



**FEDERAL RESERVE BANK OF DALLAS--EL PASO AND SAN ANTONIO**  
**BRANCHES:**  
**CONFERENCE ON MEXICO'S MAQUILADORA INDUSTRY**

***“PROSPECTS FOR RECOVERY OF THE MAQUILADORA  
INDUSTRY”***

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# 1995-2003 in Review

	Operating Plants		Employment		Value of Production <sup>2</sup>	
Dec 95	2,267	+9.8%	681,251	+13.4%	31.2	+20.1%
Dec 96	2,553	+12.6%	803,060	+17.9%	42.2	+35.2%
Dec 97	2,867	+12.3%	938,783	+16.9%	54.8	+29.7%
Dec 98	3,130	+9.2%	1,038,783	+10.7%	65.8	+20.0%
Dec 99	3,436	+9.8%	1,196,678	+15.1%	73.7	+12.1%
Dec 00	3,703	+7.8%	1,307,982	+9.3%	83.0	+12.4%
Dec 01	3,450	-6.9%	1,081,526	-17.4%	85.9	+3.5%
Dec 02	3,248	-5.9%	1,084,911	+0.3%	87.5	+1.9%
August 03 <sup>1</sup>	2,830	-12.6%	1,048,445	-4.1%		

<sup>1</sup> Variation vs. August 2002

<sup>2</sup> Billions of U.S. dollars

# Maquiladora Industry Main Economic Indicators

	1999	2000	2001	2002	2003 <sup>1</sup>	% Chg 02/01	% Chg 03 <sup>1</sup> /02
Plants <sup>2</sup>	3,297	3,590	3,664	3,251	3,259	(11.8)	0.2
Employment <sup>2</sup> (000)	1,140.5	1,285.1	1,201.6	1,081.7	1,087.2	(10.0)	1.4
Gross production value <sup>3</sup>	73.7	83.0	85.9	87.5	88.6	1.9	1.3
Imported raw materials <sup>3</sup>	60.9	65.7	66.6	68.7	69.8	3.1	1.6
Mexican value-added <sup>3</sup>	13.8	17.3	19.3	18.8	18.8	(2.5)	(0.1)
Avg. annual peso/dollar Exchange rate (48-hour, interbank)	9.562	9.461	9.341	9.668	10.680	(3.5)	(9.5)
Avg. maquiladora wage Including benefits, Direct Labor only (dollars per hour)	1.71	1.88	1.75	1.79	1.87	2.2	4.2

<sup>1</sup> Projection as of Oct. 2003

<sup>2</sup> Annual averages

<sup>3</sup> Billions of U.S. dollars

# Maquiladora Industry At-A-Glance

## Number of plants (August 2003)

2,830	-408
3,238 in Aug. '02	-493
3,731 in Aug. '01	+105

## Number of employees (August 2003)

1.048 million	-44,022
1.092 million in Aug. '02	-75,703
1.168 million in Aug. '01	-158,025

## Number of plants closed in 2002

(official, INEGI, net) 202

**In 2003, January-August 418**

## Total maquiladora exports (Jan-Sept. 2003)

\$56.79 billion dollars	
\$57.78 billion in 2002	(1.8%)

## Peso exchange rate

2002 average	9.668 to US\$1
2001 annual average	9.341
2000 annual average	9.461
Year 2003 Average <sup>1</sup>	10.688

## Overall industry growth, real (INEGI)

2000	14.9%
2001	(9.2%)
2002	(8.7%)
2003 (January- Sept.)	0.6%

## Plant location (August 2003)

		Variation*
Border cities	1,700	(248)
Non-border cities in border states	538	(44)
Other states	592	(116)

## Major players (August 2003)

	Plants	Empl. (000)	Variation *	
Electronics, electrical	628	318.7	(59)	(3.7)
Automotive parts, components	253	233.7	(6)	1.5
Textile, apparel	639	205.2	(194)	(32.8)
% of industry total	53.7	72.2	(1.0)	(1.2)

## Direct foreign investment<sup>2</sup>

2002	2,043.5
2001	2,172.2
2000	2,985.0
2003 <sub>(a)</sub>	995.0

<sup>1</sup> Forecast for year (48 hr Interbank Rate)

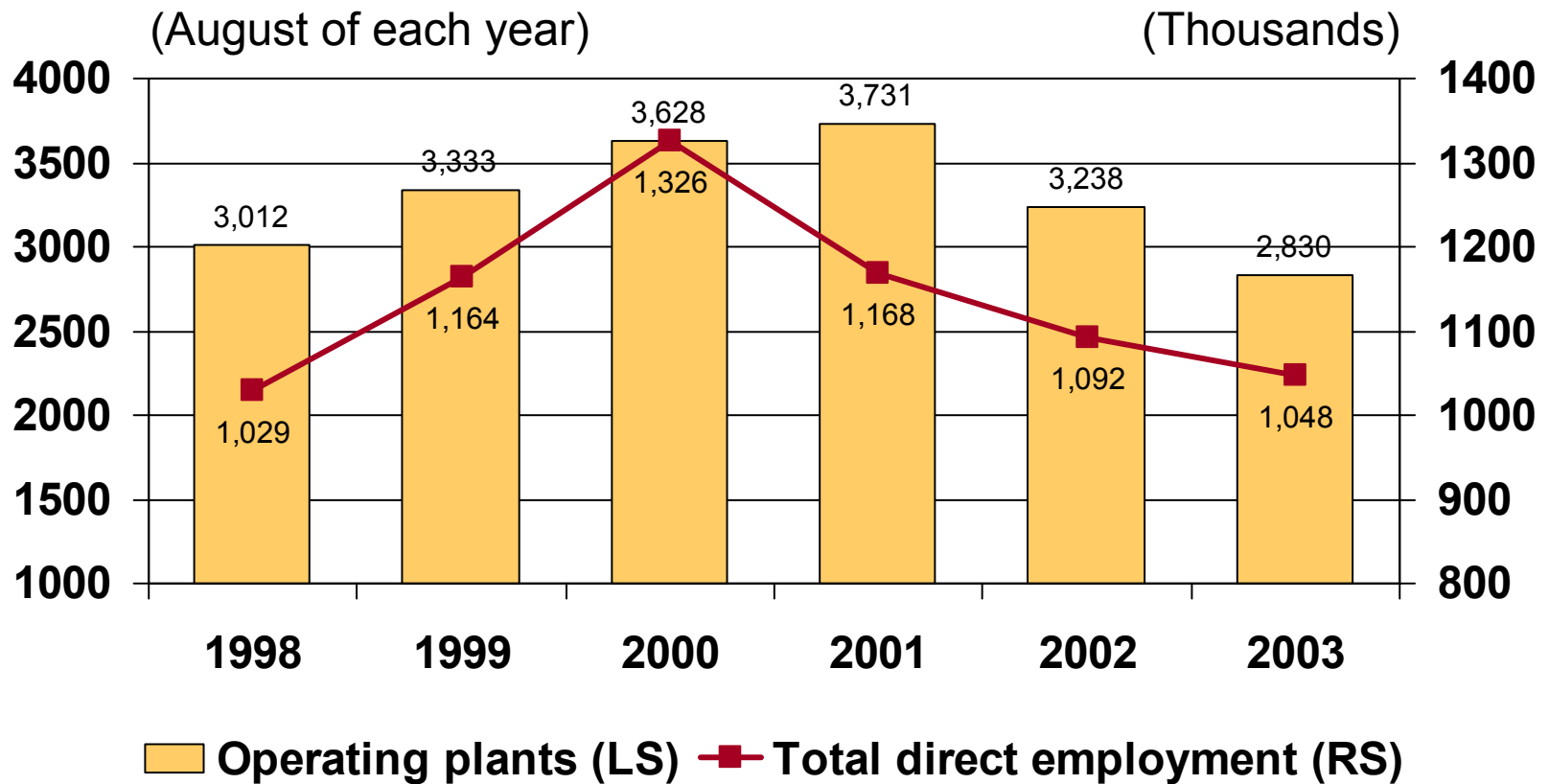
<sup>2</sup> Millions of U.S. dollars, covers only imports of fixed assets by the Maquiladora Industry

(a) January-June only

\* Variations vs. August 2002

Data compiled by Global Insight, Inc. from the following sources: INEGI, Bank of Mexico, SECOFI, SECON

# Maquiladora Industry Growth



Source: INEGI

# Maquiladora Industry By Sector

	Total Plants		Total Employment (000)	
	Aug. 03	Chg from Aug 02	Aug 03	Chg from Aug 02
<b>INDUSTRY TOTAL</b>	2,830	(408)	1,048.4	(44.1)
Automotive parts, equipment, access	253	(6)	233.7	1.5
Textiles, wearing apparel	639	(194)	205.2	(32.8)
Electronic, electrical materials, accessories	462	(58)	225.6	(5.4)
Assembly of electrical, electronic machinery, equipment, articles	166	(1)	93.1	1.7
Wooden and metallic furniture, parts	290	(47)	50.2	(5.5)
Chemicals	123	(18)	21.6	(2.2)
Foodstuffs	51	(16)	10.0	2.3
Toys, sporting goods	44	(5)	9.2	(1.9)
Assembly, repair of non-electric tools, equipment	62	(7)	16.8	(0.2)
Footwear, leather goods	32	(9)	5.5	(1.9)
Other manufacturing	462	(48)	143.5	11.8
Services	246	1	34.0	(3.9)

Source: INEGI

# Maquiladora Industry Monthly Performance<sup>1</sup>

	2001		2002		2003	
	Production	Exports <sup>1</sup>	Production	Exports <sup>1</sup>	Production	Exports <sup>1</sup>
January	6.5	22.3	(14.1)	(8.4)	0.8	1.5
February	1.3	2.5	(17.5)	(3.8)	0.7	(0.2)
March	5.9	11.1	(21.4)	(6.0)	2.2	(0.8)
April	(3.7)	12.2	(9.8)	7.8	(0.8)	(7.0)
May	(2.4)	(6.8)	1.7	(2.7)	(0.6)	(6.3)
June	(6.3)	(4.8)	1.6	1.5	0.3	0.4
July	(9.3)	(4.2)	(4.1)	12.2	(0.3)	(7.9)
August	(12.6)	(15.9)	(3.2)	0.6	1.7	(1.8)
September	(11.9)	(8.9)	(6.7)	8.6	n.a.	6.9
October	(18.7)	(11.8)	(3.2)	(0.7)		
November	(18.8)	(11.7)	0.3	3.8		
December	(19.6)	(16.4)	1.8	13.5		

<sup>1</sup> Percentage comparisons with the same months in 2000, 2001, and 2002

Source: INEGI

# Maquiladora Industry Recent Evolution of Direct Employment

	2000		2001		2002		2003	
	Month	Net Chg Previous Month	Month	Net Chg Previous Month	Month	Net Chg Previous Month	Month	Net Chg Previous Month
January	1,213,665	+18,234	1,310,171	+2,189	1,071,710	-9,816	1,076,224	-8,687
February	1,221,283	+7,678	1,289,799	-20,372	1,060,481	-11,229	1,090,529	+14,305
March	1,250,973	+29,690	1,279,361	-10,438	1,060,173	-232	1,090,547	+18
April	1,247,338	-3,635	1,264,383	-14,978	1,070,020	+9,847	1,086,046	-4,501
May	1,287,050	+39,712	1,240,840	-23,543	1,085,785	+15,765	1,091,230	+5,184
June	1,301,947	+14,897	1,219,379 <sup>2</sup>	-21,461	1,087,079	+1,294	1,081,553	-9,677
July	1,315,972	+14,025	1,187,525	-31,854	1,088,679	+1,593	1,071,384	-10,169
August	1,326,215	+10,243	1,167,183	-20,342	1,085,154	-3,518	1,048,445 <sup>3</sup>	-22,939
September	1,338,306	+12,091	1,149,073	-18,110	1,089,645	+4,491		
October	1,338,970 <sup>1</sup>	+7,980	1,126,120	-22,853	1,097,723	+8,078		
November	1,331,719	-7,251	1,103,535	-22,585	1,098,831	+1,108		
December	1,307,982	-23,737	1,081,526	-22,009	1,084,911	-13,920		

<sup>1</sup> Record high month for Maquiladora employment

<sup>2</sup> Record high month for number of operating Maquiladoras

<sup>3</sup> Lowest level since Dec 1998

Source: INEGI

# Net Monthly Change in Operating Maquiladora Plants

	1998	1999	2000	2001	2002	2003
January	2	13	29	10	-83	0
February	16	23	21	4	-79	1
March	10	40	35	18	-58	2
April	7	37	29	15	-12	-11
May	23	16	12	11	10	-5
June	27	35	20	2	8	-6
July	26	16	29	-12	0	-47
August	34	23	17	-20	2	-352
September	39	51	25	-25	2	
October	41	0	2	-100	1	
November	15	24	12	-79	3	
December	23	28	36	-77	4	

Source: INEGI, Monthly Statistical Reports

# Maquiladora Industry By States:

(total number of operating plants)

	Jan 99	Jan 00	Jan 01	Jan 02	Aug. 03
<b>INDUSTRY TOTAL</b>	3,143	3,465	3,713	3,367	2,830
Aguascalientes	83	91	92	62	43
Baja California	1,090	1,156	1,280	1,133	873
Coahuila	269	277	284	261	216
Chihuahua	379	447	452	439	381
Durango	101	92	99	63	45
Federal District (México City)	24	31	29	29	20
Guanajuato	60	72	84	67	49
Jalisco	87	98	117	138	127
México State	47	58	55	47	52
Nuevo Leon	124	148	160	169	178
Queretaro	n.a.	11	19	21	23
Puebla	82	100	121	109	87
S. Luis Potosi	n.a.	22	17	15	19
Sinaloa	10	10	10	10	6
Sonora	252	274	201	208	189
Tamaulipas	351	367	383	400	377
Yucatán	74	109	131	118	84
Zacatecas	11	18	20	18	14
Other states	100	78	69	62	70

Note: As of August, there were no registered operating maquiladora plants in Michoacan, Nayarit, Tabasco or Quintana Roo.

Source: INEGI

# Mexico's Foreign Trade

(Millions of U.S. dollars)

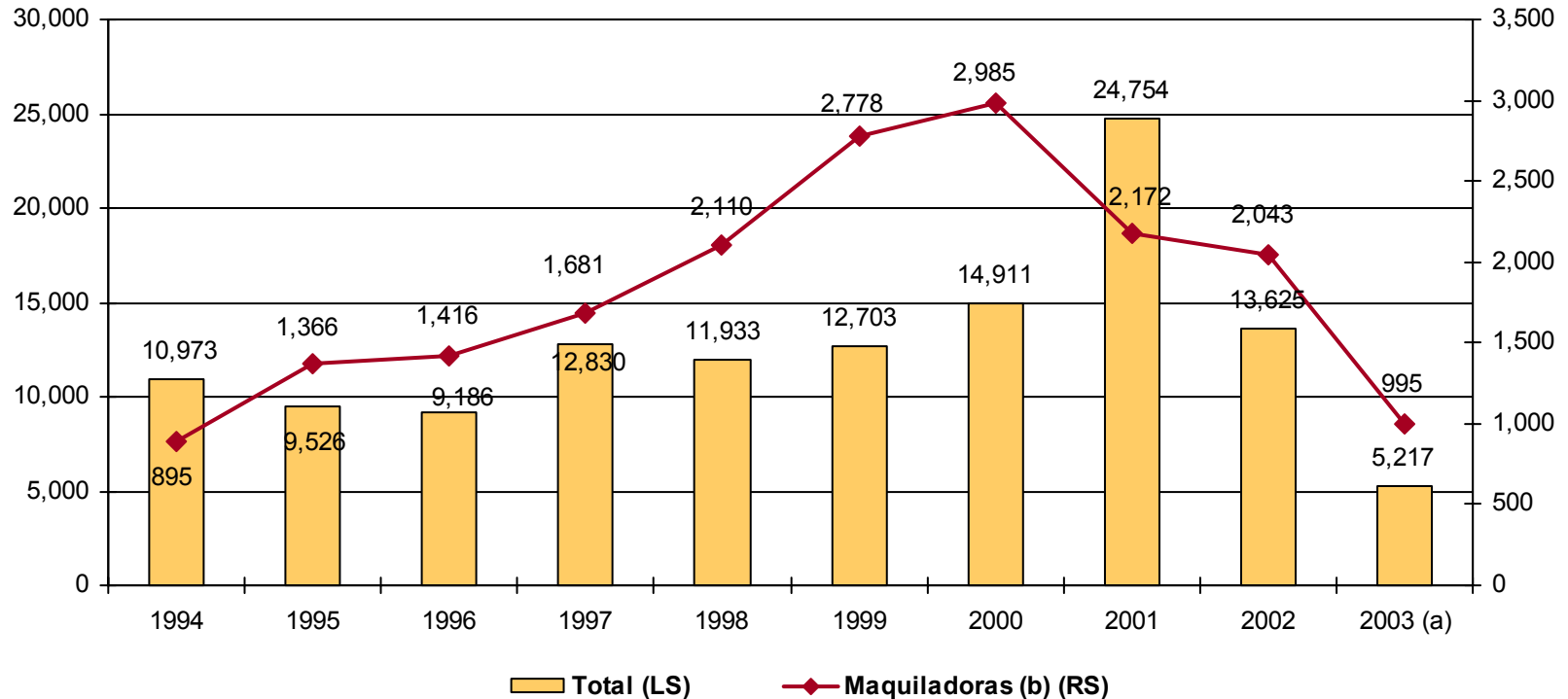
	Sept. 02	Jan- Sept 03 <sup>1</sup>	Sept 03 <sup>1</sup>	% Variation S03 <sup>1</sup> /02
<b>Total Exports</b>	<b>13,637</b>	<b>121,451</b>	<b>14,365</b>	<b>5.3</b>
Petroleum Sector	1,409	13,792	1,440	3.0
Agricultural, Livestock	166	3,612	253	62.6
Mining	36	362	45	26.9
Manufactures	12,026	102,671	12,603	4.8
Non-Maquiladora	5,392	45,886	5,511	2.2
Maquiladora	6,634	56,785	7,092	6.9
<b>Total Imports</b>	<b>14,064</b>	<b>124,462</b>	<b>14,729</b>	<b>4.7</b>
Capital Goods	1,524	14,642	1,643	7.8
Intermediate Goods	10,853	94,747	11,215	3.3
Non-Maquiladora	5,751	51,852	5,628	(2.2)
Maquiladora	5,102	42,895	5,587	9.5
Consumer Goods	1,687	15,073	1,871	10.9
<b>Total Trade Balance</b>	<b>(426)</b>	<b>(3,011)</b>	<b>(364)</b>	<b>(14.6)</b>
Maquiladora	1,532	13,890	1,505	(1.2)

<sup>1</sup> Preliminary, official for Jan-Sept. 2003

Source: INEGI, SHCP, and Bank of Mexico

# Direct Foreign Investment in Mexico (a)

(in millions of U.S. Dollars)



\*Preliminary, official.

(a) Includes manufacturing, banking and financial services, telecommunications, maquiladoras, self-service and department stores, acquisition of Mexican companies, etc. Includes reinvestment of dividends and inter-company transfers.

(b) The National Foreign Investment Registry registers as Maquiladora Industry DFI only the total value of imported fixed assets.

(c) January –June only

**Note:** Does not include portfolio investments.

Source: Bank of Mexico, SECON, SHCP

# ***Official Support for a Potential Comeback***

- Federal Govt. on October 13 publishes new, pro-active Maquiladora Industry Decree; makes major promises on fiscal changes
- Anti-Maquiladora May 12 Decree trashed

# Highlights of the October 13 Decree:

- Maquiladora Industry for first time labelled a “Priority Sector” for the Govt. and the economy
- Govt. has 15 working days to authorize maquiladora programs, separate bureaucratic procedure with national importers registry no longer required.
- Rental contracts are for a minimum one year –but only first month must be paid upfront
- Virtually all toxic aspects of May 12 decree expressly eliminated
- Stated Decree objective: “Give Legal Certainty to the Maquiladora Exporting community”

# And the Administration Promises the Following

- Propose eliminating the controversial 4% salary credit tax (ISCAS) as of January
- Propose first-year full accelerated depreciation for all new fixed asset investments by maquiladoras (Done on 10/17)
- Propose new and reduced Safe Harbor tax regime for maquiladoras (Done on 10/30)
- A new Decree to fully promote/support industry competitiveness efforts



For the Industry: a Breath of Fresh Air

# The August 8 Secon Accord

Companies eligible for Service Maquiladoras Authorization

## Activities:

1. Supply, storage, distribution of inputs, parts, components,\*
2. Packaging or repacking, strapping or restrapping, canning, marking or labelling of merchandise,\*
3. Classification, inspection, testing, verification of merchandise,\*
4. Cutting, adjustment, sand-papering, gluing, polishing, painting or waxing of pieces
5. Repair, maintenance of goods\*



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6. Washing, pressing of apparel\*
7. Stamping of apparel
8. Armor plating, modification, adaptation of motor vehicles
9. Design, engineering of products –including software
10. Recycling, gathering of scrap

\*Authorization only if service maquiladora is located in northern border zone

Source: Federal Official Daily, August 8, 2003

# ***A New Model For Maquiladora Industry Competitiveness/Survival***

- Emphasis on attracting/retaining high-tech plants.
- High complexity plants, tailored to high-end customers, with quick J-I-T response time for customers in volatile markets.
- Capital intensive investment.
- Full-fledged efforts at vertical integration of the industry, more value-added production.
- Prompt leveraging and taking “overnight” advantage of new U.S. and global competitive factors.
- Maquiladoras must have their own business model –engineering, R&D at maquiladora level.
- Key: complete elimination or real streamlining of the government jungle of rules and regulations, to truly help promote the above points with investors.

# *Elements for Increasing Maquiladora Competitiveness\**

1. Consolidation of Production Lines
2. Build-to-Order programs
3. Lean manufacturing, proximity to suppliers
4. Six Sigma Programs
5. Flexible manufacturing programs
6. Modular assembly
7. Design advances (R&D)
8. Reverse integration
9. Strategic alliances with plants in other “maquiladora countries”

\* Assuming no fiscal or other competitive promotional incentives by the Federal government.

# Key Competitive Sectors for Maquiladoras

- Automotive parts, components
- Aerospace
- Electronics (large-size LCD flat screen TVs)
- Software
- Metalmechanics
- Medical/Hospital instruments and supplies
- Niche market, upscale, J-I-T goods

Source: Global Insight

# Maquiladora Industry Gross Value of Production

(Billions of U.S. dollars)

SECTOR	1998	2003 <sup>1</sup>	2008 <sup>1</sup>	%Variation 08/03
<b>Total</b>	65.79	88.60	112.03	26.4
<b>Electrical, electronics</b>	32.90	36.60	44.03	20.3
<b>Automotive parts, components</b>	16.80	28.07	36.84	31.2
<b>Textiles, Apparel</b>	4.78	7.19	8.63	20.0
<b>Wooden, metallic furniture, accessories</b>	2.84	3.61	4.52	19.7
<b>Services</b>	0.93	1.61	2.83	75.8
<b>Machinery, tools</b>	0.68	0.92	1.36	47.8
<b>Toys, sporting goods</b>	0.43	0.52	0.62	19.2
<b>Foodstuffs, processed</b>	0.29	0.38	0.51	34.2
<b>Footwear, leather goods</b>	0.33	0.37	0.47	27.0
<b>Other manufacturing industries</b>	6.81	9.40	12.21	29.9

<sup>1</sup> Projections by Global Insight, October 2003  
Source (1998): INEGI, CIEMEX-WEFA

# Maquiladora Industry Gross Value of Production and Trade Surplus

(Billions of current U.S. dollars)

	Gross Production Value	Trade Surplus <sup>1</sup>
1990	14.1	3.6
1991	15.8	4.1
1992	18.9	4.8
1993	23.1	5.5
1994	26.0	6.0
1995	31.2	4.9
1996	42.3	6.5
1997	54.8	8.8
1998	65.8	10.8
1999	73.7	13.8
2000	83.0	17.3
2001	85.9	19.3
2002	87.5	18.8
2003 <sup>2</sup>	88.6	18.8
2004 <sup>2</sup>	90.8	19.5
2005 <sup>2</sup>	95.0	20.7
2006 <sup>2</sup>	99.8	22.3
2007 <sup>2</sup>	105.6	23.9
2008 <sup>2</sup>	112.0	25.8

<sup>1</sup> Value-added in Mexico

<sup>2</sup> Projections by Global Insight, as of Oct., 2003

Source: Banco de Mexico, INEGI

# Maquiladora Industry Growth Projections

	2000	2001	2002	2003-2005 <sup>2</sup>	2006-2008 <sup>2</sup>
<b>PRODUCTION BY SECTOR<sup>1</sup></b>					
<b>Electric/Electronic</b>	39.10	39.19	37.10	36.93	41.43
(% growth)	9.0	0.2	(5.3)	(0.4)	5.3
<b>Transport Eqpt.</b>	22.71	24.11	26.73	29.56	34.96
(% growth)	15.4	6.2	10.9	5.7	5.8
<b>Textiles, Apparel</b>	6.73	7.46	7.19	7.35	8.24
(% growth)	17.8	10.9	(3.6)	2.0	4.4
<b>Furniture</b>	3.69	3.78	3.71	3.70	4.28
(% growth)	17.2	2.1	(1.9)	--	4.9
<b>Electric/Electronic</b>	439.9	392.6	324.2	331.6	372.5
(% growth)	13.9	(10.8)	(17.4)	2.6	4.7
<b>Transport Eqpt.</b>	237.0	225.8	233.1	256.5	296.9
(% growth)	13.5	(4.8)	3.2	4.8	5.7
<b>Textiles, Apparel</b>	281.9	268.9	232.2	236.9	251.7
(% growth)	13.0	(4.7)	(13.7)	1.3	2.4
<b>Furniture</b>	60.8	60.0	54.9	54.5	59.6
(% growth)	11.0	(1.3)	(8.6)	(0.1)	3.4

<sup>1</sup> Annual average in billions of U.S. dollars

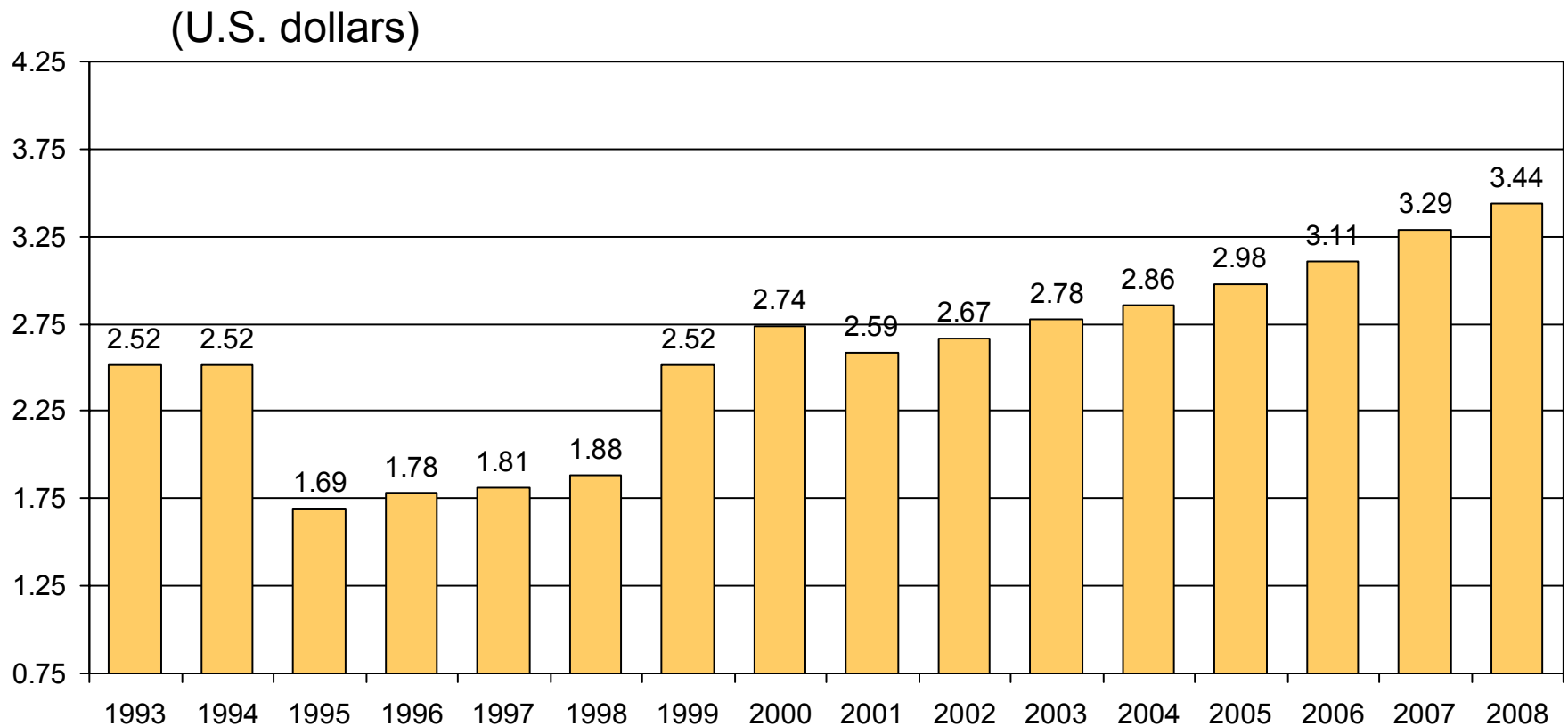
<sup>2</sup> Average annual growth projection, Baseline Forecast, October 2003

<sup>3</sup> Annual average in thousands

# Projected Maquiladora Plant Outlook by Selected States

	(As of 12/31)				(Annual averages, projected as of 15/10/03)		
	1999	2000	2001	2002	2004	2006	2008
<b>Industry Total</b>							
Plants	3,436	3,703	3,450	3,248	3,350	3,545	3,777
Employment (000)	1,196.7	1,308.0	1,081.5	1,084.9	1,131.8	1,215.5	1,329.3
<b>Chihuahua</b>							
Plants	438	450	435	439	449	499	557
Employment	290.7	327.7	264.0	262.6	270.9	287.7	311.2
<b>Baja California</b>							
Plants	1,146	1,279	1,192	1,054	1,005	1,045	1,060
Employment	248.7	283.0	224.6	218.9	230.2	246.1	267.5
<b>Tamaulipas</b>							
Plants	365	382	400	401	441	472	523
Employment	167.5	180.6	162.3	166.0	172.7	186.4	204.2
<b>Sonora</b>							
Plants	275	292	222	214	167	161	168
Employment	104.7	109.2	83.7	70.5	76.4	79.5	84.3
<b>Coahuila</b>							
Plants	277	283	262	254	310	319	328
Employment	109.7	114.2	102.9	116.2	112.1	126.1	138.3
<b>Nuevo Leon</b>							
Plants	141	160	169	176	229	255	337
Employment	60.9	68.5	52.3	52.2	61.0	70.7	84.1

# Maquiladora Industry Labor Costs Average Hourly Wages<sup>1</sup>



<sup>1</sup> Average of Direct Labor, Technical, and Administrative Personnel, Obligatory Fringe Benefits included  
Projections, 2003-2008

# ***Prospects for the Maquiladora Industry in 2008<sup>1</sup>***

- **Employment: 1.33 million workers (3% above the 2000 level)**
- **Number of plants: 3,777 (5% above the 2000 level), including 2,260 (almost 60%) in border cities**
- **Gross production value: \$112 billion dollars (28% above the 2002 level), this figure is almost equivalent to gross exports**

<sup>1</sup> Baseline Forecast (probability factor: 50%), most probable scenario as of Oct. 2003.

THANK YOU  
¡MUCHAS GRACIAS!

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