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Global Trends & Market Shifts:

Texas, China, and Mexico

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In 2005, the United States' North American Free Trade Agreement (NAFTA) partners, Canada and Mexico, contributed about 30 percent of the overall value of U.S. international merchandise trade -- a vast majority of hemispheric, north-south trade. Meanwhile, the three-largest economies in East Asia (China, Japan and Korea) contributed 21.9 percent, while, by comparison, the share of the three-largest European Union trading partners (France, Germany, and the United Kingdom) was only 9.17 percent.

At the state level, the majority of Texas' trade historically has been, and continues to be, with Mexico. Texas and Mexico have leveraged their common, 1,254-mile border, to establish a relationship that shapes local economies and policies on both sides. But what will happen to both economies as China continues its ascendance as a global economic power?

The Texas-Mexico Connection

Mexico continues to use its low-cost labor advantage to entice companies to establish manufacturing facilities south of the border. This migration of production has led to the creation of the maquiladora industry, perhaps the largest and most recognized residual of Mexico-Texas trade. The emergence of the maquiladora industry also makes up the largest component of U.S.–Mexico trade. Maquiladoras receive an estimated 78 percent of all goods (components and services) exported to Mexico from the United States. Furthermore, 79 percent of the maquiladora industry is owned by U.S. companies.

Despite the virtual historical monopoly on Texas trade enjoyed by Mexico, trade across the U.S.-Mexico frontier has slowed in the past 5 years. While the U.S. recession is often cited as a chief reason, the sluggish U.S. economy only goes so far in explaining recent trends in Texas-Mexico trade.

Chinese Inroads

Over the past decade, China has established itself as a viable, low-cost center for manufacturing. The convergence of a local market made up of 1.3 billion Chinese and average wages almost one-third of those prevailing in Mexico makes China an attractive alternative for companies looking to service the U.S. economy and expand into new markets. Texas' exports to China grew 237.45 percent between 2002 and 2005, from \$2.06 billion to \$4.90 billion, whereas the state's exports to Mexico rose a modest 20.40 percent during the same period, from \$41.65 billion to \$50.14 billion. What is more, the growing share of China's GDP devoted to exports will lead to an increase in imports to meet growing Chinese middle-class consumption needs. The growth in China's imports creates enormous opportunities for foreign producers. The prospect of a middle-class market the size of the entire U.S. population will influence the future flow of global trade flows and play an important role in a firm's decision regarding the location of its manufacturing operations.

The economic dynamics that drive this phenomenal growth have the potential to permanently alter the international trade landscape that has come to define Texas over the past few decades. Although Mexico will continue to be a major trading partner for

Table 1
Average Labor Costs Across Industries

	Mexico	China	Hungary	Malaysia	California
Hourly Average Wage	$1.47	$0.47	$1.60	$1.39	$16.60
Benefits and Taxes*	101%	52%	61%	56%	26%
Total Integrated Wages	**$2.96**	**$0.72**	**$2.58**	**$2.17**	**$20.84**

* Includes social security, saving fund, transport, discount tickets, INFONAVIT income sharing, Christmas bonus, Afore (pension fund contribution), medical expenses, among others. Does not include payroll tax.

Source: Federal Reserve Bank of Dallas, *El Paso Business Frontier,* Issue 2 (2004), p. 4.

...the emergence of China has forever altered the international trade landscape. Despite the recent up-tick in the [United States] economy, Mexico will struggle to regain the low-cost trade advantage it once enjoyed.

the state, the emergence of Asia, especially China, presents Mexico with a number of challenges. In the next few years, Mexico will be forced to transition its economy away from providing low-cost labor to North America, to providing a more skilled labor force that implements higher technology manufacturing and services. While it will continue to have the advantage of proximity to the United States, which will ensure the success of a number of manufacturing companies, the maquiladora industry will have difficulty regaining the strength and prosperity it enjoyed in the late 1990s.

The give-and-take between the economies of China and Mexico in the current torrent of globalization has yet to play out in full. Although low-cost production has already begun to shift to China, diverting jobs and trade away from Mexico, understanding the factors that will shape both the short-term and long-term trade flows for these two economies, and what they mean for Texas, requires a closer look at the specific advantages and disadvantages of both countries.

Mexico: A Changing Economic Landscape

Any discussion of Mexico's economy inevitably revolves around its relationship with the United States. In 2003, 91 percent of Mexico's total exports were sent to the United States, while Mexico purchased 62 percent of its total imports from its northern neighbor. This relationship has been shaped in large part by the maquiladora industry. Since the 1960s, maquiladoras have received supplies and parts from companies in the United States for assembly in Mexico. The finished goods are then exported back to the United States. The system was predicated on Mexico's proximity to the U.S. market and low-cost labor advantage.

In 1994, the implementation of NAFTA removed tariffs on equipment, machinery, supplies, and raw materials exported temporarily into Mexico. This further decreased the costs of manufacturing in the maquiladoras and encouraged growth. In the interim, electrical machinery and road vehicles became two of the largest U.S. exports to Mexico, while also representing two of the largest imports from Mexico.

In recent years, the maquiladora industry has suffered from the effects of a slumping U.S. economy. In the period from 2000 to 2004, the industry lost approximately 290,000 jobs representing a 21 percent decline in employment.

As the U.S. economy rebounded from recession, maquiladora employment staged a modest recovery, improving 7.1 percent in 2004 after three straight years of declines. The sectors that benefited most in terms of percentage growth were: services, chemicals, machinery and furniture. The Texas-Mexico border region accounted for 28 percent of the job growth, with the remainder spread throughout the interior of Mexico. The employment growth pattern illustrates a southerly spread of the maquiladora industry, as firms tap lower labor costs in the interior of Mexico, while transportation and logistics costs have been decreasing as well. However, over this same period, the emergence of China has forever altered the international trade landscape (see Table 1). Despite the recent up-tick in the economy, Mexico will struggle to regain the low-cost trade advantage it once enjoyed.

By 2005, the state of Texas emerged as the leading exporter among its peers, representing 14.2 percent of all U.S. exports. In that year, Texas exported $128.8 billion in merchandise to over 75 countries...

Challenges for Mexico

These changes equate to a number of challenges for Mexico's economy that must be addressed if the country hopes to evolve into a high value-added trade partner with the United States. In particular, Mexico must invest in education, energy, and legal reform in order to raise the skill levels of Mexican workers while decreasing the costs associated with operating in Mexico. Currently, Mexico's energy costs are, on average, 10 percent higher than energy costs in the United States and considerably higher than costs in China. Mexico also has a corporate income-tax rate of 34 percent, approximately twice as high as China's prevailing rate. Integration and increased foreign direct investment will also require further Mexican government investment in transportation infrastructure to improve roads and railways and lower the cost of operating in Mexico.

The maquiladora industry is currently the main driver of Mexico's exports, but it is not integrated into other industrial sectors of its economy. Maquiladora firms import approximately 97 percent of the intermediate inputs used in their manufacturing. Mexico's proximity to the United States, while an advantage, is no longer a determining factor in the production decisions of corporations.

In order to retain its position within the supply chain, Mexico must prepare its workers to be skilled managers and engineers. The country can leverage its proximity to the U.S. market and advantageous delivery times by investing in industries requiring high-tech processes, manufacturing flexibility, and just-in-time production. These investments can be enhanced by a focus on vertical integration in the local economy through investments in local R&D facilities, up-stream and down-stream suppliers, and education.

Texas' Export Economy

During the period between 1997 and 2003, growth in Texas trade outpaced the overall growth in U.S. trade. Over this seven-year span, U.S. exports grew at an average annual rate of 0.7 percent, while Texas experienced an average annual export growth rate of 4 percent. By 2005, the state of Texas emerged as the leading exporter among its peers, representing 14.2 percent of all U.S. exports. In that year, Texas exported $128.8 billion in merchandise to over 75 countries throughout the world; yet a majority of the state's trade was with Mexico and Canada. Currently, 38.9 percent of all Texas exports are bound for Mexico, 11.4 percent are destined for Canada, and 3.8 percent are shipped to China.

Opportunities and Challenges

As they approach the changing international trade environment for Texas, policymakers face a set of challenges and opportunities that will define the state's economy in the near and long-term. Texas remains an attractive source of labor for employers, but resources must be dedicated to education and training. Infrastructure will strain to keep up with the state's growth, and proactive policies must be pursued to sustain competitive advantages in communications and transportation.

In 2002, Texas commissioned the Perryman Group, a private consulting firm, to analyze the state's competitive

Table 2
Recommended Target Industry Clusters for Texas

Emerging Biotechnology and Medical	Distribution, Transportation, & Logistics
Emerging Nanotechnology and Materials	Heavy construction
Electronics	Energy Cluster
Information Services	Petroleum Refining and Chemical
Communication and Computing Equipment	Transportation Equipment
Corporate Headquarters	Production Support Manufacturing
Business Services	Agricultural and Food
Tourism	

Source: Texas Economic Development, "Texas, Our Texas," The Perryman Group, November 2002 position with other states and in the larger, global economy. The report ultimately recommended the creation of a number of 'economic clusters' to attract investment and businesses, by leveraging the state's competitive advantages (see Table 2, page 3). The clusters also expand the global reach of the state in terms of increased trade. According to the report, two-thirds of the jobs created in Texas over the past decade were directly or indirectly tied to international trade. The major factor behind this growth was Mexico; but as Mexico's competitive position changes, Texas must be poised to participate in new global market opportunities.

The economic clusters advocated by the Perryman Report range from biotechnology and nanotechnology to distribution, transportation, and logistics. There are a number of recommended clusters that will play a major role in facilitating global trade in the state. The electronics cluster builds on a strong knowledge base already established in Texas. The industry is characterized by high wages and high value-added projects. Electronic components are typically supplied to Mexico or other low-cost countries for final assembly before being imported back into the United States for final sale. The transportation equipment cluster provides some of the same opportunities for components manufacturing due to the concentration of automotive manufacturing in Mexico. The communication and computing equipment cluster is tasked to attract innovative companies and new entrepreneurs to the state. The development of new technologies has the potential to create manufacturing opportunities in both Texas and Mexico.

Opportunities created in each of these clusters will also require a great deal of professional services to facilitate growth. In particular, the need for engineering, legal, accounting, consulting and call center services will allow the already large service sector of Texas to continue expanding, exporting business services to other states and countries. Distribution, transportation, and logistics services will also be crucial in facilitating the future growth of the Texas economy. According to the Perryman report, 30,000 firms in Texas are involved in distribution, employing approximately 500,000 people. The transportation sector consists of 14,000 companies and employs approximately 300,000.

The success of these service industries will depend on the ability to utilize advanced technology to aid businesses in developing efficient inventory and supply-chain management. The state's multimodal transportation facilities, particularly at the port of Houston and Fort Worth Alliance Airport, are attractive resources that can be leveraged to grow sophisticated manufacturing and distribution networks.

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The state's extensive highway system provides a vital trade corridor and is estimated to have contributed 5.6 percent to the total output growth in Texas. Yet, the transportation network is under considerable strain and is a hindrance to the flow of trade, especially from Mexico. Proposals for an expansion of the highway network – most notably, Interstate 69 – will help to alleviate the congestion and open up the port of Houston to the rest of the state. Unfortunately, the expansion of the transportation network in Texas will require a great deal of investment, which is hampered by the fact that the state ranks forty-seventh among states in per-capita highway spending and third in the diversion of motor-fuel tax revenues to other purposes.

Conclusions

In the United States, international trade has been a major source of growth for the economy. The nation's strong appetite for foreign goods has made it the largest importer in the world. What has been striking over the past ten years is the emergence of China as the current second-largest trading partner of the United States. In 2005, Mexico accounted for 10.98 percent of the total value of U.S. trade, while China's share rose to 11.41 percent. The development of China's economy makes it an immediate competitor to all low-wage manufacturers in Asia and throughout the world.

On the other hand, Mexico's common border with the United States makes it a strategic partner in our economic growth. Yet, for Mexico, the Chinese manufacturing threat has not been as pronounced as one might expect. While, undoubtedly, Mexico's economy has lost a number of jobs in the apparel, textiles and toy manufacturing industries to competition from China, it retains its competitive advantage in such industry sectors as electric machinery and vehicles. Utilizing the country's proximity to the U.S. market, its low labor wages, its increasing use of high-tech production processes, and its less tangible, yet equally important, cultural similarities, Mexico has kept these industries from shifting production to China.

In the coming years, the extent to which American companies outsource manufacturing services to China will hinge on the evolutionary stage of the specific product under review. As products become more standardized and require little oversight or change in production, they become candidates to move to China.

With these criteria in mind, Texas has already shifted the focus of its economic development policies to attract capital-intensive industries such as biotechnology, nanotechnology, medical equipment, energy, and transportation equipment where production relies on high-technology production processes. These industries manifest a higher need for rapid change in design and development, which necessitates a need for flexibility and managerial control. Such flexibility is traditionally more difficult to implement abroad. When combined with anchoring capital outlays, it is less likely that these industries will relocate to China once they are located in Texas or Mexico. For these industries, any future decision to locate manufacturing facilities in China will be driven by a desire to build a reputation and product in China to serve the local economy, as opposed to shipping products back to the United States.

Rather than the threat it poses at present, the ultimate impact of China on the Texas economy may be future opportunities for trade. Two of the state's largest employment sectors, the professional services sector and the transportation and distribution sector, have benefited greatly from the growth in trade with Asia. The flow of goods throughout the state has been facilitated by over 45,000 companies specializing in transportation and distribution, and the state should seek to expand its role in the nation's growing trade with China. Port congestion in other parts of the country presents an immediate opportunity for Texas to attract trade from China, by offering available warehousing space and reliability in transit times. The state can also leverage its large consumer population (second in the U.S.) as well as its access to the Midwest and East Coast. The state's multimodal transportation facilities are in a unique position to attract trade that is overflowing at West Coast ports; the state should leverage this advantage in the transportation sector as it seeks other opportunities to expand its role in the nation's growing trade with China.

Ultimately it is wise for the state to broaden trade with both China and Mexico, as China develops the ability to provide low-scale manufacturing, as Mexico's upgrades its maquiladoras to source products from other parts of the world, and as both nations develop a larger middle-class consumer base. In order to capitalize on these opportunities, state policymakers and businesses must begin to view both the short- and long-term advantages of these current trade shifts on a global scale.

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Table 3
Top Ten Exports from Texas (2003)

Top Ten Exports 2003	Value ($)
Computer and Electronic Products	28,378,198,276.00
Chemicals	17,125,246,559.00
Machinery, Except Electrical	11,407,672,253.00
Transportation Equipment	9,902,791,603.00
Petroleum and Coal Products	4,701,403,193.00
Electrical Equipment, Appliances, & Components	4,642,580,101.00
Fabricated Metal Products, NESOI	3,073,005,139.00
Food and Kindred Products	2,755,198,756.00
Agricultural Products	2,617,771,450.00
Plastics and Rubber Products	2,518,904,196.00

On comparison of current industry exports against emerging trends and opportunities, the Perryman Group compiled a list of "Texas Target Clusters" (Table 2, page 3).

Source: Texas Economic Development, Business and Industry Data Center. Online. Available: http://www.bidc.state.tx.us/TXEXPORTS2004.pdf. Accessed: March 1, 2005.

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