: Banco de México.

**Graph 36**  
**Annual Core and Non-core Inflation: New Definition**



Source: Banco de México.

Table 9 shows the mean square differences between monthly core inflation and two measures of the future trend of headline inflation (i.e. the Mean Square Error between both concepts). The Mean Square Error is calculated for two definitions of core inflation: the currently-used and another which includes the private education subindex. In order to forecast the future behavior of inflation, a moving average of monthly headline inflation for the next 12 months was used, as well as a moving average of monthly headline inflation for the past and next 6 months (centered mean). The results suggest that the Mean Square Error is lower when core inflation includes the private education subindex. Thus, core inflation including private education apparently has become a more reliable indicator of the general trend of inflation in Mexico.

**Table 9**  
**Mean Square Error between Monthly Core Inflation and Trend of Headline Inflation**  
**(January 1990 – September 2007)**

	Trend	
	Average next 12 months	Centered mean
Core (Current definition)	0.63	0.34
Core (New definition, including education)	0.59	0.31

Source: Banco de México.

Based on the aforementioned, in *January 2008* Banco de México will modify the definition of the core price index by including the private education subindex -which currently is part of the CPI's non-core component- in the core price index current basket. By modifying this definition, core inflation will be a more representative indicator of the country's consumption basket in urban areas. The weight of this index in the CPI would thus increase from 69.56 percent with the current definition to 74.77 percent with the new definition (Table 10).

**Table 10**  
**Percentage Structure of Core Price Subindex**

	Current Definition	New Definition
CPI	100.0000	100.0000
<b>Core</b>	<b>69.5625</b>	<b>74.7665</b>
<b>Merchandise</b>	<b>37.0253</b>	<b>37.0253</b>
Food	14.6736	14.6736
Rest	22.3516	22.3516
<b>Services</b>	<b>32.5372</b>	<b>37.7412</b>
Housing	17.8585	17.8585
<b>Education</b>	<b>0.0000</b>	<b>5.2040</b>
Rest	14.6787	14.6787

Source: Banco de México.

The new definition of the core price index will make easier the comparison of this indicator of the Mexican economy with that of other countries. At the international level, it is unusual to exclude education prices from core inflation estimates (Table 11). It is more common to find total food products (both processed and agricultural) being excluded from core inflation estimates.

**Table 11**  
**Core Inflation Definition: International Comparison <sup>1/</sup>**

Country	Concepts excluded from the CPI basket to calculate Core Inflation						Core index weight in the CPI	
	Food products			Energy products		Regulated		Education
	Processed	Agricultural		Fuels	Electricity			
	Fruits and vegetables	Livestock products						
Mexico		X	X	X	X	X	X	69.6%
U.S. <sup>2/</sup>	X	X	X	X	X			77.4%
Canada	X	X	X	X	X			74.3%
Argentina		X		X	X	X		70.6%
Brazil	X	X	X	X	X	X		69.2%
Chile		X		X				92.0%
European Union		X	X	X	X			83.4%
Spain		X	X	X	X			82.3%
Italy		X	X	X	X			85.1%
Poland	X	X	X	X	X			67.0%
Switzerland	X	X	X	X	X			78.2%
Philippines	X	X	X	X				81.6%
Japan	X	X	X	X	X			68.1%
Thailand		X	X	X	X			75.3%

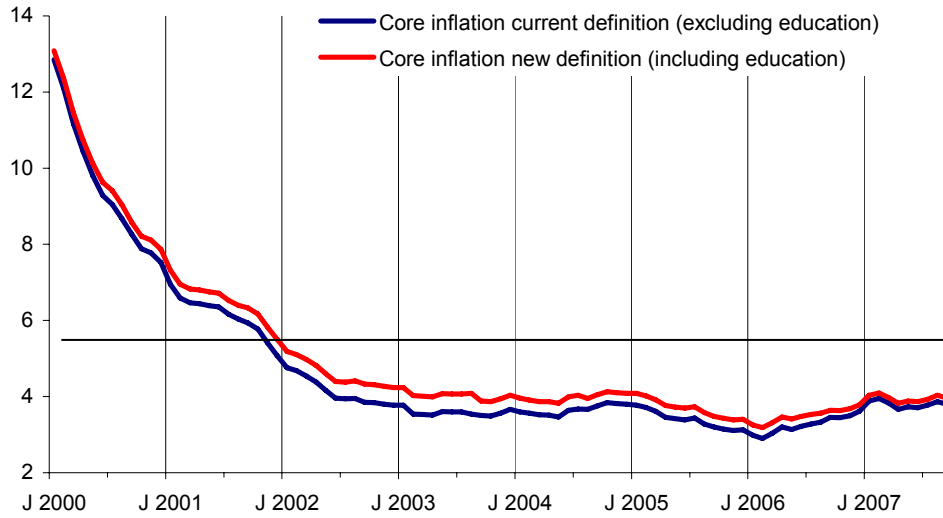
<sup>1/</sup> Some countries have several measures of core inflation. This table reports those measures that are constructed by excluding certain items.

<sup>2/</sup> Excludes food products consumed both in and out of home.

Source: Cauley, Robert N. (March 2007): "Core Versus Headline Inflation Targeting in Thailand", BIS; Statistics Bureaus and Central Banks of selected countries.

With the new definition, annual core inflation, which includes the private education subindex, was 3.96 percent in September 2007 as compared to 3.80 percent with the previous definition. This result is due to school fees growing at a higher rate than the CPI during the reference period (Graph 37).

**Graph 37**  
**Annual Core Inflation: Current and New Definition**



Source: Banco de México.

## Appendix 2

---

### **Estimating the Effect of the Fiscal Reform on the CPI**

---

In general terms, a tax can affect any price index in two ways: a) directly, when the product or service taxed is an item of the price index basket; and, b) indirectly, when taxes contribute to raise firms' costs -due to price increases of their production inputs and/or a higher fiscal burden- and these firms transfer a fraction of these additional costs to their final sale prices.

The fiscal reform approved by Congress on September of this year established the following new taxes, which could have a temporary effect on inflation:

- i) The Flat Rate Business Tax (*Impuesto Empresarial a Tasa Única*, IETU) is a tax whose statutory burden falls on firms and individuals engaged in business activities and, therefore, it will not have a direct effect on the CPI. Nevertheless, firms affected by this tax could try to transfer part of their additional tax burden to consumers by increasing the prices of their goods and services.
- ii) The federal tax on gasoline and diesel. Since the prices of these goods are administered by the government, the tax on these fuels is passed on directly to their prices. Nevertheless, for 2008 and 2009, even considering the new taxes, the prices of these fuels are expected to increase only slightly above the increase recorded this year. Thus, further inflationary pressures related to this tax are not expected to be significant.

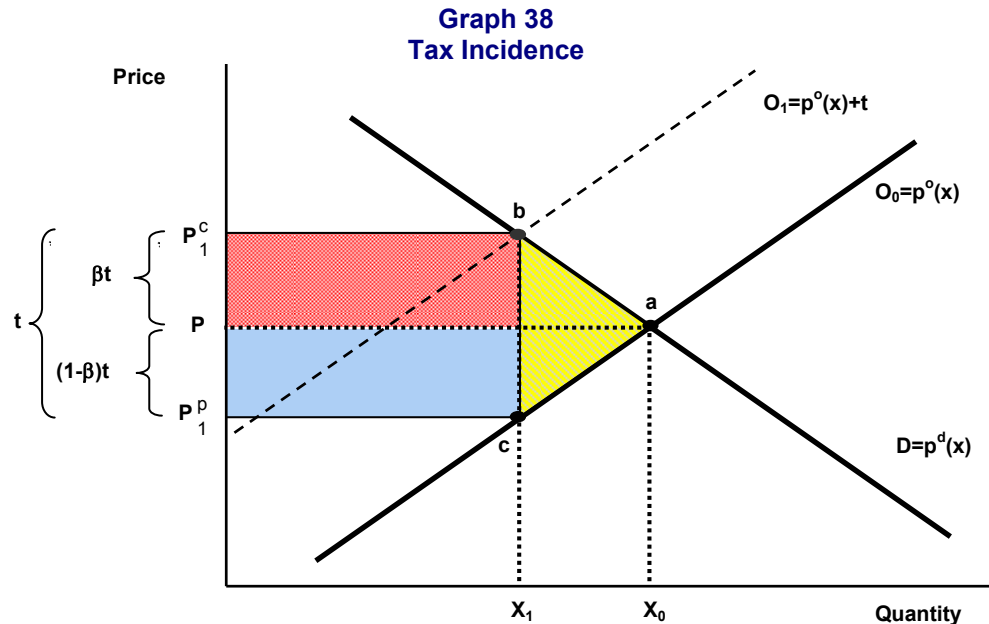
In addition, the Economic Policy Criteria for 2008 (*Criterios Generales de Política Económica 2008*) states that if the fiscal reform were approved, part of the revenues would be used to reduce peak rate electricity tariffs (high and medium tension) for industrial and commercial users. This measure could imply a reduction in firms' production costs and, thereby, could mitigate the rising costs originated by the recently-approved fiscal reform. Based on the aforementioned, this appendix includes also an estimate of the effect of reducing the referred electricity tariffs on the CPI.

The first section of the Appendix presents a supply and demand framework that helps to illustrate the effect of a tax on a product's price. The second section describes the estimation of the effect of the IETU on the CPI. Finally, the third section presents the estimation of the impact of reducing the referred electricity tariffs on the CPI.

#### **1. Framework: Tax Incidence**

The burden of a tax does not necessarily fall on the agent with the statutory incidence. Indeed, taxes can be transferred to other agents. The ability of a producer of a certain good or service to transfer part of the tax to consumers

by increasing its product prices (tax incidence on consumers) depends on the characteristics of the product's supply and demand.



In general terms, the effect of a tax on consumer prices can be analyzed with a simple market equilibrium framework (supply and demand).<sup>25</sup> For example, consider the case of a unit tax on producers (Graph 38). Starting with an initial equilibrium (point  $a$ ), the imposition of a tax ( $t$ ) is equivalent to a vertical shift of the supply curve by the amount of the tax (from  $O_0$  to  $O_1$ ). As a result of this tax, the quantity produced decreases (from  $X_0$  to  $X_1$ ) and a difference arises between the price paid by consumers ( $P_1^c$ ) and the price obtained by producers ( $P_1^p$ ). Thus, it may be possible that the increase in consumer prices represents a fraction  $\beta$  of the tax and producers absorb a fraction  $(1-\beta)$  of the tax. As a result of the tax, government tax revenue is represented in Graph 38 by area  $P_1^c b c P_1^p$ .<sup>26</sup>

This market framework shows, in a simplified manner, the necessary elements to estimate the effect of a tax, with sales as the tax base, on prices. In particular, the tax rate ( $t$ ) and the incidence on consumers ( $\beta$ ) are required.

The incidence on consumers, i.e., the part of the tax that is passed on to prices ( $\beta$ ), depends on the characteristics of the product's supply and demand in

<sup>25</sup> The analysis of the incidence of this tax is limited to a partial equilibrium framework, i.e., only the effect of the tax in the market of the analyzed product is considered and not the effects that could exist on the markets of other related goods and services and the markets of factors of production. For more information on the incidence of taxes, see Binger, B. R. and E. Hoffman (1998), "Microeconomics with Calculus", Addison Wesley, Second Edition, pp. 345-356; Musgrave, R. and P. Musgrave (1995), "Hacienda Pública Teórica y Aplicada", Mc Graw Hill, Fifth Edition, pp. 305-338; Rosen, H. S. (2004), "Public Finance", McGraw-Hill/Irwin, Seventh Edition, pp. 273-301; Stiglitz, J. E. (2002), "La Economía del Sector Público", Antoni Bosch Editor, Third Edition, pp. 511-546; Varian H. R. (1994), "Microeconomía Intermedia", Antoni Bosch Editor, Third Edition, pp. 297-305. The pioneer general equilibrium paper on tax incidence is Harberger, A. C. (1962), "The Incidence of the Corporate Income Tax", Journal of Political Economy, Vol. 70, pp. 215-240.

<sup>26</sup> Regarding the costs and benefits of a tax, the loss of welfare faced by consumers (area  $P_1^c b a P$ ) and the benefits obtained by producers (area  $P a c P_1^p$ ) are higher than the government tax revenue (area  $P_1^c b c P_1^p$ ). Therefore, in general, the imposition of a tax (in terms of tax burden and revenues) implies a net loss of social welfare (area  $abc$ ).

the market. From the equilibrium of supply and demand of the product  $D(P^c) = O(P^c - t)$ , the incidence on consumers is given by:<sup>27</sup>

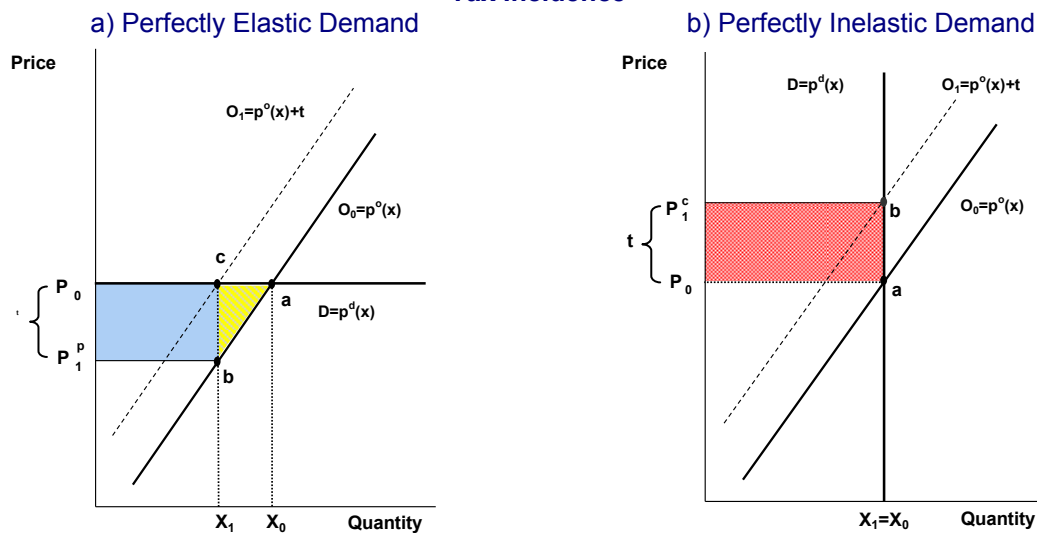
$$\beta = \frac{\Delta P^c}{\Delta t} = \frac{n_o}{n_o - n_D}, \quad 0 \leq \beta \leq 1$$

where  $n_o \geq 0$  is the elasticity of supply and  $n_D \leq 0$  is elasticity of demand. The elasticity of these curves is defined as the percentage change of the offered or demanded quantity, as a proportion of the percentage change in the price. This expression for the incidence on consumers shows that it depends on the elasticities of the supply and demand curves. Some examples help to better understand this relation. Graph 39a shows the extreme case of a market with a perfectly-elastic demand (horizontal), where there is no pass-through to consumer prices ( $\beta = 0$ ), and therefore the price obtained by the producer decreases by the amount of the tax. This situation illustrates a highly-competitive market, where firms can only sell according to a demand-determined price because any attempt to raise their prices, will shift consumers' demand to other producers.

On the other hand, when a market has a perfectly-inelastic demand (vertical) (Graph 39b), the tax is passed on entirely to the final price ( $\beta = 1$ ). A very inelastic demand curve is observed when there are no close substitutes to the taxed product, when the referred product is a basic good, and/or when consumer preferences have strong habit formation.

In general, tax incidence will fall more on the market side (supply or demand) with the most inelastic curve.

**Graph 39**  
**Tax Incidence**



<sup>27</sup> See Fullerton, D., and G. Metcalf, (2002), "Tax Incidence", in A. J. Auerbach y M. Feldstein (eds.), *Handbook of Public Economics*, Vol. 4, North Holland, pp. 1787-1872.



## 2. Estimating the Effect of the Flat Rate Business Tax (IETU) on the CPI

The framework herein presented corresponds to a sales tax. Nevertheless, this methodology can be used to analyze the pass-through of higher costs to prices. For this purpose, it is necessary to estimate the incidence on consumers ( $\beta$ ) and a rate equivalent to a sales tax ( $t$ ) that captures the abovementioned cost increase, in this case, the higher fiscal burden from the IETU. The following section describes the methodologies for estimating both elements, which are also used to estimate the impact of the fiscal reform on the CPI.

### 2.1. Incidence on Consumers ( $\beta$ )

The first element to estimate the impact of the IETU on the CPI involves estimating the tax incidence on consumers.

Firms' ability to pass their costs' increase to consumer prices depends on the market structure of the different economic sectors. Among the main factors determining this ability are market concentration, the degree of international competition the sector faces, the existence of close substitutes, and firms' cost structures. All of these factors determine the elasticities of supply and demand of different sectors, and thus, the tax incidence on consumers.

In order to estimate the incidence on consumers, two steps were considered. First, a group of goods and services prices (such as certain goods and services with administered or regulated prices, local taxes and duties, and housing services) was assumed to have zero incidences due to this tax.<sup>28</sup> Second, for the rest of goods and services, the incidences reported by Aportela and Werner (2002) for the episode of VAT rate (IVA, in Spanish) adjustment in 1995 were considered.<sup>29</sup> This episode is particularly appropriate to estimate the incidence of a tax on consumer prices because there were two trajectories of prices: one at border cities, where the VAT did not change; and another in the rest of the country, where the VAT increased.

It is worth mentioning that the incidences estimated in the referred paper are subject to a high degree of uncertainty due to the following reasons. First, there is the statistical uncertainty of this type of estimations. Second, the differences between both price patterns could have been affected not only by the VAT increase, but by the macroeconomic environment of that particular year, which could have affected both regions differently. Third, the estimated incidences in that study are conditional to the market structures prevailing at that time.

---

<sup>28</sup> Zero incidence is assumed for the following goods and services: duties on water-related services, electricity, gas for residential use, high and low octane gasoline, long-distance phone service, local phone services, own housing, maid home cleaning services, property taxes, fees on licenses and other documents, car property tax, highway tolls, and subway and electric transportation. As for the IETU, it was assumed that it would not affect the education price subindex. It is important to mention that these assumptions do not imply that further price revisions to these products should be discarded, as long as they are not related to the new tax.

<sup>29</sup> See Aportela, F. and A. Werner (2002), "La reforma al impuesto al valor agregado de 1995: efecto inflacionario, incidencia y elasticidades relativas", Documento de Investigación No. 2002-01, Banco de México.

Nevertheless, the episode of the VAT increase is the only recent natural experiment of its kind that can be used as reference to estimate tax incidences on consumer prices.

## 2.2. Equivalent Rate to a Sales Tax (t)

The second element to estimate the indirect effects of the IETU on the CPI involves estimating the increase in the fiscal burden of firms due to this tax and expressing it as a rate equivalent to a sales tax. Just like in the case of estimating incidences, estimating the additional tax burden by IETU is crucial to estimate the probable impact of this tax on the CPI.

The first step consists of estimating the additional tax revenue from the IETU. In its initial proposal of fiscal reform known as *Reforma Integral de la Hacienda Pública*, the Ministry of Finance included a methodology for this purpose. This methodology is based on Mexico's National Accounts System (*Sistema de Cuentas Nacionales de México*, SCNM). According to this methodology, the IETU base can be estimated using the value added, which is determined by discounting from the gross value of production the consumption of intermediate goods, and, as a main deduction, physical investment or gross capital formation.<sup>30</sup> This methodology requires some modifications in order to incorporate the changes in deductions and tax credits approved by Congress, such as those related to: i) tax deductions from donations; ii) tax credits, at the IETU rate, for both the payroll (only the payroll that can be associated with the income tax withhold from employees) and firms' contributions to employees' social security; and, iii) a special fiscal regime for the agriculture sector. On the other hand, there is a set of temporary deductions for the transition from the ISR-IMPAC to the ISR-IETU regimes that must be considered. Among these deductions are a gradual deduction of investment during the last four months of 2007, tax refunds of IMPAC, and other fiscal credits and deductions from previous investments, inventories and fiscal losses.

Under the terms in which the fiscal reform was approved by Congress, The Ministry of Finance announced that additional tax revenues from IETU are estimated to amount to 1.1 percent of GDP for 2008 and 2009. This figure was used to estimate the effect of the IETU on the CPI.<sup>31</sup> Nevertheless, to estimate the impact of this tax on prices, estimates of the additional tax collection must be broken down by sector. Since there is no information available at firm level to estimate the additional fiscal burden they may face, some assumptions were made using both the aforementioned methodology and information from the

---

<sup>30</sup> Only the value added to be taxed should be considered. The National Accounts consider five institutional sectors: non-financial companies, financial companies, households, government, and non-profit organizations. Only the first three are subject to the IETU. Adjustments in the household sector must also be done to eliminate the part of their production that is not destined to the market.

<sup>31</sup> Ministry of Finance press release of September 16, 2007 on the Approval of the Fiscal Reform for Low-income Population (*Aprobación por el H. Congreso de la Unión del Paquete de la Reforma Hacendaria por los que Menos Tienen*).

National Accounts to distribute the additional tax collection by division of economic activity.<sup>32</sup>

Under this context, the distribution by sector of the additional tax revenues and, thereby, the estimates of its equivalent rates are subject to a high degree of uncertainty. Estimates were done with available information, particularly regarding the assumptions to classify by sector the additional tax revenue and the temporary deductions during the transition period from the ISR-IMPAC to the ISR-IETU regime (see note 32). To the extent that sectors' characteristics and deductions are different than those considered, estimates of the equivalent tax rates by sector and, thereby, the effect of this tax on the CPI, could be different than that forecasted in this exercise.

### **2.3. Effect of the Fiscal Reform on the CPI**

Using the aforementioned methodology, the fiscal reform is expected to affect the CPI between 40 and 50 basis points in 2008 and between 2 and 5 basis points in 2009.

As mentioned, these estimates are subject to a high degree of uncertainty. On the one hand, the estimates on the tax incidence on prices were obtained from an episode in 1995. Although this episode is suitable for estimating incidences, there are some elements of uncertainty previously mentioned that suggest that results should be considered with some reserve. On the other, the estimation by sector of the impact of the tax on the CPI required assumptions to distribute the additional tax revenue estimated by the Ministry of Finance. The use of aggregate data at a level of division of economic activity limits the accuracy of estimates of this distribution. In particular, within each sector, the composition of firms that will face an additional tax burden and those that will not will have an effect on tax revenues, which is not possible to estimate using aggregate data.

The estimation also does not include possible second-round effects on inflation such as a contamination of the wage negotiation process or price increases not originated by a higher tax burden. If these effects take place, prices could increase further.

### **3. Reduction of Peak Rate Electricity Tariffs**

As mentioned, the reduction of peak rate electricity tariffs (high and medium tension) for industrial and commercial users could reduce firms' production costs, compensating part of the increase in costs originated by a higher tax burden. The methodology for estimating the effect of taxes on prices can be used to estimate the probable effect of this subsidy on the CPI.

---

<sup>32</sup> Some modifications and assumptions to distribute these taxes by sector are: i) the part generated by the government and non-profit organizations was discounted from the value added of each division; ii) to classify by sector gross capital formation, an estimate of the ratio investment to sales in each sector was used; iii) in order to classify by sector the tax credits for the payroll as well as social security contributions, the distribution of employees' earnings included in the production account of the National Accounts was used; and, iii) the fraction of the value added generated by the informal sector cannot be taxed by the IETU. To account for the latter, estimates on informality and its distribution by sector, included in INEGI's Satellite Account of Households Informal Subsector (*Cuenta Satélite del Subsector Informal de los Hogares*) were used.



Since these tariffs are not included in the CPI basket, they will not affect the CPI directly. To determine any possible indirect effects of this measure on the CPI, it is necessary to estimate the effect on production costs of the different sectors that will benefit from the tariff reduction and use the aforementioned incidences. In order to estimate the reduction of production costs, the input-output matrix of INEGI with updated information was used. The change in input prices leads to a series of subsequent changes in production costs and in the prices of different sectors that feedback until the effect fades out. The input-output matrix allows for estimating the total effect of these changes on production costs, measured as a proportion of the gross value of production.

Using the estimated change in costs and the incidences on consumer prices, this measure is expected to contribute to a reduction of between 3 and 5 basis points in the CPI during 2008.

## Appendix 3

### Implementing Monetary Policy through an Operating Interest Rate Target

Banco de México's main objective is to safeguard the purchasing power of the Mexican currency. In order to accomplish its mandate of controlling inflation, the central bank must define an operating target to guide its implementation of monetary policy. Starting January 21, 2008, Banco de México will adopt as an operating target the overnight interbank rate (*tasa de fondeo bancario*) instead of the level of commercial banks' current account balances at the central bank (*corto*). This change does not affect Banco de México's monetary policy stance.

#### Background

Central banks' continuous assessment of both prices and the prospects for inflation is a key element in the conduct of monetary policy. Central banks also monitor the main economic variables that determine inflation, such as the international financial environment and the exchange rate; earnings, wages, employment and unit labor costs; aggregate supply and demand; administered and regulated prices; public finances; and, monetary and credit aggregates.<sup>33</sup>

A central bank cannot directly control inflation or the key variables that determine it. However, central banks do have the necessary instruments to directly affect several nominal variables that, likewise, affect other determinants of inflation. This set of variables is known as "operating targets", and include, among others, short-term interest rates and commercial banks' current account balances at the central bank. The central bank must choose one of these targets to implement monetary policy.

#### Target Level for Commercial Banks' Current Account Balances at the Central Bank– the *Corto*

Since September 1995, Banco de México has implemented monetary policy through a target level for banks' current account balances at the central bank. The implementation of a neutral monetary policy under this framework involves providing or withdrawing liquidity, at market rates, so that banks' current accounts at the central bank equal zero at the end of the measurement period. When the central bank decides to maintain a restrictive policy, it announces a negative balance target, and for an expansionary monetary policy, a positive balance target.

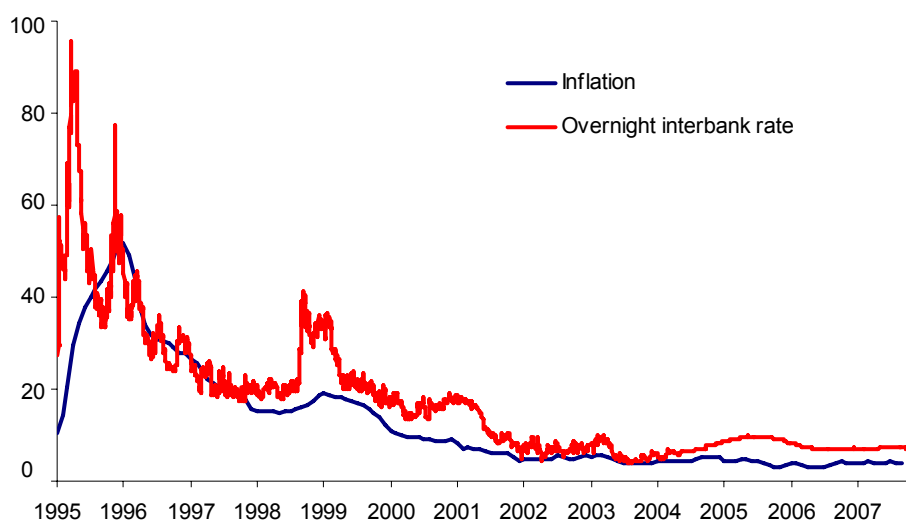
When a negative balance target (*corto*) is used, the central bank continues to provide all the liquidity needed by the financial system. However, part

<sup>33</sup> Monetary policy regimes conducted under an inflation targeting framework are based on the announcement of a multi-annual inflation target, on transparent monetary policy actions, extensive communication with the public, and, finally, on the systematic assessment of a broad set of indicators that provide information on the future path of inflation. Since 2001, Banco de México's monetary policy is conducted exclusively under this framework. For more details, see *Monetary Program for 2001*, p.57.

of this liquidity, the amount of the *corto*, is provided at above-market interest rates (the current penalty rate is twice the overnight interbank rate). This action pressures interest rates upward as banks try to obtain the funds through the interbank market to avoid paying the central bank's penalty rate.<sup>34</sup>

Mexico's experience with the *corto* reveals that Banco de México's monetary policy stance was determined more by changes in the *corto* than by the specific level of the *corto*. Thus, an increase in the *corto* was interpreted as a tighter monetary policy stance, i.e., it signaled an increase in interest rates. In contrast, a reduction in the *corto* was interpreted as a more neutral stance, even though the level of the *corto* was not taken to zero.

**Graph 40**  
**Overnight Interbank Rate and Annual Inflation**  
 Percent



Using a target level for commercial banks' current account balances at the central bank as an operating target has several advantages. First, monetary authorities do not have to determine a specific level for short-term interest rates. In Mexico, this was very convenient during years of high volatility in financial markets and when short-term interest rates were practically the only reference rates in the money market. Second, in an environment of decreasing inflation rates, a target level for banks' current account balances at the central bank allows interest rates to decrease in line with inflation expectations (Graph 40). This was the case of Mexico from 1995 to 2003, when annual inflation declined from 52% to 4%. Finally, the *corto* is efficient in allowing external and domestic shocks to be distributed between the exchange rate and interest rates. This feature is especially relevant when an economy is exposed to high inflation volatility.

Once stability in financial markets and low inflation have been attained, the exclusive use of the *corto* to signal the monetary policy stance becomes less appropriate. In an environment of stable inflation, the desired level of interest rates needs to be specified more clearly. For this reason, and to strengthen monetary

<sup>34</sup> For a more detailed description, see *Régimen de Política Monetaria ("el corto")* at [www.banxico.org.mx / Política monetaria e inflación / Material Didáctico](http://www.banxico.org.mx/Política_monetaria_e_inflación/Material_Didáctico) (available only in Spanish).

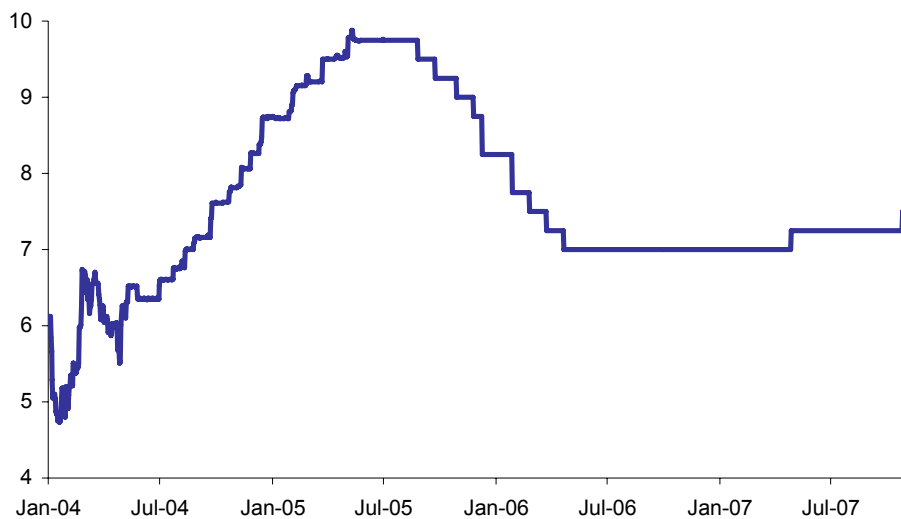
policy implementation, Banco de México implemented several measures conducive to the adoption of an operating interest rate target.

### Transition to an Operating Interest Rate Target

Banco de México started modifying the implementation of its monetary policy in 2003. First, the target level for banks' current account balances at the central bank was no longer determined based on accumulated balances but instead on daily balances. In addition, Banco de México decided to announce its monetary policy stance on pre-established dates.<sup>35</sup>

In April 2004, the need to tighten monetary policy led Banco de México to announce, in addition to the level of the *corto*, specific levels of "monetary conditions" or interest rates. Through its press releases, Banco de México's signaling of an adjustment in monetary conditions led to a precise and stable adjustment of the overnight interbank rate (Graph 41).

**Graph 41**  
**Overnight Interbank Rate<sup>1/</sup>**



<sup>1/</sup> Since July 2005, the graph shows the minimum level announced for monetary conditions.

### Operating Interest Rate Target

Once macroeconomic stability has consolidated and greater financial deepening has been attained, establishing an operating target for interest rates is a natural step. The adoption of the overnight interbank rate as an operating target to substitute the *corto* concludes the transition that began in 2003. Since 2004, monetary policy announcements have set minimum interest rates, and the market has functioned *de facto* according to the interest rate signaled by Banco de México. Indeed, the last change in the overnight interbank rate associated with a change in the *corto* took place in February 2005. The formal transition to an operating interest rate target will thus be implemented without affecting Banco de México's current operations. This change will contribute to a better understanding

<sup>35</sup> Although Banco de México has a preference for announcing changes in its monetary policy stance according to pre-established dates, just like any other central bank it reserves the right to announce them at any time.

of monetary policy actions and will standardize monetary policy implementation to that of several other central banks (Table 12).

**Table 12**  
**Operating Targets in Different Countries**

	Target Interest Rate	Most Common Operating Instruments used in OMOs <sup>1</sup>	OMOs Rate <sup>1</sup>	Credit Facilities	Deposit Facilities
<b>United States</b>	Overnight interbank rate	Repos	Auction results	50 basis points above the target rate	Not remunerated
<b>European Union</b>	Minimum one-week refinancing credit rate	Repos	The European Central Bank sets a minimum auction rate	100 basis points above the minimum refinancing rate	100 basis points below the minimum refinancing rate
<b>Canada</b>	Overnight interbank rate	Repos	Auction results	25 basis points above the target rate	25 basis points below the target rate
<b>Chile</b>	Overnight interbank rate	Repos and auctions of promissory notes issued by the central bank	Auction results	By tranches from 0 to 400 basis points above the target rate	100 basis points below the target rate

1. OMOs: Open Market Operations.  
Source: Central banks of each country.

Starting January 21, 2008, Banco de México will implement the following measures to formally adopt an operating interest rate target:

- The operating target for commercial banks' current account daily balances at Banco de México (*corto*) will stop being used and will be substituted by an operating target for the overnight interbank rate.
- Open market operations will be carried out with the aim of attaining a zero balance of banks' current accounts at Banco de México at the end of each day. Banco de México will continue to provide or withdraw all liquidity through these operations.
- The interest rate at which current account surpluses are remunerated will continue to be zero. The rate charged on banks' overdrafts will continue to be twice the overnight interbank rate.

**These modifications do not imply a change in Banco de México's monetary policy stance.** As mentioned in previous paragraphs, since the beginning of 2005 Banco de México has not signaled its monetary policy stance through changes in the *corto*.

Table 13 summarizes the main features of Banco de México's current implementation of monetary policy and the changes that will take effect starting January 21, 2008.



**Table 13  
Operating Targets in Mexico**

	<b>Target Interest Rate</b>	<b>Most Common Operating Instruments used in OMOs<sup>1</sup></b>	<b>OMOs Rate<sup>1</sup></b>	<b>Credit Facilities</b>	<b>Deposit Facilities</b>
<b>Currently</b>	<i>Does not apply. The stance of monetary policy is announced through changes in both banks' current account daily balances and monetary conditions</i>	Auctions of credits, deposits, and repos	Auction results	Twice the overnight interbank rate	Not remunerated
<b>Starting January 2008</b>	<b>Overnight interbank rate</b>	Auctions of credits, deposits, and repos	Auction results	Twice the overnight interbank rate	Not remunerated

1. OMOs: Open Market Operations.