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A Perspective on the Houston Economy

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Texas Shrimpers Face Sea of Regulations, Flood of Imports

Shrimping is an industry with critical economic problems.

The Gulf Coast shrimper is now caught in an economic vise, squeezed by rising costs on one side and falling product price on the other.

The Gulf Coast shrimp industry conjures up images of quaint wooden trawlers with chipped and peeling paint against the backdrop of a setting Texas sun. Shrimping also offers the appeal of an independent lifestyle, one that has long provided a good living for those who find offices too confining.

Today, however, it is an industry with critical economic problems. If all that mattered was the consumption of shrimp, the industry would be enjoying boom times. In 2001, shrimp passed tuna to become America's favorite seafood. In 1975, Americans consumed more than twice as much tuna per capita as shrimp (*Figure 1*), but by 2002, they were eating 3.7 pounds of shrimp per capita compared with 3.1 pounds of tuna.

But the Gulf Coast shrimper is now caught in an economic

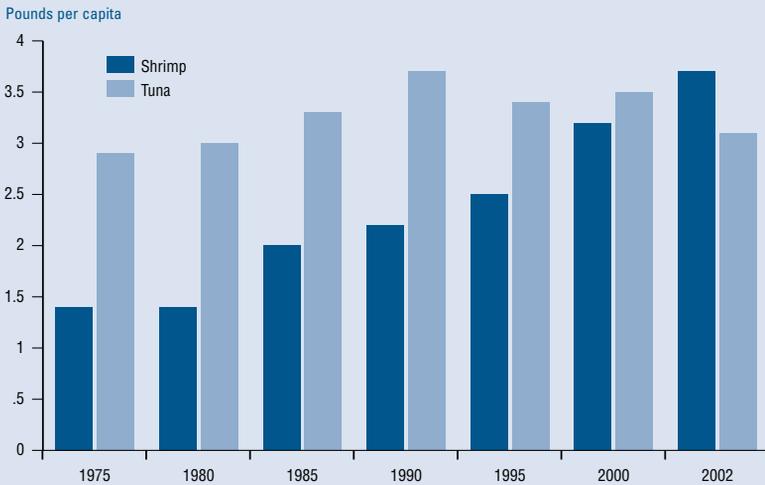
vise, squeezed by rising costs on one side and falling product price on the other. In recent years, regulations have made shrimp capture more difficult and costly. Limitations are imposed on when and where shrimping can occur, and a fraction of each day's effort is lost to devices that protect other species. The shrimper has little opportunity to cut costs; crew wages, fuel, and vessel and gear repair dominate daily expenditures. And there is even less chance to pass the costs on to the consumer because low-cost, farm-raised shrimp from abroad have kept dock-side prices depressed.

This article looks at the difficult economic situation the Gulf Coast shrimper currently faces and the industry's prospects for the future.

The Texas Shrimp Industry

Shrimping dominates Texas commercial fishing, accounting annually for about 90 percent of the value of the state's fish products and 80 percent of the weight. Texas shrimpers primarily harvest brown and white shrimp. The large brown shrimp

Figure 1
U.S. per Capita Consumption of Shrimp and Tuna



NOTES: Shrimp is all preparations; canned tuna only.

SOURCE: National Marine Fisheries Service.

from Texas Gulf waters is particularly prized for its size and flavor. Brown shrimp have made up 74.7 percent of the yield in Texas over the past 25 years, with white shrimp making up almost all the rest (24.7 percent).

Shrimping takes place in Texas bays and in deeper Gulf waters. Bay shrimping for both bait and food has been an important economic activity in Texas coastal cities since at least the middle of the 19th century and typically accounts for 25 to 30 percent of the weight of the annual harvest. Gulf shrimping, which accounts for the rest, began in Texas after World War II, when Louisiana shrimpers moved to Texas seeking new fishing grounds.

The Gulf of Mexico is the most productive shrimp-producing region in the United States, led by Louisiana and Texas. In 2003, landings of shrimp were 35.2 million pounds in Texas and 95.1 million pounds in Louisiana, with a value of \$96.3 million and \$183.1 million, respectively. The leading fishing ports in Texas (in order of product value) are Brownsville–Port Isabel, Port Arthur, Palacios

and Galveston. Eunice–Venice and Dulac–Chavin take the lead in Louisiana.

Shrimping plays a larger role in the lore and psyche of the Texas Gulf Coast than in its economy. Based on Texas Parks and Wildlife Department (TPWD) comparisons, and using a three-year average from 1998 through 2000, the shrimp harvest was worth \$192.7 million annually, compared with \$595.6 million for Texas timber and stumpage, \$442.4 million for corn, \$190 million for peanuts and \$53.4 million for cabbage. As we will discuss below, the Texas shrimp fishery is fully exploited, with no prospects for long-term growth in the number of shrimp captured.

Specific employment data for shrimping are not available, and the number of jobs at any time depends on the season as well as the price and quantity of shrimp available that year. Estimates from the TPWD are shown in Table 1 and were derived from the number and mix (bait, bay, Gulf) of shrimping vessels in the fleet. A bait fisherman, for example, will operate alone in a shallow, inboard, 14- to 16-foot power-

boat, while a trawler typically operates with a crew of three: a captain, a rigger to handle the nets, and a header to separate the shrimp from the by-catch and remove the heads.

The number of vessels operating in Texas waters fell 29 percent from 1990 to 1995, then another 13 percent from 1995 to 1999. This decline was partly driven by poor economics in the industry, but also by a TPWD program to issue no new shrimp fishing licenses and to buy and retire existing licenses. The repurchase program is now financed by a \$3 surcharge on recreational fishing licenses. Through 2003, the TPWD had spent \$5.7 million for 522 bait and 483 bay licenses.

The federal government required its first commercial licenses for Gulf shrimping in 2003, opening the door to limiting the size of the industry in federal waters as well. No decision has been made on a cutoff date or on whether to freeze or begin to shrink the number of shrimpers operating in the Gulf.

According to a recent study, the typical Texas shrimper is a 52-year-old male with 22 years of fishing experience. Median earnings are \$40,000 per year. Almost half reported they had no health insurance, and about half reported no additional income from a spouse. Vietnamese shrimpers became an important presence in the industry in the 1970s and today represent 28 percent of active shrimpers. The largest concentration of Vietnamese shrimpers is in Port Arthur.

Table 1
Estimates of Number of Workers Engaged in Shrimp Fishing

	1990	1995	1999
Vessels licensed	4,728	3,370	2,922
Workers	8,082	5,072	4,571

SOURCE: Texas Parks and Wildlife Department.

Table 2
Fishery-Related Jobs in Four States, 2001

	Processor	Wholesaler	Total
Alabama	1,310	477	1,787
Mississippi	2,806	121	2,927
Louisiana	2,239	749	2,988
Texas	1,378	805	2,183
Total	7,733	2,152	9,885

SOURCE: National Marine Fisheries Service.

After the shrimp leaves the boat, it enters another industry of dockside dealers, processors, brokers and wholesalers who deliver the product to restaurants and grocery warehouses or for export. Processors or their jobbers will peel, bread, can, dry or freeze the shrimp or produce other special products. Table 2 shows data on employment in this land-based part of the fishing industry.

A recent study by Texas A&M University examined the broker-dealer segment of the industry. It is primarily composed of small businesses employing one to 10 workers, full time or seasonally, each earning \$20,000–\$60,000 per year. They operate as some combination of food wholesalers (51 percent), food retailers (29 percent) and bait sellers (39 percent). About 95 percent of food handled through this system is shrimp.

Imports and Tariffs

Domestic shrimp fisheries are at capacity, and the domestic shrimp capture industry has not grown or shrunk in the past 25 years. Figure 2 shows the path of Texas shrimp landings since 1979, with a fitted trend that shows no significant upward or downward tendency over time. Year-to-year fluctuations, as discussed further below, are largely a consequence of late cold fronts, spring rains and other weather events.

Figure 2
Trend in Texas Shrimp Capture

Pounds per year (in millions)



SOURCE: National Marine Fisheries Service.

The gap between rapidly increasing consumption and fixed domestic production has been filled by imports, which have grown to nearly 90 percent of domestic consumption in recent years. Figure 3 contrasts the stable production of the domestic shrimp industry with the rapid growth of imports. More than 80 percent of the 1.1 billion pounds of mostly farm-raised shrimp that entered the United States in 2003 came from the following countries, ranked in order of contribution to total imports: Thailand, China, Vietnam, Ecuador, Mexico, Brazil and Indonesia.

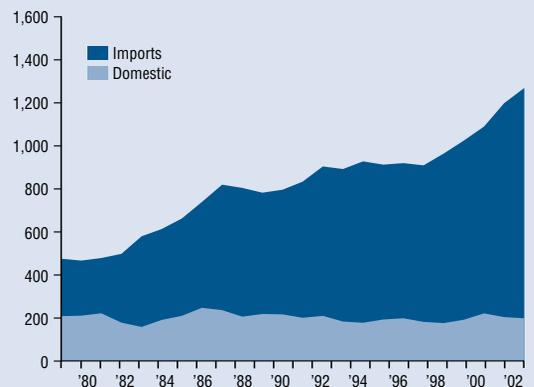
The United States has its own farm-raised shrimp industry, and Texas is the largest producer of pond-raised shrimp in the United States. By 2001 the U.S. industry had grown to \$27 million, producing about 8 million pounds of shrimp per year, but compared with 1.1 billion pounds from abroad, the industry

is small. It is likely to remain a marginal contributor to U.S. production because of low labor costs abroad and domestic environmental restrictions (such as water disposal).

Table 3 shows that farm-raised imports have also put downward pressure on shrimp prices. Prices of large shrimp, 15 to 20 count per pound, have fallen from \$7.35 at dockside in 1999 to \$5.73 in the first four months of this year. Smaller shrimp (36 to 40 count) have fallen from \$3.84 to \$2.25. Adjusted for inflation, prices for all Texas shrimp are at the lowest levels since price data

Figure 3
Shrimp Supply: Imports and Domestic Shrimp Landings

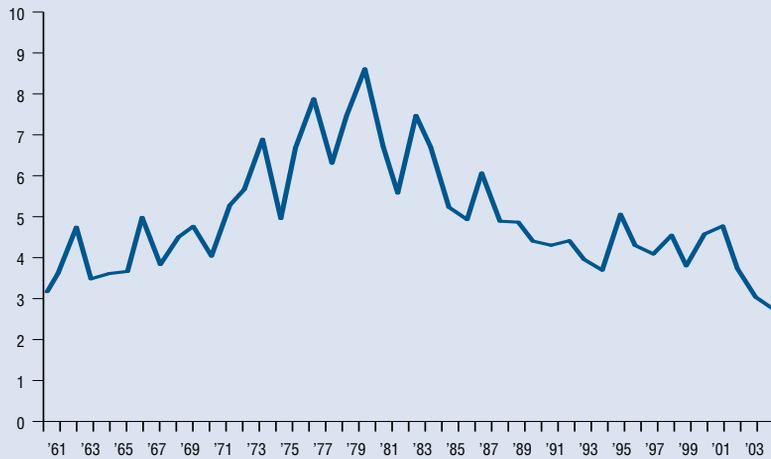
Pounds (in millions)



SOURCE: National Marine Fisheries Service.

Figure 4
Real Price of Shrimp

Dollars per pound



SOURCE: National Marine Fisheries Service.

have been collected, beginning in 1960 (Figure 4).

Shrimpers have been hurt by imports, and this has been recognized by compensation under the federal Trade Adjustment Assistance program, which will provide \$90 million per year to affected shrimpers from 2004 to 2007. With proper documentation, each individual is entitled to up to \$10,000 in annual compensation.

Texas shrimpers have fought back against imports and low prices as part of the Southern Shrimp Alliance. Shrimpers in eight states from Texas to North Carolina have filed an antidumping petition against imports of canned and frozen shrimp. The complaint, filed last December, accuses China, Vietnam, India, Thailand, Ecuador and Brazil of selling their product below the actual cost of production in the United States, an unfair trade practice. In February, the U.S. International Trade Commission found evidence of economic damage to the shrimp industry, and in early July the Commerce Department imposed temporary tariffs of 8 to 113 percent on Chinese and Vietnamese prod-

ucts. Under World Trade Organization (WTO) rules, it is easier to build a dumping case against these two countries because of their nonmarket economies. A separate ruling on the four market-based countries was expected in late July.

These particular suits are part of a broader pattern of antidumping litigation U.S. producers are bringing against China on products ranging from wood furniture to bras to television sets. Successful complaints in agriculture have included catfish (against Vietnam), crawfish (China) and honey (China). Antidumping complaints always raise economists' suspicions as being protectionist and anticompetitive, but the current rash of suits is made even more suspect by the 2000 Byrd amendment. This law redistributes all antidumping penalties collected by U.S. customs agents directly to the affected parties, a potential windfall of hundreds of millions of dollars. The Byrd amendment has been declared an unfair trade practice by the WTO, which has authorized sanctions against the United States for its application.

Domestic opposition to the shrimp-dumping charges has come from the Consuming Industries Trade Action Coalition, a group of grocers, restaurant owners, processors and distributors who benefit from low prices and high consumption. They have sought to portray the tariffs as a tax on food for the benefit of a few.

The specific economic impact of the shrimpers' complaint will depend heavily on the decision regarding the four market-based countries. No tariffs or low tariffs would allow them to fill much of the gap left by the Chinese and Vietnamese. However, whatever the specific outcome, the general impact of tariffs where none existed previously is easily foreseen. For shrimpers, it means higher prices at dockside, more income, more effort expended fishing and more pressure on existing fishery resources. It means lower volumes for processors and wholesalers and fewer, more expensive shrimp at retail for consumers.

Shrimp Fishery Management

Biological overfishing is not a threat to Texas shrimp because of their short life cycle of a single season and the high fecundity of the female, which may produce 300,000 or more eggs. Spawning occurs in the deep waters of the Gulf of Mexico, where fertile eggs

Table 3
Price of Shrimp at Texas Ports
(Dollars per pound by count)

	15–20 count	36–40 count
1999	7.35	3.84
2000	7.53	5.08
2001	7.57	4.27
2002	5.90	2.75
2003	5.53	3.38
2004	5.73	2.25

NOTE: Data for 2004 are for January through April only.

SOURCE: National Marine Fisheries Service.

develop into free-swimming larvae. Larvae develop through several stages and are carried by wind, current or their own power into shallow estuaries in Texas bays. Young shrimp concentrate in these shallow waters until, at a length of 3 to 5 inches, they immigrate into the Gulf. There they mature into adults and begin the cycle once more. The maturation process in the bays leaves the young shrimp vulnerable to the weather—late cold spells or heavy rains that affect salinity or wash away protective cover—making the annual shrimp harvest highly variable from year to year.

Regulation of Texas shrimp fisheries is divided between Texas and federal authorities. The Submerged Land Act of 1953 grants states the rights to marine resources and submerged land in the Gulf of Mexico up to three nautical miles from the coast, except in Texas and west Florida, where the limit is three marine leagues, or just over 10 miles. From the outer state boundary, federal jurisdiction over marine and submerged resources extends seaward for 200 miles, defining the Exclusive Economic Zone (EEZ). Regulation of the fisheries in the EEZ is under the auspices of the Gulf of Mexico Fishery Management Council, which consists of 17 members, one drawn from each of six federal marine agencies and 11 members nominated by state governors and confirmed by the secretary of commerce. The National Marine Fisheries Service reviews and approves regulations proposed by the council.

Texas has managed shrimp since the 1930s, when the state legislature established a minimum size on captured shrimp, maximum trawl sizes and a

closing of shrimping from May to July. Today, operating under a fishery management plan mandated by the legislature, the TPWD manages shrimp to provide the maximum economic yield to the shrimping industry and the state.

The most significant economic feature of Texas shrimp regulation is the closure of state waters to all shrimping activity from June 1 to July 15, with the dates possibly modified by the Texas Parks and Wildlife Commission or the executive director of the TPWD. The purpose of the closure is to allow juvenile shrimp to migrate from bay waters to the Gulf, giving them the opportunity to grow to larger, more valuable sizes in the Gulf. The growth of large brown shrimp has also been promoted by closing off certain critical bays and estuaries completely or at particular times and by buying back shrimp licenses to limit overall fishing effort. The Texas EEZ is similarly closed off seasonally by federal authorities, although this has become an issue for debate in recent years. The closure of Texas portions of the EEZ helps Texas fisheries, but gains may come at the expense of the overall Gulf fishery.

Controversial and burdensome regulation of the shrimper also stems from the collateral damage shrimp fishing may have on other species. Bycatch is the catch during shrimping of nontargeted species, much of which dies in the nets or in the process of separating out the shrimp. The bycatch may be as high as 4 pounds per pound of shrimp. Several marine species that often feed on shrimp have been particularly affected. Inshore, the Atlantic croaker began to decline in the 1950s, and offshore the red snapper began a

commercial and recreational decline in the 1980s. Other species thought to be affected by shrimping are flounder, sea trout and blue crab. The National Marine Fisheries Service began requiring bycatch excluder devices in the EEZ in 1998. These devices exclude a significant fraction of the bycatch but also allow some shrimp to escape as well. So far, bycatch excluders are being tested in state waters but are not required.

The most controversial bycatch problem is the sea turtle, particularly the Kemp's ridley sea turtle. The most threatened of the five Atlantic sea turtles, the Kemp's ridley nests on the Gulf Coast near Rancho Nuevo, Mexico. Through Mexican government protection, the annual number of nesting turtles has risen to 5,000 in recent years, still far short of the 40,000 of 60 years ago. An effort has been made to imprint Kemp's ridley hatchlings on Padre Island National Seashore, raise them in a laboratory and release them as yearlings, all in hope of establishing a second nesting ground. To protect the (potentially) returning Kemp's ridleys, all shrimping in the vicinity of Padre Island is forbidden.

In addition, because the turtle is protected under the Endangered Species Act, a turtle excluder device (TED) is required in both state and federal waters. The devices have been mandatory since 1989, and new, larger TEDs were required in 2003. Like the bycatch reduction devices, the TED loses a fraction of the shrimp captured with each pass through the water.

Fishery regulations work to maximize the economic value of the shrimp harvest as a collective good and to protect the

recreational and commercial value of nontargeted species. However, regulations also make shrimping more difficult and more costly per hour worked. Limitations are imposed on when and where shrimping can occur, and a fraction of each day's effort is lost to devices that protect other species. Shrimper income has been squeezed between fishery regulation and the low prices offered by the marketplace in recent years.

Fate of the Gulf Shrimper

Tariffs often set up a confrontation between consumer and producer. This tariff issue sets up a segment of the industry capable of producing only 10 to 15 percent of the shrimp consumed in this country against the rest, mostly foreign shrimp farms, and also against consumers, who have come to rely on foreign sources for the vast majority of their shrimp.

Choose your perspective. Is the problem small, independent business driven to the brink of bankruptcy by unfair trade practices? Is it foreign producers who pay their fixed costs by selling at higher prices at home and at marginal cost abroad to drive U.S. shrimpers out of business? Do we level the playing field by imposing tariffs?

Or do we need to recognize the end of an era? That new technology may have made shrimp capture obsolete, and the old needs to make way for the new? Is shrimping in the Gulf in the 21st century as useful as being a wheelwright or blacksmith was in the 20th? Then, is the economic damage of protective tariffs on millions of consumers worth protecting a few thousand jobs?

The contrast above was deliberately drawn harshly and

in black and white. However, even in shades of gray, the facts largely stack up in favor of the second view. The number of countries around the world that have succeeded at shrimp aquaculture suggests an irresistible tide. The current antidumping claims are weakened by the fact that they are filed against six different countries on two continents. Surely the chief competition for these foreign farms is not the Gulf Coast shrimper but other shrimp farms.

The segment of the U.S. industry that survives will be the most sophisticated—the largest trawlers with the most horsepower to pull the nets and the most electronics to locate the shrimp. The shift will be from the single operator toward corporate business arrangements, with multiple trawlers operating under single ownership. It will be much like the shift from family to corporate farming, where high capital costs drive consolidation.

One widely discussed idea to help the Gulf Coast shrimper is to explicitly recognize that wild-harvested shrimp have slipped into a marginal niche. Marketing may be the key to saving the industry, recognizing that the freshness and distinctive flavor of wild shrimp could command a higher price for a differentiated product. Shrimp has become a favorite of restaurants as price has fallen, allowing them to offer a premium product at reduced cost. It seems likely that wild-harvested shrimp could, for example, find a place on premium menus. This approach could preserve a Texas tradition—Gulf Coast shrimp.

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The Houston economy seemed to take a breather in May and June. Nothing slipped into reverse, but there were signs that the foot came off the accelerator by a notch or two. The local purchasing managers index still indicates strong expansion but fell back a couple of points; employment growth slowed to half the rate of the last six months; and retail sales fell off the good pace they had enjoyed since last December. The Houston economy is probably shifting gears for long-term expansion and putting the easy, faster stages of recovery behind it.

Retail Sales and Autos

Retail sales were soft in June, breaking a string of solid sales months that began with the holidays last December. Department stores have struggled, discount store sales were moderate to soft and high-end stores continued to do well. Overall, June sales matched or exceeded last year's but were disappointing compared with recent months.

New car and truck sales dropped 17.3 percent in June, led by a 30 percent decline in truck sales. Auto sales in Houston are down 7 percent through the first half of 2004.

Real Estate

Most real estate products held trend. Office space continues to weaken, with occupancy reaching the lowest levels since the 1980s bust. Industrial occupancy continues its five-year slide, with flat rents. Retail occupancy is up, and rents are up slightly

for both the quarter and the year. Occupancy continues to decline in multifamily housing, but rents broke trend with an increase in the first quarter. The reversal may not last, however, with more than 9,000 units still under construction in Houston.

Single-family housing remains robust, driven by low interest rates and a fear that mortgage rates will soon go higher. Sales of existing homes in May were an all-time record for any month in Houston, up nearly 7 percent from a year earlier. New home sales were up 8 percent in May, with pending sales high and traffic still running strong.

Upstream Oil Services and Machinery

Oil prices were at \$40 in early June, slipped back to \$36 in late June, then pushed back up to near \$40 in early July. Natural gas prices fell from \$6.50 to \$6 or slightly below by mid-July. Soft gas prices were the result of cool summer weather, which reduced air-conditioning loads for electric utilities. A hot summer is still in the forecast, however.

Despite high energy prices, drilling rose only moderately—although the working rig count finally moved over 1,200 in the United States. Offshore drilling was up by a few rigs, but none

were in the Gulf of Mexico. International activity moved up by only a few rigs. Capital expenditures remain at high levels, but they have not accelerated along with the recent run-up in energy prices. Prospects have dwindled at home, and overseas oil is mostly found in politically risky places. Pricing is OK upstream, profits are acceptable and excess capacity persists in most lines of business.

Downstream Refining and Chemicals

Refining margins weakened throughout most of June, but from very high levels. They strengthened again in early July. Gulf Coast refiners operated at 97 to 99 percent capacity utilization to take advantage of good profit margins. Gasoline inventory remains low, despite high production levels and slower demand in June.

Petrochemical price increases slowed in June, although gains were still reported for a number of products: caustic, chlorine, benzene, styrene, polystyrene, acrylic and polyvinyl chloride. June price increases were tied less to natural gas price increases and more to capacity constraints and hefty product demand. Chemical producers are glad to see strong demand return, but profit margins vary widely from product to product.



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