Dígame: Policy & Politics on the Texas Border

Edited by by Christine Thurlow Brenner, Irasema Coronado, and Dennis L. Soden, 2003, Kendall Hunt: Dubuque, IA.

Chapter 7
Borderplex Economic Change

Thomas M. Fullerton, Jr., David Torres, Martha Patricia Barraza, and Jon Amastae[1]

Introduction

El Paso and Ciudad Juárez together form the largest international metropolitan economy in the world. Year 2000 Census counts conducted in both cities indicate that nearly 1.9 million people live in the borderplex. To support such a large number of persons, commensurately large economic bases exist on both sides of the Río Grande. Commercial and industrial activity have grown at fairly rapid paces in recent decades.[2] Similar rates of expansion are also projected in future decades.[3]

Material in this chapter provides an overview of the evolution of the borderplex economy. Topics reviewed include population, employment, income, gross metropolitan product, retail trade, international bridge crossings, and water consumption. Similar to the national economies of the United States and Mexico, the local economies have undergone important structural changes in recent years. Those types of changes will continue to be experienced in future years, as well. Although many of the areas touched upon below have been dealt with in previous chapters of this book, Chapter 7 treats them from the vantage point of ongoing economic change and evolution.

Population

A key ingredient in regional economic success is labor force availability. From that perspective, El Paso performed consistently well throughout the latter portion of the twentieth century. Between 1970 and 2000, the local population grew from 365.4 thousand to 679.6 thousand. The vast majority of that increase was due to natural increase. Natural increase is the difference between resident births and resident deaths in a region. Because natural increase accounts for the bulk of year-to-year local population increases, El Paso remains very young relative to the rest of the United States and also has a relatively large labor force.[4]

Besides natural increase, the other source of regional population growth is net migration. Similar to many other metropolitan economies, there are some years in which El Paso observes migratory population losses. There are also years in which El Paso experiences migratory population gains.[5] Consistently, however, population changes resulting from net migration to northern half of the borderplex are much smaller than those associated with natural increase.

While any region is likely to observe some type of demographic change associated with migratory movements, El Paso differs from many other urban areas in one important aspect. Local net migration includes very large numbers of international arrivals. A closer look at the changes in population in any given year reveals that international migration tends to add to the local population base, while domestic migration generally reduces it.[6] More than anything else, those trends simply reflect regional employment opportunities.

In Mexico, the national labor force generally grows more rapidly than the numbers of jobs being created.[7] That situation creates an incentive to relocate outside of the country and sustains a steady flow of Mexican citizens to the United States. On the north side of the border, however, the unemployment rate is usually much higher than the jobless rates observed in other cities such as Austin, Fort Worth, or Houston.[8] That provides an inducement for local residents to move away in order to take advantage of better job opportunities elsewhere.

Ciudad Juárez has experienced even more rapid growth than El Paso in recent years.[9] In contrast to El Paso, a large percentage of the 52 percent population expansion between 1990 and 2000 resulted from net migration. That is because of the labor shortages that resulted from large-scale maquiladora payroll expansions. In 1990, in-bond assembly plants in Ciudad Juárez employed 122.2 thousand persons. By 2000, that figure grew to 228.5 thousand workers, an increase of more 86 percent.[10] Because the local labor force could not keep pace, employers in the city were forced to recruit workers from other regions of Mexico such as the states of Michoacan, Guanajuato, and Veracruz.

Employment

The changes in the population bases of both cities have accompanied and contributed to increases in numerous economic activities. Fairly rapid employment growth has occurred in a wide variety of different jobs categories in El Paso and Ciudad Juárez in recent years. In some cases, job losses have also occurred. For urban economies as large as those comprising the borderplex, large volumes of payroll gains and losses will almost always occur on a simultaneous basis.

In El Paso, more than 115 thousand new jobs were created between 1980 and 2000. That growth raised total employment to more than 347.7 thousand in 2000.[11] Similar to the rest of the United States, most of the new positions offered to workers in El Paso during this period were associated with tertiary segments of the economy. Primary sectors include agriculture, fishing, mining, and timber. Secondary sector classifications include manufacturing, construction, and public utilities. Tertiary segments, also known as service sectors, include commercial, financial, health, and public agency activities.

Over the period from 1980 to 2000, large numbers of new jobs became available in service sectors of the El Paso labor market. More than 22.3 thousand new positions were created in retail trade. Local government employment, primarily as a consequence of higher public school district enrollments, grew by more than 16.1 thousand. Professional service activities exhibited the fastest rates of growth. During the two decades under consideration, services jobs more than doubled from 36.8 thousand to nearly 88.2 thousand.[12] As is the case with other regions of the country, much of the latter increment is attributable to rapid expansion of both health care and business services.[13]

In El Paso, manufacturing employment followed a comparatively much more erratic path in recent years. In particular, the closure of many apparel manufacturing factories caused serious financial difficulties for thousands of displaced workers during the late 1990s.[14] Emerging international merchandise trade patterns imply additional uncertainties for apparel employment in El Paso.[15] While that manufacturing segment has faced numerous changes in recent years, others such as fabricated metals and plastics have expanded. As a whole, real manufacturing output increased by nearly 40 percent between 1992 and 2000. Increased automation will probably continue to allow manufacturing gross metropolitan product (GMP) to grow steadily in future years, but employment is not likely to keep pace.[16]

In Ciudad Juárez, the number of formal sector employees with social security insurance coverage nearly doubled from 215.3 thousand to 418.1 thousand between 1990 and 2000.[17] In contrast to El Paso, the greatest number of jobs in Ciudad Juárez are concentrated in manufacturing. In 2000, there were a total of 283.5 thousand employees in manufacturing. Of that total, 249.5 thousand held jobs at maquiladora enterprises. Also in contrast to El Paso, there were 48.4 thousand persons holding professional service sector jobs in Ciudad Juárez in 2000, a much lower percentage of total employment. Such large differences in the distribution of jobs across the borderplex reflect a general pattern of economic development: as economies become more advanced, fewer individuals are employed in goods producing sectors and greater numbers are employed in service sectors.[18]

Income

In nominal terms, the El Paso economy grew to more than $12.6 billion in 2000.[19] That figure translates into a per capita income estimate of nearly $18.6 thousand. Even after accounting for inflation, El Paso per capita income has grown over the years. That trend is beneficial to the local economy because it represents increased effective purchasing power on behalf of consumers residing in the county. Unfortunately, per capita income growth in El Paso has not done as well on a relative basis and has consistently lagged the Texas and national rates of change for many years. In 2000, national per capita income is estimated to have reached $30.2 thousand, almost 40 percent higher than that of El Paso.[20]

A major source of the weakness underlying per capita income performance in El Paso is educational attainment.[21] The El Paso adult labor force over the age of 25 lags behind the Texas state averages for high school graduation, technical school and community college graduation, and 4-year college and university graduation. Econometric model estimates and simulations indicate that by merely catching up with the rest of Texas, per capita income would improve by at least $1,800. That figure implies a countywide income impact of nearly $1.1 billion, a sum of money that would increase the local tax base by a sizeable margin.[22]

In 2000, total personal income in El Paso reached $12.6 billion. Similar to the United States national economy, the biggest individual income category in El Paso is wage and salary disbursements, nearly $7.0 billion in 2000.[23] At just over $2.0 billion, the next largest category is investment income in the forms of dividends, interest, and rent. At approximately $1.8 billion, the next largest income classification is retirement transfers. Retirement transfers in El Paso are large in part due to the dual presence of Ft. Bliss and William Beaumont Army Medical Center, both of which provide important services to retired military personnel. Proprietor incomes for persons who operate their own businesses totaled more than $1.3 billion in 2000. The latter figure may seem high, but reflects the fact that there are more than 12 thousand businesses registered in El Paso. As the principal hub for the borderplex, El Paso provides jobs to thousands of workers that reside in the states of Chihuahua and New Mexico. As a consequence, El Paso also sends more than $400 million to those nearby regions every year.[24]

Although per capita income in Ciudad Juárez is lower than in El Paso, it is still exceeds the national average for Mexico. Reflective of this, the 2001 daily minimum wage for Ciudad Juárez is 7.4 percent higher than the national figure of 37.57 pesos.[25] Although not mandated by federal law, maquiladora workers in Ciudad Juárez also tend to be paid more than their counterparts in other regions of the country.[26] Rising productivity in the twin plants sector makes it likely the wage gap will remain in place for the foreseeable future. The output impact observed in Ciudad Juárez is no accident. Recent research indicates income performance throughout Mexico is determined in large measure by educational attainment.[27]

Gross Metropolitan Product

Improvements in worker productivity help personal income performance as well as aggregate regional output. Similar to all other counties in the United

States, real El Paso gross metropolitan product (GMP) data are subject to measurement error and large revisions over time. In spite of these difficulties, GMP estimates provide an additional means by which local economic progress can be monitored. GMP is the sum of all goods and services produced in a metropolitan economy during a given period of time, usually one year. Between 1995 and 2000, real El Paso GMP is estimated to have grown by nearly 19 percent to more than $14.2 billion (1996 base year). The largest components of El Paso GMP include manufacturing, financial activities, services, and the consolidated public sector.[28] Inflation adjusted annual output in all of those areas surpassed $2.0 billion in 2000.

In Ciudad Juárez, total GMP data are not available on an ongoing basis. Value-added (GMP) data for the maquiladora sector have been maintained for more than two decades by Instituto Nacional de Estadística, Geografía, e Informática (INEGI), the national statistics agency in Mexico. Total maquiladora output in Ciudad Juárez is estimated to have surpassed $3.4 billion (nominal basis) in 2000.[29] Among the larger manufacturing segments included in that figure are automotive equipment, electrical and electronic components, and apparel products.[30] Highly sensitive to business conditions in the United States, automotive equipment and industrial electronics were among the early casualties of the 2001 recession.[31]

Retail Trade

Gross retail sales surpassed $6.2 billion in El Paso in 2000.[32] Automobile, auto parts, and fuel sales accounted for the largest portion of that figure, $1.5 billion. General merchandise sales also exceeded $1.0 billion in 2000. Food store sales surpassed $0.9 billion in 2000, but this category of retail activity has not kept pace with borderplex income growth in recent years.[33] Two-earner households, plus rising income levels and other lifestyle changes, have reduced per capita sales volumes at grocery and other food stores as the rate of home meal preparation has declined.

A notable aspect of El Paso retail commerce is that it exceeds the national average on a per household basis.[34] Among all 318 metropolitan economies in the United States in 2000, El Paso household income ranks 315th. Its corresponding retail sales per household rank is much higher, 75th. This apparent anomaly is due to geography. Local retail sales volumes are buoyed by large streams of shoppers from Northern Mexico, Far West Texas, and Southern New Mexico. Using the national household sales pattern as a benchmark implies that nearly 36 percent of all retail purchases in El Paso are by residents from outside of the county. It is probably reasonable to assume that somewhere between 20 and 25 percent of all retail sales in El Paso are to customers from Mexico.

For Ciudad Juárez, gross personal income and retail sales data have not previously been reported on a regular basis. Not surprisingly, retail sales still plays a prominent role in this large metropolitan economy. In 2000, more than 37.7 thousand workers held formal sector jobs at commercial businesses. As in the United States, retailing in Mexico is a cyclical endeavor. In Ciudad Juárez, more than 6.0 thousand jobs were lost in this sector following the December 1994 devaluation and the ensuing recession in Mexico.[35] Maquiladora job losses during 2001 also caused sales disruptions due to the resulting losses in wages and salaries. Retail job losses associated with those developments were still not available at the time this chapter went to press, but are expected to be much more limited than those of 1995 because the current recession is not accompanied by a large-scale devaluation and the consequent purchasing power reductions that consumers are forced to endure.

International Bridge Crossings

International border crossings, in one form or another, are critical to the commercial and industrial health of the borderplex. The majority of all individuals and merchandise entering the West Texas – New Mexico Customs District from Mexico utilize one of the three bridges that link Ciudad Juárez with El Paso. Northbound arteries include Paso del Norte near Downtown El Paso, Bridge of the Americas near Central El Paso, and Ysleta – Zaragoza in Far East El Paso. The downtown bridge primarily carries pedestrian and personal vehicle traffic. The other two bridges are also used by cargo vehicles carrying merchandise that is being exported to or imported from Mexico.

In 2000, nearly 730 thousand cargo trucks entered El Paso from Ciudad Juárez.[36] A large percentage of those trucks carried output from the in-bond assembly operations on the south side of the river. These activities grew rapidly during the 1990s when geographic proximity to the United States permitted Ciudad Juárez manufacturers to adopt “just-in-time” inventory practices.[37] Because wait times at the border increased due to heightened security measures following the 11 September 2001 terrorist attacks, it is possible that companies will eventually be forced to adopt “just-in-case” inventory practices. The latter would undoubtedly raise operating costs. Such practices may also increase the number of cargo vehicle crossings as companies might be forced to send trucks across the border with partial loads as a means of minimizing scheduling risks.

One of the key indicators for retail activity in El Paso is the number of automobiles that cross annually from Mexico.[38] Of the 16.7 million automobiles that crossed the bridges into El Paso in 2000, almost 8.2 million used the Bridge of the Americas. Also known as the “free bridge,” much of the traffic across it is destined to the Bassett Center and Cielo Vista malls. Given the discussions presented in earlier sections of this chapter, it is not surprising that traffic across this artery is also sensitive to fluctuations in the real value of the peso.[39]

More than 83 percent of the greater than 5.8 million pedestrians who walked across the border in 2000 used the Paso del Norte bridge.[40] That flow included United States tourists who visited the commercial district restaurants, shops, and clubs near Avenida Juárez. It also included shoppers who visit the numerous stores that cater to Mexican nationals in the south, central retail zone of El Paso.[41] Many of those shoppers are employees of maquiladoras in Ciudad Juárez.[42] Consequently, fluctuations in twin plant payrolls lead to cross border business cycle impacts on the north side of the river.[43] Disruptions in foot traffic across all three bridges also resulted from the additional security measures implemented after 11 September 2001, further affecting commercial activity on both sides of the border.

Water Consumption

On the surface, the borderplex economy is united by language, culture, commerce, and industry. Both on and beneath the surface, it is also united by shared water resources.[44] Collectively rapid population growth caused the total number of water meters in operation to increase substantially in El Paso and Ciudad Juárez during the 1980s and 1990s. In 2000, more than 415.1 thousand water meters were connected to the public utility systems in both cities.[45] Aggregate water consumption trends do not, at present, follow parallel paths on the opposing sides of the river.

In El Paso, a combination of conservation measures, rate hikes, and industrial composition changes have united to keep total consumption below the peak level reached in 1995, just less than 40.5 billion gallons. As in other metropolitan economies, the largest consumption category in El Paso is single-family residential usage. In Ciudad Juárez, rapid population change plus improved income performance have led to large-scale expansions of the water system in recent years. Per capita usage also tends to fall in Ciudad Juárez, but income effects occasionally outweigh municipal conservation efforts.

In large communities such as the borderplex, water availability and ground water quality are important concerns. If infrastructure investments could be maintained, future trends in water consumption would likely be manageable. Budgetary difficulties in Ciudad Juárez obviously create public finance difficulties for the water system in that city, but there also exist a variety of demand reallocation possibilities similar to those observed in El Paso's apparel industry during the 1990s that can reduce per capita usage in both cities. Fortunately, water customer classes in the borderplex tend to be price sensitive, thus allowing for rate changes to encourage efficient consumption behavior.[47] Water economics will undoubtedly remain an area of important policy efforts for years to come in this region.

Conclusion

El Paso and Ciudad Juárez jointly comprise one of the most interesting metropolitan economies in the world. While this region faces important obstacles such as labor force quality improvement and public infrastructure investment, standards of living are expected to improve on both sides of the border. What remains unknown at this point is the speed with which those enhancements can occur.

Endnotes

1. Partial financial support for this research was provided by Border PACT – Border Partners in Action / CONAHEC – the Consortium for North American Higher Education Collaboration, University of Arizona -Tucson, with generous financial support of the Ford Foundation and the William and Flora Hewlett Foundation. Additional support was also provided by El Paso Electric Company, the UTEP Department of Economics & Finance, the UTEP Center for InterAmerican & Border Studies, and Instituto de Ciencias Sociales y Administración at Universidad Autónoma de Ciudad Juárez.

2. W.H. Timmons, 1990, **El Paso, A Borderlands History**, Texas Western Press: El Paso, TX.

3. Thomas M. Fullerton, Jr., 2001a, “Borderplex Long-Term Economic Trends to 2020,” **Business Report SR01-1**, University of Texas at El Paso Border Region Modeling Project: El Paso, TX.

4. Woods & Poole Economics, 2000, **MSA Profile**, Woods & Poole: Washington, DC.

5. Cindy Ramírez-Cadena, 2001, “Leaving El Paso Behind,” **El Paso Times** (March 18), 1A-2A.

6. Thomas M. Fullerton, Jr., 2001b, “Borderplex Economic Outlook: 2001-2003,” **Business Report SR01-2**, University of Texas at El Paso Border Region Modeling Project: El Paso, TX.

7. Juan Lara y Abel Beltrán del Río, 2001, “Síntesis,” **Perspectivas Económicas de México** 23 (Octubre), 1.1-1.15.

8. Stephen G. Cochrane, 2001, “Regional Employment Benchmarks,” Economy.com **Regional Financial Review** 12 (March), 13-23.

9. See Fullerton, 2001b.

10. See Fullerton, 2001a.

11. See Fullerton, 2001a.

12. See Fullerton, 2001a.

13. Michael Donelly, 2001, “The Labor Market,” DRI-WEFA **U.S. Economic Outlook** (October), 57-60.

14. Ken Flynn, 1997, “Levi Strauss to Lay Off 1,534 in El Paso,” **El Paso Times** (November 4), 1A-2A.

15. Mike Mrkvicka, 2001, “Experts Predict Gloom for Apparel Industry,” **El Paso Times** (November 21), 1F-2F.

16. See Fullerton, 2001b.

17. www.chihuahua.gob.mx/cies/

18. Malcolm Gills, Dwight Perkins, Michael Roemer, Donald Snodgrass, 1996, **Economics of Development**, Fourth Edition, W.W. Norton: New York, NY.

19. See Fullerton, 2001b.

20. Nariman Behravesh, Andrew Hodge, and Cynthia Latta, “Stress-Testing the U.S. Economy,” DRI-WEFA **U.S. Economic Outlook** (October), 1-11.

21. Thomas M. Fullerton, Jr., 2001c, “Secondary Education: Its Impact on Border Income,” in **The Border Economy**, Federal Reserve Bank of Dallas: Dallas, TX.

22. Thomas M. Fullerton, Jr., 2001d, “Educational Attainment and Border Income Performance,” Federal Reserve Bank of Dallas **Economic & Financial Review** (Third Quarter), 1-10.

23. Heather Upton, 2001, “Consumer Markets,” DRI-WEFA **U.S. Economic Outlook** (November), 33-36.

24. See Fullerton, 2001b.

25. www.inegi.gob.mx/estadistica/

26. John H. Christman, 2001, “Overview,” **Maquiladora Industry Outlook** 14 (September), 3.1-3.17.

27. Miguel Messmacher Linartas, 2000, “Desigualdad Regional en México,” **Documento de Investigación 2000-4**, Banco de México: México, DF.

28. See Fullerton, 2001b.

29. See Fullerton, 2001b.

30. See Christman, 2001.

31. Thomas M. Fullerton, Jr. and David A. Schauer, 2001a, “Short-Run Maquiladora Employment Dynamics,” **International Advances in Economic Research** 7, 471-478.

32. www.cpa.state.tx.us/ecodata/

33. See Fullerton, 2001b.

34. See Woods & Poole Economics, 2000.

35. www.chihuahua.gob.mx/cies/

36. See Fullerton, 2001b.

37. Louie Gilot, 2001, “International Cargo Problems Ease,” **El Paso Times** (April 30), 1E-2E.

38. Thomas M. Fullerton, Jr., 2001e, “Specification of a Borderplex Econometric Forecasting Model,” **International Regional Science Review** 24, 245-260.

39. Thomas M. Fullerton, Jr., 2001f, “Currency Movements and International Border Crossings,” **International Journal of Public Administration** 23, 1113-1123.

40. See Fullerton, 2001b.

41. John Hadjimarcou and John W. Barnes, 1998, “Retailing to foreign National Consumers in the Border Zone: The Impact of Currency Devaluation and Cross-Border Competition,” **Journal of Global Marketing** 11, 85-106.

42. Joel Millman, 2001, “The U.S. Slowdown Shows in Mexico’s Ciudad Juárez,” **Wall Street Journal** (April 9), A22.

43. Thomas M. Fullerton, Jr., 1998, “Cross Border Business Cycle Impacts on Commercial Electricity Demand,” **Frontera Norte** 10, 53-66.

44. David J. Eaton and David Hurlbut, 1992, **Challenges in the Binational Management of Water Resources in the Rio Grande / Río Bravo**, University of Texas at Austin Lyndon B. Johnson School of Public Affairs: Austin, TX.

45. See Fullerton, 2001a,b.

46. See Eaton and Hurlbut, 1992.

47. Thomas M. Fullerton, Jr. and David A. Schauer, 2001b, “Regional Econometric Assessment of Aggregate Water Consumption Trends,” **Australasian Journal of Regional Studies** 7, 167-187.