



**SAN DIEGO,  
BAJA CALIFORNIA  
AND GLOBALIZATION:  
COMING FROM  
BEHIND**

by  
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with  
Gretchen Schuck

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**PACIFIC COUNCIL ON INTERNATIONAL POLICY**

*THE WESTERN PARTNER OF THE COUNCIL ON FOREIGN RELATIONS*



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## I. INTRODUCTION

San Diego lies at the intersection of Latin America and the western United States, facing the Asia-Pacific from the southern California coast. On the map, San Diego would seem to be a natural “gateway” city linking three of the world’s great regions—Mexico, the U.S. Southwest and Asia.

But maps can be deceiving. Geography is not always destiny. If we define “globalization” as the accelerating integration of markets and information flows across national boundaries, driven in part by technological change, San Diego is far from being a true “gateway” city in the league of, say, Miami or Seattle. If we take trade flows as the key indicator of globalization, San Diego appears to be only moderately more “open” to international markets than is the U.S. economy overall. If finance is an indicator of globalization, San Diego’s small banking sector is focused primarily on local business and real estate; foreign direct investment, although growing, is still modest. Many San Diego firms have hopes of gaining a steady stream of income from royalties on their inventions, but there is no database that tracks such regional returns to intellectual property.

There are numerous reasons behind San Diego’s historically lackadaisical pace of economic globalization. These have included the large military presence; infrastructure shortcomings; the mix of the county’s industries and employment, which favored non-tradeables; the predominance of small- and medium-sized firms that preferred local customers; and the relative weakness of the international commercial connections of its ethnic minorities. The region’s political fragmentation and citizen’s cultural preferences may also have played roles in orienting San Diegans toward local and national markets.

During the 1990s, San Diego became more active in the international flows of commerce and technologies. This surge in globalization activities resulted from national and local policy initiatives, long-term returns on investment in education and technology, successful entrepreneurship, and expanding pools of both highly educated and low-wage labor. Baja California’s manufacturing boom and the North American Free Trade Agreement (NAFTA) have led to sharply increased flows of goods through San Diego. San Diego County has improved its own business investment climate. The region’s universities have spun off hundreds of new high-tech firms—in information technologies, telecommunications, and biotechnology—and many of these firms export their innovations worldwide. But the breadth of these trends should not be exaggerated: the overwhelming majority of San Diego’s workforce is still providing goods and services for the domestic market.

San Diego is clearly a globalizing city in one important respect: the upsurge in immigration during the last three decades from southeast Asia and Mexico is altering the region’s demographic complexion and fueling its economic growth. Whites declined from 65 percent to 55 percent of the population in the 1990s, and by 2020 no single ethnic group will constitute an absolute majority of the county’s residents.

If San Diego has been closely tied to the U.S. domestic economy and polity, Baja California has long been integrated into international markets. Throughout the 20th Century, Baja’s retail services and tourism markets have responded to the demands of U.S. citizens seeking to

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experience exotic entertainment or to enjoy unspoiled semi-arid deserts, beachscapes and bountiful deep-sea fishing. The Baja seafood industry has marketed quality tuna, abalone, and shark fins to foreign customers. Most dramatically, in the last two decades firms from around the world have located hundreds of export-oriented manufacturing plants, known as *maquiladoras*, in Baja California that tie the region firmly into their global production and marketing networks. When it comes to globalization, Baja California is the genuine article.

But as we will show, the commercial linkages between Baja California and San Diego remain less developed than is generally understood, contrary to what the map might suggest. San Diego could gain much more from Baja's global networks.

If the residents of San Diego and Baja California are to benefit more fully from the opportunities offered by globalization while maintaining and enhancing their living standards and lifestyles, they will need to meet a host of tough challenges. San Diego must recognize that manufacturing will likely employ only about 10 percent of its future workforce, so that other sectors including services will have to seek international customers as well. Globalizing San Diego's core economy—its small- and medium-sized enterprises—is perhaps its greatest challenge, and one profitable pathway is to forge stronger linkages between potential suppliers in San Diego and the *maquiladora* industry. San Diego also needs to turn its new ethnic diversity into a commercial comparative advantage. Both San Diego and Baja California must invest more in public goods—in trade-related and urban infrastructure, in social services and affordable housing, in environmental protection—that respond to the problems that growth inevitably generates. And in the aftermath of the September 11 terror attacks, which has led to a worsening bottleneck at the U.S.-Mexico border, the two nations need to apply sufficient creativity and resources such that enhanced security measures at the international crossing do not become costly barriers to legitimate commerce.



## II. THE BINATIONAL REGION: SAN DIEGO, IMPERIAL COUNTY, BAJA CALIFORNIA

When viewed from an airplane, San Diego and, to its east, Imperial County stretch naturally southward to Baja California. Together, this binational region is home to 5.5 million people, whose combined labor force of over 2.3 million workers produces an annual gross regional product of over \$115 billion (Table 1). The majority of the border region's population lives within 15 miles of the ocean and 20 miles of the international border. By population, this tripartite area would rank ninth among metropolitan areas in the United States. The area's gross regional product places it in the category of Thailand, Greece, South Africa, Portugal or Israel.

Table 1. Binational Region Overview

Indicators	San Diego County	Imperial County	Baja California	Total Binational Region
Population (1999)	2,883,500	145,600	2,461,016	5,490,116
Land Area				
Square Miles	4,212	4,173	27,624	36,009
Population per sq. mile	684.6	34.9	93.1	155.5
Gross Regional Product (billions of 1999 U.S. \$)	\$97.088	\$3.180	\$15.344	\$115.612
Per capita GRP	\$37,670	\$21,838	\$6,235	\$20,645
Employment (1999)				
Employed Labor Force	1,316,100	42,800	1,011,423	2,370,323
Unemployment Rate	3.1%	23.2%	1.7%	3.1%

Sources: Division de Estudios Economicos y Sociales, Grupo Financiero Banamex-Accival; Instituto Nacional Estadística Geografía Informática (INEGI); San Diego Regional Chamber of Commerce.

### *San Diego County*

San Diego County covers a large geographic region in the southwest corner of the state of California and the continental United States. The county's landscape consists of a western coastal strip, mesas and canyons, a low mountain range, and desert on the east. San Diego borders Imperial County on the east, the Pacific Ocean on the west, Orange and Riverside counties on the north, and Baja California, Mexico, on the south. Politically, the county is made up of the City of San Diego, 17 additional municipalities, and an unincorporated region. The total land area of San Diego County is 4,204.5 square miles, approximately the size of the state of Connecticut.<sup>2</sup> With a population of 2.8 million people, San Diego is the seventeenth largest metropolitan area in the United States; the city of San Diego, with a population of 1.2 million, is the seventh largest city in the United States.<sup>3</sup> The population of San Diego County is forecast to grow to 3.2 million by 2005.

### *Imperial County*

East of San Diego County stretch the hot deserts of Imperial County. Almost as large in area as San Diego County, Imperial County is home to only 145,600 people. It is considerably less well off. Whereas San Diego County has a per capita gross product of about \$38,000 and an unemployment rate of around 3 percent, Imperial County's per capital gross product is only \$22,000 and its unemployment rate is 23 percent. Agriculture employs 16,000 of its 43,000-person workforce, and the county offers only 1,900 manufacturing jobs.<sup>4</sup>

### *Baja California Norte*

San Diego and Imperial counties border the Mexican peninsula state of Baja California Norte, whose land area extends over 27,070 square miles.<sup>5</sup> Geologically, it is a continuation of southern California. The Baja peninsula is bounded on the west by the Pacific Ocean and on the east by the Sea of Cortez, which is also called the Sea of California. A very thinly populated Mexican state, Baja California Sur, covers the southern portion of the Baja peninsula. Like southern California, Baja has a long, rugged coastline, a population that hugs the shoreline, and a semi-

arid climate that produces only cactus and scrub in the absence of irrigation. Baja California Norte's rapidly expanding population, about 2.5 million, is heavily concentrated in two cities: Tijuana, with a population of 1.2 million, and Mexicali, with nearly 800,000 people. Both towns are centered around the booming *maquiladoras*.

While overshadowed by the Los Angeles-Long Beach region, which has nearly double the population, the tripartite region is among the larger demographic concentrations in North America. The region's demographic density—approximately 685 inhabitants per square mile in San Diego and 156 inhabitants per square mile for the tripartite area—remains sparse because of the very-low-density inland areas. Even the coastline population densities are low compared to other coastal urban centers. If infrastructure constraints, especially fresh water availability and energy supply, can be overcome, the binational region's population could continue to grow appreciably in the decades ahead.

### III. THE MILITARY PRESENCE: A HISTORICAL PARADOX

Paradoxically, for many decades this military internationalism did not readily translate into a commercial or cultural internationalism in San Diego.

In one way, San Diego has long been globalized: since the Japanese attack on Pearl Harbor in 1941, San Diego has been home to much of the U.S. Pacific Fleet and has hosted major Navy and Marine air and training bases and industrial sites. Until the late 1980s, defense spending was the dynamic core of the San Diego economy and San Diego was known as a Navy town.

The mission of the Pacific Fleet is eminently international: to project U.S. power into the Asia Pacific, to protect U.S. interests across the seas, to help maintain the nation's security alliances and a stable balance of power in Asia, and to protect U.S. shores against any foreign threats.

Paradoxically, for many decades this military internationalism did not readily translate into a commercial or cultural internationalism in San Diego. It did not spur many former Navy admirals and sailors to open trading companies. It did not create an Asia-oriented mindset. True, it did bolster a sailing culture that competes on a world scale. And it did bring many Philippine citizens to San Diego. But for reasons that we will leave to social historians and cultural anthropologists, for many years the Pacific Fleet did not spin off many internationally oriented trading and investing firms. Perhaps this is not a typical function of navies. For example, in the case of Britain, it was the great trading companies of the empire that first planted the flag and dragged the British navy in their wake.

Further, it has been argued that the military presence in San Diego, notwithstanding its evident contributions to area employment and consumption, in other ways actually retarded the region's broader economic development. In effect, the guaranteed federal subsidy of military spending provided an alternative to commercial development, fostered a complacency based on government dependence, and sometimes directly impeded private-sector growth by taking important tracts of land out of circulation. The military presence may have also fostered a cultural insularity.

Most discussions of globalization omit the role of the military or consider the nationalist military mind-set to be an inhibitor of open markets and the borderless movement of goods, capital, and peoples. The end of the Cold War is often painted as a great spur to globalization.<sup>6</sup> In some respects, the example of San Diego supports this argument. But there is another side to the military legacy in San Diego. In fact, the military presence played a critical role in laying the foundations for San Diego's high-tech take-off that in turn spurred the region's recent engagement with globalization.<sup>7</sup> Military contracts funded many early San Diego companies and attracted engineers and technicians to the region.

Since the end of the Cold War, some of these firms, such as SAIC, National Steel and Shipbuilding (NASSCO), Cubic, Maxwell, and Titan, have successfully diversified into commercial products with global markets. Military research played an important role in spawning many of the high-tech innovations—from Qualcomm's wireless telecommunications to Callaway's graphite golf clubs—that have fueled regional growth. Today, contracts from the Department of Defense (DoD) and other federal agencies, including the Department of Energy, the intelligence community, the National Foundation of Science (NSF), and the National Institute of Health (NIH), remain vital sources of support for many regional researchers and firms. These federal entities also fund a significant portion of the overall budget of the region's research university, the University of California, San Diego (UCSD).<sup>8</sup>

The defense industry remains a major if relatively diminishing force in the San Diego economy (Table 2).<sup>9</sup> San Diego is home to 48 Navy ships, accounting for nearly one-sixth of the Navy's entire fleet. San Diego Bay is home to two (and soon possibly three) of the Navy's mammoth aircraft carriers. San Diego also houses some of the Navy's most specialized and sophisticated operations, including antisubmarine warfare training and the Space and Naval Warfare Systems Command Center (SPAWAR), which administers contracts to build command and communications systems for the Navy's fleet. Active-duty Navy and Marine personnel (including personnel afloat on ships patrolling the Pacific) total 109,000, and DoD employs another 22,000 civilians in San Diego. The sum total of DoD employment, at about 130,000, equals nearly 9 percent of San Diego's total civilian and military labor force.

Table 2. U.S. Department of Defense in San Diego County

Military personnel	109,000
Civilian personnel	22,000
Total DOD employment	130,000
Percentage of total employment	9%
DOD Procurement (FY 99)	\$2.4 billion
Navy Ships	48
Aircraft Carriers	2

Source: US Department of Defense; San Diego Regional Chamber of Commerce.

Before the downsizing and restructuring of the military at the end of the Cold War, aerospace, missiles and aircraft manufacturing dominated San Diego's defense industries. In the early 1990s, military contractors like General Dynamics, Hughes Electronics, Rohr, and Teledyne Ryan downsized their work forces or left the area. Today, local defense work has shifted primarily toward high-tech research and development and engineering in computers and communications systems. In fiscal year 1999, San Diego firms received \$2.4 billion in defense procurement contract awards, placing the city sixth in the nation in this category.<sup>10</sup> In some respects, the Department of Defense is similar to a great research university: if the past is any guide, many of these military contracts will have commercial applications down the road that will feed San Diego's high-tech explosion and global market integration. This consistent pipeline of DoD financing is as important to the region's high-tech future as is the more publicized private venture capital that finances the commercial applications.

#### IV. INTERNATIONAL TRADE: LESS THAN MEETS THE EYE

International trade and finance, not military power projection, are typically the chief (albeit certainly not the only) indicators used to measure the degree of a region's globalization. San Diego is not a financial center; its largest locally owned bank, First National Bank, had assets of less than \$700 million at the end of 2000.<sup>11</sup> Trade must therefore be the region's main claim to global commercial integration. The basic facts about San Diego's export performance are:

- Until quite recently, San Diego's economy focused on the defense industry, tourism, real estate and construction, and domestic markets.
- During the 1990s, the area recorded a high-tech export boom, with Mexico being the fastest growing destination for trade, although the Department of Commerce's trade data overstate San Diego's export performance.
- Today, San Diego is about as export-oriented as is the State of California as a whole, and significantly less so than the nation's leading globalized metropolitan areas.
- The manufacturing links between San Diego and Baja California are much weaker than is often believed to be the case because the sourcing patterns of Baja's *maquiladora* industry largely circumvent San Diego.

##### *Statistical Caveats*

First, some important words of warning about trade statistics at the state and metropolitan or county level. There are no useful statistics with regard to imports, and no reporting at all with regard to trade in services, an increasingly serious lacuna because the U.S. exports a growing amount of services. Because of these data limitations, discussions of regional trade typically focus on merchandise exports, as reported by the Census Bureau, Department of Commerce, in the Exporter Locator series. But there are serious problems with this statistical series as well: the exporter of record is not necessarily the entity that produced the merchandise. Rather, the exporter of record, as determined from entries on U.S. export declarations, is the party principally responsible for sending exports from the United States. As the Department of Commerce frankly states, "in the case of manufacturing companies, the exporter of record can be either a manufacturing establishment or an administrative location. In the case of service industries that export merchandise, the exporter of record is most often an independent wholesaler, but can also be a retailer, broker or other intermediary. Typically, the Export Locator data reflect the point of sale, i.e., the marketing origin of exports."<sup>12</sup>

To steer users away from making too much of these statistics, the Department of Commerce waves this red flag: "All data users should keep in mind that the Export Locator series is not designed to ascertain the state and local pattern of U.S. export production or export-related jobs. Again, the Exporter Locator series measures export sales activities by exporters of record. Locations from which firms sell their products do not always coincide with the locations where export goods are produced."<sup>13</sup>

Commerce Department data collectors point out a second caveat: their export statistics include re-exports. For 2000, total U.S. goods exports were \$782 billion, of which \$68 billion were re-exports. For California, the incidence of re-exports is higher: of the state's \$130 billion in goods exports, \$18.5 billion were re-exports.<sup>14</sup>

For San Diego, statistical flaws created by domestic transshipment and re-exports may not be trivial. South San Diego is full of warehouses with goods produced elsewhere in the United States or abroad and bound for the *maquiladoras* in Baja; some of the wholesale brokers and marketing agents responsible for these exports may report “San Diego” as the export location. One major freight forwarder/broker firm estimated that as much as 20 percent of the exports it ships to Mexico—which are recorded as San Diego exports—in fact originate elsewhere; these shipments include raw materials and such components for assembly as electronic parts and textiles.<sup>15</sup> Similarly, goods originating in Baja California or elsewhere that pass through San Diego distributors on their way to the National City Marine Terminal or Los Angeles area airports or seaports for export may in some cases be reported as San Diego exports.<sup>16</sup> Even goods that enter San Diego’s foreign trade zones’ bonded warehouses may be counted first as imports and then as exports—yet they were clearly not produced in San Diego.<sup>17</sup>

These statistical quirks partly explain the explosion in reported exports from San Diego to Baja California and Mexico in the 1990s. In fact, manufacturing linkages between San Diego and Baja, although growing, are more modest than suggested by reported export trends. Rather, goods passing through San Diego but not manufactured there, whether bound for *maquiladoras* or for re-export, are inflating the San Diego export numbers. Presently, it is not possible to say just how large this overstatement may be. There are no periodic surveys at the company level that categorize production or sales by destination, disaggregating national and export purchases. But the overstatement of exports may well be significant.

### *Exports and Jobs*

If the Exporter Locator series is taken at face value as the best source available, San Diego’s merchandise exports in 1999 totaled \$8.96 billion. Categorized by product sector, exports were concentrated in electronics and electrical machinery at \$3.5 billion and in industrial machinery and computers at \$1.6 billion (Table 3). According to the Department of Commerce multiplier, approximately 12,000 jobs are created or sustained for every \$1 billion of international product exports. If we accept the Exporter Locator estimate for 1999 exports, this would equate to approximately 108,000 jobs in San Diego County related to merchandise exports, or about 8 percent of the total employed civilian labor force.

### *Destinations of Exports*

San Diego’s merchandise exporters are focused on their NAFTA neighbors (Figure 1). In 1999, 43 percent of San Diego’s recorded exports were shipped to Mexico, and 10 percent to Canada.<sup>18</sup> Shipments to Europe accounted for approximately 20 percent of San Diego’s exports, and Asia-bound shipments represented about 19 percent, with Japan taking about 6 percent. Beyond the

**Table 3. San Diego Exports by Product Sector, 1999 (\$millions)**

Textile Mill Products	50
Apparel	116
Lumber & Wood Products	116
Furniture & Fixtures	50
Paper Products	198
Printing & Publishing	60
Chemical Products	396
Refined Petroleum Products	22
Food & Tobacco Products	224
Rubber & Plastic Products	324
Leather Products	20
Stone, Clay & Glass Products	47
Primary Materials	217
Fabricated Metal Products	222
Industrial Machinery & Computers	1,585
Electric and Electronic Equipment	3,480
Transportation Equipment	509
Scientific & Measuring Instruments	606
Misc. Manufactures	421
Unidentified Manufactures	51
Nonmanufactured Commodities	251
<b>TOTAL</b>	<b>8,964</b>

Source: International Trade Association, US Department of Commerce,  
<http://www.ita.doc.gov/td/industry/otea/metro/industry>.

concentrations in Mexico, Canada, and Japan, San Diego export markets were diversified: only one other country, the United Kingdom, accounted for more than 5 percent of total exports.

Most San Diego exporters have not penetrated Central and South American markets, which together purchased less than \$400 million.

### *The Export Take-Off*

Back in the dark ages of the Cold War, before the explosive growth of the *maquiladoras* in Baja California and before NAFTA, San Diego's exports were remarkably small, whether measured in absolute numbers or in relation to the size of the population. As recently as 1993, merchandise exports totaled only \$4.4 billion (Figure 2). San Diego County's export performance was below the export-to-population ratio for the state of California as a whole. But by 1996 the county's exports reached \$6.7 billion, and by 1999 they had climbed to \$8.96 billion—doubling since 1993. This expansion well surpassed the growth rates experienced statewide and nationwide.

Growth has been particularly rapid in certain sectors. During the 1993-1999 period, exports of electric and electronic equipment grew 208 percent. Several other product sectors exhibited triple-digit growth during those years, including (in order of export volume): transportation equipment, chemical products, plastic and rubber products, and paper products. However, again we must view the Commerce Department's municipal-level export data with caution: according to the Export Locator series, San Diego's transportation equipment exports jumped 112 percent from 1993 to 1998, at the same time as employment in that manufacturing sector declined by 34 percent.<sup>19</sup> This anomaly strongly suggests that some of that transportation equipment was manufactured elsewhere.

These trade trends, as reported by the Commerce Department, are often cited to demonstrate that San Diego is an export-oriented area strongly integrated into global markets. Notwithstanding statistical flaws, San Diego has certainly become more trade-oriented than it was in the past. But how extraordinary is the San Diego story? How much more open to the rest of the world is the San Diego economy as opposed to, say, that of the state of California or the United States?

### *How "Open" is the San Diego Economy?*

One frequently used measure of the degree of openness of an economy is the ratio of its trade to its gross product. In the absence of meaningful import data for San Diego, we must use an export

Figure 1. San Diego Exports by Destination, 1999

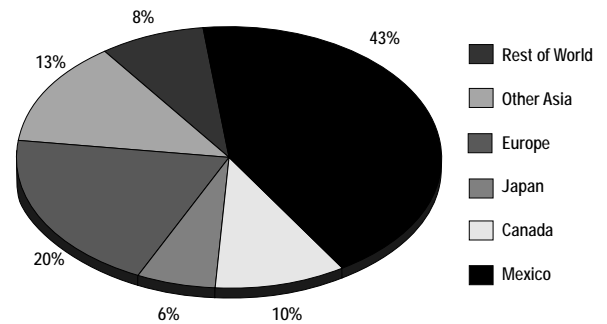
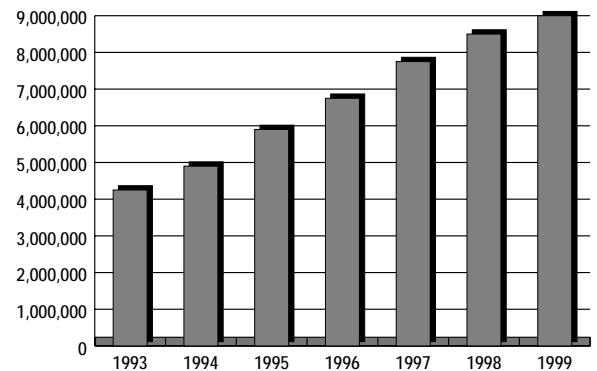


Figure 2. San Diego Merchandise Export Growth, 1993-1999



variable. The regional gross product numbers available for San Diego are derived indirectly and are only estimates. Therefore, a better indicator of “openness” for San Diego might be the ratio of exports to population (per capita exports). In 1993, when the Department of Commerce’s Exporter Locator Series first became available in its current form, San Diego’s “openness ratio” stood at 1.67—roughly the same level as for the United States as a whole (1.51) and below the level for the state of California as a whole (2.64). That is, San Diego was no more or less an open economy than was the United States.<sup>20</sup>

In 1993, San Diego was considerably less open than California’s other main regions, the San Francisco and the Los Angeles metropolitan areas. By 1997, San Diego’s export growth was outpacing that of the United States, but its openness indicator still lagged behind that of California as a whole. In 1998, the Asian financial crisis caused California exports to slump, while San Diego’s exports to Mexico—at least as reported by the Exporter Locator series—continued their sharply upward trend, so much that San Diego’s openness ratio overtook California’s.

If we apply the openness ratio to other metropolitan areas in the United States, San Diego appears significantly less export-oriented than some genuine trade hubs that have populations of similar magnitude, such as Miami, Seattle, San Francisco, and San Jose (Table 4). San Diego would have to roughly double its exports per capita to become as open as Miami, which likes to call itself “the gateway to the Americas.”<sup>21</sup>

Let us suppose for a moment that San Diego were a country. How would its export-to-gross domestic product ratio of about 10 percent compare to that of other countries?<sup>22</sup> Of course, the comparison is artificial: if San Diego were a country, sales to the rest of the United States would be “exports.” But the comparison may have some utility in terms of understanding what it means to be a genuinely “open,” export-oriented economy. Sample country ratios are as follows (listed alphabetically): Canada, 41 percent; Chile, 25 percent; Ireland, 76 percent; Mexico, 31 percent; Spain, 26 percent; and for high-income countries as a whole, 24 percent.<sup>23</sup> Seen in this light, San Diego’s economy remains relatively shielded from the global economy.<sup>24</sup>

It bears repeating that the Department of Commerce-generated merchandise export data for San Diego do not capture many service exports. Several areas where San Diego companies are strong—software, telecommunications service contracts, and technical consultation—are not factored in. Nor are data available on payments for royalties and patents, other areas where San Diego firms are growing in strength. For these activities, the available export data does not allow us to calculate the relative strength of San Diego’s participation in the global economy.

### *San Diego and Baja California: Still Not Quite Partners*

Hundreds of firms from Asia, Europe, and the United States have located in Baja California to take advantage of Mexican labor, the proximity to U.S. markets, and more recently the advantages of

Table 4. Metropolitan Exports-to-Population Ratios, 1997

Metropolitan Area	1997 Merchandise Exports (\$000s)	Population 1997	Ratio
Los Angeles/Long Beach	25,816,445	9,126,131	2.83
New York	29,082,571	8,650,056	3.36
Chicago	23,209,949	7,890,814	2.94
San Diego	7,810,003	2,722,060	2.87
Seattle/Bellevue/Everett	27,005,386	2,272,150	11.89
Miami	12,692,289	2,132,112	5.95
San Francisco	9,978,536	1,671,200	5.97
San Jose	29,057,194	1,621,660	17.92

Source: International Trade Association, US Department of Commerce: <http://www.ita.doc.gov/td/industry/otea/metro/highlights>

Note: For clarity of presentation, the numerators (exports) of the ratios are in thousands.

NAFTA. Superficially, Baja's integration into these North American and global markets would presumably spill over into nearby San Diego. But as we shall see, Baja's *maquiladora* industry largely bypasses San Diego. The *maquiladoras* source most of their inputs from elsewhere, and the consumer products that pour daily from the *maquiladoras* flow through distribution channels whose centers are more likely to be found in Los Angeles, San Francisco, Dallas, or Houston. The economic linkages between Baja and San Diego are much weaker than many observers imagine—except insofar as Baja is a corridor through which Mexican workers and their families migrating from central and southern Mexico must pass on their way to better jobs in San Diego and points north.

If San Diego's high-tech and manufacturing sectors are mostly separate from Baja California, the proximity of Tijuana allows San Diego to transform the "non-tradeables" of its service sectors into exports purchased by Mexicans. Citizens from Baja California consume liberally in San Diego, skipping across the border to take advantage of the wider selection of retail shops, attend sporting events (the Padres baseball team has aggressively targeted the Baja market), take their families to entertainment centers, and even purchase vacation condominiums.<sup>25</sup> Indeed, the San Diego/Tijuana border crossing station is the busiest in the world, with more than 50 million crossings per year. Only 15 percent of these crossings per year (at least prior to September 11) can be attributed to "tourism" because residents of each area regularly cross for family visits and shopping. Some 40,000 people cross the border from Mexico to the United States each day to reach their respective work places. Of these workers, three-quarters are Mexican and the others are U.S. citizens living in Tijuana.<sup>26</sup> In their daily lives, these citizens of both countries have been erasing the border.

To a much lesser degree, San Diegans venture southward, to explore Baja's stunning desert landscapes and—further down the Peninsula—to fish in the rich deep-sea waters off Cabo San Lucas. In the future, the beautiful Baja coastline may attract many more retiree communities from California and elsewhere in the United States, but only after the Mexican government clarifies property rights and installs basic infrastructure requirements.



## V. SAN DIEGO'S INCIPIENT GLOBALIZATION

In the early 1990s, San Diego was reeling from defense industry cutbacks and a sharp depression in real estate that bankrupted the local savings-and-loan industry. But by the end of the decade, San Diego had invented new growth clusters, and its rising population was enjoying near full employment. What factors explain this turnaround?

There is a large and growing literature on the role of regions and how regions gain a competitive edge in the global marketplace.<sup>27</sup> The basic argument is that the power of the nation-state is being eroded as markets become more open and integrated and as the knowledge revolution accelerates in transportation and technology—especially telecommunications and computers. These innovative technologies, when combined effectively in firms with entrepreneurial talent, skilled labor, and risk capital, are the generators of wealth. Dynamic firms tend to locate around each other, as a way of gaining access to up-to-date information and innovation, recruiting cutting-edge knowledge workers and skilled labor, being proximate to efficient suppliers, and benefiting from other economies of scale. Successful regions are those that become locations for such agglomerations of high-tech companies.

Globalization, it should be said, is not necessarily focused on high technology. Throughout history, regions have successfully participated in global markets by marketing natural resources (e.g., minerals, hydrocarbons), taking advantage of good soil (grains, cotton), climate (coffee, rubber, palm oil), and pampas (livestock), or by being located on important trade and shipping routes (Venice, Genoa, New York, Chicago, Shanghai, Hong Kong). But San Diego lacks most of these natural advantages. It has no known natural resources to exploit beneath its semi-arid desert, and regional trade and transportation routes have bypassed the county. When the Panama Canal opened, San Diego's Balboa Park was the site of the 1915 Panama-California Exposition, testament to the hope that the new trade routes would wind through San Diego; alas, shipping companies preferred Los Angeles and San Francisco.

Ranked by one useful index of competitiveness, San Diego has attracted high-tech firms roughly in proportion to its population: according to Ross DeVol's composite index of technology centers (1998), San Diego ranked 17th in the United States (San Diego also ranks 17th in population among metropolitan areas), well behind San Jose (Silicon Valley), Dallas, Los Angeles-Long Beach, Seattle-Bellevue-Everett (WA), and Atlanta, and roughly in the same league as Orange County, Rochester (NY), Raleigh-Durham-Chapel Hill (NC) and Denver.<sup>28</sup> When ranked by percentage of national high-tech real output (1998), San Diego again ranked 17th, with 1.41 percent of the national total output.<sup>29</sup> According to DeVol's estimates, San Diego's high-tech sector accounted for nearly \$10 billion in output and employed 104,000 workers.<sup>30</sup>

What are the key factors that determine a region's ability to attract and sustain high-tech firms? DeVol has compiled a list of frequently cited factors that he rates as being "critical," "very important," or "important" (Table 5). San Diego is strong in several of these critical areas for competitiveness. Following the downturn in the early 1990s, San Diego developed a more business-friendly environment with an attractive local tax structure.<sup>31</sup> The city has strong research institutions. In one critical cost factor, it has an unusual advantage—a nearly limitless supply of low-wage labor. San Diego also has a relatively large number of highly educated citizens: 25 percent of the adult population has earned bachelor's or more-advanced degrees (Table 6). These positive factors have helped to generate clusters of high-tech firms in information technology, biotechnology

and pharmaceuticals, and, most notably, telecommunications: world-class telecom firms—such as Nokia, Ericsson, PCSI, Uniden, LG InfoCom, and Motorola—have rushed to establish affiliates in San Diego and to listen to the buzz in Sorrento Valley, also known as “Wireless Valley.”

San Diego’s fine climate could be labeled as a competitive advantage and a natural resource. The area’s balmy temperatures are part of any San Diego firm’s marketing strategy. San Diego’s clear and predictable weather attracted the U.S. military and draws in high-tech workers. The temperature is remarkably moderate and steady, and the air is dry and fragrant. Only 10 inches of rain fall per year, and then only during the winter months. The night sky is clear and starry. The Pacific Ocean registers a welcoming 72 degrees during the summer. In this meteorological sense, San Diego may indeed be “the nation’s finest city,” as the city boosters are wont to say.

***Higher Education and Research Institutions***

**University of California, San Diego.** Established fairly recently in 1959, UCSD now ranks fifth in the United States in federal research funding for its faculty. The total student body is scheduled to reach 27,500 during this decade. Indicative of its faculty’s links with the private sector, the School of Engineering teamed in 1995 with Qualcomm, Sprint, Hewlett-Packard, Hughes Network Systems, and Nokia to form the Center for Wireless Communications. The state of California awarded UCSD the site for the new California Institute for Telecommunications and Information Technology and the private sector has been quick to donate matching funds. In the biotech area, UCSD’s School of Medicine is associated with two premier research institutions: the Scripps Clinic and Research Foundation, where immunology and allergy research takes place; and the Salk Institute, a leader in research on genetic and communicable diseases. UCSD’s extension service has created CONNECT to link UCSD researchers, local industry, and venture capitalists, and to offer courses in start-up management.

**Table 5. High-Tech Development Factors**

	Inception	Growth	Fortification
<b>Public Policy</b>			
Tax Incentives	•••	•	
Public Investment	•	••	
Commercialization of Ideas	•	••	••
<b>Comparative Location Benchmarking</b>			
Cost Factors	•••		
Research Institutions	•••	•••	•••
Skilled or Educated Labor Force	••	•••	•••
Transportation Center	•		
Proximity to Supplies & Markets	••	•	•
<b>Social Infrastructure Developments</b>			
Attending Changing Needs		••	•••
Re-education & Training Facilities		•••	•
Establishing Trade Groups & Affiliations		•••	•••
Housing, Zoning & Quality of Life	••	••	•••

•• Critical                      •• Very Important                      • Important

Source: Ross DeVol, *America’s High-Tech Economy* (Los Angeles: Milken Institute, July 13, 1999), p.13, table 2.

**Table 6. Educational Attainment in San Diego, Persons Age 25+ (000s)**

Education Level	Individuals	Percentage
Less than 9th grade	118	7.6
9th to 12th grade	163	10.5
High school graduate or more	1,276	81.9
High school graduate only	355	22.8
Some college, no degree	399	25.6
Associate degree	128	8.2
Bachelor’s degree	257	16.5
Graduate/professional degree	137	8.8
<b>Total</b>	<b>1,557</b>	<b>100</b>

Source: US Census Bureau; County of San Diego; SANDAG; San Diego Daily Transcript; <http://www.sddt.com/features/statsheets/sdstats/bigpicture/sandiegoregion/education.html>.

One indicator of globalization is that UCSD categorized 22 percent of its graduate students in 1999-2000 as nonimmigrant international students (568 of 2,570 graduate students).<sup>32</sup> However, only 1.9 percent of its undergraduate students (304 of 16,230) were so classified. Of these undergraduate and graduate foreign students, 55.5 percent were from Asia, 28.1 percent from Europe, and only 6.1 percent from Latin America. UCSD attracts large numbers of nonresident foreigners into its research facilities and faculty; of 1,612 such “international scholars,” 47 percent were from Europe, 38 percent from Asia, and 6 percent from Latin America. UCSD is also sending a growing number of its own students abroad for study or volunteer work, with participation rising from just 325 students in 1988-1989 to a projected 775 in 2000-2001. The University of California-supported study abroad programs are slated for further expansion over the next 10 years.

**Other Institutions of Higher Education.** Originally founded as a teaching college, San Diego State University (SDSU) now has 28,000 students, and its faculty conducts about \$100 million in funded research each year. California State University, San Marcos, is another rapidly growing institution. The University of San Diego has an undergraduate body of 4,600 and offers graduate programs in business and law. Point Loma Nazarene University offers an undergraduate education in the liberal arts in the evangelical and Wesleyan tradition. Also located in San Diego are campuses of the business school University of Phoenix and of the United States International University (USIU), which includes a College of Business Administration. In addition, branches of the California community college network offer two-year degrees as well as extensive and expanding continuing education opportunities.

To meet their needs for specialized skills, San Diego firms look beyond local graduates to national and international labor markets. For example, San Diego’s life-sciences industry employed 1,625 H-1B visa holders in late 1999.<sup>33</sup>

### *The Labor Component: Immigrants and Artisans*

In emphasizing high-tech innovation, we too often disregard the critical contributions of “less skilled” workers to San Diego’s overall competitiveness. Some manufacturing units in San Diego still rely on assembly-line labor. Indeed, some manufacturing firms in San Diego’s industrial parks, notably those that line the border with Mexico, resemble the assembly-line operations common in developing countries. In addition, buildings must still be erected and maintained, and the traditional construction trades are vital to a growing economy. Moreover, as Saskia Sassen has noted, “high-income gentrification is labor intensive”;<sup>34</sup> service-sector employees and self-employed artisans, for example, provide valuable labor for community beautification and maintaining green areas. San Diego enjoys a plentiful supply of “less skilled” workers who have migrated from Mexico, Asia, or other parts of the United States. (“Less skilled” is in quotes because carpenters, waiters, and gardeners may be just as “skilled” as engineers, even if they have fewer years of formal schooling and their expertise is not as highly rewarded in today’s marketplace.)

In fact, San Diego’s highly publicized engineers are outnumbered many times over by such service-sector workers. There were more people working just in protective service operations and in cleaning and building services than were employed as engineers and architects—a mere 35,960—in 1997.

The continuing influx of new workers helps San Diego maintain a competitive cost structure in two ways. On the production side, the influx probably dampens wages in some sectors, thereby holding down the cost of production, whether of cell phones or hotel rooms. On the personal consumption side, real wages paid to “skilled workers” in the high-tech sector and elsewhere are higher and therefore more competitive to the extent that the services their families purchase are less expensive. Migrants contribute to the community in many other ways, but these dual contributions to price competitiveness are often overlooked.

### *San Diego Success Stories*

The synergy of scientific innovation, plentiful labor, and other factors favorable to a high-tech environment has spawned a growing number of San Diego companies that have a global reach. U.S. military and other federal government agencies have played an important role in the origins of many San Diego firms by providing technology, contracts and personnel, even as successful firms have learned to diversify into commercial and in many cases international markets. So too has UCSD; Irwin Jacobs, the CEO of Qualcomm, is the archetype of the academic scientist turned entrepreneur, but he is hardly alone in having made the journey from the region’s premier research university into the high-tech private sector. UCSD—and the county’s balmy weather and casual lifestyle—also has attracted technical workers that populate these firms. Some of the knowledge-producing firms maintain manufacturing facilities in the region; others have preferred more distant locations. Since individual firms are not required to publish data on their export or other international activities, the exact extent of their international engagement cannot be quantified. The following are examples of dynamic high-tech firms based in San Diego that have an international reach through product sales, licensing of patents or manufacturing operations (listed alphabetically):

**Callaway Golf Company.** Founded in 1982, Callaway Golf Company develops and manufactures premier golf accessories such as golf clubs, balls and putters, including the “Big Bertha” irons and clubs series. Its net worldwide sales in 2000 were \$840.4 million. The Carlsbad-based company employs 2,600 people worldwide, the majority of them at its San Diego operations.

**Cubic Corporation.** Founded in 1951 as an electronics firm, Cubic Corporation today has two major segments: transportation systems and defense. The Defense Group provides instrumented training systems for military forces, as well as avionics, data links, aerospace systems, and product logistic support. The Transportation Systems Group designs and manufactures automatic fare-collection systems for public transit throughout the world, including rail, bus and parking lot systems. With approximately 3,700 employees at 84 locations worldwide, Cubic’s 1999 revenues were \$117 million.

**IDEC Pharmaceutical.** IDEC develops targeted immunotherapies for cancer and autoimmune diseases. The company’s products act chiefly through immune system mechanisms, exerting their effect by binding to specific readily targeted immune cells in the patient’s blood or lymphatic system. Its revenues in 2000 were \$424 million.

**Qualcomm, Inc.** Founded in 1985, Qualcomm develops digital wireless communications products and services based on the company's Code Division Multiple Access (CDMA) digital technology. It also develops voice, data, and wireless Internet products and solutions. Qualcomm is headquartered in San Diego and has offices in 12 countries including Europe, Asia and Latin America. FY2000 revenues were \$3.2 billion, and the company employs approximately 10,000 people.

**Science Applications International Corporation (SAIC).** The largest employee-owned company in the United States, SAIC is a diversified research and engineering firm employing more than 41,000 people in its 150 worldwide offices. Founded in 1969, SAIC offers expertise in information technologies, telecommunications, transportation, energy, environment, health care, space, and national security. During the 1990s, SAIC reduced the DoD share of its total revenues from more than 50 percent to about 25 percent. Revenues for the fiscal year ending January 31, 2000, exceeded \$5.5 billion.

**Sempra Energy.** Sempra Energy is a Fortune-500 San Diego-based energy services holding company with eight subsidiaries and nearly 12,000 employees. Sempra and its subsidiaries serve the largest customer base (21 million) of any energy utility in the United States. Sempra also operates internationally, notably in Canada and Mexico. Revenues totaled \$5.4 billion in 1999.

Most of San Diego's high-tech firms are in the early stages of their growth cycle. A few may attain the status of major international corporations; others will be acquired by larger firms; still others will die young. As the successful firms mature, they will have a greater need for sophisticated management expertise—a talent identified as being in limited supply in San Diego's civilian economy.<sup>35</sup> UCSD plans to open a professional business school specializing in technology management to meet this regional need.

## VI. CONSTRAINTS ON SAN DIEGO'S GLOBALIZATION

These success stories are illustrative of San Diego's dynamic high-tech sectors in information technology, telecommunications, and biotechnology, but they are not representative of the San Diego economy as a whole, which is more diversified, more traditional and less globalized than these high-profile firms.

There are numerous reasons behind San Diego's historically slow pace of economic globalization. As discussed earlier, the large military presence has been a commercial hindrance in some respects. Export-oriented manufacturing represents a relatively small portion of the local economy. Small- and medium-sized firms that often prefer domestic markets predominate in the county. The trade-related infrastructure is grossly underdeveloped. The region's political fragmentation and civic attitudes may also have slowed economic progress. And although immigration has without doubt been a boon to the region's economy, the characteristics of San Diego's ethnic minorities may have delayed their full contribution to the globalization of the local economy.

### *Manufacturing in Perspective*

Although the boom in export-oriented high-tech manufacturing (along with the 2001 slowdown) has captured the headlines, San Diego continues to have a diversified economy. The broad and dominant service sector (including education, health, business services, and tourism) accounts for 33 percent of civilian employment; retail and wholesale trades, 22 percent; and government (federal, state and local), 17 percent (Figure 3). Construction and real estate, while highly cyclical, have been strong. In 1999, manufacturing accounted for only 11 percent of total employment, or 128,000 workers. For the United States as a whole, manufacturing employs 14 percent of the labor force, or one-quarter more than does San Diego.<sup>36</sup>

In 1990, San Diego boasted 134,000 manufacturing jobs, or 13.7 percent of total employment. After the collapse of the local defense-based manufacturing sector, the number hit a low of 114,000 in 1994; even today it has only climbed back to 128,000, just 11 percent of total employment.<sup>37</sup>

Figure 3. San Diego Employment by Industry, 1999

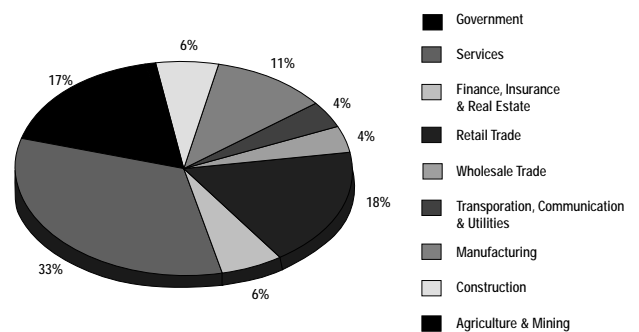
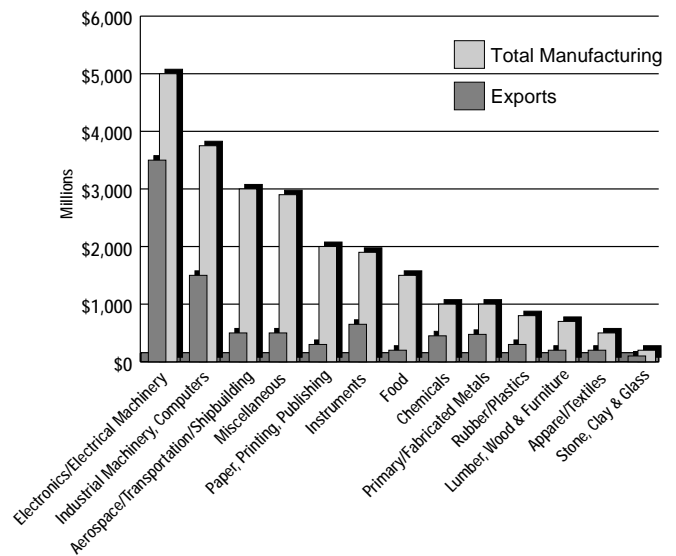


Figure 4. Exports of San Diego Manufactured Products, 1999



Today, only 23,000 of San Diego's manufacturing employees produce electronic equipment, and a mere 6,000 people produce computer and office equipment. (Firms such as Qualcomm have opted to use contract manufacturing to build wireless handsets overseas.) More San Diegans manufacture traditional non-durable goods—food products, apparel and textiles, paper and publishing and chemicals—than manufacture electronic equipment and computers combined.<sup>38</sup> Many of these non-durable goods are sold primarily on the national market (Figure 4).

The industries that still dominate in San Diego tend to be less export-intensive. Segments of these sectors produce “non-tradeables,” although this label is no longer completely accurate because visiting Mexicans may make purchases at San Diego retail outlets, some Asian investors have invested in local real estate, and foreigners study at San Diego universities and use its high-quality medical facilities. But it is broadly correct to say that San Diego's dynamic export sectors are in electronics and in computers and industrial machinery, and although these have been growing rapidly, they began from a small base and still represent only a modest fraction of the county's total employment.

### A County of Small Firms

San Diego's manufacturing sector is a composite of small- and medium-sized establishments. Of a total of 3,951 firms, 2,322 have fewer than 10 employees, and another 1,110 have between 10 and 49 employees (Table 7). Nearly 500 medium-sized firms with 50 to 499 workers employ 59,594 workers. Just 11 firms in the county employ over 1,000 workers. Although easily the largest firm by employment, Qualcomm employs only about 10,000 workers (Table 8).

With only 22,447 jobs concentrated in the top 11 firms, San Diego has an unusually dispersed distribution of firms. This entrepreneurial pattern may more closely mirror the American dream than does an America of mega-corporations. But it is a disadvantage when it comes to exports. Although many smaller firms do succeed in foreign markets, large firms succeed more often and with more impact. For the nation as a whole, larger firms with more than 500 workers are responsible for 80 percent of total U.S. exports. Smaller firms frequently lack the experience, contacts, and the information to participate in global markets. They find it more costly on a per-unit basis to acquire such information and are less able to bear the inherent risks. In addition, in the case of the *maquiladora*

Table 7. Size Distribution of Firms, San Diego County, 1999

Number of Employees	Firms	Employment
0 to 9	2,322	6,782
10 to 49	1,110	24,561
50 to 99	272	18,750
100 to 499	212	40,844
500 to 999	24	15,238
1000+	11	22,447
<b>Total</b>	<b>3,951</b>	<b>128,622</b>

Source: California Employment Development Department; Economic Research Bureau, San Diego Regional Chamber of Commerce.

Table 8. Distribution of San Diego Firms by Size, 2000

Rank	Company	Employees
1	Qualcomm, Inc.	10,000
2	SAIC	4,400
3	National Steel & Shipbuilding	4,000
4	Samsung	3,500
5	Sony Tech. Center	3,500
6	Cubic Corporation	3,400
7	Solar Turbines	2,900
8	BF Goodrich Aerospace	2,300
9	Marconi Intergrated Systems	2,000
10	Hewlett-Packard	1,900

Source: Alexander X, Inc.

industry with its established supplier (often intra-company) networks, small firms often face formidable barriers to entry. Small firms can sometimes be integrated into global markets as supplier to nearby larger firms, but San Diego lacks many such flagship corporations.

### *Trade Infrastructure Underdevelopment*

California interstate highways connect San Diego County's small towns to each other and to the rest of California. But the county is woefully lacking in internationally oriented transportation facilities. Its port facilities are minimal—San Diego lost its small fishing fleet when the tuna industry collapsed years ago, and it has yet to construct a significant modern facility to handle containerized shipping. The “international” Lindbergh Airport, with its single, truncated runway, supports few international flights outside of North America (for international destinations, passengers must connect in Los Angeles or other hub cities). Transcontinental East-West rail links terminate some 100 miles to the north in Los Angeles. In reality, San Diego is a “gateway to nowhere.” As Steven Erie has persuasively documented, San Diego's neglect of its “trade infrastructure” is a brake on the region's globalization.<sup>39</sup>

San Diego lags other West Coast trade centers both in current trade infrastructure capacity and in expansion plans. As Erie has documented, whereas Los Angeles has made massive investments in its port, rail, and airport systems, San Diego has in effect opted to maintain its reliance upon the ports of San Pedro and Los Angeles International Airport (LAX). During 1996-2000, the Los Angeles region was slated to spend over \$4 billion, the San Francisco Bay Area over \$3 billion, and Seattle/Tacoma \$1.5 billion on port, rail, and airport development to increase Pacific Rim trade. In contrast, the San Diego/Tijuana region together planned to spend less than \$400 million. Erie argues that the lack of adequate trade infrastructure, especially in air passenger and cargo facilities, is an impediment to the region's high-tech growth: “The realities of global competition dictate that firms must develop systems of production and distribution that are highly synchronized, thus placing a premium on proximity to airports that effectively handle time-sensitive cargo.”<sup>40</sup> The San Diego Union-Tribune agrees, editorializing that “in the decades ahead, San Diego's job growth—and its level of prosperity—will hinge on whether the region develops the infrastructure an export-driven economy must have in order to compete successfully in the global economy.”<sup>41</sup>

It may be that, at least until recently, San Diego and Baja California's reliance on Los Angeles's port, rail, and airport systems for their trade infrastructure needs was reasonably efficient. However, as Erie and Nathanson have warned, absent major new airport development, the entire Southern California region will face an airport capacity crisis in the next decade. Therefore, they urge the San Diego/Baja California region to develop new airport capacity of its own: “Regional infrastructure investments, particularly in air cargo, appear to be a prerequisite for building a sustainable, high-value-added manufacturing sector that integrates the competitive advantages of both sides of the border.”<sup>42</sup> But the binational region lacks a joint governmental structure to plan trade infrastructure; Erie and Nathanson recommend that such structures be established to design an integrated trade and economic development strategy for the region.

In reality, San Diego is a “gateway to nowhere.” San Diego lags other West Coast trade centers both in current trade infrastructure capacity and in expansion plans.



## *Regional Governance*

San Diego County is essentially a composite of small towns without a strong center. Many of its 18 municipalities, which are spread out across an expanse of over 4,200 square miles of mesas and canyons, have their own self-contained shopping malls, corporate business centers, and industrial parks. They are loosely connected by two north-south arteries—Interstate 5 along the coast and I-15 along the inland valley. Notwithstanding recent inflows, population density remains thin: one person per 1.06 square acres.

There is no powerful, centripetal downtown to assemble these disperse communities into a coherent economy. San Diego's "downtown" has undergone a handsome renovation in the last two decades, but it has become as much a tourist district as a true center of business and finance. With the planned relocation of the Padres' baseball park downtown and the expansion of the nearby Convention Center, San Diego's downtown will become even more focused on entertainment and tourism. "Downtown" does house some professional service firms—law, accounting and consulting—but it is not the nerve center of the region's business. Firms located in North County, Chula Vista, or Imperial County feel no need to house their corporate headquarters downtown. Certainly, executives feel no need to live anywhere near the central district; downtown is simply not the driver of the region's economic development.

A recent public opinion survey of San Diegans' attitudes underscored the county's political and cultural fragmentation. The January 2001 survey asked registered voters to rank local political issues as to whether they should be priorities for local officials. The pollsters discovered that opinions varied according to which of the "four pretty distinct regions" of the country respondents lived in.<sup>43</sup> In the city of San Diego, about 55 percent of the poll participants put improving local schools at the top of their priority list. However, in the prosperous North County area, the top choice was relieving highway congestion. In the less-affluent South Bay, it was fighting crime. In the East County, it was developing energy conservation programs. Not surprisingly, maintaining good relations with Mexico ranked as a higher priority for those living in South Bay and in the city of San Diego than for the more distant voters in the North and East County. Interestingly, only 12.3 percent of those polled said that building a new international airport should be a top priority; even fewer—8.8 percent—said finishing the controversial Padres' ballpark should be a top priority. Perhaps the latter attitudes reflect extreme parochialism and NIMBYism—Not in My Back Yard—or perhaps they reflect a populist reflex that is suspicious of the way that the political process will allocate the costs and benefits of major public projects.

San Diego's political process is characterized by fragmentation, decentralization, and overlapping jurisdictions.<sup>44</sup> Power in the city of San Diego is shared by a relatively weak mayor's office, an appointed city manager, and an assertive City Council. The mayors and councils in the other 17 municipalities share powers with an elected County Board of Supervisors. Over the years, the San Diego Association of Governments (SANDAG) has attempted with little success to inject some order into the region's land use development, housing, and transportation. A powerful port authority controls valuable tracts of shoreline but historically has preferred the role of rentier to the more politically controversial and financially riskier tasks of developing world-class seaports and airports. For their part, private-sector organizations are splintered between the San Diego Regional Chamber of Commerce, the San Diego Regional Economic Development Corporation, and the San Diego World Trade Center.

The shortcomings of this political fragmentation are widely recognized, at least among the elites in San Diego. As Neil Morgan, a senior columnist at The San Diego Union-Tribune, observed, “We need more regional authority. Conflicts among the port, city, county, the military and San Diego’s 17 other cities have led to corrosive defaults on public needs, not least the airport.”<sup>45</sup> At local urging, in late 2000 the State of California authorized the creation of the Regional Government Efficiency Commission (RGEC) to study the potential consolidation of various regional agencies and to decide whether to create a new permanent regional authority. The 11-member commission included five public members appointed by the governor and five members from agencies that might be consolidated: SANDAG, the Metropolitan Transit Development Board, the North County Transit District, the Air Pollution Control District, and the Port District. As a result of this contentious process, in which regionalists battled local interests, the state legislature and governor authorized the creation of a new regional airport authority empowered to expand Lindbergh Field and more generally to plan air capacity for the county. This could be a positive step forward in the struggle to build more coherent, orderly and effective political processes that serve the future needs of the entire region.

## VII. RAPID DEMOGRAPHIC GLOBALIZATION, SLOW POLITICAL ADJUSTMENT

Before 1970, San Diegans were overwhelmingly whites of European origin. There were established African-American and Mexican-American communities in the county, but the white migrants from the nation's Central and Southern heartlands dominated. The recent waves of immigrants from southeast Asia and Mexico have dramatically altered San Diego's demographic makeup. Today, 27 percent of the population is Hispanic, about 10 percent is Asian, and 6 percent is African-American (Table 9). By 2020, the Census Bureau projects that non-Hispanic whites will no longer be in the majority, as the Latino and Asian populations continue to grow.

This massive demographic shift portends major changes in the sociology, politics, and culture of San Diego that have only begun to materialize. The minority ethnic groups will increasingly enter leadership positions in the private and public sectors. So far, however, San Diego's ethnic communities do not wield political clout commensurate with their numbers. True, there are a rising number of prominent Latino and African-American, and fewer Asian-American, political and community leaders, but the organized political presence of the ethnic communities still falls well short of their numerical weight. The county's dominant political institutions and most of the larger private-sector firms remain largely in the hands of the non-Hispanic white establishment. San Diego's inner circle does not yet look like San Diego.

Why has the political power of ethnic minorities lagged behind their growing demographic weight in San Diego?<sup>46</sup> Many Latinos are recent arrivals from poor, rural backgrounds and do not have a college or even a high school education; some are not yet citizens and hence cannot vote. Latinos in San Diego are divided by geography (they are dispersed throughout the county) and by generation—some San Diegans of Hispanic ethnicity have lived in the area for generations and may not fully share the perspectives of recent arrivals. Nor has San Diego's Mexican-American community managed to ally itself with Baja California in ways that would increase its political leverage. African-Americans account for only 6 percent of the county's population and have lower-than-average levels of income and wealth. In San Diego, the Asian-American community's organizational capacity is hindered by its fragmentation into many separate ethnic groups and nationalities. San Diego's Asian-American community approaches politics cautiously, as does its counterparts nationwide. The various Asian-American associations have tended to concentrate on social welfare and have generally eschewed taking positions on more controversial political issues or engaging in partisan campaigns. The Union of Pan Asian Communities dedicates itself primarily to providing San Diego's Asian population with social services and community development.

Table 9. San Diego Demographics, 1990-2020

Ethnic Groups	1990	1995	2000 <sup>1</sup>	2020
<b>White</b>				
Population	1,633,281	1,665,347	1,548,833	1,877,947
Percentage	65%	62%	55%	49%
<b>Hispanic</b>				
Population	510,781	606,975	750,965	1,287,037
Percentage	20%	23%	27%	33%
<b>African-American</b>				
Population	149,898	164,806	154,487	210,925
Percentage	6%	6%	6%	5%
<b>Asian/Other</b>				
Population	204,056	232,072	278,536	477,390
Percentage	8%	9%	10%	12%
<b>Total</b>	<b>2,498,016</b>	<b>2,669,200</b>	<b>2,813,833</b>	<b>3,853,299</b>

Source: SANDAG:

[http://www.sandag.cog.ca.us/data\\_services/estimates/profiles/region](http://www.sandag.cog.ca.us/data_services/estimates/profiles/region); US Census Bureau for 2000 census data.

1. 2000 figures do not add to 100 percent because 2000 was the first census in which people could choose more than one group as well as a new category, "two or more races," which totaled 2.9 percent.

San Diego's ethnic communities have started to exploit their social networks in their home countries to gain a competitive edge in international markets.

Another factor behind the slow political emergence of ethnic minorities may be the dominance of local government by a single political party. In San Diego, Republicans have had a lock on the mayoralty and on many other political offices. Until 2000, the Republicans controlled four of five seats on the county's U.S. congressional delegation; the lone Democrat, Bob Filner, represents the 50th Congressional district in south San Diego, which has a lot of blue-color and minority (Latino, African-American) voters. (In the 2000 elections, Democrat Susan Davis won the "swing" 49th congressional district in the Central County.) In San Diego, the dominant Republican Party remains very much the domain of the non-Hispanic white majority. The local Republican Party leadership has tended to be moderate, and under Mayor Susan Golding (1992-2000) quite centrist; however, the California Republican Party has alienated most minority voters who have not forgotten Republican Governor Pete Wilson's advocacy of Proposition 187, which sought to deny certain social benefits to immigrants and their families. In the 2000 presidential campaign, George W. Bush won only 28 percent of Latino votes in California, according to exit polls.<sup>47</sup> Thus, the local Republican Party has not served as a fluid channel for the advancement of minority leadership.

These dynamics may be changing, however.<sup>48</sup> The City of San Diego, once a Republican bastion, now presents a Democratic edge in voter registration and voting. In the 1992, 1996, and 2000 Presidential elections, Democratic candidates Bill Clinton and Al Gore easily bested their Republican rivals within the central city's boundaries, and Democrats now hold a majority of the city's congressional and state legislative offices. Coupled with the growing leverage of traditionally weak organized labor, the emergence of the Democratic Party is becoming a force for minority empowerment in city politics. Prosperous North County remains a solid stronghold for the Republicans, but they too are now seeking to compete for the growing ethnic vote. Elected in November 2000, Republican City Mayor Richard Murphy hired a staff that reflected San Diego's new diversity, with about 40 percent of his aides being of African-American, Latino or Asian-American descent.<sup>49</sup>

San Diego's ethnic communities have started to exploit their social networks in their home countries to gain a competitive edge in international markets. But these linkages are incipient: for example, ties between San Diego and Baja California are small in comparison, for example, to the commercial and investment linkages between Hong Kong and Guangdong Province, or between Asian communities in the Los Angeles and Bay areas and their countries of origin. Most Mexicans and Mexican-Americans living in San Diego are still of modest means and for the most part hail from regions further south than Baja California, so they lack familial ties to the commercial centers of Tijuana or Mexicali.

Few Asian-Americans in San Diego have yet accumulated sufficient wealth to be able to invest in their ancestral homelands; the area's Asian Pacific population is predominantly Filipino and Vietnamese, rather than Chinese, Japanese or Korean, as in other Pacific Coast metropolises.<sup>50</sup> However, the various ethnic communities in San Diego have formed business associations and chambers of commerce, and many of them hope eventually to turn their international family and cultural ties into profitable opportunities. In the age of globalization, multiculturalism can be a distinct asset in international trade and finance, and San Diego may be able to leverage its growing ethnic diversity for commercial advantage.

## VIII. BAJA CALIFORNIA: GENUINE GLOBALIZATION

Baja California is mostly uninhabited desert, but its northern tier is made up of two boomtowns, Tijuana and Mexicali. Attracted by proximity to the United States and, since NAFTA was enacted in 1994, preferential access to the U.S. market, firms from around the world have located production subsidiaries in those towns and labor has flowed there from the Mexican mainland. This is a robust case of geography driving history, as capital and labor flow to take advantage of market location. If San Diego's economy is essentially an extension of the U.S. domestic economy, Baja California's boom is firmly rooted in globalization.

In 1980, the Tijuana *maquiladora* industry consisted of 123 firms employing 12,000 workers. By 1990, it had grown to 469 firms employing 57,000 workers. By 1998, 692 *maquiladoras* were providing employment to 155,000 workers in Tijuana,<sup>51</sup> and 181 *maquiladoras* in Mexicali employed 47,000 workers. Of all of Mexico's cities, only Ciudad Juarez, with 255 plants employing 213,000 workers, can boast of a larger *maquiladora* sector than Tijuana. With total *maquiladora* employment—one-quarter of Mexico's manufacturing employment—reaching about 1.1 million by 1998, Tijuana and Mexicali together account for almost one-fifth of the *maquiladora* total. For Baja California as a whole, by December 2000, the number of *maquiladoras* had jumped to 1,279 with a workforce of 283,000 (see Table 10).<sup>52</sup>

Table 10. Baja California: Globalization-Driven Growth

Foreign direct investment (1994-1999) <sup>a</sup>	\$3.6 billion
Percentage of adults aged 25-49 born elsewhere <sup>b</sup>	60%
Maquiladora employment <sup>c</sup>	
1990	88,000
2000	283,000
Manufacturing employment (percentage of total) <sup>d</sup>	41%
Industrial production growth (1993-2000) <sup>e</sup>	100%

Sources: <sup>a</sup>SECOFI, Direccion General de Inversion Extranjera  
<sup>b</sup>Instituto Nacional de Estadistica Geografica Informatica (INEGI), Census 2000 (preliminary).  
<sup>c</sup>INEGI, Estadistica de la Industria Maquiladora de Exportacion (preliminary data for 12/2000).  
<sup>d</sup>INEGI, Personas Ocupadas Por Sector, 1999.  
<sup>e</sup>INEGI.

Indicative of Baja California's deep globalization, total trade (gross imports plus exports) exceeds the gross regional product by a large margin.<sup>53</sup> In Baja California, the *maquiladora* sector accounted for 37 percent of total employment in 1998, up from 28 percent in 1993.<sup>54</sup> For the Tijuana metropolitan area, fully 58 percent of the workforce, or 185,600 persons, is in manufacturing.<sup>55</sup> Compare this to San Diego's export-to-gross product ratio of about 10 percent and a manufacturing labor force that accounts for only 11 percent of total civilian employment.

Many of Baja's *maquiladoras* are headquartered in Asia (primarily in Japan, Taiwan, and South Korea); others are directed from Europe, Canada, and of course the United States. Brand name firms with factories in Tijuana include Sony, Samsung, Sanyo, Hyundai, Hitachi, Honeywell, Matsushita, ADI and Sharp. International firms with plants in Mexicali include Acer, Daewoo, NEC, Mitsubishi, Sony, Kenworth, Allied Signal, LG Electronics, Nestle, Rockwell, and Black and Decker.

The average wage-plus-benefit package in the *maquiladora* sector is \$1.50 to \$2.00 per hour.<sup>56</sup> This compares to about \$18 per hour in the United States, \$21 per hour in Japan, and \$14 per hour in the United Kingdom. In the newly industrializing nations of East Asia (Taiwan, South Korea, Hong Kong, Singapore), hourly wage rates are in the \$5 to \$10 range. The low-wage labor pool in Baja California is for the most part not local but rather is filled by a continual flow of young workers from central and southern Mexico; of adults aged 25-49, 60 percent immigrated

to Baja from elsewhere. Baja attracts migrants with a promise of better jobs and the option of moving into still better jobs in the United States. The rapid growth of employment opportunities in Baja California and more generally in the United States, and (during the upswing of 1997-2000) throughout Mexico itself, has put some upward pressure on wages. Confident of finding employment, worker turnover rates have been very high in Tijuana and Mexicali, perhaps as high as 10 percent of the assembly-line workers per month.<sup>57</sup> Nevertheless, until the 2001 slowdown in the U.S. economy, the *maquiladora* sector continued to grow rapidly.

Baja's *maquiladoras* assemble most of the color TV monitors sold in the United States. In addition to consumer electronics (videocassette recorders, satellite TV receivers, batteries), the *maquiladoras* also produce home appliances, clothing and textiles, wood and furniture products and various fabricated metal products (the automotive and computer *maquiladoras* are centered in other Mexican cities) (Table 11). Most of the *maquiladora* output is exported to the United States, although some flows to Europe and even Asia. Mexico's aggressive strategy of negotiating free trade agreements with other Latin American countries will orient *maquiladoras* toward those markets as well.

Baja California is ample proof that globalization by itself does not resolve all development problems. Public goods—health and education, urban infrastructure and affordable housing—have woefully lagged behind industrial expansion. Environmental problems are all too evident. If real wages are to rise appreciably, the workforce will have to gain more experience and training, and firms will have to boost productivity levels. But globalization is generating the dynamism and resources that, if properly marshaled, could spur forward a successful and sustainable development process.

### *Worldwide Supply Networks*

Baja California is super-globalized. It is deeply integrated into the global trading, investment and production networks of many of the world's most dynamic multinational firms. But these production networks that are driving the Baja California economy connect the region to primary cities in Asia, Europe, and the United States—not for the most part to San Diego. There are only modest supply-chain linkages between Tijuana and San Diego.<sup>58</sup>

The *maquiladoras* are very import-intensive: in 1999 the *maquiladora* industry in Baja California used \$10.8 billion in raw materials and supplies, of which \$10.6 billion was reported by Instituto Nacional de Estadística, Geografía e Informática (INEGI) as imported.<sup>59</sup> Most of these inputs come from the *maquiladoras'* established international supply chains in Asia and throughout the United States. Only a small fraction is manufactured in San Diego.

**Table 11. Baja California Maquiladoras: Products by Sector, 1998**  
(1993 Mexican Pesos)

Sector	Pesos (Millions)	Percentage of Total
Food <sup>a</sup>	150	0.31
Textiles <sup>b</sup>	1,310	2.70
Wood <sup>c</sup>	2,326	4.80
Chemicals <sup>d</sup>	1,885	3.89
Metals and Machinery <sup>e</sup>	36,716	75.78
Other	6,063	12.51

<sup>a</sup>Division I - Food, Beverages, and Tobacco.

<sup>b</sup>Division II - Textiles, clothing accessories and leather industry.

<sup>c</sup>Division III - Wood and Wood Products, a small part of this category corresponds to Division IV - Paper, Paper Products and Printed Materials.

<sup>d</sup>Division V - Chemical Substances, Petroleum Derivatives, Rubber Products, a small part of this category corresponds to Mineral, and Non-Metallic Products.

<sup>e</sup>Division VIII - Metal Products, Machinery, and Equipment (including electronics), a small part of this category corresponds to Division VII, Basic Metallic Industries

Tijuana's *maquiladoras* purchase about 60 percent of their imports from Asia, according to one source.<sup>60</sup> A 1997 survey found Asian-owned *maquiladoras* purchased only 5 percent of their inputs from San Diego companies.<sup>61</sup> Even if this study's estimate is low, it does support the contention that the San Diego-Baja manufacturing connection is less than meets the eye. Neither would it be inconsistent with the estimate of the Western Maquiladora Trade Association that in 1997 only about 150 San Diego companies, mostly small firms, were regular suppliers to the *maquiladoras*. Only a few major Asian companies, including Kyocera, Samsung, and Sony, have sizeable plants in both San Diego and Tijuana.<sup>62</sup>

This weak link between Baja *maquiladoras* and San Diego manufacturers is less surprising when one thinks of San Diegans as potential "local" suppliers competing with the *maquiladoras'* traditional supplier networks. Altogether, *maquiladoras* purchase only about 2 percent to 3 percent of their inputs from Mexican firms, and *maquiladoras* in Baja California conform to that trend.<sup>63</sup> The *maquiladoras* prefer to source from suppliers that are already well integrated into the multinational firms' supply chains, some of which are intra-firm. These preferences may result from the traditional *keiretsu* model of closed production networks of Japanese and other Asian firms, as well as from an interest in minimizing transactions costs and risk factors.<sup>64</sup> Potential suppliers in San Diego face many of the same constraints faced by potential Mexican suppliers who might attempt to break through these established supplier-purchaser chains, in addition to the extra problems of having to do business across a congested international border. However, the January 1, 2001, cancellation of the special duty-free status of *maquiladora* imports should provide fresh incentives for *maquiladoras* to shift to NAFTA suppliers—including those in San Diego and Baja California. The degree to which this shift in trade policy will overcome established supplier relationships remains to be seen.

In parallel fashion, knowledge-based firms located in San Diego that seek overseas production facilities have, for the most part, not selected Baja California. They have preferred locations closer to consumer markets or with more relevant expertise or skilled labor. Their investment decisions have been driven by the exigencies of the production and the distribution process; production typically can be located far away from corporate headquarters or development facilities. Only in a relatively few cases has close proximity, which allows for immediate managerial oversight and short shipment times, caused San Diego-based companies to build production facilities just south of the border. According to the Western Maquiladora Trade Association, San Diego companies with supply linkages to Tijuana accounted for only about \$416 million in trade in 1997.<sup>65</sup>

But while the logic of global production networks often renders valueless the geographic proximity of San Diego and Tijuana, current levels of cross-border investment may well be sub-optimal even from an economic efficiency perspective. Manmade barriers have been created by the border itself (crossing inspections and delays, nighttime and weekend closings), inadequate cargo transportation facilities, and lack of awareness and information flows. Cultural bias may be a factor: the preference for the lifestyle and safety in San Diego has created a unique form of binational bifurcation, as thousands of executives and managers who work in the *maquiladoras* prefer to locate their homes and families north of the border.

One promising sector for cross-border integration is energy. California's energy shortage has created demands that Baja California can supply. U.S. firms, including San Diego-based Sempra Energy and Bechtel Enterprise Holdings, are investing in power plants in Baja whose output will help to meet U.S. electricity demand. Within four years, a cluster of new energy projects could boost Baja's contribution to California's power grid to 1,500 megawatts, slightly more than the 1,300 megawatts of electricity produced in all of San Diego County today. Furthermore, pipelines already carry U.S. natural gas to Baja power plants and Sempra Energy is contemplating the construction of a liquefied natural gas (LNG) facility that would make Baja the West Coast production center for LNG.<sup>66</sup> The challenge for authorities on both sides of the border is to facilitate integration of energy markets while guarding environmental standards.



## IX. FUTURE CHALLENGES

The economies of most nations and communities will benefit from the march of globalization, but communities will also have to work hard to remain competitive in a rapidly changing global marketplace. Within communities, some individuals and groups will adjust more easily than others, and public policy will have to take measures to assist potential “losers” as they struggle to enter the category of globalization’s beneficiaries.

To maximize the net benefits they extract from globalization, San Diego and Baja California should consider the following 10 recommendations. In each case, the agents of change will have to include coalitions drawing on both the public and private sectors—within the public sector, agencies from the municipal, county and sometimes state and federal levels; within the private sector, small- and medium-sized firms as well as the established global players and business associations. Coalitions for change should also draw on educational institutions for their knowledge, job training, and ability to disseminate timely information to the community. The globalization challenge requires an integrated approach to regional development.

**1. Build on San Diego’s wealth of small- and medium-sized enterprises (SMEs).** The drivers of San Diego’s economy—and its integration into global markets—will be SMEs. As a report prepared for the U.S. Small Business Administration (SBA) said, “All of the growing technology clusters are characterized by small firms, and except for a few major companies, technology firms and small firms in the San Diego region are synonymous.”<sup>67</sup> Yet SMEs face many barriers to entry in global markets and most of San Diego’s SMEs remain largely marginalized from export opportunities. The San Diego World Trade Center and some local community colleges, among other entities, are already focusing on this challenge. The U.S. Overseas Private Investment Corporation recently announced a program of potential value to San Diego: an offer of long-term financing to U.S. SMEs investing in Mexico, targeting firms positioned to enter the Mexican market but unable to obtain adequate commercial financing. Yet much more can be done—by both government agencies and private-sector associations—to provide SMEs with the vision, information, market access, technical assistance, and specialized financing required for international transactions. Globalizing San Diego’s real economy, its SMEs, is perhaps the greatest single challenge facing the county in the coming decades.

**2. Exploit tradeable services.** High technology (especially information technologies and biotech) will be an important driver in the region’s future growth, but in San Diego’s diversified economy, most people will continue to work elsewhere. Manufacturing is predicted to directly employ only 132,000 people in 2010, or less than 10 percent of the total workforce.<sup>68</sup> Other sectors—services (health, consulting, education, entertainment, and tourism), construction and real estate, and wholesale and retail trade—will have to expand and become more productive to absorb the growing population and still pay good wages.<sup>69</sup> To an increasing degree, these sectors should also be seen as part of the potentially tradeable economy, part of San Diego’s export community. For example, a profile of San Diego’s overnight visitors reveals that although only 6 percent are foreign (versus 12 percent from Arizona and 43 percent from California).<sup>70</sup> International tourism could become a valuable source of income for thousands of San Diego firms.

**3. Create linkages between potential suppliers in both San Diego and Baja California and the maquiladora industries.** The World Trade Organization prohibits “performance requirements” such as those that Mexico might use to compel *maquiladoras* to purchase a higher percentage of their inputs from local suppliers. But there are more subtle ways to encourage such linkages, and it is in the joint

interests of San Diego and Baja California to work together on this mutual problem. By maintaining duties on imports from non-NAFTA suppliers, NAFTA encourages *maquiladoras* to purchase a percentage of inputs from NAFTA economies, if not necessarily from the Baja-San Diego area. The Inter-American Development Bank (IDB) and the Mexican development bank, NAFINSA, are financing the Tijuana Fund to provide venture capital for start-up firms that are potential suppliers to *maquiladoras*; San Diego should study the results of this capacity-building exercise. Certainly, public and private sectors on both sides of the border could join forces to provide potential suppliers—and the *maquiladoras*—with adequate information and to make such linkages a matter of civic pride. The annual Mexport Buyer and Seller Trade Show, organized by the Otay Mesa Chamber of Commerce and the San Diego Regional Economic Development Corporation, encourages San Diego firms to market their component products and services to the *maquiladoras*, but much more can be done. The various programs in San Diego that target SMEs should include such topics as export opportunities and *maquiladora* procurement, and should provide appropriate technical assistance. In terms of accessing international markets, Baja California is the binational region's globalization success story, and San Diego should make better use of Baja's global networks.

#### ***4. Seize the opportunities presented by the administration of Mexican President***

***Vicente Fox.*** Fox has promised to devolve decision-making and financial resources to states and municipalities. “Public goods”—urban infrastructure, social services, housing—have not been able to keep pace with the rapid private-sector economic development in Baja California. Fox's administrative reforms will hopefully place more resources at the disposal of local authorities to address their pressing socioeconomic problems. San Diego and California may want to share their own experiences and provide technical expertise to Baja entities struggling with the problems generated by rapid economic growth. San Diego and California can work more closely with such binational entities as the NAFTA-spawned North American Development Bank (NADBANK) and the Border Environment Cooperation Commission (BECC) to support the environmental infrastructure in the border region in such areas as wastewater treatment and water pollution projects. Efforts to make the border less of a barrier to legitimate commerce—particularly important in the aftermath of September 11—would promote economic efficiency and better link San Diego to the *maquiladora* sector.

In his first year in office, President Fox has made the movement of persons his top priority in the bilateral relationship, and has proposed a comprehensive package deal to regularize and legalize cross-border labor flows. For the first time, Mexico would engage as a cooperative partner, no longer adhering to the “principled” notion that Mexicans are simply free to travel and that any resulting border disruption is a problem for the United States to face alone. The opportunities for more humane, safer, and efficient labor flows could diffuse conflicts over immigration and contribute to more cooperative approaches on a range of other border matters. San Diego authorities should lobby the national entities involved in the U.S.-Mexican negotiations on labor and immigration policies.

#### ***5. Turn San Diego's ethnic diversity into an advantage in the region's global***

***competitiveness.*** Existing associations of the area's ethnic communities can place more emphasis on using social linkages with the homeland to generate economic exchange. Other export-promotion entities can incorporate ethnic linkages into their marketing strategies. San Diego can learn from the new California-Mexico Trade Center opening in Santa Ana, whose Latino political leadership persuaded the Fox administration to locate the facility there to promote trade by SMEs, many of which will be owned by the area's large Latino population.<sup>71</sup> If it could augment its own

organization, visibility, and outreach to Mexican authorities (both public and private), the emerging Latino community in San Diego could seek to build similar cross-border institutions.

**6. Take greater advantage of the region's changing demographics to globalize local political structures.** San Diego's public educational system is addressing the problems of providing quality education to the growing minority and immigrant populations. The university systems are also striving to provide access to minorities and first-generation Americans.<sup>72</sup> The county's political structure, however, lags in adjusting to the growing demographic weight of ethnic minorities.

**7. Invest in infrastructure apace with the growth of the private sector—and sometimes in advance of potential private-sector growth.** Inadequate trade-related infrastructure, including airports and seaports, roads and railroads, has been a brake on San Diego's globalization. In some instances, San Diego can comfortably piggyback on Los Angeles's capacities, but the continued absence of a truly international airport will hinder future growth prospects. The proposed creation of a new regional transportation authority could help overcome old bottlenecks in land use planning and finance, and provide a more integrated, future-oriented and globally integrated vision for the San Diego-Baja California region.

**8. Anticipate problems that future growth will generate.**<sup>73</sup> As San Diego and Baja California grow through increased integration in the global economy, the region will face many of the same problems that have already confronted other globalized regions around the world.<sup>74</sup> San Diego is not the first fast-growth metropolitan area to experience school crowding, shortages of affordable housing, transportation bottlenecks, traffic congestion, and environmental degradation.<sup>75</sup> Nor is San Diego unique in having to deal with the inequalities that often accompany rapid growth and particularly globalization, where formal education and technical skills command premiums in labor markets. San Diego can learn from the "best practices" of those metropolitan communities, in the United States and elsewhere, that have been most successful in deriving the benefits from globalization while effectively managing its deleterious side effects.

**9. Factor in the enduring reality that the Defense Department and other federal agencies remain critical sources of support for San Diego's move into the global economy.** Although there are many ties between these entities and the local private sector and research establishments, too often these federal programs are ignored in discussions of the region's economic future. Perhaps even more could be done at the local level to encourage government-industry linkages to promote rapid commercial spin-offs. At the same time, by maintaining exclusive control over vast tracts of land that could be a site for international air travel, the Defense Department is impeding the region's economic progress.

**10. Develop a stronger statistical database modernized to track globalization trends.** Clear public discourse, and sound public policies and private-sector decisions require good data that accurately describe the world of today. The available data on manufacturing exports are flawed and there are no state-level or county-level statistical series on exports of services, even as they become increasingly important to the San Diego economy. Nor are there specific data on flows of direct investment or on the returns to investment and to intellectual property rights. San Diego officials should work with their counterparts in Sacramento and Washington to build databases that capture the variables driving globalization. Officials from San Diego (and Sacramento) and Baja California should work cooperatively to build databases on the many types of cross-border economic flows, including trade, investment, and consumption.

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## ENDNOTES

- 1 This paper was prepared for the Pacific Council on International Policy and its project, "Mapping the Local Impact of Globalization." The author thanks Kelly Cunningham, Steven Erie, David Shirk, Rebecca Gordon, Ye Zhao, Gordon Hanson, and Barry Naughton for their expertise and valuable help, and expresses his appreciation to the participants in a workshop convened by the Pacific Council in San Diego on March 21, 2001. Gregory Treverton, Michael Parks and Abraham Lowenthal contributed generously with their professional guidance and stimulating suggestions. The author alone is responsible for any errors that remain.
- 2 Census Bureau, U.S. Department of Commerce.
- 3 Op. cit., 2000 Census.
- 4 Economic Research Bureau, San Diego Regional Chamber of Commerce.
- 5 [www.tourbymexico.com](http://www.tourbymexico.com).
- 6 See, for example, Thomas Friedman, *The Lexus and the Olive Tree* (New York: Anchor Books, 1999).
- 7 Two recent studies of San Diego's economy that note this phenomenon are Innovation Associates, Inc., *Developing High-Technology Communities: San Diego* (Washington, D.C.: U.S. Small Business Administration, April, 2000), and Michael E. Porter, "Clusters of Innovation Initiative: San Diego," (Washington, DC: Council on Competitiveness, April 5, 2001).
- 8 The military has influenced the development of high technology throughout California.
- 9 San Diego Regional Chamber of Commerce, *Economic Bulletin*, Vol. 48, No. 7, July 2000.
- 10 Ibid., p.3.
- 11 First National Bank, *Corporate Report 2000* (San Diego: First National Bank, 2001).
- 12 [www.ita.doc.gov/td/industry/otea/metro](http://www.ita.doc.gov/td/industry/otea/metro). Despite these caveats, the Exporter Locator series is still a great improvement over the older "customs district" series, which simply reported on the shipment of imports and exports as recorded at ports of entry and departure.
- 13 Ibid.
- 14 U.S. Census Bureau, FT9000 Supplement Exhibit 2, "U.S. Exports of Goods by State Where the Exporter is Located." Statistics on re-exports are not available at the metropolitan area level.
- 15 Author telephone interview, March, 2001.
- 16 Ibid.
- 17 Author interview with Census Bureau official. Foreign Trade Zone (FTZ) shipments, which are included in national export totals, were \$11.9 billion in 2000. (U.S. Census Bureau, FT9000 Supplement Exhibit 2, "U.S. Exports of Goods by State Where the Exporter is Located.")
- 18 San Diego's recorded trade is much more concentrated on Mexico than is the case for California's two other main regions, the Bay Area in the north and the Los Angeles region in the south. However, insofar as the San Diego data are overstated by transshipments, some of the trade attributed to San Diego is no doubt in goods manufactured elsewhere in California.
- 19 See James Gerber, "Local Export Statistics Don't Tell Us Much," *Cross-Border Economic Bulletin*, August 2000.
- 20 The United States has relatively low trade barriers, but its extraordinarily large domestic market absorbs most national production. The U.S. "openness" ratio of exports to gross product is 12 percent compared to the average for high-income countries of 24 percent. (World Bank, *World Development Report 1999/2000* (Washington, DC: World Bank, 2000), p. 255.)
- 21 San Diego is roughly as "open" as the mega-metropolitan areas of Los Angeles-Long Beach, New York, and Chicago (Table 7). These mega-areas export a much greater volume of goods than does San Diego, but their much larger populations pull down their openness ratios.
- 22 While imperfect at the regional level because the denominator is estimated (see Table 1), this ratio is readily available at the national level and hence is useful for cross-country comparisons.

- 23 World Bank, *World Development Report 1999/2000* (Washington, DC: World Bank, 2000), pp. 254-255. In this series, exports include goods and services, whereas the San Diego data capture only exports of goods. San Diego's relative "openness" is therefore understated, but probably not to the point of negating the gross orders of magnitude of the comparison.
- 24 Reaching a similar conclusion based upon his comparative study of San Diego's high-tech clusters, Michael E. Porter referred to San Diego's "limited internationalization" as a continuing challenge to the region. Michael E. Porter, op. cit., exhibit 31.
- 25 A 1992 survey of border crossers estimated that Tijuana area residents spend \$2.8 billion annually in the United States, most of that in San Diego. However, these data were based on questionnaires completed at the border, not on actual or recorded expenditures, and border crossers may have had incentives to identify themselves as tourists and shoppers rather than as workers. Certainly border crossers are a significant element in San Diego's South Bay economy. San Diego Dialogue, *Who Crosses the Border: A View of the San Diego/Tijuana Metropolitan Region* (San Diego: San Diego Dialogue, April, 1994).
- 26 Greater San Diego Chamber of Commerce, *San Diego World Trade Directory*, 1999-2000, pp. 24-25.
- 27 For applications to regional studies, see Earl Fry, *The North American West in a Global Economy* (Los Angeles: Pacific Center for International Policy, April, 2000); The Citistates Group, "The Millennium Project, *San Diego Magazine*, October-December, 1999; and David Shirk, "Regional Success Stories: Global Engagement Strategies for the San Diego/Baja California Region," (San Diego: San Diego Dialogue, April, 2000).
- 28 Ross DeVol, *America's High-Tech Economy: Growth, Development and Risks for Metropolitan Areas* (Los Angeles: Milken Institute, July, 1999). The composite index is equivalent to the percentage of national high-tech real output multiplied by the high-tech real output "location quotient" for each metro area. The "location quotient" equals the percentage output in a metro area divided by the percentage output in the U.S., so that if the quotient exceeds 1, the industry is more concentrated in the metro area than in the United States on average.
- 29 DeVol, op. cit., p. 64, table 3.7.
- 30 Ibid., p. 56, table 3.3.
- 31 Innovation Associates, Inc., *Developing High-Technology Communities: San Diego* (Washington, DC: U.S. Small Business Administration, Office of Advocacy, April, 2000).
- 32 International Center, UCSD, *1999-2000 Annual Report* (La Jolla: UCSD).
- 33 BIOCOC/San Diego, *Issues and Principles Agenda* (San Diego: BIOCOC/San Diego, 2001), p. 22.
- 34 Saskia Sassen, *Cities in a World Economy* (Thousand Oaks, California: Pine Forge Press, 1994), p. 114.
- 35 Michael E. Porter, op. cit., exhibit 31.
- 36 Bureau of Labor, Bureau of Labor Statistics as reported in Council of Economic Advisers, *Economic Report of the President*, table B-46, annual publication.
- 37 San Diego Regional Chamber of Commerce, *Economic Bulletin*, Vol. 48, No.11, p.2.
- 38 California Employment Development Department (CEDD); San Diego Regional Chamber of Commerce, *Economic Bulletin*, Vol.48, No.11, p.3. Non-durable goods employment was 36,800 in 1999.
- 39 See Steven Erie, "Toward a Trade Infrastructure Strategy for the San Diego/Tijuana Region," paper prepared for the San Diego Dialogue, February, 1999.
- 40 Ibid., p.4.
- 41 *The San Diego Union-Tribune*, January 12, 2001.
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- 56 U.S. Department of Labor, Bureau of Labor Statistics, "Production Workers in Manufacturing," 1999; and James Curry, "San Diego/Tijuana Manufacturing in the Information Age," San Diego Dialogue Working Paper, Figure 10.
- 57 Author interviews with *maquiladora* management, Tijuana, 2000. I am indebted to Rebecca Gordon for her insightful research on the *maquiladora* industry and its international linkages.
- 58 Jim Curry, op. cit.
- 59 INEGI, Estadística de la Industria Maquiladora de Exportación.
- 60 Dean Calbreath, "Twin Plants Fail to Bloom," *The San Diego Union-Tribune*, June 29, 1998. See also Diane Linquist, "Maquiladora Asian Boom—No Boon Here," *The San Diego Union-Tribune*, February 27, 1998.
- 61 The cited Tijuana survey was done in 1997 by four students from the University of Utrecht. The Asian companies that were surveyed, 40 of 62 Japanese and Korean *maquiladoras* in Tijuana reported buying more than half of their key parts from companies in Asia and a quarter from companies in the United States other than in Southern California. Similar results were reported in Mireya Solís, "Vertical Keiretsu and Foreign Direct Investment: Evidence from the Japanese Automobile and Electronic Industries," Working Paper (San Diego: Center for U.S.-Mexican Studies, University of California at San Diego, February 1997).
- 62 An interesting question is the degree to which some "twin plants" located in south San Diego near the border are "San Diegan." Much of their labor is provided by Mexicans crossing the border daily, most of their inputs are "imported" from outside the county, and their ownership is typically "foreign" as well. These firms may employ local management and some technical and service inputs. They prefer to locate on the San Diego side of the border for reasons having to do with logistics, infrastructure and security.
- 63 INEGI, op. cit. In 1999, for Baja California *maquiladoras*, of total inputs valued at 104,357 million pesos, imports accounted for 101,835 million pesos or 97.6 percent.
- 64 For a discussion of the "meager" local procurement in Mexico of Japanese-owned *maquiladoras*, see Mireya Solís, op. cit.; and Patricia Wilson, "Maquiladoras and Local Linkages: Building Transaction Networks in Guadalajara," in *Unauthorized Migration: Addressing the Root Causes*. Commission for the Study of International Migration and Cooperative Economic Development. Vol. II. (Washington: GPO, 1990).
- 65 Cited in Jim Curry, *ibid.*
- 66 Diane Lindquist, "Neighbors in Crisis," *The San Diego Union-Tribune*, April 15, 2001, p. H1; and Diane Lindquist, "Wattage from Baja is About to Flow," *The San Diego Union-Tribune*, May 5, 2001, p.1.
- 67 Innovation Associates, Inc. Op. cit., p. xiii.

68 San Diego Association of Governments (SANDAG), "2020 Cities/County Forecast Profiles." Available at [http://www.sandag.cog.ca.us/data\\_services/forecasts/profiles/sdregion](http://www.sandag.cog.ca.us/data_services/forecasts/profiles/sdregion).

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72 For example, UCSD has opened the charter Preuss School to prepare low-income students for college. For one grassroots campaign to increase access to college for the region's fast-growing Latino population, by the San Diego County Council for Higher Education, see "Campaign to Increase Latino Access to College is Started," *The San Diego Union-Tribune*, March 6, 2001, p. B2.

73 One such effort is San Diego Dialogue, *The Global Engagement of San Diego/Baja California* (San Diego: San Diego Dialogue, November, 2000); see also Citistates Group, *op. cit.* For a recent study on Los Angeles, see Southern California Studies Center (SCSC) and The Brookings Institution, *Sprawl Hits the Wall: Confronting the Realities of Metropolitan Los Angeles* (Los Angeles: SCSC, University of Southern California, March, 2001).

74 For examples, see David Shirk, "Regional Success Stories: Global Engagement Strategies for the San Diego/Baja California Region," (San Diego: San Diego Dialogue, April, 2000). For comparative lessons from the U.S. experience, see Council of Economic Advisers, *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 2001), pp. 236-243.

75 See the other regional studies in this Pacific Council series.



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