

## Maquiladora Employment New Data Confirm Pickup in Juárez Factory Jobs

For decades, Mexico's maquiladoras have been a major growth engine in the Rio Grande region, and monthly reports on the industry's employment, wages and production were key barometers for the border region's economy.

These valuable indicators were lost in December 2006, when Mexico's Instituto Nacional de Estadística y Geografía (INEGI) ceased publishing maquiladora data. New rules on export-oriented industries merged the maquiladora industry and a program for homegrown exporters into the Maquiladora Manufacturing Industry and Export Services, or IMMEX.<sup>1</sup>

In January, INEGI began releasing IMMEX data going back to July 2007 and including monthly employment, establishments and wages for 17 states and 33 municipalities.<sup>2</sup> In addition to providing a portrait of export-related manufacturing in Mexico, the new data allow us to resurrect an important economic indicator for the El Paso–Juárez region.

Mexico had more than 1.6 million IMMEX jobs as of December 2009, with Juárez, Tijuana and Reynosa representing 23 percent of the total (Table 1). Given that IMMEX combines maquiladoras with other exporters, interior cities such as Apodaca and the Distrito Federal now rank in the top five in terms of number of jobs.

In December 2006, maquiladoras accounted for 22.4 percent of manufacturing jobs

in Mexico; IMMEX firms currently make up 33 percent.

While maquiladora data were unavailable for three years, an alternative barometer of the El Paso–Juárez region's economic conditions was needed. We developed a model to estimate Juárez's monthly maquiladora employment. It uses three indicators:<sup>3</sup>

- U.S. industrial production: Once U.S. industrial production picks up, orders are sent to Mexican plants within one or two months.
- Real peso–dollar exchange rate: Maquiladora plants have peso-denominated costs and dollar-denominated revenues—so changes in the exchange rate are crucial.
- Manufacturing employment: Since Juárez is the major manufacturing city in Chihuahua, changes in state manufacturing employment can be used as a proxy for changes in factory jobs at the city level.<sup>4</sup>

Our model reasonably tracks historical turning points in Juárez's maquiladora employment—for example, the onset of the downturn in October 2000 and the beginning of the recovery in November 2001. Regarding the recent business cycle, our model indicates the employment peak was in October 2007 and the trough was July 2009 (Chart 1).

The model matches closely the turning points in the recently released IMMEX Juárez

employment data. According to our model, Juárez maquiladoras have been expanding their payrolls since August 2009 and employment levels are now above year-ago levels.

This model will continue to be a timely indicator of El Paso–Juárez area manufacturing activity, given its track record and Mexico's two-month lag in reporting IMMEX data.

—Roberto Coronado and Jesus Cañas

### Notes

<sup>1</sup> See "Mexico Regulatory Change Redefines Maquiladora," by Jesus Cañas and Robert W. Gilmer, Federal Reserve Bank of Dallas *Crossroads*, Issue 1, 2007, [www.dallased.org/research/crossroads/2007/cross0701b.html](http://www.dallased.org/research/crossroads/2007/cross0701b.html). IMMEX stands for Industria manufacturera, maquiladora y de servicios de exportación.

<sup>2</sup> For data series, see <http://dgcnesyp.inegi.org.mx/cgi-win/bdieintsi.exe/NIVJ200035#ARBOL>.

<sup>3</sup> For more details on the methodology, see "Short-Run Maquiladora Employment Dynamics in Tijuana," by Roberto A. Coronado, Thomas M. Fullerton Jr. and Don P. Clark, *Annals of Regional Science*, vol. 38, no. 4, 2004, pp. 751–63; and "Maquiladora Employment Dynamics in Nuevo Laredo," by Jesus Cañas, Thomas M. Fullerton Jr. and William Doyle Smith, *Growth and Change*, vol. 38, no. 1, 2007, pp. 23–38.

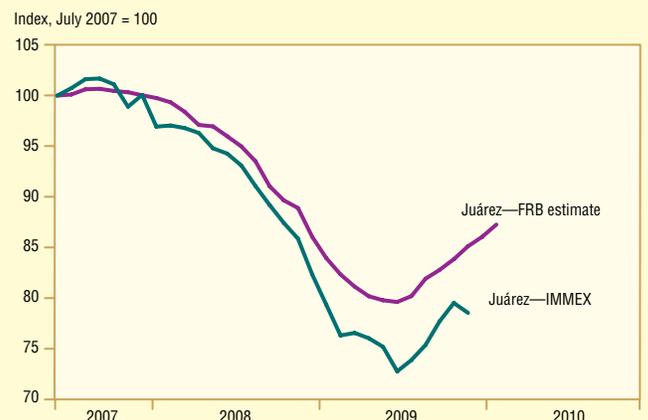
<sup>4</sup> Formal-sector manufacturing employment for Juárez is no longer available through the Instituto Mexicano del Seguro Social. Therefore, we have to rely on the state-level data.

**Table 1**  
**Top Cities for Mexico's Export-Related Jobs**  
Maquiladora Manufacturing Industry and Export Services Employment  
(January–December 2009 average)

Rank	City	Employment	Share (percent)
1	Juárez, Chihuahua	164,613	10.2
2	Tijuana, Baja California	137,580	8.5
3	Reynosa, Tamaulipas	72,372	4.5
4	Apodaca, Nuevo León	55,969	3.5
5	Distrito Federal	52,812	3.3
6	Mexicali, Baja California	45,145	2.8
7	Matamoros, Tamaulipas	39,953	2.5
8	Chihuahua, Chihuahua	37,800	2.3
9	Aguascalientes, Aguascalientes	35,408	2.2
10	San Luis Potosí, San Luis Potosí	32,461	2.0

SOURCE: Instituto Nacional de Estadística y Geografía.

**Chart 1**  
**Model Tracks Turning Point in Maquiladora Employment**



SOURCES: Instituto Nacional de Estadística y Geografía; Federal Reserve Board; Banco de México; Instituto Mexicano del Seguro Social; authors' calculations.