

University Research Initiative

# Impact of Offshore Oil Exploration and Production on the Social Institutions of Coastal Louisiana



U.S. Department of the Interior  
Minerals Management Service  
Gulf of Mexico OCS Region



Cooperative Agreement  
University Research Initiative  
Louisiana Universities Marine Consortium

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# **Impact of Offshore Oil Exploration and Production on the Social Institutions of Coastal Louisiana**

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August 1993

Prepared under MMS Contract  
14-35-0001-30470  
by  
Louisiana Universities Marine Consortium  
150 Riverside Mall, Room 107  
Baton Rouge, Louisiana 70801

Published by

**U.S. Department of the Interior  
Minerals Management Service  
Gulf of Mexico OCS Region**

**Cooperative Agreement  
University Research Initiative  
Louisiana Universities Marine Consortium**

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New Orleans, Louisiana 70123-2394

Telephone Number: (504) 736-2519

## **CITATION**

Suggested citation:

Laska, S., V.K. Baxter, R. Seydlitz, R.E. Thayer, S. Brabant, and C. Forsyth. 1993. Impact of Offshore Petroleum Exploration and Production on the Social Institutions of Coastal Louisiana. Prepared by the Environmental Social Science Research Institute, University of New Orleans. OCS Study #MMS 93-0007. U.S. Dept. of the Interior, Minerals Mgmt. Service, Gulf of Mexico OCS Regional Office. New Orleans, La. 246 pp.

## ABSTRACT

Resource extraction activities--such as the exploration and production of petroleum reserves from the Gulf of Mexico--are primary economic activities. As economic institutions they are related to other social institutions. Limited research in the past has left a void in knowledge of how offshore oil production affects other social institutions.

The research contained in this report considers the relationship of oil production--a primary economic activity--to five social institutions: the family; poverty and social service provision; communities; government; and the political economy.

Findings suggest a direct impact of offshore oil and gas production on these institutions. The impact is both positive and negative. It is long-term as well as short-term. It affects different institutions and sub-populations differently. The effects are on the entire state, not just the area directly involved with oil production. The culture of the area as well as its history act both to buffer and exacerbate the effects. The degree to which the area is involved and dependent upon oil activities and the extent to which the involvement is dependent on decisions made throughout the world oil economy make the impact very difficult to mitigate, especially by local organizations and officials.

Mitigation recommendations range from research, data collection, impact monitoring, a national policy requiring the use of American contractors, the sharing of severance taxes with the affected area, the escrowing of monies by oil companies, and the expansion of government assistance to mitigate impacts.

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## ACKNOWLEDGMENTS

Many individuals assisted in each of the five projects. All were helped by the review of the earlier drafts by: Robert Gramling, William Freudenburg and Harvey Molotch. Each of the project researchers wishes to recognize persons who assisted them:

**Political Economy.** Neil Fligstein, University of California at Berkeley; Charles Lambert, George Lundskow, Deborah Hanrahan, graduate students in the Department of Sociology and research assistants with the Environmental Institute, University of New Orleans.

**Communities.** Daphne Spain, Associate Professor of Urban Studies and Associate Dean of the College of Architecture, University of Virginia; Elizabeth Triche, Assistant Director for Research of the Environmental Institute, University of New Orleans; Karen Bishop, Jyaphia Rodgers, Catherine Vesey and George Lundskow, graduate students in the Department of Sociology and research assistants with the Environmental Institute; Ray Jean and Russell Robbins, Tulane University; Don Starsinic, U.S. Census Bureau; Mary Jo Castell, Louisiana Department of Education; Vicki Zatarain, Minerals Management Service; Michael E. Parker, Exxon Company, U.S.A.; Mary Hughes, Louisiana State Department of Employment and Training, Research and Statistics Unit.

**Government.** Charles Hadley, Professor of Political Science, University of New Orleans served as co-investigator; officials of coastal parishes who generously provided information for the study.

**Poverty and Social Service Agencies.** The respondents who have worked with the poor and so generously gave their time; Robert Gramling.

**The Family.** DeAnn K. Gauthier, graduate student at Louisiana State University; Robert Gramling, University of Southwestern University.

The secretarial/technical staff of the Environmental Institute, University of New Orleans prepared the report. Their effort is gratefully acknowledged.

## CHAPTER 1

### EXECUTIVE SUMMARY

**Shirley Laska, University of New Orleans  
and  
Vern Baxter, University of New Orleans**

The state of Louisiana is unique in the world for having its economy and its people involved in such a major way over such a long period of time in the exploration and extraction of natural resources from beneath the ocean's floor. Louisiana is also unique because of the way the extraction of oil and gas resources from the Gulf of Mexico has been influenced so dramatically by the exploration, development and production of the same resources in other parts of the world. A massive world oil industry exists and local dependence on this primary industry is magnified by dependence on decisions that are largely out of the control of Louisiana residents. This has resulted in a unique situation that begs to be studied. Among the important questions to answer are:

1. What are the social and economic impacts of resource extraction activities?
2. Is the impact of offshore resource extraction different from that experienced by communities and regions which extract resources on land?
3. To what extent are the impacts positive, negative, or a mixture?
4. How have the impacts been distributed among social institutions, among sub-groups of the population, and among regions of the state--those proximate and those more distant from the extraction activity?
5. How does the history and culture of the area affect the way in which it responds to involvement in the resource extraction activities?
6. What are the dynamics and mechanisms of national and world oil markets which have influenced oil company investment decisions and the rate of demand for Gulf of Mexico oil and gas; and thus the timing and extent of impacts experienced in Louisiana?
7. How can the negative effects of resource extraction in Louisiana be mitigated?

## METHODOLOGY

In order to address such a wide array of questions about the social and economic impact of oil and gas extraction, a team of social scientists with specialties was created that span the social science spectrum--sociologists knowledgeable in marine occupations, energy production, poverty and social service delivery, community dynamics, crime and social problems, economic and industrial organizations. A political scientist and an urban planner were recruited with specialties in government dynamics and Southern politics. Some had already done research on oil and gas impacts; others were new to the topic but brought their particular areas of expertise to the study. Members of the team also varied in years of research experience. One out-of-state researcher was also included because of the importance of her community demographic expertise in examining these issues. In all, nine professors, six graduate students and three undergraduates were involved with the research. One of the initial faculty removed himself from the project when he moved to another university; two new faculty were subsequently added.

The research effort was organized to examine five major areas:

- 1) Political Economy of the Oil Industry. The ways in which the decisions and outcomes of market competition changed the role of Gulf of Mexico extraction activities within the world petroleum industry.
- 2) Community Social Problems and Resources. The nature of the impact of involvement on communities within the state, especially with regard to social problems, human capital development and economic health.
- 3) Government. The nature of the political institutions of the state and the way in which the boom and bust dynamics of the petroleum industry impacted the delivery of public services.
- 4) Poverty and Social Services. The nature of poverty within involved communities during various phases of petroleum involvement--pre-boom, boom and bust--and the ways in which social service agencies modified themselves to serve the changing needs for services.
- 5) The Family. The unique nature of offshore employment, the way in which such employment affects family roles and how these families cope with this unique occupation.

A wide variety of research methods was used to approach the various topics. For topics 1, 3, 4 and 5, in-depth interviews were conducted with offshore oil workers and their families, social service agency and government officials, and with oil company executives. For topics 1, 3, and 4, records and documents were examined from public agencies and corporations.

For topic 2, statistics from local, state and federal agencies were obtained for a period extending over more than thirty years. For topic 1, data were collected on leasing activity, financial characteristics, and financial restructuring of the thirty-eight most important oil and gas companies that operate in Louisiana.

A variety of analytical methods was also used. Detailed content analysis was done on the in-depth interviews. Tallying of occurrences and determination of frequencies was done to ascertain patterns of responses of social service agencies, government officials, and oil firms. Various multivariate statistical analyses were done with the community and oil company data.

## FINDINGS

Because little previous research exists on the social and economic impacts of offshore petroleum extraction, limited testing has been done of specific hypotheses within the research contained in this report. When tested, hypotheses were developed from previous work done on rapid industrialization in other contexts, especially other resource extraction experiences where sharp increases and declines in involvement were observed. However, as a result of this research, more specific hypotheses have emerged which the investigators will seek to test with future research.

Presentation of the findings will be organized according to the questions posed at the beginning of the summary.<sup>1</sup> Answers to each question will be presented along with recommendations for future research.

### **1. What are the Social and Economic Impacts of Resource Extraction Activities?**

-- Oil workers and their families must make adjustments to offshore employment by finding ways to compensate for the absence of the father from the family for long periods of time.

There are four major types of adjustments: those centered on the father relinquishing his authority in some fashion; those in which the father withdraws functionally from the family; those in which there is an egalitarian adjustment between the husband and wife; and those which include unresolved conflict. Some of these adjustments are more successful than others.

-- While poverty exists independently of petroleum production, there are ways that different phases of oil production affect poverty. For example, the characteristics of the poor differ from one phase to another.

Prior to involvement, the poor of Louisiana were local people who were elderly or uneducated and lacked marketable skills. During the boom those who experienced poverty before the boom were likely to be even more negatively impacted. As the cost of living

increased they could not take full advantage of the opportunities which developed because of their limited skills or advanced age. Others with limited employment skills who migrated in from outside the region were also negatively impacted, especially when trying to find affordable housing. When the bust occurred, those who had most recently migrated into the area and those most recently hired were the first laid off and the first to experience poverty. Skilled and white collar workers became the "new poor" as they had never experienced poverty. In the aftermath of the oil bust those who wanted to remain in the area frequently doubled-up with other family members to save on housing; wives sought employment to compensate for unemployed husbands and the adult children of the "new poor" found themselves without the safety net of well-paid parents.

-- Non-profit and religious social service agencies and federal programs existing within the area augmented local public agencies that tried to respond to the needs of the poor but were limited by funding reductions throughout the 1980's.

Programs developed during the civil rights movement and the "War on Poverty" were still in place and were able to respond to the boom and bust cycles. In addition, social service programs started under the auspices of the Roman Catholic Church were also able to serve the needs of the poor. An extensive private network developed by Catholic and Protestant civil rights activists facilitated the development of new programs. Finally, the federal Food Stamps program and the emergency response program of the Federal Emergency Management Agency were available during the bust phase.

-- High levels or rapidly changing amounts of activity in the petroleum industry are associated with higher incidence of social problems (higher homicide and suicide rates), increases in basic human capital (lower high school dropout rates) and decreases in enhancement level human capital (fewer high school graduates going on to college).

-- When examined on an annual basis, the differential degree of petroleum involvement of Louisiana parishes--high versus low-- does not affect the average rate of occurrence of social problems and long-term human capital development. It does have a differential impact on economic health.

-- Two major long-term advantages of greater oil involvement are higher incomes and lower unemployment rates.

-- Parishes more involved with oil also experience disadvantages like higher housing costs, less available housing, too fast population growth, and a younger population (less owner-occupied housing). The latter two characteristics require considerable adjustments in infrastructure and services, adjustments that are often costly.

-- Offshore oil and gas extraction greatly expanded the presence of all types of oil firms in Louisiana and provided opportunities for expansion of local companies and integrated multinational companies that invested in the state. Offshore investment sustained growth of a local drilling and oil service industry and provided inputs for refinery and pipeline expansion throughout the 1970's. These oil investments provided the major industrial infrastructure of the state.

Stable growth of offshore investment required state and federal government tax incentives and regulation before 1973 to help underwrite the high development costs of offshore oil and gas fields. The combination of large oil discoveries and government stimulation of investment created economic benefits for firms in every segment of the industry and for governmental units that grew to rely on continued expansion of the offshore and onshore oil industries. State government relied on the continuation of oil industry revenues to fund basic services.

Perhaps the most important impact of oil in Louisiana was to foster dependence on an exhaustible resource to meet basic employment and social service needs. State budgets grew to rely for employment and tax revenues on what was only later revealed to be a vulnerable industry. The belief that the resource was inexhaustible and that growth would never end led the state to fail to save and plan for the industry's decline. Louisiana citizens and their social institutions were never adequately prepared for exhaustion of the resource (Nearly 90% of proven onshore and 70% of proven offshore reserves are gone). Rapid economic decline since 1982 has simply meant fewer jobs, fewer residents, and less government revenue at the federal, state, and local levels.

Some major oil companies no longer operate in Louisiana (Gulf Oil), others have retrenched local operations (Exxon, Tenneco, Mobil), and all have universally reduced exploration and production budgets and employment. Many drilling, platform construction, towboat, and tool companies have gone bankrupt or been consolidated into larger integrated conglomerates, which invariably have meant staff reductions in Louisiana.

Federal trade deficits, and the fiscal crisis in Louisiana are related to the restructuring of the oil industry. Federal offshore lease bonuses and royalties go into the Federal Treasury and are used to offset Federal expenditures. Limited funds are dedicated to coastal zone parishes. State revenue collection was structured around the golden goose of mineral severance taxes and oil industry investment that allowed the provision of extraordinary services without local income taxes and with minuscule local property taxes. Reductions in state revenue transfers to local governments caused freezes in discretionary spending, reduced the services of the state's public hospital system, reduced funding of school bus drivers, and caused restructuring of local governments.

## **2. Is the Impact of Offshore Resource Extraction Different From That Experienced by Communities and Regions Which Extract Resources on Land?**

-- Irregular work schedules offshore result from the distance travelled to work and the nature of the work. This makes offshore employment different from the mining of resources on land. For example, parental roles must be modified to accommodate the absence of fathers for extended periods of time. Protracted work schedules also result in protracted free time which permits local residents to continue involvement in fishing and other traditional coastal activities at the same time they are employed in the oil industry.

While in-migration was found to be high in the involved parishes, it was limited by the fact that people worked offshore. Workers could leave their families at home and commute longer distances with the extended free time afforded them by offshore work schedules.

-- Coastal zone parishes in Louisiana receive direct economic benefits from offshore investment but local government must provide services and infrastructure to support offshore activity without the compensation they would receive if extraction took place in state waters or on land.

The federal government won most of the battles over control of offshore oil activity. All bonuses and royalties paid for offshore leases six miles or more from shore go to the federal treasury while the state receives twenty-seven percent of revenues generated in the three- to-six-mile offshore zone. Local infrastructure and services must be provided to support offshore activity without commensurate revenue transfer to local communities. The problem is compounded in Louisiana where local government is constitutionally prohibited from raising revenue from income tax and is effectively prohibited from increasing property taxes.

## **3. To What Extent are the Impacts Positive, Negative, or a Mixture?**

The socio-economic impacts of offshore oil and gas activity in Louisiana are surely mixed, as are the effects of modernization and industrial development anywhere in the world.

-- The impact on the family is believed to be largely negative.

The father is separated from his children; if he were very involved with his family prior to taking an oil job, the separation will be stressful for all family members. The longer the duration of work and the longer the father works offshore, the greater the adjustments that must be made to the father's absence from the family.

The greater the duration of time spent by the father in the oil industry, the greater the differences found in the couple's parenting and homemaking behaviors. These differences can cause tension between the couple.

The positive effects lie in the ability of the wife to assume non-traditional parenting and household roles which some wives may find more satisfying than the more traditional ones. The wife has more control over decision making and assumes more authority. This autonomy likely results in greater self esteem if she is successful in managing the family in the husband's absence. Additionally, strong support networks that promote adaptation to this demanding lifestyle tend to develop among the families of offshore workers.

- The effects of offshore oil activity on poverty are mixed. Many jobs are created during the boom phase but immigrants also require special services like housing and information about the local community. Boom-town inflation also increases the cost of living and some immigrants eventually join the locals in poverty.
- The bust has an obvious negative impact by placing more people in poverty and impoverishing individuals who have never been unemployed before. In addition, immigrant workers drawn to the area become surplus labor when alternative employment is unavailable during a bust. These workers can become impoverished as can local residents if industries which existed before petroleum dominated the economy are no longer present or are in decline (e.g., fishing, shrimping) before the enormous impact of oil.
- The capacity of social agencies to provide services may be enhanced by the impact of petroleum because they learn how to adjust to different types of social service demands. However, when a community's social infrastructure must respond to fluctuating needs, it must expend resources which cannot be used for other purposes.
- Earnings are higher and transfer payments (e.g., unemployment compensation) are lower in parishes that are highly involved in the oil industry. High school graduation rates in more highly involved parishes are also higher during boom periods. These positive impacts of oil development may be temporary improvements that are sustained by continued industry expansion and prosperity but disappear during down cycles and industry decline. Likewise, these benefits are accompanied by higher suicide and homicide rates and fewer teenagers going on to college during expansionary cycles.

The negative impact of higher suicide and homicide rates is obvious. The reduced rate of college attendance has implications for individual teenagers who decide not to attend but also reduces community-wide human capital. On all national measures, Louisiana is at the bottom or near the bottom in educational attainment and sustained involvement with the oil industry has not been associated with positive changes in that ranking.

- Louisiana OCS activity has provided a generation of employment for tens of thousands of people and indicators of economic well-being are higher in the parishes most involved in oil and gas activity.

An extensive, locally owned and operated offshore petroleum service industry exists in Louisiana but it is unclear the extent to which local petroleum service companies will survive what is likely to be a continued decline of offshore resource extraction. Large integrated firms that are not headquartered in the state have always and will continue to reap the lion's share of benefits from offshore activity. Lower rates of return on many depleted leases should continue to support an extensive network of independent contractors.

Oil and gas severance taxes provided bedrock funding for high levels of state services which gave significant benefits to a generation of Louisiana citizens. The reliance on severance taxes reverberated into an inability and unwillingness of governors, legislatures, and voters to adapt to new revenue requirements. The state remains politically deadlocked between conflicting visions of how to raise revenues required to fund services after severance taxes disappear completely.

#### **4. How Have the Impacts Been Distributed Among Social Institutions, Among Sub-Groups of the Population, and Among Regions of the State--Those Proximate and Those More Distant From the Extraction Activity?**

- No social institution has been protected from the impacts of oil. Expectations of continued adjustment by the family, social service agencies, parish governments and the state government to the uncertainty of offshore employment, unemployment during the bust, fluctuating rates of poverty, and increased social problems, are all negative effects. Cyclical economic benefits cannot ameliorate all of the negatives. In addition, the limited ways in which the profits of the offshore industry have reached the state and local communities reinforces the conclusion that economic benefits have not compensated for all the negative impacts.
- The uneven distribution of impacts is evidenced by increases in income that occur at the same time that poverty also affects different people. The effects of offshore employment are unevenly distributed since workers involved in land-based support activities do not experience lengthy separations from their family as do those who work offshore.
- When viewed as two different phases--pre-boom and boom, social problems were higher in the boom phase than the pre-boom phase primarily in the more involved parishes. Basic-level human capital is greater while enhancement level human capital is lower during the boom phase, especially in the more involved parishes.

- Fluctuations in oil industry activity affect the highly-involved parishes economically while such fluctuations affect social problems and long-term human capital in the minimally-involved parishes.

### **5. How Does the History and Culture of the Area Affect The Way in Which It Responds to Involvement in the Resource Extraction Activities?**

- Certain cultural characteristics of the area have cushioned the impact while others have exacerbated it.

Extensive involvement of coastal families in fishing (including shrimping) has promoted familial adjustment to fathers' absences that is similar to that required in the oil industry.

In addition, the extended work and free-time schedule of oil employment permits a continuation of involvement in fishing. The satisfaction which the local residents derive from involvement in that industry has facilitated their adjustment to oil employment.

The lack of cultural emphasis on education enhances the attraction of young people to high paying, and cyclical, offshore employment. When a decline in the oil industry occurs, the available complement of college educated people is smaller than it would be if high paying oil jobs that do not require college education were unavailable offshore.

- Most royalties and bonus payments for offshore leases are paid to the federal treasury so their impact on local political culture is minimal.

The Louisiana populist tradition supported mineral severance taxes on the oil industry as a whole that reinforced a laissez-faire, anti-tax outlook among many voters. Seen in this light, it is easy to understand how the decline of the oil industry has contributed mightily to political paralysis in the state. People are generally opposed to taxes and the legislature has erected steep Constitutional barriers against revenue enhancement. This structure limits the range of state and local government adaptations to declines in oil and gas severance taxes.

### **6. What are the Dynamics and Mechanisms of National and World Oil Markets Which Have Influenced Oil Company Investment Decisions and the Rate of Demand for Gulf of Mexico Oil and Gas; and thus the Timing and Extent of Impacts Experienced in Louisiana?**

- The Louisiana offshore oil industry was developed in the late 1940's as a protected region governed by a tacit international cartel of multinational oil companies regulated mostly by state government. The breakdown of industry governance from 1980-1986 caused industry restructuring, not simply another "bust" cycle connected to excess oil supplies in the world market.

Controlled growth of world oil production regulated by the Texas Railroad Commission and the interlocking network of foreign oil concessions held by major multinational oil companies facilitated development of expensive offshore oil reserves in the late 1950's and 1960's, despite the existence of richer reserves in the Middle East that are much cheaper to develop.

Changes in the governance of world oil since 1970 were connected to the power of the OPEC cartel to limit production and enforce high oil prices. Federal oil price controls, Buy and Sell Programs, and expanded offshore leasing in the mid-1970's stimulated exploration and constrained production offshore. When oil demand and oil prices dropped in the early 1980's, the domestic industry, including offshore Louisiana, was left overextended and unprotected by any effective governance mechanism. Left to market forces, offshore investment dried up and disinvestment engendered a restructuring of the entire domestic oil industry.

### **7. How can the Negative Effects of Resource Extraction in Louisiana be Mitigated?**

-- Policies should be implemented to curb the sharp increases and decreases in offshore oil activity in the Gulf of Mexico.

Carefully controlled leasing of mineral rights is a fundamental mitigation strategy--less area leased over longer periods of time--could minimize social costs both to individuals and to communities within the region. If the desire for increased domestic oil production and increased federal revenue is seen as extremely important, mitigation of effects of rapid development on local communities should be accepted as central to a policy which results in these outcomes. The two objectives--domestic oil production and viable local communities--should not be seen as antagonistic goals within a zero sum game.

-- Monitoring of the social and economic health of the area by both federal and state government should be made permanent and systematic as long as the area is involved with the oil industry. The monitoring should include but not be limited to the cost of housing. Such monitoring would permit the early detection of negative impacts and the swift implementation of mitigative policy and programs. While this recommendation might suggest a singling out of the oil industry for such monitoring when other industries are not required to do so, planning principles would suggest that all industries with the capacity for such rapid growth and then decline should be subject to such a monitoring requirement.

-- Programs should be developed to ameliorate the negative impacts which are already known. The stresses for families of absent fathers--especially for immigrants who have never been involved with such employment scheduling--can be addressed through

information and counseling programs. Oil companies should be required to establish college scholarship programs so teenagers will consider the long-term benefits of a college degree equally valuable as the short-term benefits of a high-paying oil job.

Mitigation of the negative impact to minimally-involved parishes--social problems, long-term human capital--should be provided at the same time as mitigative efforts are implemented in the highly involved parishes. Findings of this research suggest that the negative impacts on the minimally involved parishes are sufficient to warrant mitigative efforts. The minimally-involved parishes are less economically able to compensate for these negative impacts.

Local and state officials should be informed about applicable federal programs and funds for which area social service agencies might apply to assist them in responding to variations in social service demand. Local officials are not always aware of the full array of federal resources for which they are eligible. Also, existing programs which might not currently be applicable could be changed so that communities affected by energy production would qualify.

- Research should be conducted in order to better understand the ways in which the various components of involvement with oil extraction impact an area. Does an increase in the number of rigs in the Gulf influence an area differently than an increase in the price of oil? What is the timing of the various impacts?
- Pursue ways to distribute tax revenue derived from offshore oil to highly impacted areas. The first-use tax proposed by Louisiana governors Treen and Edwards remains a possibility if framed in an appropriate fashion to avoid federal jurisdiction over interstate commerce. A recent proposal to allocate thirty-seven percent of all royalties collected from offshore production after 1991 should continue to be considered a viable mitigation strategy to compensate these communities for previous exploitation of infrastructure and services.
- A "buy Louisiana" requirement to promote contracting with local companies that produce offshore platforms and other offshore services at local facilities would help keep the benefits of remaining offshore investment in the region. This policy is important in light of recent consolidation of the oil service industry and granting of large contracts for deep water platforms to foreign companies.
- The final point is that most of the offshore oil has already been recovered from the Louisiana region. Remaining resources include large amounts of economically marginal natural gas, and expensive deep water oil reserves, both of which suggest the likelihood of government intervention to stimulate extraction. Previous government interventions to ration production and raise or lower oil prices has stimulated offshore oil development

to levels unwarranted by purely economic conditions in this petroleum producing region. Future policies like tax rebates for deepwater drilling and production of marginal "stripper wells," or production prorationing to increase natural gas prices to economically profitable levels should therefore be viewed with modesty and skepticism. Extreme prudence and care should be taken throughout the process to ensure that local communities maximize the benefits from the extraction of the remaining resources.

## ENDNOTES

1. It is important to be aware that this research was not always able to separate the impacts of on-shore from offshore petroleum activities--the latter being the target of the research. While it is important to distinguish the two for the sake of specifying very narrowly the effects of the offshore component of the petroleum industry which is regulated by MMS, the reality is that the two are intertwined and future research is also unlikely to be able to separate them completely. Certain impacts, such as those of offshore workers, are evidently affected only by offshore production. Others, for example, the 27.5% of certain offshore royalties that go to the state, can be attributed to offshore activity. Others, such as measures of poverty, human capital, etc., can only be attributed to offshore activities in an approximate fashion based on knowledge of the proportion of the activity which was occurring in both places during particular time periods.

## CHAPTER 2

### POLITICAL ECONOMY OF OIL AND EXPLOITATION OF OFFSHORE OIL

Vern Baxter, University of New Orleans

"What some people don't understand is that we are in the money making business. Oil and gas are just the way we make money."  
(Chevron Division Director of Economics and Planning 1989).

#### INTRODUCTION

This chapter explores the political and economic conditions that affect petroleum exploration and development, with special attention to the Outer Continental Shelf (OCS) of the Gulf of Mexico. The offshore region of the Gulf of Mexico is an important oil producing region that accounted for nearly eleven percent of total domestic oil production and over twenty-three percent of domestic natural gas production in 1989 (U.S. Department of Interior, Minerals Management Service (MMS) 1990, p. 92). The region contains the most extensive network of underwater pipelines in the world, is near the heart of the nation's oil service industry, and is close to refineries and underground pipelines that serve the huge United States (U.S.) market. Despite these geographic advantages, decisions that govern petroleum exploration and production in the Gulf of Mexico are made by companies that operate within the larger global political economy of energy.

Production and distribution of the wide variety of energy commodities is organized in chains that unite governments, integrated multinational corporations, independent energy firms, international financial institutions, and all types of consumers. The opportunity for firms to earn profit motivates private investment decisions in all stages of the industry, and exploitation of profit opportunities in the petroleum industry is largely determined by the price of crude oil and related products. In neo-classical economic terms, oil prices are determined by the relationship between total consumption and proven reserves (Adelman 1986, p. 387). Crude oil reserves are critically regulated by geologic variables like the location and richness of a reservoir; and by economic variables like lease terms and the present value of a potential oil find. Consumption of crude oil and refined products fluctuates around price, industrial development, and the cost and availability of alternative fuels.

The economic determination of oil prices and investment levels is confounded by politics and the strategic importance of this commodity. In macroeconomic terms, Gisser and Goodwin (1986, p. 97) show that the effects of oil prices on Gross National Product (GNP), consumer prices, and unemployment in the U.S. is greater than the effects of government monetary and

fiscal policy on these same variables. Oil has strategic value in many sectors that combine to place the industry at the center of public policy debates. A strong and stable energy industry is a critical basis of national security and prosperity.

Management of the unequal exchange and risks that shape investment in energy markets is facilitated by enforceable rules that govern relations between firms. Industry governance requires state intervention to help actors manage interdependence and internalize the need for rules to regulate resource flows and growth. The state intervenes to help organize and manage economic activity and legitimate existing institutions by helping to create and maintain governance structures that institutionalize economic processes that organize and coordinate activity among economic actors (Campbell and Lindberg 1990, p. 636).

Industry governance structures direct public and private investment that in turn shapes local development, including the spatial location of industry and subsequent patterns of employment. The breakdown of industry governance is often connected to economic decline, out-migration, unemployment, relocation of organizations and their sub-units, lower tax revenues, and the inability of government to deliver services.

Breakdown of industry governance originates from many sources. Alfred D. Chandler (1977) and Oliver Williamson (1985) argue that governance transformations originate from private actors who respond to changes in markets and technology. Piore and Sabel (1984) focus on technology as the driving force of institutional change. State centered theorists argue that changes in the political or economic environment promote various types of government adjustment strategies. Governmental adjustment can take the form of offensive attempts to create a new governance regime or defensive efforts to defend the current regime (Ikenberry 1988, pp. 24-29). Regardless of the type of action, the state always intervenes to recreate industry governance; whether the state's role is leadership, ratification, conflict mediation, or selection of appropriate forms (Campbell and Lindberg 1990, pp. 638-639). The position taken in this chapter is that the activities of the state and economy are embedded within each other and shape social institutions in ways that direct individual and organizational action (Granovetter 1985; Campbell and Lindberg 1990).

Macroeconomic and political shocks can create crises that destabilize existing industry governance regimes. A fundamental dispute in the literature on global political and economic change revolves around whether change tends to be a gradual unfolding of evolutionary progress, or whether it results instead from rupture and crisis caused by internal conflict and contradictions. The argument developed in chapters two and three comes from the latter view that industry restructuring is stimulated by internal and external conflicts that erupt into periodic crisis. Restructuring

must be seen as originating in and responding to severe shocks in pre-existing social conditions and practices; and as triggering an intensification of competitive struggles to control the forces which shape material life...restructuring falls between the

piecemeal reform and revolutionary transformation, between business-as-usual and something completely different (Soja 1989, p. 159).

Despite great disagreement, many observers agree that U.S. economic dominance in the world economy has waned, and that economic strain has increased between "rich" countries like the U.S. and less developed countries located in the southern hemisphere. Global sourcing of labor and raw materials has been accompanied by the emergence of resource cartels like OPEC that changed the governance of the oil industry so that fewer benefits accrue to U.S. based companies or the U.S. government.

### **OIL INDUSTRY GOVERNANCE AND RESTRUCTURING**

An examination of the conditions that affect the price and supply of petroleum products in the U.S. reveals an industry with high levels of risk and a history of domination by large integrated companies regulated by government. Risk derives partly from the nature of oil as a useful but exhaustible liquid resource that is hidden beneath the earth's surface (de Chazeau and Kahn 1959, p. 61; Jaidah 1983, p. 6). No one knows in advance exactly where oil is located and oil exploration is very expensive. Only about one in six exploratory wells drilled ever produces revenue, and once oil is discovered the high cost of transportation, storage, and refining creates a compelling need for continuous high volume operation. Capital investment in the oil industry exceeds that of any other industry, and the extremely high ratio of fixed to variable capital costs makes any company vulnerable to supply or demand disruptions.

Pressure to overproduce oil comes from the way American courts have interpreted property rights in the rule of capture. Oil beneath the ground belongs to whomever can capture it, regardless of the proportion of a reservoir that lies under any individual claim (Prindle 1981; Yergin 1990). Anti-trust laws limit the pooling of claims into one productive unit, so the industry has tended toward periodic gluts, shortages, and waste of resources. Despite periodic shortages, the endemic problem of the industry since the 1920's has been overproduction. Therefore, essential governance issues include the regulation of output to maintain price levels that guarantee steady profits and growth (Munkirs and Knoedler 1988, p. 17; Yergin 1988).

A great geologic and political contradiction adds risk to the petroleum industry. There is a mismatch between the center of proven oil reserves and the center of oil consumption. Outside the U.S., Great Britain, Norway, and the Soviet Union, the northern industrial nations are almost totally dependent on oil produced in the less developed countries of the Middle East, Asia, Africa, and Latin America. The U.S. is the second largest oil producer in the world, but high consumption levels force the U.S. to import over forty percent of its oil (See Table 2.1). Two-thirds of the world's proven oil reserves in 1988 were located in the Middle East, which also reports the fastest growth of oil reserves in the world (Andersen 1989; Al-Chalabi 1989, p. 61). These exhaustible oil revenues are the engine of economic

Table 2.1. Total U.S. crude oil and refined products consumption and net imports, 1945-1989.

Year	Consumption (Million b/d)	Net Imports As % Consumption
1945	4.9	0
1947	5.5	0
1949	5.8	5.5
1951	7.0	6.0
1953	7.6	8.3
1955	8.5	10.4
1957	8.8	11.4
1959	9.5	15.7
1961	9.8	17.8
1963	10.6	18.2
1965	14.0	16.4
1967	12.6	17.7
1969	13.9	21.0
1971	15.6	27.0
1973	17.3	35.0
1975	16.3	36.0
1977	18.4	46.0
1979	18.5	43.0
1981	16.1	34.0
1983	15.2	28.0
1985	15.7	27.0
1987	16.7	35.0
1989	16.5	46.2

Sources: Burrows and Domencich 1970, pp.4-5; Yergin 1988, p.125; Oil and Gas Journal Staff 1990.

development for many nations whose colonial histories and former economic dependence on northern industrial states create serious political conflict connected to oil (Sampson 1975; Chirot 1982; Jaidah 1983).

The above conditions combine to form an international industry characterized by unequal exchange among members, episodic fluctuations between "boom" and "bust" conditions in the market, and a history of cartels and oligopolistic competition regulated by governments (Moran 1987; Ghosh 1985; Pirog and Stamos 1985; Munkirs and Sturgeon 1985, p. 909).

Organizational and interorganizational hierarchies, including government regulation, trusts, cartels, joint ventures, mergers, and contracts are formed to set oil prices and direct market outcomes (de Chazeau and Kahn 1959; Moran 1987, p. 579; Danielson and Kim 1988; Fligstein 1990, pp. 142-143).

The argument of this chapter is that economic development and social stability in Louisiana depend on oil prices, which have historically depended on industry governance regimes that directed more investment to Louisiana than could be justified by economics alone. Decisions about capital investment in Louisiana offshore oil are dominated by multinational energy corporations whose investment strategies are influenced by tax laws, tariffs, and other policy incentives. The breakdown of industry governance arrangements that benefitted U.S. firms and consumers caused a restructuring of the domestic oil industry and the end of protection for the Louisiana Outer Continental Shelf (OCS) region, which reverberated into a serious decline in investment and employment after the 1985 oil price collapse.

Louisiana offshore petroleum resources were developed during the late 1940's. At this time, a tacit cartel of multinational corporations regulated international oil prices and production consistent with levels established by state-level regulators in the U.S. Upward pressure on oil prices caused by high domestic production costs and high demand for petroleum products initially stimulated exploration offshore. The richness of discoveries created economically viable production and the region was soon integrated into the world oil economy.

Changes in the governance structure of the oil industry since 1970 were caused by external shocks like the OPEC oil embargo (1973) and subsequent price increases (1973-1980), and federal policy responses to the OPEC oil shocks. OPEC actions created the conditions for U.S. energy policies (eg., oil price controls, expanded offshore leasing) that stimulated domestic refinery construction and offshore exploration beyond economically justifiable levels. When oil prices dropped and government regulation and incentives were reduced in the early 1980's, refinery construction ceased and offshore exploration and production slowed dramatically.

Oil price declines in 1985-1986 and the Mideast crisis of 1990-1991 are indicators of breakdown and disorganization in the petroleum industry. The recession in the oil patch is not an ordinary economic downturn but represents the demise of industry governance regimes that protected high cost offshore oil exploration and production. There is no longer a clear

conception of the role of leading firms or governments, and struggles exist among corporate and government actors to redefine a legitimate governance structure. Declining oil prices and reduced demand for petroleum products forced a collective acknowledgement among investors and oil company managers that the U.S. petroleum industry was overcapitalized and in decline, which intensified merger activity and company restructurings. Since 1986, many firms have sold offshore interests (e.g., Tenneco, Amoco, Mobil). Exxon and others greatly reduced investment in offshore leases, while some firms expanded offshore operations (e.g., Shell, British Petroleum (BP), Chevron). Since much of this activity took the form of mergers and asset sales, direct investment and employment offshore do not fully reflect the large amounts of offshore resources that have changed hands since 1985.

Data use in the analysis presented in this chapter came from four major sources: (1) interviews with fifteen New Orleans area division level oil executives representing eight companies; (2) MMS reports and publications; (3) oil industry trade journals and publications; and (4) secondary sources such as oil industry histories, scholarly articles, and the business press. Explanations that stress economic variables in the determination of oil prices and investment (Adelman 1972; 1980; 1986; Verleger 1982; 1987; MacAvoy 1983), and political explanations that stress state involvement in oil pricing and energy development (Chubb 1983; Ikenberry 1988; Yergin 1990) will be combined to analyze the formation, operation, and transformations of oil industry governance. Tracing continuity and change in governance of the oil industry clarifies the interaction of company strategies and government adjustment policies necessary to forge new governance mechanisms in the contemporary oil industry, and helps us predict the likely range of future scenarios for the Louisiana-OCS.

Industry Governance During the "Age of Illumination." Private attempts at combination and control in the petroleum industry began with the horizontal merger in 1870 of several Cleveland area refinery companies into the Standard Oil Company, and the formation in 1871 of John D. Rockefeller's Southern Improvement Company (Moody [1904] 1968, p. 113). Southern Improvement constructed oil storage and tankage facilities. They also guaranteed Pennsylvania, Erie, and New York Central railroads exclusive contracts to ship refined oil products in exchange for exclusive rate rebates. The leverage gained from rate rebates allowed Mr. Rockefeller to buy competing refineries at bargain prices and secure a monopoly position in oil refining and transportation (Williamson and Daum 1959, Ch. 12; Moody [1904] 1968, pp. 114-115). Standard Oil later integrated downstream into marketing and constructed pipelines to eliminate the need for an alliance with the railroads. Alfred D. Chandler (1977) interprets the vertical integration of Standard Oil in economic terms as an example of administrative coordination that effectively linked large investments in refining technology with mass markets for kerosene, and later for gasoline.

Early combinations of oil producers were less successful at controlling price and production than were combinations of refiners and oil transportation companies. The Oil Producers Association was formed in 1884 to restrict production and thus guarantee higher prices. The wildly competitive nature of oil exploration, pressure to maximize production, and extensive oil discoveries all worked against production restrictions. Application of the rule of capture

to maximize oil production meant oil was defined legally as a fugacious or wandering commodity, much like wild game that belonged to no particular property owner. Competition among oil producers created overproduction which reinforced the dominant position of Standard Oil. Many oil producers competed to transport crude through Standard pipelines and sell crude to Standard refineries at monopoly prices.

Anti-monopoly politics among populist farmers and Progressive Era reformers formed the context of the U.S. Supreme Court decision in 1911 that ordered the break-up of Standard Oil and forced a restructuring of the private monopoly that governed the oil industry. Government regulation limited monopoly concentration and helped shape a manufacturing conception of corporate control in the oil industry. The manufacturing conception of control was defined by competition between large, horizontally and vertically integrated firms that produced and sold a narrow range of petroleum products, and was regulated by periodic government anti-trust intervention (Fligstein 1990, pp. 142-144).

The break-up of Standard Oil did not completely dissolve the network of Standard Oil companies or eliminate them from prominence in the industry. Continuity of management, director interlocks, and regional marketing power allowed the Standard companies to compete against each other yet still cooperate in attempts to govern the industry (de Chazeau and Kahn 1959, p. 89). Despite this continuity, regulations against collusion and monopoly, combined with a rapid expansion of oil supply and demand, increased the number of powerful actors in the industry.

Industry Restructuring and the "Age of Energy". The post World War I oil shortage and oil price increases signalled Standard companies like Socony (Mobil), Standard of Indiana (Amoco), and Jersey Standard (Exxon), whose strengths were refining and/or marketing, of the importance of oil production (de Chazeau and Kahn 1959, p. 108; Sampson 1975). Each of these companies expanded exploration overseas and into Texas and Louisiana. Mobil merged with Magnolia Petroleum of Louisiana and Exxon merged with Humble Oil of Texas in 1919, while Amoco expanded exploration and production into Texas and Louisiana that same year (de Chazeau and Kahn 1959, p. 86). Texas and Louisiana oil discoveries and the expansion of gasoline demand also helped Texaco, Shell, Phillips, Sinclair, Gulf, and Union Oil expand oil production and integrate forward (or downstream) into refining and marketing, and ultimately to become legitimate competitors with the Standard Oil companies. Expansion of the industry and the emergence of strong competitors to the Standard companies in the U.S. and worldwide complicated industry governance and set the stage for another round of government intervention.

Overproduction of oil in the late 1920's and early 1930's was connected to the poor fit between new oil discoveries and growth in oil demand, and created the conditions for government regulation of production and price. Regulation of oil production sealed the shift in the center of industry power from control of refining and transportation to control of oil reserves and production (de Chazeau and Kahn 1959; Ikenberry 1988, p. 65).

Intense competition over production in the U.S. petroleum industry was mirrored internationally by competition over world markets between Shell Oil, Anglo-Iranian Oil (British Petroleum or BP), and Exxon. This competition was not new. Between two-thirds and three-quarters of Standard Oil's kerosene sales each year from 1872 to 1890 were foreign (Williamson and Daum 1959, p. 488). International competition during the 1920's took the form of price wars to secure markets for crude oil and refined products, and political intrigue to secure oil exploration and production concessions around the world (Sampson 1975, pp. 79-88; Yergin 1990). BP, Exxon, and the French oil company CFP bought oil concessions in Iran (1922), while BP, Exxon, Shell, and Gulf monopolized concessions in Iraq (1925) and the rest of the Middle East. Major oil discoveries in Venezuela (1926 by Shell, Exxon, and others), Saudi Arabia (1934 by Standard Oil of California/Chevron and Texaco), and East Texas (1930 by a multitude of wildcatters and big companies) created a worldwide glut of oil despite increased demand.

A price war between Shell and Mobil in 1927 over access to Russian and Indian markets spread throughout the world and created the conditions for the secret pact of Achnacarry, signed in 1928 by representatives of Exxon, Shell, and BP (de Chazeau and Kahn 1959, p. 143; Sampson 1975, p. 85; Yergin 1990, p. 266). The three companies agreed to accept their current relative volumes of business and to add only those facilities required to efficiently meet increased demand. This tacit cartel set world crude oil prices at the level of U.S. Gulf of Mexico prices plus the cost of shipping crude from the Gulf region of the U.S. to any market in the world.

U.S. anti-trust law prohibited revelation of the pact of Achnacarry and overt application of its principles to limit U.S. production and exports. However, movements to conserve oil and maintain higher U.S. prices were supported by large integrated companies and many local politicians (Prindle 1981, pp. 25-26). Battles over the nature of regulation pitted the interests of integrated producers, who favored conservation and lower production quotas to maintain prices, against the interests of small drilling companies and producers who owned or worked small leaseholdings and desired high quotas and narrowly spaced wells to capture maximum amounts of oil regardless of price. In 1929, the American Petroleum Institute (API), the major industry trade association and lobbying organization, supported oil production at 1928 levels, and asked for anti-trust exemptions so private pooling agreements could limit production. The U.S. Attorney General opposed the exemption and the regulatory terrain slowly shifted to the states. de Chazeau and Kahn (1959, p. 145) argue that the shift in regulatory focus was consistent with beliefs of major actors in the integrated oil companies that state level regulation would preserve a "more flexible pursuit of private interest" than would federal regulation (cf. Moran 1987).

In Texas, regulation of oil production and price was entrusted to the Texas Railroad Commission. Texas Railroad Commissioners convinced independent oil interests in 1934 to accept regulation. The Texas Railroad Commission allocated production quotas for Texas oil producers in such a way that U.S. oil reserves were maintained and domestic oil prices remained high enough to protect high cost domestic producers (Prindle 1981; Libecap 1989,

p. 854). Federal legislation reinforced state-level regulation with passage of the Conolly "hot oil" act in 1935 which limited "quota busting" with a prohibition against interstate shipment of any oil that exceeded production quotas set by state agencies (Libecap 1989, p. 839).

The process of quota setting demonstrates the cooperation of government agencies and private enterprise that defined a stable governance structure for the oil industry. Texas Railroad Commissioners met every month with representatives of major oil buyers who presented desired production quotas for the coming month. The largest oil buyers would meet the night before to collectively determine the percentage of allowable production all companies would ask the Commission to approve, and then company representatives would agree to swap crude oil to meet each company's needs. The Commission then considered company requests in light of monthly estimates of national oil demand prepared by the U.S. Bureau of Mines. Production allowables for the month were then set, which, in the context of the secret pact of Achnacarry, went a long way toward setting the benchmark price for crude oil around the world (Prindle 1981, pp. 71-72; Schneider 1983). The system of production prorationing thus created stable, if economically unjustifiable, niches for large and small domestic oil producers.

The major oil companies generally adhered to production quotas and prices posted in Texas, and limited increases in foreign production by playing oil producing nations off against each other. Producing countries were forced to compete for market share within the interlocking network of oil concessions held by eight major multinational oil companies (Schneider 1983, p. 36). These vertically integrated companies were able, through the overlapping web of joint ventures (eg., Arabian American Oil Company partnership of Texaco, Chevron, Mobil, and Exxon), surveillance, discipline, and compensation to restrict production levels and maintain acceptable market shares without discounting price to outsiders (Moran 1987, p. 580). The steady 9.55 percent average annual growth rate in world oil supply from 1950-1972, and remarkably stable crude oil prices throughout the period demonstrate the existence of a stable governance structure (Blair 1976, p. 99; Table 2.2).

U.S. Domination of Post World War II Energy Markets. The U.S. position as the largest oil producer and largest exporter of crude oil and refined products was eroded after World War II. U.S. imports of crude oil and refined products first exceeded exports in 1948. The search for new domestic oil deposits proceeded in earnest. The number of wells drilled in the U.S. increased every year from 1947 to 1957 and industry exploration and production expenditures more than doubled per barrel of oil produced (de Chazeau and Kahn 1959, pp. 154, 175). Despite extensive exploration, foreign sources of oil increased faster than domestic ones, and both industry and government looked overseas for cheaper oil. Achievement of U.S. foreign policy objectives after World War II required safe access to cheap Middle Eastern oil to help rebuild European and North American economies (Schneider 1983; Yergin 1990). U.S. tax policy also favored foreign exploration since an overseas tax credit allowed U.S. oil companies to write off royalties paid for Middle Eastern oil concessions on their U.S. income tax (Blair 1976, pp. 196-198). An upshot of the system was that internal pricing policies within multinational oil companies were arranged to take

Table 2.2. Average annual U.S. and world oil prices, 1920-1988.

Year	Average Annual U.S. Price of Crude Oil*	Average World Price of Crude Oil	
		Mideast Official	Mideast Spot
1920	3.40		
1922	1.72		
1924	1.60		
1926	2.13		
1928	1.31		
1930	1.25		
1932	.87		
1934	1.00		
1936	1.09		
1938	1.19		
1940	1.02		
1942	1.17		
1944	1.17		
1946	1.36		
1948	2.57		
1950	2.57		
1952	2.57		
1954	2.82		
1956	2.82		
1958	2.86		
1960	2.88	1.86	1.63
1962	2.89	1.80	
1964	2.89	1.80	
1966	2.89	1.80	
1968	3.02	1.80	
1970	3.18	1.35	1.21
1972	3.39	1.90	1.82
1974	6.91	9.60	10.60
1976	8.19	11.51	11.63
1978	9.00	12.70	12.91
1980	18.67	27.17	36.58
1982	28.52	33.77	31.76
1984	25.88	28.75	28.10
1986	18.00	28.00	17.03
1988	13.33	17.52	14.68

\*1920-1957 U.S. price is Kansas/Oklahoma average; 1958-88 is U.S. commodity average price (West Texas Intermediate 34'API (Nominal dollars)).

Sources: de Chazeau and Kahn 1959, pp. 138, 148-49; Andersen 1989, p. 58.

advantage of tax incentives by concentrating profit in overseas exploration and production operations and showing any losses in domestic operations (Sampson 1975, p. 133; Schneider 1983, p. 41).

Increased production of low cost Middle Eastern oil created incentives for multinational oil companies to import oil into the U.S. market. Increased oil demand and fears that rising imports would undermine national security and the domestic oil industry contributed to the expansion of U.S. exploration efforts into state and federal offshore waters. Kerr-McGee Corporation built the first offshore platform in 1947 and began producing in Louisiana offshore waters in 1949. Due to average well costs three to five times greater than onshore exploration, initial offshore discoveries were viewed as "hedges" against supply shortages. But the richness of oil fields discovered soon more than offset their high cost of development. From 1949-1956, the increase to domestic reserves from offshore production was nine times the average for onshore wells (de Chazeau and Kahn 1959, pp. 178-79).

It is essential to the argument of this chapter to note that Louisiana OCS oil and gas was developed at the same time that cheaper and richer Middle Eastern oil fields were discovered and produced. Only controlled growth of worldwide oil production and increased demand for petroleum products during this period provided profitable market conditions to support exploration and production in each region. The high costs of exploration and production offshore made favorable governance arrangements essential to support continued investment. Protection of the domestic oil industry in the name of national security, backed up by political pressure from independent oil, allowed it to grow beyond economically justifiable levels, which growth produced "extra" investment and employment in Louisiana and Texas.

Despite discovery of productive fields offshore, imports of cheaper Middle Eastern and Venezuelan oil increased throughout the 1950's. The extremely low production costs of foreign oil allowed integrated multinational oil companies to import oil into the U.S. market so their refineries could produce more cheaply than competitors who lacked access to Mideast supplies. Availability of low cost foreign crude did not retard exploration for more expensive domestic reserves because an oil depletion allowance (1926-1980) created tax incentives to stimulate domestic drilling. The federal government subsidized employment in Louisiana in the name of energy security and stable industry governance. Despite tax incentives, production of U.S. oilfields was sufficiently more expensive than production of Middle East oilfields that the growing demand for petroleum was met by increased imports from the Middle East, which exceeded fifteen percent of U.S. consumption in 1958.

Several years of intense political pressure for government protection by domestic independent oil producers and refiners, along with national security concerns, contributed to passage of federal legislation in 1959 to limit oil imports to thirteen percent of annual U.S. consumption (Sampson 1975, p. 175; Schneider 1983, pp. 45-46; Yergin 1990, p. 539). The import quota was a governmental adjustment policy that further stimulated Louisiana OCS exploration. The Department of Interior responded by offering a total of 5.4 million offshore acres for lease in 1960 and 1962, compared to 2.6 million total acres offered between 1954

and 1959 (MMS 1990, p. 8). Between 1954 and 1959, 2,071 wells were drilled in the waters of offshore Louisiana. By the end of 1964, an additional 3,900 wells were drilled in Louisiana offshore waters (MMS 1990, pp. 28-29). Despite efforts to replace declining onshore reserves with more expensive offshore reserves, new Middle Eastern discoveries (e.g., Libya) were so rich and so cheap to develop and produce that replacement of imported by domestic oil was ultimately limited by the superior potential of the Middle East.

One survey of OCS development estimated that the industry spent \$16 billion offshore from 1954 to 1972, eight billion dollars for offshore leases, seven billion dollars for drilling, and one billion dollars for related costs. The same report states that the industry received only \$12 billion for oil and gas produced during the same period (Offshore 1973a). These data support the theory that government policies like the 1959 oil import quota stimulated offshore investment to levels that were not necessarily justified by economics alone. The apparent lack of profit returned to investors should be considered in light of tax deductions for drilling, and the fact that money spent on offshore leases is tax deductible (Williamson 1991, p. 4).

Oil industry governance combined controlled growth of overseas production with tariffs, tax incentives, and production quotas to protect the domestic oil industry. The system was maintained at great cost to other producing and consuming nations. Foreign producers consistently maintained that they were undercompensated for oil resources (Schneider 1983, p. 108; Yergin 1990, p. 431). Oil consuming nations (e.g., Italy, Germany, Japan) were also dependent on multinational oil companies and paid higher than competitive market prices for access to critical oil resources.

Shifts in Balance of Power in World Oil. Industry governance structures are unstable and imperfect. Since governance maintains domination of certain companies and governments, those subordinated by existing governance mechanisms have incentives to change them. Many forces combined to undermine the stability of the post-World War II oil industry. Recently integrated U.S. oil companies (e.g., Aminoil, Standard Oil of Ohio (Sohio), Atlantic-Richfield (Arco), Signal Oil, Getty Oil) secured pieces of the Iranian oil concession after the Shah regained power in 1954. The Italians started a national oil company (ENI) to secure oil from new producers like Libya at lower prices than those charged by the major oil companies (Tanzer 1969, p. 38; Sampson 1975, pp. 174-176; Yergin 1990, pp. 444, 472-475). These groups, along with the Soviet Union, frequently undersold the major oil companies, and in 1960 Exxon announced a cut in posted Middle East prices to win back lost market share. The response of major oil producing nations to these price cuts was the creation of OPEC. Nationalist politics were a central dynamic underlying producer country cartelization of oil production and the transformation of oil producing nations from rent collectors to oil price makers. Developing countries like Iran, Venezuela, Libya, and Algeria sought to dislodge the U.S. and its multinational oil companies from what was perceived as the United States's dominant position as a large oil producer with a protected domestic industry and cheap enough oil to support industrial prosperity. Consolidation of the OPEC cartel during the 1970's allowed producer countries to enforce high oil prices by

playing crude poor countries (e.g., Italy, Germany, Japan) and independent oil companies (e.g., Getty Oil, Occidental Petroleum) off against each other and against the majors, which ultimately undermined major oil company and U.S. government control of production and price (Schneider 1983).

OPEC regulation of oil supplies during the 1973 embargo forced up the official and the "spot" market prices of Mideast crude to levels that, by 1974, exceeded the average U.S. domestic wellhead price (Andersen 1989, p. 58).[1] The nominal price of a barrel of Mideast Light crude oil increased from \$1.35 in 1970 to \$8.65 in 1974, before peaking at \$33.77 in 1982 (See Table 2.2). Speculation in "spot" markets and on oil futures markets interacted with OPEC policies to disrupt oil price stability, which led to contraction and consolidation of the industry, and the restructuring of major oil companies (Yergin 1988, p. 127).

Short-term oil supply shortages during the Iranian revolution (1979) and at the beginning of the Iran-Iraq war (1980) exacerbated the process of change. In one example, Iran's allocation to BP and Exxon was reduced, which reduced the supply of oil to Japan, which frantically bid up prices on the "spot" market (Alm 1984, p. 4). Despite the fact that world oil supplies declined by only five to six percent, speculation and panic buying combined to double the "spot" market price of oil. Official Mideast prices were soon increased to reflect these panic market conditions. The combination of "spot" and futures market trading, and OPEC efforts to maximize per barrel income, inflated oil prices well above competitive market levels.[2]

The 1979-1980 oil price increases made evident the fact that major oil companies and the U.S. government had lost control of oil supply and distribution and that it was time for defensive diplomatic and domestic policies (Alm 1984, p. 3; Ikenberry 1988, pp. 18, 193). Despite the loss of control, multinational oil companies with proven oil reserves profited from high oil prices, and considerable symbiosis remains in relations between OPEC producers and multinational oil companies (Blair 1976, pp. 282-292). The nationalization of foreign oil concessions proceeded incrementally, so equity oil owned and lifted by multinational oil companies from foreign concessions after 1973 was sold outside the U.S. at market prices. Despite domestic price controls, the U.S. average domestic wellhead price of crude oil also increased steadily in the 1970's (See Table 2.2). Oil companies in general and multinationals in particular earned record accounting profits during 1974-1975, and strong earnings persisted throughout the decade (Sunder 1977, p. 70).

The major multinational oil companies initially saw high profits as a short term phenomenon required to support investment in high cost exploration and production ventures in the U.S. (e.g., Alaska, Gulf of Mexico) and in non-OPEC areas (e.g., North Sea). Windfall profits were a mixed blessing because they resulted from the dissolution of stable and profitable industry governance arrangements that had served the companies well for thirty-five years.

Shifting market conditions connected to OPEC's disruption of the balance of power in world oil also fundamentally affected U.S. energy policy and the relationship between major multinational oil companies and the domestic oil industry.

Federal Regulation of Energy in the National Interest. U.S. energy policy shifted after the 1973 energy crisis from state level regulation of production to support domestic oil prices at levels higher than the world market price, to federal regulation that protected U.S. oil supplies and guaranteed lower prices for domestic refiners, commercial, industrial, and individual consumers (Chubb 1983, p. 7). High U.S. oil demand, depletion of U.S. reserves compared to the Middle East, and the power of OPEC combined to change U.S. market dominance to dependence on imported oil to meet an increasing fraction of annual energy requirements (See Table 2.1). Domestic energy policy was a defensive adjustment to protect a struggling economy from inflation and to protect the hierarchy of relations that existed among major multinational and domestic independent oil firms. Government policies actually delayed adjustment of the U.S. oil industry to OPEC influence over production and price, and adjustment of domestic consumers to higher oil prices and the end of a period of U.S. governance of world energy markets (Ikenberry 1988).

Domestic energy policy in the 1970's was basically three-pronged: (1) reduce energy demand and dependence on OPEC oil through conservation (fuel efficient cars, energy efficient industry); (2) control domestic oil prices; and (3) increase domestic oil production and production of alternative fuels (e.g., nuclear, solar, oil shale) (Chubb 1983; MacAvoy 1983, p. 27; Ikenberry 1988, pp. 101, 166). A series of price controls (e.g., Emergency Petroleum Allocation Act of 1973) and Buy and Sell programs guaranteed inexpensive crude oil to domestic refiners, and cheap gasoline and fuel oil for consumers (U.S. Congress, Senate 1973; MacAvoy 1983; Alm 1984, p. 4). These measures protected independent refiners who were short of crude oil from potential ruin if they had to pay world market prices for crude inputs. Federal energy policy was designed to keep U.S. wellhead prices below imports, and balance shortages between integrated and non-integrated oil companies. The policies effectively redistributed income from domestic oil producers to refiners and consumers of refined products in order to moderate the impact of high oil prices on the economy and preserve competitive balance in the domestic oil industry (Ikenberry 1988, p. 172).

Price controls limited increases in domestic oil prices but they had severe negative consequences for national adjustment to a new world oil order. Low U.S. prices subsidized high oil consumption which stimulated imports and hindered efforts at conservation and the shift to alternative energy sources. High U.S. demand pushed prices even higher for consuming countries like Germany and Japan, which undercut efforts at international cooperation to develop alternative energy sources and a consumer country oil cartel (Ikenberry 1988, p. 101). The 1973 phase of price controls allowed pricing of "new oil" discovered after 1972 at world market prices. This created an incentive for domestic and

foreign exploration to discover unregulated oil for sale at higher world market prices. Price controls on domestic oil discovered before 1972 suppressed production of existing domestic reserves in favor of newly discovered American and foreign oil.

Louisiana offshore activity responded to a combination of geologic, market, and political conditions during the 1960's and 1970's. Rich fields discovered after imposition of the oil import quota led to a six hundred percent increase in annual Louisiana OCS production from 1960 to 1971 (Calculated from Table 2.3). A significant fraction of increased U.S. oil demand during the 1960's was met with Louisiana OCS production. After 1973, Louisiana OCS production dropped, partly due to maturation of fields, but also because of price controls that contained incentives to withhold production of existing domestic reserves in favor of new discoveries.

Most of the prime shallow water acreage off the Louisiana coast was leased between 1954 and 1962, so offshore production waned in the early 1970's (Offshore 1973b, p. 54). Offshore leasing in the late 1960's was summarized in a December 1973 article in Offshore magazine:

In the years from 1962 until about 1968 or 1969, few in the industry suspected that a shortage would arrive when it did. As a result, offshore development was apparently pushed to one side to await later development (Offshore 1973b, p. 55).

As previously argued, tax incentives alone were insufficient to prevent the high costs of offshore exploration and development from slowing investment in the Gulf of Mexico before 1973. Between 1959 and 1970, the average cost of a completed offshore well increased from \$100 million to \$410 million, while the price of a typical production platform in the Gulf of Mexico increased from \$10.83 million in 1960 to \$35.63 million in 1972 (Quintrelle 1973, p. 44). These increases meant that 10.18 million barrels of recoverable oil, or three times the amount required in 1960, was necessary to economically justify offshore development in 1972 (Quintrelle 1973, p. 44).

The pursuit of energy independence supported Department of Interior offerings of 4.43 million offshore acres for lease between May, 1973 and January, 1975, compared to 3.32 million acres offered during the previous decade (Offshore 1973b, p. 55). Exploratory drilling, which had stagnated temporarily in 1973 and 1974, increased dramatically in the high price environment of the late 1970's. Intensive exploration, driven by high world oil prices and subsidized by U.S. energy policies, explains why twenty major domestic offshore oil fields were discovered between 1971 and 1976 (LeBlanc 1976, p. 89). Since oil exploration rather than production has the greatest positive effect on the construction and oil service industries, the Louisiana economy and state treasury prospered during this period. Our interviews with oil industry people corroborate published reports that by 1980, many offshore operators assumed that \$40 per barrel oil was a permanent reality and that large amounts of offshore acreage were desirable at nearly any price (LeBlanc 1980, p. 51).

Table 2.3. Total U.S. offshore oil production, 1955-1989.

Year	Total Production (million barrels)
1955	5.87
1957	16.06
1959	35.70
1961	64.33
1963	104.53
1965	144.96
1967	219.00
1969	300.16
1971	385.76
1973	374.20
1975	313.59
1977	290.77
1979	271.01
1981	255.87
1982	275.51
1983	298.09
1985	338.90
1987	307.95
1989	260.18

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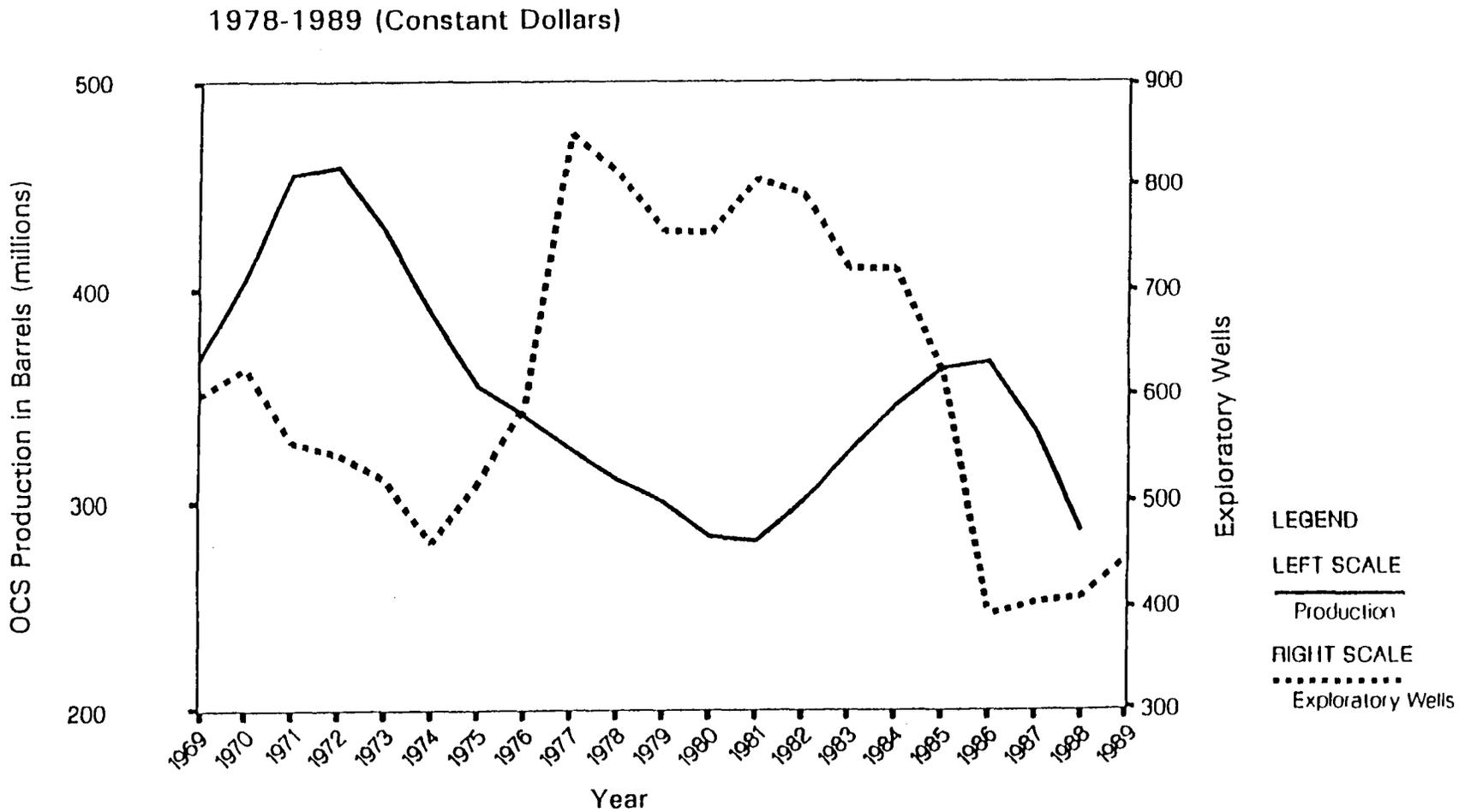
Source: U.S. Department of Interior, Minerals Management Service.

Louisiana OCS production declined during most of the 1970s' peak in oil prices, and then began to rise again in the early 1980's (See Figure 2.1). Vigorous leasing and drilling activity in deeper offshore waters (over 600 feet), along with price decontrol, contributed to increased Louisiana OCS production in 1981, which lasted until the price collapse in 1986.

Crude oil allocation quotas were traded as commodities during the late 1970's and spawned a "mini-refinery" construction boom by independent refiners and speculators who owned allocation coupons that guaranteed a supply of crude oil at lower than market prices. The combination of cheap oil for independent refiners and high product prices contributed to an unprecedented six percent increase in domestic refining capacity in 1973-1974, and construction of twelve refineries in Louisiana between 1974 and 1982. This construction boom increased Louisiana refining capacity from 1.66 to 2.66 million barrels per day (b/d) (Aalund 1974; Oil and Gas Journal Staff 1982, p. 94). Over fifty-seven percent of this capacity was used to process offshore oil in 1984, and 9,054 person years were employed in the refining and processing of offshore oil (Centaur Associates 1986, pp. 3-13, 3-14, 5-2). U.S. government policy had stimulated offshore exploration and production, and onshore refining, but those policies relied heavily on an unstable governance regime centered around OPEC price and production control agreements.

The problem with the refinery construction boom was that most of the refineries were built to perform only the most basic refining tasks on offshore crude oil purchased from major oil companies at subsidized prices. The oil was often sold back to the major oil companies or to other refiners who could turn the partially refined crude into marketable products. Since the majors had to sell qualified independents a portion of their oil, the only way some majors could secure adequate supply for their refineries was through these "buy back" arrangements. As a result, the federal entitlements program shifted between \$14 and \$15 billion per year to these small refiners (MacAvoy 1983, p. 38), while the price of refined products increased to reflect the existence of new middlemen in the refinery sector. MacAvoy (1983, pp. 38-39) claims the entitlements policy also caused major multinational oil companies to increase imports of crude oil and hold back supplies while they lobbied for price decontrol (cf. Schneider 1983, p. 445).

President Carter wedded oil price decontrol with a Windfall Profits Tax on "excessive" oil profits derived from high prices. President Reagan fully decontrolled oil prices and dismantled the entitlements program in 1981. The combination of price decontrol and lower product demand eliminated the need for most of the recently constructed refineries, and the number of refineries in Louisiana fell back to eighteen in 1988, with a total refining capacity of 2.27 million b/d (Oil and Gas Journal Staff 1988). Across the country, 108 of 324 refineries operating in 1979 eventually shut down (Mack 1989, p. 108). Federal protection of independent refiners had clearly accelerated a boom and bust cycle in the Louisiana refinery industry between 1973 and 1985 and intensified the negative impact of falling oil prices and the decline in offshore drilling on the Louisiana economy.



**Figure 2.1. Louisiana State and Federal OCS Production and Louisiana Offshore Exploratory Wells, 1969-1989**

Exploration, Conservation, and the 1986 Oil Price Collapse. Expansion of offshore oil exploration in the Louisiana OCS region during the late 1970's was driven by high oil prices and government policies that expanded lease sales and controlled prices on oil discovered before 1972. High oil prices and profits provided funding for extensive oil exploration in offshore Louisiana, and anywhere outside the OPEC countries. These investments produced results, but at a higher average cost per barrel than discoveries in earlier decades, and much higher than current exploration and production costs in Saudi Arabia and Kuwait (Adelman 1986). Political impediments to offshore exploration in California and New England made Louisiana and Texas the prime domestic targets for expanded offshore exploration (Kaplan 1982; Colgan 1982).

Despite the friendlier political climate in support of offshore drilling in Louisiana, environmental politics has grown immeasurably as a determinant of federal energy policy. Offshore lease sales scheduled for 1971 were canceled due to pressure from environmental groups (Thomason 1972, p. 66). The 1969 offshore well blowout in Santa Barbara Channel had altered public perceptions and political debate about the safety of offshore oil exploration and production, and created a powerful mobilization of opponents to offshore oil development. Political impediments to offshore drilling were temporarily dislodged by the OPEC embargo and oil price increases but battles continued between industry and environmentalists, and within and between government agencies over the propriety and pace of offshore oil development.

Increases in Louisiana OCS production did not occur until 1981 because of the lag between discoveries and development, and because companies held back production while waiting for price decontrol. Despite increased OCS production, the negative effects of economic recession, expanded environmental awareness, and high oil prices drove down U.S. oil consumption in the early 1980's (See Table 2.1). The recession kept U.S. energy demand down, a condition that higher prices and government policy brought about much earlier in Western Europe and Japan (Ikenberry 1988, pp. 40, 173; Al-Chalabi 1989, p. 60).

Falling crude oil prices and reduced demand for petroleum products created a crude oil glut in 1982 that hurt exploration offshore (Offshore Staff 1983, p. 66). Eighty-three of 210 mobile offshore rigs were stacked in May 1983, and declining day lease rates for offshore rigs threatened recession for the oil drilling and service industries, despite a record of 1,424 wells drilled in the Gulf of Mexico during 1982. The Reagan administration, led by Secretary of Interior James Watt, responded with a new five year leasing plan that introduced the concept of area-wide leasing managed by the recently created Minerals Management Service. Area-wide leasing allowed bidding on entire areas of the Gulf instead of the more restrictive tract-based system in place before 1983. Area-wide leasing was contested unsuccessfully in federal court by coastal states (California, Florida, Alabama, Washington, Oregon) and environmental groups (eg., National Resources Defense Council, Sierra Club, National Audubon Society) who argued that area leasing failed to indicate the size and precise location of leasing activity, gave inadequate attention to the environment, and failed

to assure fair market value for offshore leases (Kelly 1983, p. 56). The State of Louisiana opposed the new system for revenue reasons although it did not join the suit.

The huge 1983 Central Gulf of Mexico lease sale combined area leasing with the opening of deeper water tracts for exploration. This sale clearly represented federal efforts to open massive amounts of offshore acreage for lease to stimulate domestic exploration and development drilling, and eventually increase domestic oil production. The sale offered more acreage for longer terms with less competitive bidding and less federal oversight since agency consolidation and deregulation had reduced the number of officials and employees engaged in oil industry regulation from 2,000 to 200 (LeBlanc 1983, pp. 37-38; U.S. Department of Energy 1988, p. 10).

Continued exploration in non-OPEC countries steadily increased non-OPEC oil supply during the early 1980's. Growth in Norwegian and British North Sea oil production (0.2 million b/d in 1975 to 3.32 million b/d in 1985), and increased production in Mexico (0.71 million b/d in 1975 to 2.73 million b/d in 1985) helped create non-OPEC sources of crude oil which reduced OPEC's share of world oil production from sixty-four percent in 1979 to forty-two percent in 1985 (Yergin 1988, p. 116; Andersen 1989, pp. 30-31). The total value of OPEC oil exports peaked at \$287 billion in 1980 and dropped to less than \$100 billion in both 1987 and 1988 (Economist Staff 1988, p. 73; Al-Chalabi 1989, p. 4). OPEC had become a residual supplier of oil to countries or companies that could not buy it cheaper anywhere else in the world. Declining oil demand and growth of non-OPEC supply also stimulated price competition within OPEC. The cartel's position as a price maker slowly eroded in the 1980's relative to trade on "spot markets" (MacFadyn 1990; Al-Chalabi 1989, pp. 12, 18-19; Yergin 1990, pp. 687, 719).

World oil prices have recently fluctuated between a "sticky price" (posted OPEC price) and a "spot" market price based on short term demand and supply relationships (Verleger 1982; MacFadyn 1990, p. 168). The general strategy of OPEC was to maximize per barrel income regardless of effects on demand, so when a supply crisis or speculative buying drove prices on the "spot" market above posted OPEC prices, the official OPEC price was soon increased accordingly (Verleger 1982, p. 181; MacFadyn 1990, p. 171). When "spot" prices fell below official OPEC prices because of an oil glut or decline in demand, Saudi Arabia's role in OPEC was to restrain production and maintain price. For example, in 1983 OPEC reduced posted prices and Saudi Arabia agreed to act as swing producer by altering its output to meet market demand at posted prices. Saudi production fell from 10 million b/d in 1979 to 3.47 million b/d in 1985 (Al-Chalabi 1989, p. 93; MacFadyn 1990, p. 171). Despite these efforts, it became clear in the mid-1980's that OPEC could no longer control both price and production on the world market and that political choices between volume sales or higher prices loomed large for the weakened cartel.

Some OPEC producers have more price and production flexibility than others. Only thirty percent of total OPEC oil production is governed by the fixed price posted for Saudi light crude. Oil produced for refining in the producing country (e.g., Kuwait, Algeria,

Venezuela), as part of separate concessionary agreements with oil companies (e.g., Libya), and certain crudes (e.g., Venezuelan heavy crude) fall outside the OPEC pricing system (Al-Chalabi 1989, p. 143). The addition of producers that refused to abide by quotas (e.g., Iraq 1980-1988), violated their quotas (e.g., Kuwait 1987-1989), or illegally undersold posted prices, and well over seventy percent of OPEC oil in the 1980's was sold at "spot prices." The excess of world oil supply relative to demand during most of the 1980's ensured price declines and economic suffering for areas with high production costs like offshore Louisiana.

The failure of OPEC to adequately restrain production and maintain oil prices during a period of declining demand depressed OPEC's share of world energy trade. Major oil producing nations, including Saudi Arabia, ended up with trade deficits in the late-1980's (Egan 1990). Many OPEC members concluded that the major multinational oil companies and governments of non-OPEC oil producing countries unfairly benefitted from OPEC price protection when prices were high and undercut OPEC when prices dropped (Jaidah 1983, pp. 11, 137). Consequently, the Saudi's decided to relinquish their role as OPEC and the world's swing producer of oil and regain market share through price cuts and a production increase from 3.5 million b/d in 1985 to 5.1 million b/d in 1986 (Andersen 1989, p. 3; MacFadyen 1990, p. 169; Al-Chalabi 1989, p. 85). Price cuts immediately increased demand as buyers stockpiled the cheap Saudi Arabian oil.

Everyone lost revenue from price cuts, but the price war strategy could pay off in long-term market share and market leverage for countries like Saudi Arabia and Kuwait, which have high reserves and small populations, and which were producing at far below capacity. Saudi production increases in 1985 caused even steeper price cuts because of the questionable tactic of "tax spinning" by major oil companies. Exxon, Conoco, Shell, and BP apparently engaged in multiple sales and purchases of each other's North Sea crude oil at the end of 1985 to further depress oil prices and reduce their tax liability to the British government (Economist Staff 1990). Low crude oil prices could be recouped on company balance sheets through higher returns and lower taxes paid on refining and marketing finished products than on production. Transnco, a Bermuda oil trading company, sued the aforementioned oil companies. Shell and BP settled out of court and a New York judge recently ruled that enough evidence existed for a trial involving Transnco, Exxon, and Conoco (Economist Staff 1990).

OPEC's price war strategy wrecked oil markets in high cost production areas like the U.S., Mexico, and the North Sea. Low volume U.S. "stripper wells" were shut down and drilling rig counts dropped to twenty percent of 1983 levels (Al-Chalabi 1989, p. 89; Table 2.2). The effects of falling oil prices on Louisiana OCS activity were immediate and drastic. Sixty-six fewer offshore rigs were operated in 1986 compared to 1985 and investment in high cost OCS exploration and production ceased. McDermott International, the world's largest fabricator of offshore platforms, laid off 2,300 workers in 1986, two-thirds of its Louisiana workforce (Higgins interview 1989). State oil and gas severance taxes fell by one-third in one year and state spending on education and social services suffered (Mid-Continent Oil

and Gas Association 1988, p. 13). The state's oil economy fell into a depression. The absence of industry governance structures to maintain high oil prices and/or protect investment in the OCS region caused a reversion to more competitive market conditions under which offshore Louisiana could not successfully compete.

The national savings and loan (S&L) crisis of the late 1980's and a possible commercial bank crisis gained great fuel from the oil price collapse. Banks and S&Ls with outstanding loans to oil companies and real estate developers who borrowed to build during the oil boom were caught short by the rapidity of economic decline. Employment declines and subsequent out-migration hurt anyone involved in the housing industry. Within the oil industry, multinational oil companies reduced exploration and production budgets by one-third between 1985 and 1986. U.S. oil production dropped from 8.93 million b/d in 1985 to 8.11 million b/d in 1988 and the U.S. increased its reliance on imported oil (Andersen 1989, pp. 2, 30). Import dependence exacerbated trade and budget deficits which further eroded the nation's financial stability.

## SUMMARY AND CONCLUSION

Louisiana OCS petroleum development has been essential to meet U.S. demand for petroleum products and to maintain some semblance of energy security in a world where pure economics dictates dependence on Middle Eastern oil imports. An economically viable offshore oil industry flourished in Louisiana under the protection of governance arrangements that were initially organized by major multinational oil companies and state regulatory agencies like the Texas Railroad Commission. Protection was maintained into the early 1980's under the umbrella of high oil prices guaranteed by the OPEC cartel, federal price controls, and a policy of expanded leasing administered by the Department of Interior. The dissolution of OPEC governance exposed an over-extended domestic oil industry, both on and offshore. Louisiana-based segments of the industry (exploration, construction, oil service, drilling, and production) were hit first and hardest by the decline, followed by contraction of independent and major integrated oil company presence in the state.

Viewed with hindsight, it is evident that Louisiana relied for economic growth on continued expansion of an industry whose exaggerated presence in the state was facilitated by an unstable governance structure. But these same governance arrangements functioned for a long time to smooth out potentially ruinous cycles of investment and decline in a very volatile and risky business. This allowed construction of an infrastructure that is likely to remain productive despite declining offshore oil and gas reserves. The problem for the state is that too much of the local infrastructure was recently idled, went bankrupt, or was merged into multinational firms that can easily shift operations and move to another location.

## ENDNOTES

1. The spot market price is the price paid for crude oil under short term contracts. Price fluctuates depending on availability of oil relative to demand. Price postings in spot markets at Rotterdam and Brent, for example, correspond to oil shipped through these ports, and the price can change daily. Futures trading in oil began in March 1983 on the New York Mercantile Exchange. The contract originally called for delivery at a specific future date (e.g., one year) of 1,000 barrels of West Texas Intermediate crude oil to the Cushing, Oklahoma, pipeline intersection for a specified price per barrel (Verleger 1987, p. 179).
2. Considerable debate exists among economists about the effects of OPEC on world oil prices since 1973. Adelman (1986) argues that vacillation between competition and cooperation among OPEC members means that the marginal costs of exploration, development, and production of reserves determines prices competitively without cooperation. Paul MacAvoy (1983) and Philip Verleger (1982; 1987) argue that OPEC policy, as filtered through spot and futures markets, resulted in competitive market prices. Griffin (1985) maintains that a partial market sharing cartel model clearly dominates the competitive model in the determination of oil prices. Pindyck (1978) argues that OPEC was a monopoly while Danielson and Kim (1988) argue that OPEC is a cartel that has controlled oil production and price through collective distribution of sacrifice (in reserves or revenue) based on national oil wealth and population.

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## CHAPTER 3

### THE EFFECTS OF OIL INDUSTRY RESTRUCTURING IN LOUISIANA

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#### INTRODUCTION

Investment in Louisiana-OCS oil exploration and development is embedded within the global political economy of oil. The effects of investment in the offshore oil industry on Louisiana social institutions originate from decisions made in corporate offices and boardrooms and in government policymaking circles. Corporate decision-makers concerned with offshore oil development use information about exploration opportunities to direct available cash flow (earnings, credit) to fund leasing, exploration, and development drilling.

The 1985 oil price collapse was the climax of a period of disorder and breakdown of oil industry governance arrangements that had been brewing since the beginning of the decade. Increases in Saudi Arabian oil production and resultant reduction in oil prices disciplined the industry worldwide and accelerated the restructuring of the U.S. petroleum industry. The restructuring process involved numerous mergers and asset purchases by oil companies that became heavily debt burdened in the process. New standards were developed to evaluate assets and investment opportunities which put more emphasis on short-term profitability and minimum risk. Exploration has been curtailed in high cost areas like the Central Gulf of Mexico and thousands of people have lost their jobs.

Major oil companies have generally intensified their long-term planning process and increased headquarters control of capital outlays. Before 1985, the Louisiana offshore division of a major integrated oil company was likely to send a budget plan to headquarters; now they make a live presentation of the plan to the headquarters budget committee (Brew interview 1990). Before 1985, exploration was driven mostly by science -- today, economics predominates and companies are more focused on a limited number of prospects. Budgets are reviewed more often and more closely to hasten organizational response to uncertain oil prices and oil markets. Companies must adapt to changing conditions or risk ruinous financial setbacks or outright takeovers. Company strategies in this business environment have generally combined repositioning within the industry with reintegration and realignment of major actors worldwide. These changes are redefining the domestic industry and will continue to have enormous effects on Louisiana social institutions (Andersen 1989).

The process of oil industry restructuring in the 1980's can be analyzed in neo-classical economic terms as the result of competitive actions by producer nations with large oil reserves and low production costs (Adelman 1986; Al-Chalabi 1989); or alternatively, as the disciplining of profligate oil managers by profit oriented bond and shareholders (Jensen 1986). A Marxian perspective explains industry restructuring as the concentration (increase

in average firm size) and centralization (fewer firms) of capital as a response to an over-production crisis associated with competition among firms and nation-states (O'Connor 1987; Bina 1989). A political perspective would assert that the reversion to market pricing of oil is a state induced strategy designed to adjust national policies to larger global realities (Ikenberry 1988).

Strategic decisions of firms that invest offshore are tied to international politics and the dynamics of OPEC. External political and economic constraints created the conditions for industry restructuring, which then flowed through the conduit of bond and stock markets to force oil company managers to reduce assets and expenses, and increase dividends and debt. In the process, the nature of management control of large energy corporations has changed from an emphasis on operations to an emphasis on finance.

The most important question for our purposes is: how has industry reorganization affected investment and employment in Louisiana? This chapter provides an overview of key segments of the industry and characterizes company strategies in terms of repositioning, reintegration, and realignment since 1978, with particular attention directed to the effects of industry restructuring on the Louisiana-OCS region.

## **OVERVIEW OF KEY SECTORS OF WORLD OIL INDUSTRY, 1991**

World oil resources are now dominated by several groups of state-owned oil companies (Statcos). The critical source of variation among Statcos is between oil producers and oil consumers. Dimensions of variation among oil producers include OPEC members and non-OPEC members, large (over fifty billion barrels) and small reserve holders, and technically able, financially sound, and integrated (e.g., Saudi Arabia, Kuwait, Venezuela, United Arab Emirates) vs. less technically able, stretched out, and debt burdened (Iran, Iraq, Mexico, Libya, Nigeria) (Al-Chalabi 1989, p. 54; Jennings 1990, p. 164; See Table 3.1). The oil consumer Statcos (e.g., Ente Nazionale Idrocarburi of Italy, Compagnie Francaise des Petroles of France, Japan's national oil company) have limited or no oil production and must meet high demand for petroleum products. These consumer Statcos will pay premium prices to expand exploration and production overseas. A recent strategy of governments like Italy and Australia is to trade access to their refining and retail markets to recently integrated national oil companies (e.g., Kuwait) for guaranteed access to crude oil (Economist Staff 1989a; Jennings 1990).

The private sector is still divided into integrated multinational oil companies and non-integrated domestic oil companies. The large integrated companies have their own reserves but have recently experienced difficulty replacing them. They have relied instead on the purchase of existing reserves, enhanced recovery methods, and exploration for high cost reserves (eg., deep water Gulf of Mexico). In today's unstable market, dominated by spot pricing and short-term contracts, large firms

Table 3.1. World proven crude oil reserves, 1988.

Country	Proven Reserves (billion barrels)
Saudi Arabia	169.6
Iraq	100.0
United Arab Emirates	98.1
Kuwait	94.5
Iran	92.9
Soviet Union	59.0
Venezuela	56.3
Mexico	48.6
United States	25.3 (OCS:3.39)
Libya	21.0
People Republic of China	18.4
Nigeria	16.0
Norway	14.8
Algeria	8.5
Indonesia	8.4
Canada	6.8
United Kingdom	5.2
Total World Reserves	887.3
of which OPEC	670.7
Arabian Gulf only	558.2

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Source: Andersen 1989, pp. 51-52.

generally prefer exploration for reserves overseas rather than exploration for less promising domestic ones (Offshore Staff 1989, p. 21). To stimulate growth in offshore exploration, industry lobbyists are busy fighting for government incentives (tax deductions for drilling expenses) and the right to lease potentially rich reserves off the coast of California or in the Alaska National Wildlife Refuge.

Non-integrated independent oil companies can be divided into those that concentrate on exploration and production and those that concentrate on refining and marketing. Industry consolidation since 1986 has reduced the number of independent oil firms, though independent firms drill a larger percentage of wells in the Gulf of Mexico than ever before (Andersen 1989, p. 2; Dodson and LeBlanc 1991). The integrated firms subcontract more leases to independent operators for drilling and development. The subcontracting of leases is sometimes done to discover secondary oil and gas deposits, and sometimes to take advantage of federal tax deductions (e.g., oil depletion allowance) that are still enjoyed by independent oil firms (Dodson and LeBlanc 1991, p. 26).

The oil service industry is distinct from the integrated and independent oil companies. Subcontractors perform much of the work offshore. Their tasks include drilling, processing drilling mud, well service and workover. They engage in rig, pipeline, and platform construction, along with carbon steel and cable manufacturing. In addition, subcontractors are hired for barging, air, and marine transportation (World Offshore Contractors and Equipment Directory 1987). Oil service industry contractors in the U.S. employed 97,386 people in 1984, or 68.2 percent of all direct offshore employment (Centaur Associates 1986, p. 5-2). Table 3.2 lists the number of employees in major offshore contracting categories and the average percentage of total producer contract expenditures in each category for 1984.

Contract labor and field services are the two largest offshore contract expenses, followed by development and exploratory drilling. Service company employment is dependent on the exploration and production budgets of offshore oil producers. Reductions in exploration and production budgets have contributed to the consolidation of the oil service industry since 1983. Bankruptcies, mergers and takeovers significantly reduced the number of independent companies and subcontractors that operate in every link of the extensive chain of oil production and distribution (Andersen 1989, p. 2).

Ninety percent of the seven million barrel per day increase in non-OPEC oil production from 1975 to 1985 occurred offshore (Gaspar 1986, p. 62). Four hundred and thirty offshore rigs were constructed during this period. The 1982 recession slowed offshore drilling, and low oil prices after 1985 idled most rigs and reduced day leasing rates from an average of \$37,000 per day in 1981 to \$7-10,000 per day in 1986 (Luigs 1986, p. 64). Large debts incurred by drilling contractors like Penrod and Global Marine to construct rigs to meet peak demand led these companies into Chapter 11 bankruptcy in 1986. Reductions in oil company

Table 3.2. Total offshore contractor employment and expenditures, 1984.

Contract Category	Estimated Total Contractor Employees	Average % Offshore Producer Expenditures
Air transport	4,005	3.02
Boat, barge, marine equipment transport	6,074	5.79
Contract labor and engineering services	19,005	15.21
Cement	1,594	2.04
Contract exp drilling	7,748	8.20
Contract dev drilling	9,026	9.55
Drilling fluids and mud logging	2,528	4.45
Pipeline	2,560	2.17
Platform install	1,421	1.35
Production enhancement	2,211	2.61
Platform and equip. fab.	7,170	5.59
Tubular	2,987	7.19
Seismic and geophysical	3,207	3.20
Well logging	3,828	5.47
Field services and tool rental	13,656	12.17
Other	10,366	11.99
U.S. Total	97,386	\$8.748 Billion

Source: Centaur Associates 1986, pp. 3-9.

exploration budgets, and the absence of credit extensions, created the conditions for twenty-six significant mergers in the offshore service and supply industry in 1989 and 1990 (Offshore Staff 1990, p. 36).

The number of offshore supply boat operators declined from 101 to 36 between 1982 and 1989 (Offshore Staff 1990, p. 35). Many service companies changed hands simply to avoid liquidation, and increased industry concentration resulted. Data were not collected on the geographical effects of oil service industry restructuring but it is clear that multinational service companies, many of which are affiliates of larger multinational corporations (e.g., Grace, Loews, Raytheon), now dominate the industry. Houston investment banker Matt Simmons argues that one key strategy for success in the contemporary oil service industry is to:

effect market concentration. Almost every sector is shrinking to the point that three to four companies share 85-90 percent of the market and are producing results (Offshore Staff 1990, p. 36).

One upshot of consolidation in the oil service industry is that a few firms compete around the world for lucrative contracts like those now available for fabrication of deep water drilling platforms. Shell contracted with Belleli of Italy to construct the platform deck, and with McDermott (in Morgan City, Louisiana) for topside fabrication of the tension leg platform installed in its deepwater Auger facility (Littleton 1990, p. 30). Brown and Root Construction of Houston and Gulf Marine of Ingleside, California, are building deep water platforms for British Petroleum (BP). The point is that many of the best jobs connected to offshore development have been shipped overseas or to other states where large firms construct platforms (Littleton 1990, p. 30). Meanwhile, many Louisiana companies have declared bankruptcy or disappeared through mergers, and as a consequence, layoffs have reduced local oil service industry employment. A "buy Louisiana" policy to govern deep water platform construction would fly in the face of recent free trade doctrine, but the results would definitely benefit Louisiana business and Louisiana citizens.

Repositioning. The oil industry is shrinking and many analysts believe it is greatly overcapitalized (Jensen 1986; Financial World Staff 1990, p. 35). Industry expansion, including big exploration and production budgets between 1974 and 1984, was driven by high oil prices and a desire to circumvent OPEC control of oil production. Refinery construction was stimulated to overcapacity by government set aside programs. Reduced demand for oil and economic recession in the early 1980's put many oil firms at risk financially, although profits remained relatively high (Jensen 1986, p. 326).

Repositioning of integrated multinational oil companies during the 1980's took the form of mergers, stock repurchase strategies, asset purchases, and internal reorganization. Data were collected on financial restructurings of the top twenty oil companies, measured by 1978 assets. Variables were created to indicate whether or not the firm was merged, acquired its own stock, or acquired stock in another company in a given year. Data on merger activity,

whether a company purchased its own stock, or purchased assets of other companies in any year from 1978-1989 were either provided me by Neil Fligstein (Fligstein and Markowitz 1990), or were collected from Moody's Manual Staff, 1978-1990.

Mergers. Two primary goals of oil company mergers during the 1980's were the unloading of low profit assets to affect an increased return on existing assets, and speculation in oil reserves. Speculation is the purchase of existing oil reserves cheaper than drilling for them, with the anticipation that higher oil prices will eventually increase their value (Adelman 1986; Financial World Staff 1990, p. 38). Some merger targets were companies that were weakened by expensive exploration and production in high cost low yield areas, or by unwise refinery construction or expansion during the previous decade. These mergers included Texaco's purchase of Getty Oil in 1983, Exxon's purchase of Hunt Oil in 1984, Mobil's purchase of Superior Oil in 1986, and British Petroleum's purchase of Sohio in 1987 (Van Lear 1989, p. 149). The largest oil merger ever, Chevron's \$13.2 billion purchase of Gulf Oil in 1984, and Chevron's purchase of Tenneco's offshore holdings in 1988, are further examples of these strategies (Mack 1989, p. 52).

A large number of similar mergers involved integrated independent oil companies that purchased other independents. Examples include Occidental Petroleum's purchase of Cities Service and Ashland's purchase of Scurlock oil in 1982; Phillips Petroleum's purchase of General American in 1983 and Aminoil in 1984; Sun Oil's purchase of Exeter in 1984; and Amoco's purchase of Dome Petroleum in 1987 (Van Lear 1989, p. 149). Overall, seven of the top twenty oil firms were merged between 1978 and 1989 (See Table 3.3.).

Stock Repurchase. Many major oil companies used a stock repurchase strategy to defend themselves against unfriendly mergers (See Table 3.3). Stock repurchase increases stock price and strengthens a company's balance sheet, while it also takes stock off the market to protect a company from hostile takeover by rival ownership interests. Fourteen of the top twenty oil companies have purchased some of their own stock since 1978, with the most activity occurring in 1981, 1984, and 1985. Exxon spent \$15.5 billion to repurchase stock and strengthen per share earnings (Welles 1990, p. 72). Arco, Sun Oil, and others spent billions of dollars purchasing their own stock to raise its price and take shares off the market (Forbes Staff 1988; Mack 1990). Could Exxon really be concerned about a corporate takeover attempt by the Saudi Arabian or Kuwaiti national oil companies? Perhaps not, but Jensen (1986, p. 327) argues that Phillips Petroleum and UNOCAL repurchased stock, sold assets, and increased dividends to fend off takeovers.

Carl Icahn targeted Texaco for takeover during its protracted legal battle with Pennzoil over the right to purchase Getty Oil (See Table 3.3). A 1988 report by securities analysts at Morgan-Greenfell created takeover rumors at Chevron, and fifteen percent of its 342 million outstanding shares changed hands in the next year (Mack 1989, p. 49). Recent sales of

Table 3.3. Asset shifts of top 20 oil companies, 1978-1989\*.

<u>Company</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Amerada										3	4	
Aminoil			4	3		2	1,2					
Amoco	4	3		2,3		4	2,3	3	2		4	
Ashland	2,3	2,3,4	2,3	2,4	2			2,3	3			
ARCO	4		2					3	2	2,3	4	2,3
BP	4										2,4	2
Chevron	4									4	2,4	2,3
Cities Service	2,4			1								
Conoco	2	4	1,2									
Exxon	2			2	2	4	3			2	3	3,4
Getty				3	1,3							
Gulf	2,4	2,4			3	2	1					
Mobil	4	2			4			2	2	2	2	2
Oxy	4					2,3	3	2,3	2	2	4	4
Shell												1
Sohio	2	2,3						2	1			

\*1=Company was merged during the year; 2=Company sold existing unit; 3= Company acquired its own stock;  
4=Company acquired stock in another company during the year.

Table 3.3 Asset Shifts of Top 20 Oil Companies, 1978-1989\* (Continued).

<u>Company</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Sun	4		2	2	2,3	3	3	2,3	2			
Texaco	4	2	3,4	3		2	3	2	2	2	3	
Unocal	2,4	3		2,3		2	4	3				
Phillips	2		2			2		2	2		2	4
<hr/>												
Totals												
1 Merged	0	0	1	1	1	0	2	0	0	1	0	1
2 Divested Units	8	5	5	5	3	6	2	6	8	5	4	4
3 Acquired Own Stock	1	4	2	5	3	2	5	6	1	2	2	3
4 Acquired Other Stock	11	3	2	1	1	2	1	0	0	1	6	3

\*1=Company was merged during the year; 2=Company sold existing unit; 3= Company acquired its own stock; 4=Company acquired stock in another company during the year.

Sources: Moody's Manual Staff 1978-89; Fligstein and Markowitz 1990. My thanks to Neil Fligstein for sending me the data used for the years 1979-1987.

small production properties, management decentralization, and creation of performance goals for each worker at Chevron can be traced to increased trading of Chevron stock during a period of industry consolidation.

A bimodal distribution of asset purchases from other companies (peaks in 1978 and 1988) reflects both ends of the recent oil industry cycle that brackets industry restructuring (See Table 3.3). Asset purchases in 1978 disposed of surplus cash earned by large oil companies in that decade. The eleven asset transfers represent expansion of oil companies into related energy fields and the purchase of valuable oil reserves. The 1988 peak when six companies purchased stock in other companies represents stronger companies who purchased stock in weaker companies as a way to secure oil reserves that may later increase in value.

The Decision To Purchase Assets or Leases. Van Lear (1989, pp. 149-151) argues that the shifting of assets among large oil companies during the 1980's represents a strategy of increasing the ratio of oil reserves to oil production, and the selling of less profitable refining assets to oil producing and consuming Statcos. Van Lear thinks the major integrated companies held back production in the 1980's so OPEC could sell more oil and reassert stability in world oil prices. An examination of the ratio of world oil production to world oil reserves of the twenty largest oil companies between 1982 and 1988 does not support Van Lear's explanation (See Table 3.4). Oil production was a steady nine to ten percent of reserves despite the large number of mergers and company restructurings during the period.

Reductions in exploration and production budgets, asset purchases, and the steady ratio of production to reserves all suggest that some major oil companies bought reserves to replace those depleted by production. Corroborating evidence for this conclusion comes from a study of major oil company exploration strategies from 1985 to 1989 that was done by Transmar Enterprises of Houston (Offshore Staff 1989). The study reports that five of seven major oil companies surveyed made significant reserve acquisitions between 1985 and 1989, and that three (Amoco, Chevron, Mobil) bought more reserves than they discovered and developed themselves. One company (UNOCAL) that did not purchase reserves refrained because of heavy debts. UNOCAL exploration focused instead on low risk development drilling.

Asset performance standards have increased in the oil industry and "non-performing" assets are more likely to be liquidated. If domestic exploration and production (E&P) divisions do not perform, jobs will be eliminated and secondary economic benefits lost. As an example, Occidental Petroleum recently cut 900 jobs from its U.S. exploration and production division (Economist Staff 1989b, p. 89). The Transmar study substantiates the pronouncements of recent editorials in trade journals like Offshore and The Oil and Gas Journal that, without government incentives, multinational oil companies will continue to concentrate investment in overseas exploration and domestic refining and marketing operations (Offshore Staff 1989, pp. 23-24).

Table 3.4. Ratio of oil production to oil reserves for 20 largest oil companies, 1982-1988.

Year	Oil Production as % of Oil Reserves
1982	0.10
1983	0.10
1984	0.10
1985	0.10
1986	0.10
1987	0.09
1988	0.09

Source: Oil and Gas Journal Staff 1983-1989.

Jensen (1986) argues that recent takeovers in the oil and food industries reflect high agency costs. If corporate managers are agents of bond and shareholders, reinvestment of profits into risky and expensive oil exploration, production, and diversification takes money and control away from ownership interests. Equity owners can discipline managers with company takeovers or threats of takeovers. An extension of this argument is that high debt is efficient for the company because it forces managers to pay out cash to debt holders instead of investing in offshore oil leases, exploration, and production that returns less profit than the cost of capital (Jensen 1986, pp. 324, 327-328).

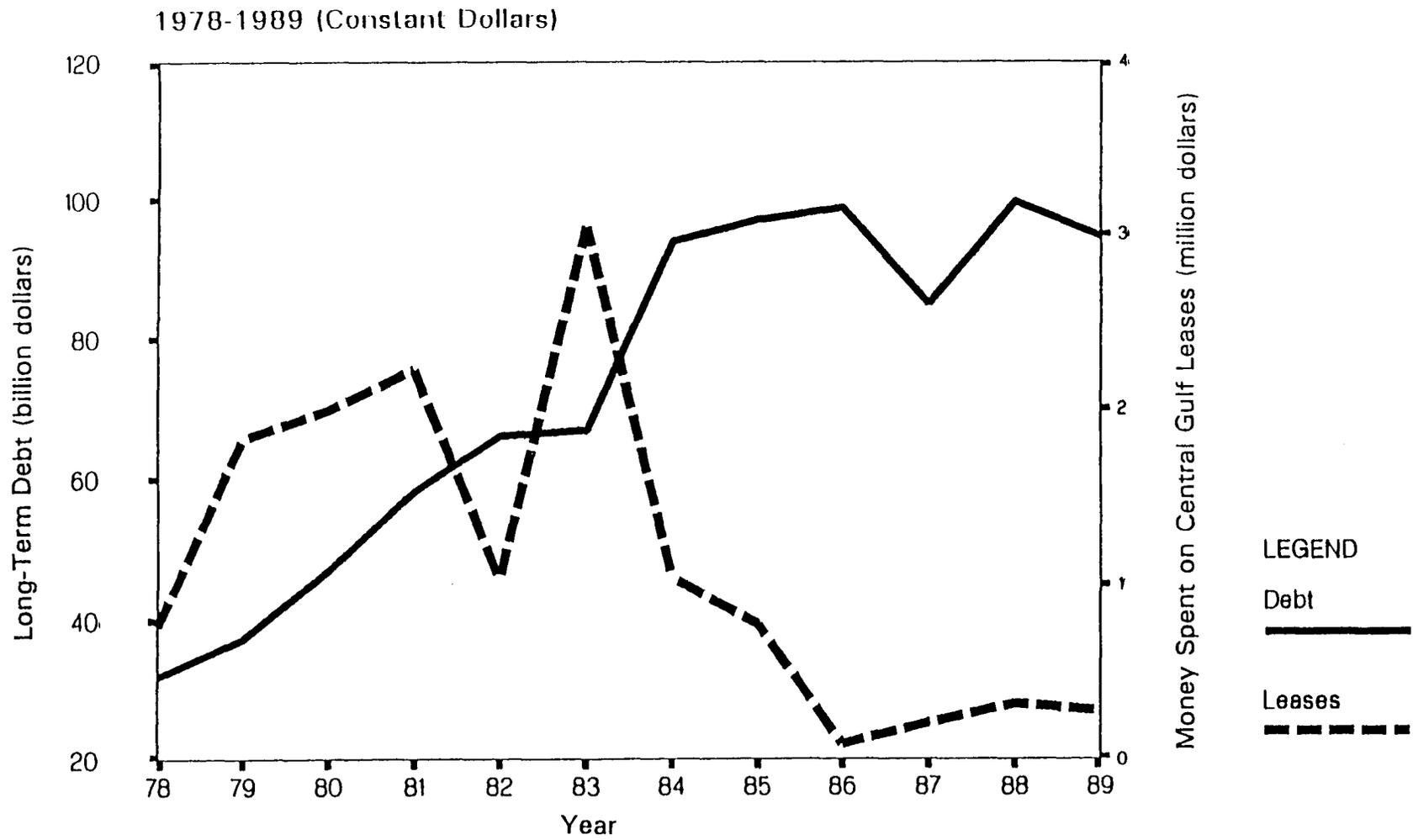
Jensen's argument has critical implications for the Louisiana oil industry and for the entire regional economy. If oil companies pay a larger share of profits out to shareholders as dividends, or borrow money to buy existing companies and their reserves instead of investing in offshore leases, exploration, and development drilling, the Louisiana economy suffers. The explanation for this trend developed in Chapter Two was that the breakdown of industry governance arrangements that had protected high levels of offshore investment intensified disinvestment and merger activity in the 1980's.

Data to assess Jensen's claims were collected on the thirty-eight most important oil companies in Louisiana. The analysis includes the top fifteen lease buyers in terms of money spent on Central Gulf of Mexico leases from 1978-1980 and from 1987-1989; and those integrated oil companies (N=28) with any Louisiana exploration and production office listed in Pennwell's USA Oil Industry Directory during any year from 1978 to 1989 (See Appendix 3.1 for a complete list of companies and a description of variables).

Aggregate long-term debt of the top thirty-eight oil companies that operate in Louisiana has tripled from just over \$32 billion constant dollars in 1978 to nearly \$100 billion in 1988 (see Figure 3.1). Steady increases in debt occurred from 1978-1983 and then a \$27 billion jump took place in 1984 to finance industry mergers. Chevron, Mobil, and Texaco incurred the largest increases in debt as consolidation of assets and purchase of reserves spread through the industry. Oil price declines in 1985-1986 were therefore experienced by an increasingly debt laden industry whose equity value declined as lower oil prices depreciated the value of recently purchased reserves and dimmed the luster of recently purchased leases (See Figure 3.2).

Aggregate long-term debt and total constant dollars spent on Central Gulf leases diverged so drastically from 1984 to 1986 that recovery will be very difficult. Debt re-payments have indeed displaced exploration and development drilling in company budgets, and many leases purchased in the big 1983 lease sale have never been fully explored (Dodson and LeBlanc 1991, p. 23).

The recovery in oil prices after 1987 failed to stimulate Central Gulf leasing. This failure is linked to the increased debt burden strategically taken on by the top oil companies to purchase oil reserves and their own stock. In this financial context, Department of Interior



**Figure 3.1. Total Long-Term Debt and Money Spent on Leases by Top 38 Companies**

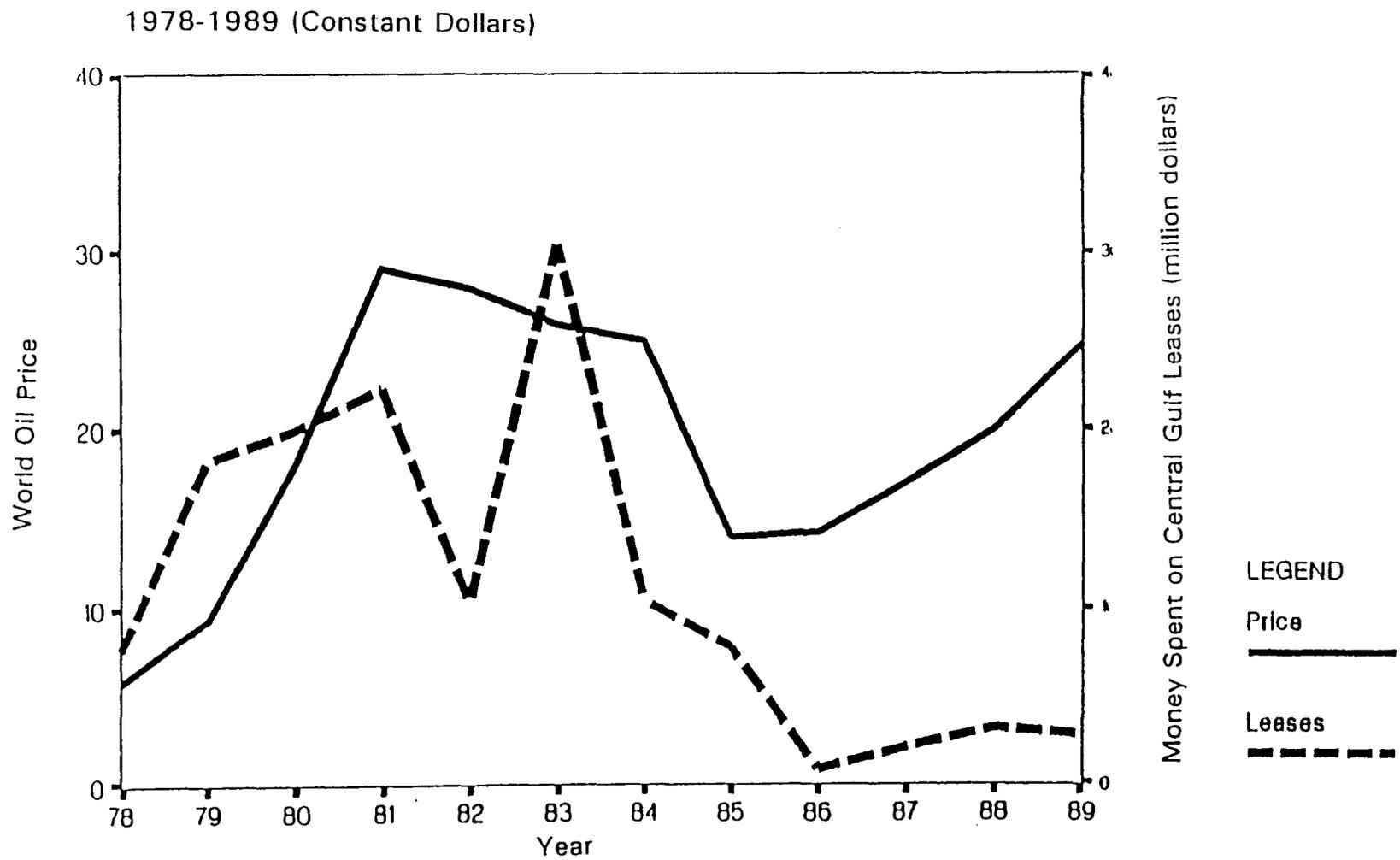


Figure 3.2. Total Spent on Leases by Top 38 Companies and World Oil Prices

offerings of more acreage for offshore lease are insufficient to stimulate leasing and drilling offshore. The rich reservoirs located in deep water are so expensive to retrieve that even higher oil prices will only slowly stimulate investment offshore while the top companies are strapped with such high levels of debt.

Oil company mergers universally resulted in the elimination of employees and the addition of large amounts of debt to the acquiring company balance sheet. Five of the top fifteen lease buyers from 1978 were merged by 1989 (U.S. Department of Interior, Minerals Management Service 1978-1989; See Table 3.5). Merger targets obviously stopped buying leases, while acquiring firms like Occidental and Mobil accrued large debts which have contributed to reductions in their offshore activity. Industry reorganization negatively affected lease purchases and reduced the net impact of oil investment in Louisiana.

A principal components factor analysis of money spent on leases by the top thirty-eight companies operating in Louisiana reveals that three distinct factors account for the pattern of correlations of total constant dollars spent on offshore leases each year from 1978 to 1989.[1] Patterns of company spending combine to create one factor that corresponds to the years 1978-1982, and 1984; a second factor corresponds to the lean years from 1985-1989; and a third factor corresponds to the huge 1983 lease sale (See Table 3.6 and Figure 3.1). An examination of the factor scores, which indicate the contribution of each company to each factor, reveals that Exxon, followed by Mobil, UNOCAL, and Getty, were the key companies whose spending on offshore leases linked the years 1978-1982 and 1984 into a single factor. The merger of Getty into Texaco, and the weakened condition of UNOCAL discussed earlier, suggest that declines in Central Gulf lease purchases by these companies were a clear consequence of industry restructuring.

Shell and British Petroleum (BP) are the main companies that define a second factor for the lean years from 1985-1989. Shell has been the most active company offshore, spending three times as much money on leases in the past three years as the second largest buyer, leasing thirty-eight percent of deepwater (over 1,500 feet) acreage in the Gulf (See Table 3.5; Biesada 1990). It is important to note that the top two lease buyers since 1987 are foreign owned multinationals. Both Shell and BP have sufficient resources and the type of management to make long-term commitments to a potentially rich but very expensive deep water exploration and development program. BP purchased Sohio in 1987 and Royal Dutch Shell purchased Shell, USA in 1989 to solidify foreign ownership of U.S. corporate entities to pursue this development.

Deep water drilling technology developed in Brazil and the North Sea has been improved for use in the Gulf of Mexico. Tension-leg well platforms and semisubmersible platforms have been installed offshore by Shell, Placid Oil and Conoco. Horton (1991) estimates that it will

Table 3.5. Top 15 buyers (millions \$) of Central Gulf leases, 1978-1980, 1987-1989.

Company	Dollars Spent on Leases 1978-1980 (Millions)	Company	Dollars Spent on Leases 1987-1989 (Millions)
Exxon	760.847	Shell	202.224
Mobil	634.273	BP/Sohio	75.328
Shell	572.134	Arco	59.466
Tenneco	272.357	Amerada-Hess	56.382
Amoco	226.404	Chevron	45.727
Gulf	204.606	Exxon	42.236
Arco	195.201	Tenneco	29.015
Conoco	150.732	Texaco	28.758
Chevron	148.848	Champlin	26.477
UNOCAL	133.261	Conoco	24.079
Getty	132.919	UNOCAL	23.218
Texas Eastern	118.106	Mobil	22.273
Texaco	114.625	Amoco	21.860
POGO	108.102	Union Texas	21.599
Marathon	107.652	Consolidated Natural Gas	21.454

Source: U.S. Dept. of Interior, MMS 1978-1989.

Table 3.6. Results of principal components factor analysis of total spending on leases by top 38 companies, 1978-1989.

Variables	<u>Rotated Factor Pattern Coefficients</u>		
	Factor 1	Factor 2	Factor 3
Lease totals 1978	0.92		
Lease totals 1979	0.68		
Lease totals 1980	0.66		
Lease totals 1981	0.79		
Lease totals 1982	0.85		
Lease totals 1983			0.80
Lease totals 1984	0.80		
Lease totals 1985		0.89	
Lease totals 1986		0.87	
Lease totals 1987		0.72	
Lease totals 1988		0.93	
Lease totals 1989		0.73	
Eigen Value	6.59	2.25	0.92
% Variance Explained	0.549	0.188	0.077

SIGNIFICANT FACTOR SCORES ( $\geq 1$  or  $\leq -1$ )

<u>Company</u>	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
Exxon	5.05		
Mobil	1.80		
UNOCAL	1.23		
Getty	1.00		
Sohio		-1.07	1.64
Shell		5.30	1.16
BP		1.50	
BP			-2.76
Mobil			2.87
Amoco			2.65
Tenneco			2.04
Gulf			1.22

Source: U.S. Dept. of the Interior, MMS 1978-1989.

cost Conoco \$400 million to pay for the tension leg well platform, a nearshore platform for handling oil and gas, well costs, and pipelines for its Jolliet Field development in 1,760 feet of water. New platform concepts include buoyant towers and floating caissons whose construction and installation depend on higher oil prices and significant oil and gas discoveries in deep water.

The 1983 lease sale defined a third factor in the analysis. It is noteworthy that the four companies (Mobil, Amoco, Tenneco, and Gulf) whose factor scores primarily define the factor have either been merged (Gulf), sold its offshore assets (Tenneco), or drastically reduced exploration and production everywhere (Mobil, Amoco).

The area-wide leasing policy instituted by the Department of Interior in 1983 stimulated leasing enough to separate that year from the rest in the period under study. Small discoveries of oil and gas, high corporate debt, low oil prices, and the lack of tax incentives to stimulate drilling combined to prevent the 1983 lease sale from really generating a recovery of drilling and production offshore (LeBlanc 1986, p. 78; Dodson and LeBlanc 1989, p. 20). The evidence suggests that the government did stimulate investment in leases but that private investors and integrated oil company managers held back development, which demonstrates the ultimate hold of the private sector on the reins that sustain economic activity in the Gulf of Mexico.

Company Reorganization. Texaco has greatly reduced exploration and production budgets since 1985 and trimmed two layers of middle management to create a leaner organization. Their production division was moved from Morgan City, Louisiana, to New Orleans to consolidate offshore and onshore operations, which reduced the workforce by about twenty-five in each location (Carriger interview 1990). Texaco is a good example of a temporarily weakened company that now pursues a low risk, low cost offshore strategy of drilling wildcat wells in shallow water. Riskier deep water exploration is left to companies that do not need all their cash to satisfy shareholders or fend off bankruptcy and takeover attempts.

The total number of Louisiana exploration and production units was counted for each integrated oil company listed in the annual USA Oil Industry Directory as maintaining administrative offices in the state (Pennwell Staff 1978a-1990a; see Appendix 3.1 for list of companies and description of variables). The total number of exploration and production offices in Louisiana increased from sixty-three to seventy-three after the big offshore lease sale of 1983, and then dropped to fifty-six in 1985 and forty-six in 1986 (See Table 3.7).

Chevron has increased its presence offshore through steady purchase of leases, the purchase of Gulf Oil, and the purchase of offshore interests that belonged to Tenneco. The net effect of Chevron's strategy on the Louisiana economy is indicated by the disappearance of twelve E&P offices formerly operated by Gulf and Tenneco, and the addition of only four offices to Chevron's Louisiana operation (See Table 3.8). Exxon reduced its U.S. exploration and

Table 3.7. Louisiana exploration and production offices of integrated oil companies, 1978-1989 (N=28).

<u>Year</u>	<u>E&amp;P Offices</u>				
	<u>(1) Regions</u>	<u>(2) Divisions</u>	<u>(3) Districts</u>	<u>(4) Areas</u>	<u>(5) Total</u>
1978	6	20	29	21	76
1979	4	21	30	24	79
1980	5	21	27	15	68
1981	5	18	25	17	65
1982	6	18	27	13	64
1983	5	20	27	11	63
1984	6	22	31	14	73
1985	6	16	28	6	56
1986	5	15	24	2	46
1987	5	13	20	2	40
1988	5	14	16	3	38
1989	5	14	17	3	39

Source: Pennwell Staff 1978a-1990a.

Table 3.8. Louisiana exploration and production offices of selected integrated companies, 1978-1989.

<u>Year</u>	<u>E&amp;P Offices of Selected Companies</u>				
	<u>Chevron</u>	<u>Gulf</u>	<u>Tenneco</u>	<u>Exxon</u>	<u>Amoco</u>
1978	7	6	6	7	3
1979	7	8	8	7	3
1980	7	8	8	7	3
1981	7	8	8	7	3
1982	5	7	7	7	5
1983	5	6	6	7	5
1984	4	6	6	7	5
1985	4	6	6	7	6
1986	8	0	0	3	5
1987	7	0	0	3	3
1988	8	0	0	3	1
1989	8	0	0	3	1

Source: Pennwell Staff 1978a-1990a.

production operation from seventeen district offices to five in 1986, and their total exploration budget has fallen by thirty-one percent since 1985 (Welles 1990). Exxon spent an average of \$228 million per year on Louisiana-OCS leases from 1978 to 1984, and only an average of \$21 million per year since 1985 (U.S. Dept. of the Interior, MMS 1978-1989). These changes were reflected in a reduction in 1986 from a total of seven to three Louisiana E&P offices (See Table 3.8).

Elimination of Louisiana exploration and production offices pre-dates the 1985 oil price cuts, but the price collapse certainly accelerated industry restructuring and the shrinkage of integrated oil company presence in the state. An examination of disaggregated exploration and production office totals (see Table 3.7, panels 1-4) suggests that centralization rather than withdrawal was the dominant company strategy regarding Louisiana operations. For example, Mobil eliminated all E&P area offices in Louisiana but still maintains a large division headquarters in New Orleans. No Louisiana E&P regional offices were closed in 1985. The decline in total E&P offices came from the net elimination of six E&P divisions, three E&P districts, and eight E&P areas.

Cost cutting and both financial and organizational restructuring are the rule among integrated oil companies. These companies cut spending by an average of twenty-five percent in 1986 and all the major companies were reorganized (Economist Staff 1986). Based on interviews with fifteen division level oil executives in the New Orleans area, it is clear that many companies reduced or eliminated district exploration and production activities, and that some companies (e.g., Amoco) moved division offices from New Orleans to Houston (See Table 3.8). Charles Blackburn, Chief Executive Officer of Maxus Energy, defended the relocation of all exploration geologists from regional offices back to the Dallas headquarters by saying, "that way they won't waste a lot of money trying to promote exploration in their regions" (Nulty 1989, p. 102).

Major oil company restructuring has reduced the number of management layers and brought tighter headquarters budget control. Responsibility for profit has been pushed down to local units, many of which have been reorganized into stand alone divisions, and even work teams whose budgets depend on short-term profits. Exxon, Texaco, BP, and Chevron have all created separate profit centers throughout the organization. A Shell Offshore exploration division executive explicitly described new budgeting procedures:

There is definitely more head office control over how you spend your budget. We plan more, have more meetings, and work more closely with production to establish budget requests and then have more review of plans and budgets on up the line. Accountability has increased and people are pushing the pedal pretty hard.

The techniques of Edward Deming, the celebrated guru of the Japanese industrial miracle, are also at work here. Deming stresses strict price and quality control throughout the organization, but he also argues for improved service, increased employee responsibility, and more access to information for all personnel. Exxon used Deming's methods to reorganize

their U.S. exploration and production operation. The main goal was to increase efficiency through creation of multi-functional profit centers that provide more responsibility and accountability up and down the line (interview data).

Remote monitoring and control technology for offshore production platforms has made possible reductions of offshore maintenance and production staff (Littleton 1990). Texaco created a system with five central manned control platforms offshore, which allowed the elimination of personnel from six offshore platforms (Carriger interview 1990). Texaco and Arco also have remote monitoring systems in place to control offshore gas flow from onshore division offices. The new technology allows Texaco to quickly place natural gas production in appropriate markets and avoid regulatory penalties assessed for over-production of gas. Company representatives also claim that fewer personnel offshore improves safety by reducing the likelihood of lost person-hours due to accident. Since nearly two-thirds of all offshore production expenditures are related to contract and company labor, savings of nearly \$100,000 per year per employee in salary, benefits, transportation, and lodging are certainly another reason for using automation technology to reorganize offshore production (Centaur Associates 1986, pp. 4-28, 29; Littleton 1990, p. 28).

Repositioning as Financial Control of Oil Companies. Recent work on mergers and corporate control (Fligstein 1990; Fligstein and Markowitz 1990) disagrees with the conclusions of finance economists like Fama (1980) and Jensen (1986) who argue that mergers reflect an efficient market for corporate control that forces companies to deploy resources efficiently. Fligstein argues instead that the decline of a manufacturing conception and the growth of a finance conception of corporate control, and lax anti-trust enforcement, form the basis for a better explanation of the recent wave of oil industry mergers and corporate restructurings. The financially conceived firm exists simply as a collection of assets, run by finance personnel who develop and implement strategy based on short term profit potential (Fligstein 1990, p. 14). Finance control occurs through financial tools like stock price, debt, and return on equity. Fligstein argues that the U.S. corporate landscape has been reformed over the past three decades by the rise of the finance conception as large firms have diversified into unrelated industries where profits seem larger and disinvest when profits stagnate.

The search for financial stability and profit in the oil industry is certainly connected to increased financial control but we have not tested whether that control originates from bond and shareholders or from finance trained managers. Excess spending of integrated and independent oil companies in the late 1970's and early 1980's, and failed efforts by companies and the U.S. government to regain industry dominance, undergird the decline of the oil industry in the Central Gulf region. The 1985 oil price collapse and the speculative trading of oil companies in the deregulated environment of the 1980's brought intense pressure to bear on the entire oil industry. This meant the elimination of investment (e.g., leasing, drilling, E&P offices) that produced returns but, in light of heavy debts, made the company balance sheet (ratio of profit to fixed assets) look weak (See Figure 3.3). A most graphic depiction of this trend is represented in Figure 3.3 where aggregate long-term debt is graphed alongside the total number of Louisiana E&P offices maintained by integrated oil

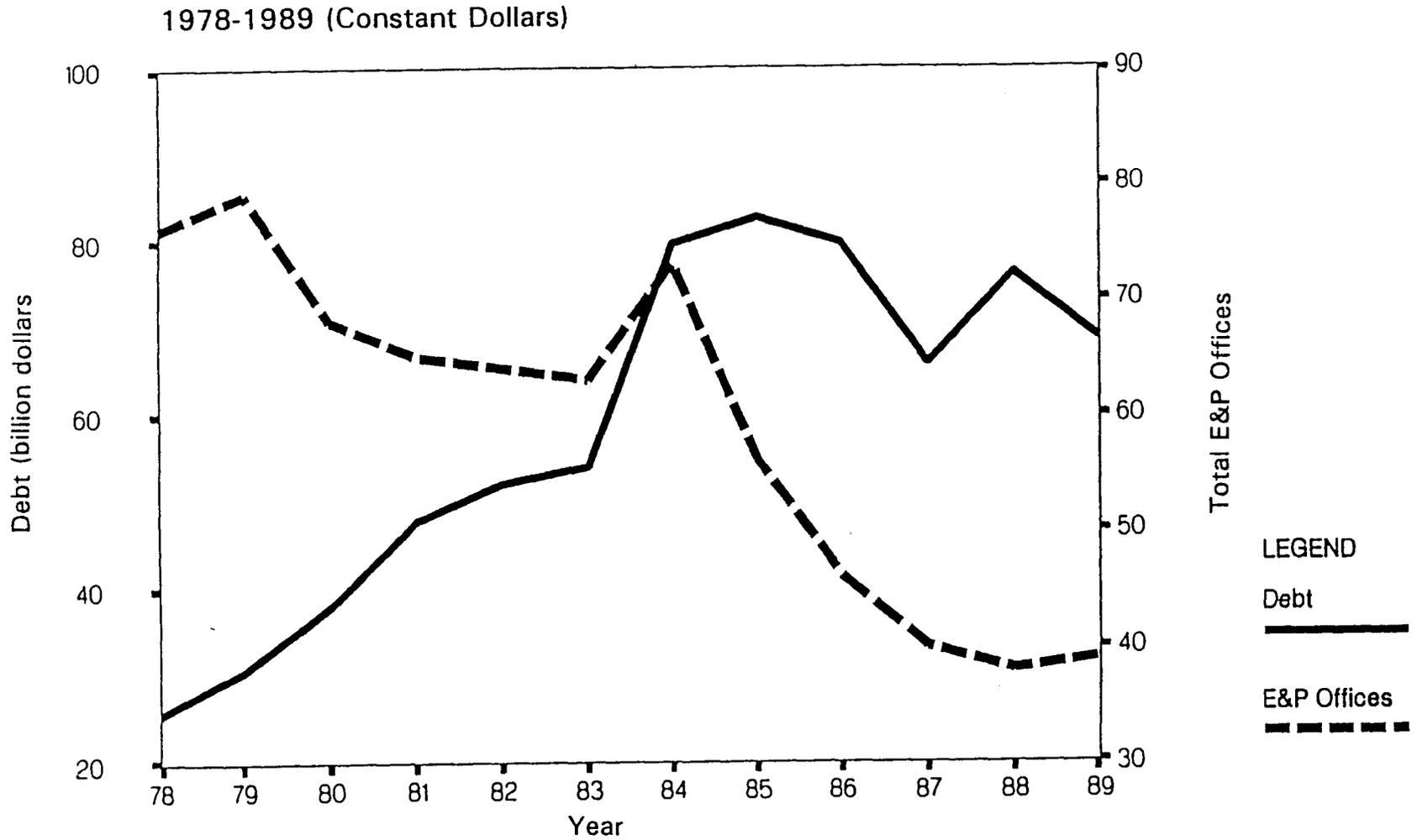


Figure 3.3: Long-Term Debt and Total Louisiana Exploration and Production Offices of 28 Integrated Oil Companies

companies (N=28). Rapid increases in debt are highly negatively correlated (pearsons  $r = -.76$ ) with declines in total E&P administrative offices in the state. Company investment decisions in the Louisiana OCS were clearly affected by the redirection of money to mergers, asset and stock repurchase, and the loss of government protection of this high cost oil producing region. These data clearly support the argument that industry restructuring exacerbated the "boom" and "bust" cycle in offshore oil beyond fluctuations connected to the 1985 price decline. Industry restructuring may also trigger a long-term crisis for Louisiana social and economic institutions.

A significant number of recent mergers involved conglomerates that had expanded through mergers into the oil industry. Most of these purchases involved oil companies with undervalued stocks compared to assets (oil reserves, refineries, pipelines, gas stations). Examples include USX's (formerly U.S. Steel) purchase of Marathon Oil (1981) and Texas Oil and Gas (1983), DuPont's purchase of Conoco in 1981, and Burlington Railroad's purchase of El Paso Gas in 1983. The subsequent break up and sale of Texas Oil and Gas in 1989 was designed to raise cash to repurchase stock and pay down previous debts (Miles 1989). USX was concerned that Carl Icahn's eleven percent holding of its stock was evidence of a potential takeover and breakup of USX. Divestment of the remainder of USX's steel interests is also expected. R.J. Reynolds's sale of Aminoil to Phillips Petroleum in 1984, eight years after R.J. Reynolds purchased Aminoil, is another example of financial control strategies of conglomerates that speculate in companies instead of operate them (Fligstein 1990).

Another important trend in financial management of offshore oil development is the Royalty and Investment Trust, pioneered by T. Boone Pickens's Mesa Royalty Trust. In the royalty trust, each stockholder has direct ownership interest in oil and gas producing properties. This structure eliminates overhead and taxes, and links stock prices directly to oil reserves (Crawford and Grimes, p. 91). Prudential-Bache Energy Income Limited Partnerships first appeared in the top 400 oil companies (by assets) in 1986. By 1987, twenty-nine of these partnerships were ranked in the top 400 (Pennwell 1986b; 1987b). Paine-Webber and New York Life Insurance Company are also prominent players in this new field. These trusts raise money for investment offshore but they do not maintain an extensive local presence or large exploration and production operation. They usually contract with oil drilling and service companies to drill and produce oil and gas, and move quickly to acquire and sell reserves as market conditions change. The social and economic efficiency of these investment trusts remains to be established.

Application of the financial control argument to the oil industry requires specification to account for the recent divestiture by Exxon of its Reliance Electric and Vydec office supply subsidiaries. Oil companies were mostly unsuccessful with diversification outside the broadly defined energy field, and the recent pattern is to divest these "experiments." Oil

company divestiture of product unrelated companies is more consistent with Jensen's (1986) argument that, in declining industries, mergers within the industry create value while mergers outside the industry are more likely to be low or negative return strategies.

Reintegration in World Oil. OPEC unity temporarily created a horizontally integrated cartel that regulated oil production and world oil prices. The subsequent breakdown of industry governance by either multinational oil companies, the U.S. government, or OPEC does not preclude construction of a new world oil order. The U.S. oil industry is still undergoing consolidation. One major multinational oil company (Gulf) has been eliminated, and the number of independents was greatly reduced. Oil exporting Statcos are now divided into non-integrated producers and integrated multinationals. Alliances and accommodations among the high reserve Statcos and remaining multinational oil companies, backed up by the power of the U.S. military, could restore the kind of stability preferred by investors and industrial governments.

Kuwait and Venezuela were the first producer Statcos to enter downstream refining and marketing. Petroleos of Venezuela has an overseas refining network capable of refining 600,000 barrels per day (b/d), and agreed in 1988 to pay UNOCAL \$500 million for partial ownership interest in refineries and access to 3,800 market outlets in the Midwestern states (Economist Staff 1988a). KPI, a subsidiary of the Kuwaiti national oil company, owns 4,400 European gas stations (Q8) and two refineries with 950,000 b/d capacity (Economist Staff 1989a). Kuwait recently entered into a joint venture with the governments of Thailand and Australia to sell them oil in exchange for access to downstream refining and marketing opportunities. The Kuwaiti integration strategy allowed them to sell more oil outside OPEC jurisdiction, which meant they exceeded their production quota by twenty-five percent in 1987 and basically ignored their quota in 1989 (Economist Staff 1988b; Economist Staff 1989a). Kuwait's Asian exploration and production program grants them access to additional production outside OPEC control. The Kuwaiti's strategy is reminiscent of producer independents like Texaco and Gulf in the 1920's when they invested profits in refining assets and downstream markets to round out their strong producing positions (See Chapter 2).

Perhaps the most interesting case of producer Statco integration is the 1988 joint venture between the Saudi Arabian national oil company and Texaco. The Saudi's paid \$800 million cash plus thirty million barrels of oil for one-half of Texaco's Eastern and Gulf regional refining, distribution, and marketing facilities (including a refinery in Convent, Louisiana) (Oil and Gas Journal Staff 1988; Moody's Manual Staff 1989, p. 6296). The new entity (Star Enterprise) is guaranteed access to Saudi crude oil at prevailing market prices while the Saudi's gained market outlets and market share, and balanced their income from upstream and downstream activities. The deal gives oil exporting Statcos ownership of about one million b/d, or 6.5 percent of total U.S. refinery capacity, and the opportunity to join the exclusive club of integrated multinational oil companies that can earn profits whether oil prices are high or low (Oil and Gas Journal Staff 1988).

**Realignment.** Future growth in world oil production will be concentrated outside the United States. Current exploration is most extensive in Asia, which is also expected to provide the largest increases in oil demand. Statcos and governments in Indonesia, Malaysia, China, and Thailand have recently put out a welcome mat to foreign oil companies as a way to increase foreign exchange earnings, improve industrial capacity, and pay down foreign debts. Regardless of non-OPEC exploration efforts, the majority of future increases in world oil production and reserves will be located in the Middle East. OPEC produced at far less than capacity from 1980 to 1988, and that pent up capacity is supplemented by low replacement costs for crude produced. The Saudi's produce oil at one-fourth the cost of production in the Louisiana OCS region, and their reserves are central to thinking about world oil governance. Continued protection of the domestic oil industry is no longer feasible, but the leaner industry created since 1985 could still prosper.

Oil and gas exploration and development offshore has rebounded somewhat since 1986 and controlled efforts by American companies to reduce dependence on foreign imports will continue. The existing infrastructure and more than three billion barrels of estimated recoverable reserves that remain in the Gulf of Mexico guarantee continued activity. Natural gas exploration and production is promising, as evidenced by the addition of two gas companies, Union Texas Gas and CNG, to the top fifteen offshore lease buyers since 1987 (See Table 3.6).

Efforts to increase production and use of natural gas depend on the resolution of price and regulatory issues, and hastening the shift to cleaner burning energy sources. Environmental movements will play a large role in this process, as well as in the realignment of domestic political forces necessary to build new oil governance mechanisms. New industry governance arrangements could include a mechanism to stimulate demand for natural gas. Natural gas constitutes about two-thirds of the barrel equivalent of hydrocarbons found in the Central Gulf region. Higher demand would solve the problem of over-supply that has hindered drilling and production of gas. An energy policy trade-off of nuclear energy for natural gas has potential to positively stimulate offshore activity.

Overwhelming evidence suggests that the federal government had to subsidize insurance payments and research into domestic uses for nuclear power, and ultimately threatened to start a publicly owned nuclear industry before private investors built the first nuclear plants (Etzkowitz 1984; Clarke 1985; Campbell 1988). The subsequent collapse of the nuclear industry after the disaster at Three Mile Island led to proposals for one-step plant licensing and federal stimulation of credit to revive nuclear plant construction (Congressional Record Staff 1991, pp. 1540-1542). An alternative policy of government intervention to stimulate natural gas demand has precedent in the prorationing of oil production between 1934 and 1973, and in the formidable government intervention required to create a domestic nuclear industry in the 1950's. The downside of this idea is that regulatory protection of the domestic natural gas industry may subject it to the same external shocks that beset the protected domestic oil industry and exacerbated the effects of industry "boom and bust" cycles in Louisiana.

Successful environmental opposition to leasing and offshore drilling in the Santa Barbara Channel, off the Central Florida Coast, and in the Alaska National Wildlife Refuge has temporarily dampened support for drilling in these areas. The depth of the conflict over offshore development in California was revealed when local opposition forced Chevron to temporarily freeze a \$2.5 billion investment in a 1979 offshore lease in Santa Barbara (Wrubel 1990, p. 52). The Energy Security Act of 1992 contained Congressional and Bush administration initiatives to remove the moratorium on offshore drilling (U.S. Congress, Senate 1992). Opposition to offshore drilling on the West Coast and in the Alaska Wildlife Refuge forced President Bush to remove the provision and continue support for the offshore drilling moratorium. Early versions of the bill also contained provisions that would have returned to the states thirty-seven percent of royalties collected from oil discovered after 1991 (U.S. Congress, Senate 1992). This measure was removed from later versions of the Bill. The measure would have provided a form of reparations to compensate coastal states for the depletion of oil and gas resources and provided a fund to offset hardship caused by the rapid decline of local oil-related investment. Oil industry lobbyists in Congress continue to battle an array of environmental activists and their Congressional supporters over this bill.

Future expansion will continue of foreign or joint ownership of domestic refining and marketing properties, and increases in long-term contracting between Statcos and countries seeking oil supplies and markets. Exploration, development, service, and construction contracts between major integrated oil companies and producer Statcos is another basis of industry cooperation and governance. Major U.S. multinational oil and construction companies have always supplied technology and expertise to Saudi Arabia, and a proposed \$45 billion Saudi expansion program will be run by U.S. companies (Egan 1990). Some Louisiana based companies will share the benefits. The rebuilding of the Kuwaiti and Iraqi oil industry infrastructures after the recent Gulf War present additional contracting possibilities for U.S. multinational oil companies. Efforts to control competition for reserves and markets between major multinational oil companies and rich producer country Statcos, and the use of existing oil reserves by these Statcos, may form the basis of future governance arrangements.

Political and cultural forces unleashed by these scenarios are of course critical. The British government's order for the Kuwaiti national oil company to sell half of its twenty-two percent share of BP in 1987 established limits on foreign ownership of critical corporate entities in advanced industrial nations. It is assumed that U.S. anti-trust action would draw a similar line regarding foreign ownership of U.S. companies if, for example, the Saudi Arabian national oil company actually tried to buy Texaco. A major problem with any oil industry governance structure is that non-integrated Statcos with large oil reserves and large populations (e.g., Iraq and Iran) would likely occupy subordinate positions. U.S. military power looms as an important weapon to govern world oil. This is consistent with Ikenberry's (1988) argument that domestically weak states in powerful countries like the U.S. often have more leverage in foreign policy than they have at home. Iraq's invasion of Kuwait, and the subsequent war against Iraq by a U.S. led international coalition, can be analyzed within this framework. The complete analysis is the task of another report.

## SUMMARY AND CONCLUSION

The rapid decline of Louisiana OCS drilling and production in 1986 represented the disruption of stable energy markets and fluctuation between price setting by cartel and speculative market determination of oil prices. A financial conception surely predominates in many oil firms, regardless of whether the impetus is bond and shareholder demands, or the strategies of prominent finance personnel. Curbs on speculation in corporate assets through increased anti-trust enforcement, along with redirecting a percentage of future federal offshore royalty payments to coastal states, would help mitigate this precarious financial situation, and would certainly benefit the areas impacted most by the oil industry.

Recent changes in the oil industry reflect the instability of cartels and private regulatory arrangements, and the inability of nation-states to regulate world energy markets. The 1985 oil price decline was exacerbated by backward looking domestic energy policies. These policies hastened the restructuring of an overcapitalized domestic oil industry, and slowed the development of alternative energy sources and a deeper conservation ethic among the American people.

**ENDNOTE**

1. Factor analysis is a statistical technique used to isolate a number of factors that represent relationships among a set of related variables. Observed correlations between variables result from their sharing these underlying factors (Norusis 1985; pp. 125-126). The constant dollar totals spent on Central Gulf leases each year from 1978 to 1989 by thirty-eight companies were intercorrelated to create a matrix that was input for the factor analysis. Missing data were handled by pairwise deletion. The factors reported in this analysis were inferred from the observed correlations. The factor pattern coefficients (or factor loadings) suggest which years bind together into factors. The factor score is essentially a standardized product of factor pattern coefficients times raw scores (lease totals). The factor scores indicate what a company's proper score is within the factor (year).

### APPENDIX 3.1

The empirical analysis of oil industry restructuring is based on data collected on thirty-eight oil companies that operate in Louisiana. Companies included in the analysis are listed below:

Company	Top 20 Companies	Integrated in Louisiana
Amerada Hess	X	X
American Petrofina		X
Aminoil, USA	X	X
Amoco (formerly Standard of Indiana)	X	X
Ashland Oil	X	X
Atlantic Richfield (Arco)	X	X
British Petroleum (BP)	X	
Consolidated Natural Gas (CNG)		
Champlin Petroleum		
Chevron	X	X
Cities Service	X	X
Conoco (Continental Oil Company)	X	X
Crown Central Petroleum		X
Diamond Shamrock		X
Exxon	X	X
FMP Operating Company		
Getty Oil	X	X
Gulf Oil	X	X
Hunt Oil		
Kerr-McGee		X
Koch Exploration		X
Marathon Oil		X
Mobil Oil	X	X
Murphy Oil		X
Occidental Petroleum (OXY)	X	
Pennzoil		X
Placid Oil		
Pogo Producing		
Shell Oil, USA	X	X
Standard Oil of Ohio (Sohio)	X	X
Sonat Exploration		
Sun Oil	X	
Tenneco		X
Texaco	X	X
Union Oil (UNOCAL)	X	X
Union Texas Petroleum		X
Wilshire Oil of Texas		X
Phillips Petroleum	X	X

Variables. Data on Central Gulf Leases were collected from the "Outer Continental Shelf Statistical Summary" issued each year by MMS. The summary provides a recap of bids for each OCS sale. All accepted bids for Central Gulf of Mexico lease sales were coded for each of the thirty-eight companies. If a company was merged, no data were collected for that company after the year of the merger. When multiple companies successfully bid on single leases, the fraction of the lease owned by each company was multiplied by the total accepted bid to arrive at a figure for each company. Company totals were aggregated by year and then the totals for each of the 38 companies were aggregated for each year from 1978 to 1989. Coding was checked and errors corrected after comparison of data from the "OCS Statistical Summary" with a master list of bonus and acreage by original lessee for the years 1978 to 1989 that was obtained from the New Orleans regional office of MMS. Totals for each year were multiplied by the Consumer Price Index for all major expenditure items (1982-1984=100) so a constant dollar total could be used in the analysis (U.S. Dept. of Commerce 1990, p. 359). Data on long-term debt and world oil prices were also converted into constant dollars.

Data on long-term debt of the same thirty-eight oil companies that operated in Louisiana were collected from Moody's Encyclopedia and Moody's Manual for the years 1978-1989. Incomplete or missing data were reported for several privately held companies, including Koch Exploration, Champlin Petroleum, Placid Oil, and Hunt Oil.

Data on exploration and production offices were coded from the annual directory of integrated oil companies published in The USA Oil Industry Directory (Pennwell Staff 1978a-1990a). E&P regions and divisions were easily distinguishable, but to be included in either category, an officer of at least the rank of vice-president must be assigned to the office. The distinction between district and area offices is less consistent than the others but most companies clearly delineated these categories. The sum of the four types of E&P office (region, division, district, area) forms a summary variable (EPTOT). The summary variable suffers from aggregation bias in that non-equivalent units were combined. Findings should be interpreted accordingly.

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## CHAPTER 4

### DEVELOPMENT AND SOCIAL PROBLEMS: THE IMPACT OF INVOLVEMENT IN THE OFFSHORE OIL INDUSTRY ON SUICIDE AND HOMICIDE RATES

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The impact of development on communities is of major interest to social scientists in several fields--including sociology (especially criminology, social problems, and education), political science, planning and economics. Researchers in these disciplines have focused on Western United States communities. These studies have found that the communities involved in energy development experience changes in crime, mental health and community satisfaction, ability to provide basic services, employment and wages, and education attained by residents. Offshore oil extraction, while a subcategory of this phenomenon, has a few characteristics that might alter the effects of energy development on local communities involved in the activity. As occurs with other energy development, offshore oil extraction is cyclical, new local jobs are created and people do migrate in response to the creation of these jobs. However, although new jobs are created, not all of these employment opportunities may be located near the source of the oil and many such jobs may not be filled by local individuals. Construction of rigs does not occur on-site and work schedules on oil rigs allow workers to commute from long distances.

There are two reasons to study the impact of offshore oil extraction on communities, practical issues and theoretical issues. Due to pressure to discover and use additional sources of offshore oil and gas, more communities may experience the effects of new energy development. Thus, it is important to ascertain what these impacts might be so appropriate mitigation policies can be implemented. Of great theoretical interest is the effect of resource extraction activities on community social problems. Development of offshore oil extraction presents an opportunity to test traditional sociological theories which suggest that rapid industrial growth and immigration lead to disorganization in the community's social structure and local networks and thus increase social problems. The purpose of this study is to examine the effect of oil industry involvement on social problems. Three questions are asked. First, are social problems affected by changes in oil industry activity? Second, does the impact of changes in industry activity differ by the degree to which a community is involved in the industry? Third, what are the long-term effects of the oil industry on the social problems of the community?

## EVIDENCE OF A GREATER DEGREE OF SOCIAL PROBLEMS IN RESOURCE EXTRACTION COMMUNITIES<sup>1</sup>

There is relatively little known about the social impact of offshore oil and gas extraction, especially in the Gulf of Mexico, which is the principle location of known American petroleum reserves (notable exceptions include Brabant 1984; Gramling 1984a, b, c, and d; Gramling and Brabant 1986; Gramling and Freudenburg 1990). There is consensus about some social problems, but the literature concerning others is contradictory.

Consensus. The evidence consistently shows that immigrants, adolescents, and women are negatively affected by boomtown characteristics. Freudenburg (1981) demonstrates that newcomers in boomtowns are significantly less happy and less satisfied than are newcomers in nonboom communities. Finsterbusch (1982) finds that newcomers experience more stress and dissatisfaction and are more likely to use mental health services than are long-time residents, but the intensity of problems is affected by the characteristics of the community (its stability, homogeneity, level of industrialization, folkishness and degree of integration) and of the immigrants (age, marital status, living with or apart from family). Massey (1980) points out that white collar newcomers are accepted by the community while blue collar immigrants are not.

Booms may be especially problematic for adolescents and women. Despite the new job opportunities, adolescents in boom communities have more negative attitudes toward the community than do adolescents in nonboom communities (Finsterbusch 1982; Freudenburg 1984) and women have a hard time coping with the negative aspects of boomtowns, especially the isolation (Moen 1981).

Contradictions. There are many social problems discussed in the literature on boomtowns and energy development, but the two most commonly examined are crime and mental health. Some studies suggest a positive relationship between crime and resource extraction activities (Brookshire and D'Arge 1980; Dixon 1978; Finsterbusch 1982; Gramling and Brabant 1986) and that increases in crime are greater than population growth (Freudenburg and Jones 1987; Lantz and McKeown 1977). Evidence has also been found that long-time residents in boomtowns have a greater fear of crime (Freudenburg et al. 1977). On the other hand, one study demonstrates that the increases in crime are related to factors other than resource development activities (Wilkinson et al. 1984), namely long-standing structural problems, and another shows that the rise in total crime in boomtowns is similar to that of nonboom communities of similar size and per capita income (Brookshire and D'Arge 1980).

Decreased well-being, psychological distress, and social disruption are other potential problems of development boomtowns. England and Albrecht (1984) find that residents of boomtowns perceive the town as less friendly, less supportive, and as having poorer family environments and community spirit, but Finsterbusch (1982) shows that long-time residents of boomtowns appear as satisfied as long-time residents of nonboom towns. Mirowsky and Ross (1986) suggest an association between psychological distress and the boom/bust cycle

because residents of boomtowns would feel externally controlled, alienated and powerless, but Freudenburg (1978) reports that, although booms disrupt social patterns in a manner that residents perceive negatively, people adapt without a loss of well-being. Further, Freudenburg (1981) shows that there is no significant difference in satisfaction and happiness between residents of boom and nonboom communities. However, Dixon (1978) finds that an increase in new clients at a local mental health clinic in a boom community was not solely due to newcomers.

## METHODOLOGICAL DEFICIENCIES IN THE LITERATURE

Previous studies of the impact of energy development on social problems in involved communities have been inadequate and have reported contradictory results partly due to methodological problems. These include: 1) questionable reliability and validity of social change measurement, 2) inadequate attribution of the source of social change, 3) inattention to clarifying social change dynamics and 4) limited generalizability of social change dynamics.

Reliability and Validity of Social Change Measurement. The varying results discussed previously are partly due to the methods used to analyze change. In many studies of resource extraction boomtowns, researchers choose two points in time and calculate for these two dates the percentage changes in levels of the variables measuring impacts (e.g., Brookshire and D'Arge 1980; Lantz and McKeown 1977; Wilkinson et al. 1982 critique this technique). This approach yields unstable results for two reasons. First, there may be great yearly fluctuations in the level of the variables analyzed. Second, percentage changes are unstable. If the value in the initial year is extremely small, then the percentage change will be very large, even if the absolute change is small.

When only two points in time are used to measure change, the years selected may exacerbate the annual instability. Operationalization of the boom and bust periods can vary considerably due to differences in how they are defined as well as the availability of data. For example, Brookshire and D'Arge (1980) compare crime in 1970 with that in 1972 to discuss the changes in crime in Western boomtowns. However, much of the energy development occurred after 1972. Further, decennial census data do not necessarily coincide chronologically with the involvement or withdrawal of involvement (e.g., Brabant 1984; Gramling 1984b, c, and d; Manuel 1984a and b). Both problems -- the reliability and validity of social change analysis -- can be overcome by more frequent measurement of impact.

Attribution of the Source of and Clarification of Social Change. The practice in the boomtown literature of examining only those communities experiencing rapid development and excluding those communities with little or no rapid growth leads to two problems. First, inadequate attribution of the source of social change is due to the fact that very few studies include communities with no involvement in the developing industries as controls to determine if the changes observed in the involved communities and their surrounding areas

are due to resource extraction activities or are due to national, regional, or state changes (exceptions include Brookshire and D'Arge 1980; Finsterbusch 1982; Freudenburg 1981, 1984). Even fewer empirically examine the effect of changes in the level of development activity on the impact variables (an exception is Gramling and Freudenburg 1990). Second, inadequate clarification of social change dynamics comes from the failure to compare impacts in communities that differ in their degree of involvement in development. The literature suggests that communities with the most intense development activities are more affected than are other communities (Brabant 1984; Gramling 1984b, c, and d; Manuel 1984a and b).

Generalizability of Social Change Dynamics. The limited generalizability of results and inconsistent findings may be due to the use of case studies because of idiosyncratic characteristics of the communities targeted. The problem is exacerbated by two customs in the boomtown literature: the inclination to examine only a few communities at a time and the propensity to study the same communities repeatedly. Most researchers do case studies of only a very few communities (e.g., Brookshire and D'Arge 1980; England and Albrecht 1984; Gramling 1984a; Gramling and Brabant 1986; Gramling and Freudenburg 1990; Murdock and Shriner 1978; Seyfrit et al. 1989; Summers and Clemente 1976), while few use multiple communities (e.g., Brabant 1984; Gramling 1984b, c, and d; Manuel 1984a and b; Wilkinson et al. 1984). Moreover, several researchers focus on the same communities -- for instance, Craig, Colorado (e.g., England and Albrecht 1984; Freudenburg 1978, 1981; Freudenburg et al. 1977, 1982; Lantz and McKeown 1977), Sweetwater County, Wyoming (e.g., Gilmore and Duff 1975; Murdock and Shriner 1978) and Paige, Arizona (e.g., Brookshire and D'Arge 1980; Little 1977).

According to the boomtown literature, increases in energy development activities lead to rapid growth and immigration which affects social problems in involved communities. Theories about the effects of rapid industrial growth and economic factors on social problems, such as social disorganization and economic inequality theories, are useful in understanding the process by which changes in oil industry activity may affect social problems. Social disorganization theory is commonly used in the boomtown literature and is especially appropriate for examining changes in social problems since the major factors in boom communities -- rapid growth of industries and immigration -- are causal variables leading to disorganization and social problems in this theory. Economic inequality theory is relevant since it suggests that structural inequalities, particularly a skewed income distribution, contribute to social problems. Some research on boomtowns demonstrates that increased economic inequality occurs since not all residents benefit from the increased industrial activity (Little and Lovejoy 1979; Molotch 1976; Seyfrit 1986; Summers and Clemente 1976).

## THEORIES OF THE EFFECTS OF RAPID INDUSTRIAL GROWTH

Two main theories in the boomtown literature focus on the relationship between economics and crime: 1) social disorganization and 2) economic inequality. Social disorganization refers to breakdowns in the ability of a community to control the behavior of its members through formal and informal social control (Bursik 1988). Economic inequality means that some people have more material goods and greater income and wealth.

According to social disorganization theory, rapid industrialization and its related processes of rapid urbanization and mobility combine to reduce primary group controls on individuals. The theory proposes that massive immigration, which accompanies rapid industrialization, increases population density, which elevates nervousness and suspicion and generates anonymity and competition for resources (Krahn et al. 1986; Tönnies [1887] 1983). Increases in structural density, the number of households sharing spaces such as hallways and stairwells, reduces knowledge and concern for neighbors, guardianship of property, surveillance, contributes to poorer social relationships and poorer child care, increases individuals' independence, and impedes informal social control (Galle et al. 1972; Gove et al. 1979; Sampson 1983; Sampson 1985; Simmel [1903] 1971; Tönnies [1887] 1983; Wirth 1938).

Social relationships become more impersonal, superficial and transitory and this reduction in interpersonal controls is related to an increase in crime (Bailey 1984; Krahn et al. 1986; Sampson and Groves 1989). According to Freudenburg and Jones (1987), however, rapid population growth increases crime only if it reduces density of acquaintanceship -- the proportion of people in a community who are acquainted with each other. When density of acquaintanceship is high, people recognize each other, are able to report perpetrators' names to the police, and know who should and should not be in a particular house.

Also, rapid industrialization, urbanization and mobility reduce homogeneity in a population. Increased heterogeneity disrupts the continuity of cultural traditions and informal support systems, which generates culture conflict and crime (Albrecht 1982; Bursik 1988; Shaw and McKay 1942; Wirth 1938). Krahn et al. (1986) argue that decreased cultural homogeneity is related to increases in crime partly because the dominant culture proscribes behaviors valued by minority culture members and partly due to the frustration of lower status people who perceive that their opportunities to advance are blocked by people different from themselves. Thus, according to the above theory, it is expected that, when the oil industry is highly active or the degree of activity is changing quickly, communities more involved in the industry will have greater social disorganization and more social problems, such as higher suicide and homicide rates.

There is some debate concerning how well social disorganization theory fits boomtowns. Albrecht (1982) points out that disruption of social ties is not permanent; it occurs primarily during rapid industrial growth. Moreover, Wilkinson et al. (1982) hold that the portrayal of Western rural towns as stable communities having informal ties among people based on

common tradition and symbiotic interdependency is not accurate. They cite studies suggesting that these towns experienced recurring conflicts and cycles of in- and outmigration and that the ties among people were not close due to the strong individualism among the residents.

Further, some authors argue that the boomtown model may not fit Louisiana communities involved with oil (Gramling and Brabant 1986). Classic boomtowns experience very rapid growth and change, and they are geographically isolated, which reduces commuting and requires workers to move into the area (Albrecht 1982). Furthermore, classic boomtown populations were larger around 1910 and 1920 than they were in 1970 (Albrecht 1982). These characteristics may not fit Louisiana communities since the structure of offshore work allows long distance commuting (Forsyth and Gauthier 1991; Gramling 1989; Gramling and Brabant 1986) and the population growth occurred over several decades (Gramling and Brabant 1986; Gramling 1984a). On the other hand, Brabant (chapter 7) suggests that the Louisiana communities had some of the characteristics of boomtowns, including rapid population growth and a sudden, unexpected bust.

Criminologists have also argued that violent crime is associated with economic characteristics of communities. Absolute economic deprivation and relative economic deprivation are two theories that are often used to explain this relationship, the latter explanation being more common. According to relative deprivation theory, economic inequality means that some people are economically deprived relative to others and that these deprived people may perceive that they are deprived and their deprivation may be viewed as unjust (Davis 1959). This perception may generate hostility and stimulate aggression toward other people, which results in violent crime (Bailey 1984; Coser 1963; Messner and Tardiff 1986). Economic inequality is especially likely to encourage crime when combined with universal material success goals and an egalitarian culture (Messner 1983; Stack 1984). However, the frustration and anger caused by the perception of deprivation may lead to reactions other than crime, such as drug and alcohol abuse, rebellion or political crime, or attempts to use acceptable means to seek societal change (Stack 1984). Also, the aggression can be directed inward (Bailey 1984; Coser 1963) and may result in suicide (Henry and Short 1954).

The evidence indicates that economic conditions, especially economic inequality and absolute deprivation, are related to crime. Braithwaite (1979, p. 211), in a comprehensive review, concludes that there is "...fairly uniform support for a positive association between inequality and crime..." especially if a global index of economic inequality is used instead of some absolute deprivation measure, such as the unemployment rate or the percentage below the poverty line. Various measures of income inequality in a population are significantly positively related to crimes against persons and homicides (Blau and Blau 1982; Braithwaite 1979; Braithwaite and Braithwaite 1980; Carroll and Jackson 1983; Hansmann and Quigley 1982; Krahn et al. 1986; Krohn 1976; McDonald 1976; Messner 1980, 1982; Peterson and Bailey 1988) and property crimes (Carroll and Jackson 1983; Jacobs 1981). However, in some studies, the GINI coefficient, a measure of income inequality, has been found to be unrelated to homicide and violent crimes (Bailey 1984; Messner 1983; Messner and Tardiff 1986; Patterson 1991) and property crimes (Patterson 1991; Stack 1984). Absolute economic

deprivation, the proportion of the population below the poverty level or some percentage of the poverty level, is significantly positively related to homicide and violent crimes (Bailey 1984; Messner 1983; Messner and Tardiff 1986; Patterson 1991).

Although overall economic characteristics of boomtowns suggest economic gains for the residents, not all citizens participate in the community's good fortune. Poverty increases during the boom as well as the bust (see chapter 7), the disparity in income rises during the boom (see chapter 7), people lacking the appropriate skills do not benefit from industry development (Little and Lovejoy 1979; Summers and Clemente 1976), and unemployment rates increase (Molotch 1976).

On consideration of the above theory, we propose the following scenario for communities involved with the oil industry. Increases in oil industry activity will add jobs, increase incomes of some citizens, and raise the cost of living, primarily in the more involved communities. Some residents in affected communities will not participate in the community's newfound wealth and will feel deprived. According to the theory, these deprived people will feel frustrated and angry, resulting in increased suicide and homicide rates.

H1: It is expected that during a time when the oil industry is more active, social problems like suicide and homicide will be higher, especially in communities more involved in the oil industry, as opposed to a time of low activity.

H2: It is anticipated that during a period when the amount of activity is quickly changing, social problems like suicide and homicide will be higher, especially in communities more involved in the oil industry, as opposed to a period of stable activity.

## DATA

The data came from various federal and state government sources. The dependent variables, suicide and homicide rates (Department of Health and Human Resources 1956-1987; U.S. Department of Health, Education, and Welfare 1959), were our indicators of social problems in the communities. The independent variables measured the level of activity of the oil industry and consisted of the price of oil (U.S. Bureau of the Census 1956-1990) and the number of developmental wells in the Gulf of Mexico (U.S. Department of the Interior 1990). The data for each variable were obtained annually from the mid 1950's to the mid 1980's.

The analyses were conducted separately for two groups of parishes. The parishes were divided into two groups based on their degree of involvement determined by the percentage of people in the parish employed in the oil industry and the percentage of the total income of

the parish residents derived from work in the oil industry. The dependent variables, independent variables, and two groups of parishes will now be explained in greater detail.

Operationalization of variables. The dependent variables were created separately for the two groups of parishes. Suicide and homicide rates were calculated by summing the number of suicides or homicides for each parish in the group, dividing by the population of the parishes, and multiplying by one hundred thousand. A suicide and homicide rate were created for each year.

The population data needed to create the homicide and suicide rates were obtained in two different ways. The data for 1969 through 1987 came from the U.S. Department of Commerce (1990). This agency did not have the data prior to 1969. Figures obtained from state sources either were not available from 1956 through 1968 or did not include migration and thus were quite disparate from the actual census figures for 1960 and 1970. To calculate estimates prior to 1969, linear interpolation was used to obtain initial values for the years between the census years 1950, 1960, and 1970. Then the parish estimates for all 64 parishes were summed and divided into the state population figures to create an adjustment factor. The adjustment factor was then multiplied to the linear interpolated estimate to obtain a population estimate.<sup>2</sup>

The two independent variables chosen as indicators of oil industry activity were average price per barrel in constant dollars and Louisiana Division Outer Continental Shelf (OCS) developmental wells in the Gulf of Mexico (actual number of wells). Price was selected because it may be the earliest variable in the causal chain leading from oil industry activity to social and economic impacts. The number of developmental wells was chosen because developmental drilling is a labor intensive stage in oil production. Thus, the number of oil industry jobs and the potential for serial problems increase as the number of developmental wells increase.

Degree of involvement was included in the analysis by using two groups of parishes, parishes highly involved in the oil industry and parishes minimally involved in the oil industry. All Louisiana parishes were assigned an oil-industry involvement score based on two criteria: 1) the percentage of people working in the parish who were employed in oil and gas extraction, manufacturing and wholesale trade in 1978, 1981 and 1984 (U.S. Bureau of the Census 1980, 1983b, 1986) and 2) the percentage of total income of the parish residents that came from wages and salaries from oil and gas activities in 1984, which was the only year the data were available (Centaur Associates 1986). By using these two measures it was possible for the involved parishes to be defined both in terms of place of employment impact and place of residence impact. The twelve parishes with the highest average rank were considered highly involved parishes and the eleven with the lowest average rank were defined as minimally involved parishes.<sup>3</sup>

Potential Control and Intermediate Variables. Many cross-sectional studies of the effect of economics on crime and homicide include population, population growth, population density,

the GINI coefficient, percentage of young people or young males, percentage unemployed, percentage of people living in poverty, percentage black, and the percentage of people divorced as control variables (Bailey 1984; Carroll and Jackson 1983; Devine et al. 1988; Hansmann and Quigley 1982; Krahn et al. 1986; Jacobs 1981; Messner 1982, 1983; Messner and Tardiff 1986; Spector 1975; Stack 1984). Percentage of young people or young males, percentage of people living in poverty, percentage black and the data needed to calculate the GINI coefficient were unavailable annually on the parish level. Divorce statistics in Louisiana were almost nonexistent and so incomplete that they could not be used in analyses and are not included in national registration systems of divorces, according to the Department of Health and Human Resources. Annual unemployment rates for each parish were available only for the 1980's<sup>4</sup> and population estimates prior to 1969 were unavailable or were calculated without accounting for migration.

Decennial census data were used to obtain information on intermediate variables. The following data were used: population, percent of vacant dwellings, percent of owner-occupied dwellings, median age, percent nonwhite, number nonwhite, number white, percent unemployed, median family income, median housing value, median rent, rent as a percentage of monthly income, and housing value as a percentage of annual income (U.S. Bureau of the Census 1952, 1953a, 1961, 1962, 1972, 1973, 1982a, 1983a). For variables that were medians, each parish's median value was multiplied by the population and these products were summed for each group of parishes and divided by the sum of the population for the parishes in the group. For variables that were percentages of the population, the proportion was multiplied by the population, the products were summed for the parishes in the group, then the sum was divided by the sum of the population for the parishes and multiplied by 100. For the two dwelling unit variables, the proportion of units was multiplied by the total number of units in each parish, these figures were summed for the group of parishes, the sums were divided by the sum of the units for the parishes and the result was multiplied by 100. Rent as a percentage of income was calculated by dividing the median family income for each group of parishes by 12 to obtain a monthly income figure and then dividing this figure into median rent and multiplying the result by 100. Housing value as a percentage of income was estimated by dividing median housing value by median family income and multiplying the figure by 100.

## METHODS AND RESULTS

Effects of the Oil Industry on Social Problems by Level and Rate of Change of Activity. The first analysis sought to determine if social problems such as suicide and homicide rates are affected by the level of and changes in oil industry activity. The first hypothesis, that suicide and homicide rates are higher when oil industry activity is higher, was tested by comparing the means of suicide and homicide rates for different levels of price and wells. For this analysis, only the years 1956 through 1981 were used because both price and wells decreased from 1982 through 1985, although they were both at relatively high levels during these

years. Despite their actual levels, the direction of change could be important in affecting suicide and homicide rates so the years after 1981 were omitted from this analysis.

There were only two levels of price: low levels from 1956 through 1973 and higher levels from 1974 through 1981. The comparison of these two periods was essentially a pre-boom to boom comparison. There were three levels: low levels from 1956 through 1964, medium levels between 1965 and 1976, and high levels between 1977 and 1981. ANOVA was used to test the difference between the mean rates for homicide and suicide for these sets of years. The results are shown in Table 4.1.

The results for both price and wells supported the first hypothesis. When price and the number of wells were higher, homicide and suicide rates were higher, especially in the more involved parishes. The proportion of variance in homicide and suicide rates explained by the levels of price and wells was greater for the more involved parishes.

The second hypothesis, that homicide and suicide rates will be higher when the level of oil industry activity is rapidly changing, was tested by comparing the mean rates of homicide and suicide for a period when oil industry activity was stable with periods when oil activity was rapidly changing. Since the direction of the change could be important in affecting homicide and suicide rates, times of rapid decreases were coded separately from times of rapid increases in oil activity. For this analysis, the data from the entire period between the mid 1950's and the mid 1980's were used. The three periods for price were: stable prices (1956 through 1973), increasing prices (1974 through 1981) and decreasing prices (after 1981), while the three periods for the number of wells were slightly different: stable or slowly increasing numbers (1956 through 1974), rapidly increasing or very high numbers (1975 through 1981), and decreasing numbers (after 1981).

The comparison of these three periods for price and wells was similar to, but was not, a pre-boom, boom and bust comparison. Although the price of oil and the number of developmental wells were decreasing after 1981, both remained at relatively high levels compared with the rest of the series until 1986. Between 1985 and 1986, both price and the number of wells decreased by almost half of their 1985 levels. To complete a true pre-boom, boom and bust comparison would require data after 1985 and these data were not available.

Because only one year was coded differently for price and wells, the results were almost identical for both indicators (see Table 4.1). The results supported the second hypothesis; the mean rates of homicide and suicide were higher when oil activity was rapidly changing, especially in the more involved parishes. The proportion of variance explained was greater for the more involved parishes for both homicides and suicides.

Effects of the oil industry on social problems by degree of involvement. The results above suggested differential impacts on communities by their degree of involvement in the oil industry. To more directly answer the question concerning whether social problems differ by

Table 4.1. Mean rates of social problems by levels of and stability in price and wells (Ns in parentheses).

	<u>LEVEL OF PRICE</u>					<u>STABILITY IN PRICE</u>				
	<u>Low</u>	<u>High</u>	<u>F</u>	<u>R<sup>2</sup></u>	<u>Stable</u>	<u>Increasing</u>	<u>Decreasing</u>	<u>F</u>	<u>R<sup>2</sup></u>	
<u>Homicide Rates</u>										
More Involved	5.82 (17)	10.13 (8)	29.91*	.565	5.82 (17)	10.13 <sup>a</sup> (8)	8.77 <sup>a</sup> (6)	15.69*	.529	
Less Involved	9.95 (17)	11.51 (8)	1.35	.056	9.95 (17)	11.51 (8)	10.52 (6)	.71	.048	
<u>Suicide Rates</u>										
More Involved	7.02 (18)	11.99 (8)	75.91*	.760	7.02 (18)	11.99 <sup>a</sup> (8)	14.05 <sup>ab</sup> (5)	69.86*	.833	
Less Involved	7.85 (18)	10.38 (8)	8.27*	.256	7.85 (18)	10.38 <sup>a</sup> (8)	12.26 <sup>a</sup> (5)	10.11*	.419	
	<u>LEVEL OF WELLS</u>					<u>STABILITY IN WELLS</u>				
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>F</u>	<u>R<sup>2</sup></u>	<u>Stable</u>	<u>Increasing</u>	<u>Decreasing</u>	<u>F</u>	<u>R<sup>2</sup></u>
<u>Homicide Rates</u>										
More Involved	4.34 (8)	7.45 <sup>c</sup> (11)	10.56 <sup>cd</sup> (6)	33.31*	.752	5.97 (18)	10.36 <sup>a</sup> (7)	8.77 <sup>a</sup> (6)	14.70*	.512
Less Involved	8.11 (8)	11.27 (11)	12.07 <sup>c</sup> (6)	4.31*	.282	9.99 (18)	11.64 (7)	10.52 (6)	.74	.050
<u>Suicide Rates</u>										
More Involved	6.36 (9)	8.43 <sup>c</sup> (11)	12.06 <sup>cd</sup> (6)	21.59*	.652	7.22 (19)	12.15 <sup>a</sup> (7)	14.05 <sup>a</sup> (5)	54.11*	.794
Less Involved	7.33 (9)	8.76 (11)	10.34 <sup>c</sup> (6)	3.59*	.238	8.04 (19)	10.22 (7)	12.26 <sup>a</sup> (5)	8.15*	.368

\* At the .05 level of significance, the means are not all equal.

a Post hoc Scheffe test shows that this mean is significantly greater than that for the stable period.

b Post hoc Scheffe test shows that this mean is significantly greater than that for the increasing period.

c Post hoc Scheffe test shows that this mean is significantly greater than that for the low activity period.

d Post hoc Scheffe test shows that this mean is significantly greater than that for the medium activity period.

the degree of involvement in the oil industry, the means for homicide and suicide rates for each year for each group of parishes was calculated and the difference between the means for each year was examined with t-tests.

The findings showed that the social problems experienced by communities due to changes in activity in a major industry do not significantly differ by the community's degree of involvement in the industry (see Table 4.2). The mean suicide and homicide rates rarely differed significantly by degree of involvement and the overall pattern of the means were the same for both groups of parishes.

Long-term effects of the oil industry on social problems. The means also showed long-term impacts on social problems (see Table 4.2). From 1956 to 1986, suicide rates in the more involved parishes increased faster than the rates in the minimally involved parishes. The suicide rates in the later years were clearly higher than those in the early years in the highly involved parishes. The overall trend in homicide rates was an increasing one in both sets of parishes and the rate of increase was probably similar, although there was greater fluctuation in the rates in the minimally involved parishes, especially in the 1970's. The actual number of homicides varied greatly in the minimally involved parishes in the 1970's and the size of the population in these parishes was smaller than that in the more involved parishes; thus the rates fluctuated more in the less involved parishes in the 1970's.

Intermediate processes. The decennial data was useful for examining the intermediate processes between industrial development and social problems outlined in social disorganization and relative deprivation theories. Social disorganization theory hypothesized that rapid development leads to rapid immigration, thus resulting in increased population density and decreased homogeneity, especially in nonurbanized communities. Relative deprivation theory suggested that the new jobs, higher income and higher cost of living associated with rapid development can result in perceptions of economic deprivation. These perceptions can increase hostility and aggression and, thus suicide and homicide.

To analyze these data, percentage changes were calculated. Table 4.3 shows the values for each variable for 1950, 1960, 1970, and 1980 plus the percentage changes for each decade and for the total time period.

The hypothesized intermediate processes were mainly supported by the decennial data. The hypothesis that immigration increases during development was supported by the finding that population increased faster from 1950 to 1980 in the highly involved parishes. The faster increases in the percentages of vacant and owner occupied dwellings in the less involved parishes further supported the idea that the population increased faster in the more involved parishes. The faster increase in population in the more involved parishes suggested that homogeneity might decline. However, racial homogeneity did not decline. From 1950 to 1980, the percentage nonwhite decreased equally rapidly for both groups of parishes, although the decline began earlier in the more involved parishes.

Table 4.2. Mean rates of social problems by degree of involvement.

<u>Year</u>	<u>Means for Suicide</u>		<u>Means for Homicide</u>	
	<u>Minimally Involved Parishes</u>	<u>Highly Involved Parishes</u>	<u>Minimally Involved Parishes</u>	<u>Highly Involved Parishes</u>
1956	5.8562	6.1570		
1957	3.6021	6.4494	7.9896	3.8453
1958	10.7548	6.8367	9.1016	3.1816*
1959	8.8528	3.5813*	4.9023	5.4473
1960	8.6067	6.5564	9.3115	3.8147
1961	10.2334	6.2562	7.6628	3.7065
1962	6.0724	5.1122	6.5601	1.6403
1963	5.3980	6.5861	8.1529	4.8565
1964	4.8182	6.1447	9.1064	5.7787
1965	9.3924	5.6538	9.1277	6.3106
1966	5.5970	6.0986	6.9804	4.8448
1967	9.2561	5.6384	8.7019	6.6692
1968	10.1687	6.2874	14.1728	5.3264*
1969	9.6511	7.7413	12.2080	4.7680
1970	6.8695	6.0793	17.4350	4.9636*
1971	6.8740	6.1979	10.0611	7.7325
1972	8.9483	8.6557	14.3831	7.3242
1973	6.3720	10.7196	10.6703	9.4703
1974	10.1703	10.5618	9.7466	7.9376
1975	7.1988	10.2573	8.5456	8.5955
1976	10.8484	9.8205	12.4221	7.8576
1977	7.7346	12.3250	19.0321	6.9658*
1978	10.2360	11.3846	8.7774	11.3630
1979	11.8243	15.1591	7.5403	9.9445
1980	8.1271	10.5925	13.3797	10.4823
1981	7.9687	12.1211	13.3842	10.2220
1982	10.6186	11.5887	10.2124	11.0842
1983	12.3499	14.1389	13.2697	11.3198
1984	10.3701	13.0690	8.9572	7.9742
1985	10.8621	11.8658	11.6028	5.3113*
1986	13.5892	13.4426	8.7517	9.2432
1987			6.3240	7.9406

\* The difference between means by degree of involvement is significant at the .05 level.

Table 4.3. Percentage changes in decennial data.

	1950	50-60 %Change	1960	60-70 %Change	1970	70-80 %Change	1980	50-80 Change
M.POPULATION	206850	1.63	210223	4.72	220146	19.95	264070	27.66
H.POPULATION	410859	39.08	571406	18.72	678396	18.33	802759	95.39
M.VACANTDWELL	7.66	36.20	10.44	-2.73	10.15	12.01	11.37	48.43
H.VACANTDWELL	7.09	19.42	8.46	-21.91	6.61	8.96	7.20	1.55
M.OWNEROCUPY	53.16	10.38	58.68	9.10	64.02	6.23	68.01	27.93
H.OWNEROCUPY	54.73	11.04	60.77	7.44	65.29	1.07	65.99	20.57
M.MEDIANAGE	25.40	.98	25.65	4.8	26.89	6.8	28.72	13.07
H.MEDIANAGE	23.76	-6.23	22.28	1.68	22.66	13.18	25.64	7.91
M.%NONWHITE	34.61	3.62	35.87	-9.02	32.63	-13.37	28.27	-18.32
H.%NONWHITE	25.92	-11.94	22.83	-5.72	21.52	-1.70	21.16	-18.36
M.%UNEMPLOYED	3.83	91.94	7.36	-8.49	6.73	21.66	8.19	113.70
H.%UNEMPLOYED	5.16	18.49	6.12	-20.06	4.89	-45.92	2.65	-48.78
M.MEDINCOME	5931.44	57.30	9330.06	56.94	14642.86	25.43	18366.84	209.65
H.MEDINCOME	8940.54	74.27	15581.03	30.94	20402.55	21.35	24759.52	176.94
M.HOUSEVALUE	11969.78	75.78	21040.12	7.84	22689.44	57.86	35816.98	199.23
H.HOUSEVALUE	17488.11	93.70	33875.01	5.16	35622.86	53.36	54632.47	212.40
M.RENT	55.54	100.77	111.51	-11.42	98.78	-5.06	93.78	68.85
H.RENT	91.64	95.93	179.55	-16.76	149.46	31.04	195.84	113.71
M.RENT%INCOME	11.24	27.63	14.34	-43.56	8.10	-24.31	6.13	-45.46
H.RENT%INCOME	12.30	12.43	13.83	-36.43	8.79	7.98	9.49	-22.85
M.HOUSE%INCOME	2.02	11.75	2.26	-31.29	1.55	25.85	1.95	-3.37
H.HOUSE%INCOME	1.96	11.15	2.17	-19.69	1.75	26.38	2.21	12.80

Note: M. stands for minimally involved parishes, H. stands for highly involved parishes.

The fact that median age increased more rapidly in the less involved parishes suggested that many of the immigrants were younger people who were probably moving into the highly involved parishes in search of better jobs (Milkman et al. 1980; Porter 1965). The decline in unemployment from 1950 to 1980 in the highly involved parishes and the increase in unemployment in the minimally involved parishes supported the expectation that more jobs were created in the highly involved parishes since industry activity was increasing in these parishes during this period. However, contrary to the expectation, income did not increase faster in the more involved parishes. Median family income increased faster in the highly involved parishes during the 1950's while the percentage increases were greater in the less involved parishes between 1960 and 1980. However, the amount of increase in median family income was almost two times greater in the highly involved parishes in the 1950's, was slightly less in the more involved parishes during the 1960's, and was somewhat higher in the highly involved parishes in the 1970's. Income was always greater in the heavily involved parishes.

As expected, from 1950 to 1980, housing costs increased faster in the highly involved parishes, which may partially explain the slower increase in the percentage of owner-occupied dwellings. The slower increase in the percentage of owner-occupied dwellings could also be due to recent immigrants who may be less likely to buy housing than to rent. Net migration in the minimally involved parishes was greater than 2000 per year from 1975 through 1977 and in 1979 and 1980, while net migration in the highly involved parishes was greater than 3000 per year from 1975 through 1982 (see chapter 5). Median housing values increased much faster in the heavily involved parishes in the 1950's and median rent also increased more swiftly in these parishes, especially during the 1970's. Rent as a percentage of income decreased from 1950 to 1980 in both types of parishes, but, following an initial faster increase in the 1950's, the decrease was more rapid in the less involved parishes. Housing value as a percentage of income declined in the less involved parishes and rose in the more involved parishes from 1950 to 1980 due to the quicker decline in the 1960's in the less involved parishes.

Thus, the intermediate processes suggested by the two theories were mainly supported. Social disorganization theory hypothesized that rapid development leads to immigration and reductions in heterogeneity. The decennial data demonstrated the rapid population growth in the more involved parishes; however, racial heterogeneity did not increase and no other measures of heterogeneity were available. Relative deprivation theory suggested that the combination of new jobs, higher costs, and people unable to obtain these new jobs can lead to feelings of economic deprivation resulting in anger and frustration which may be expressed in homicide and suicide. The decennial data showed that more jobs were created in the highly involved parishes and that housing costs increased in these parishes, primarily for renters and recent immigrants, not for long-term residents who own their own home.

## DISCUSSION

Theoretical implications. The results supported the hypotheses derived from social disorganization and relative deprivation theories. As anticipated from the first hypothesis, suicide and homicide rates were higher during periods of greater oil industry activity, especially in the highly involved parishes. The data also conformed to the expectations in the second hypothesis. Suicide and homicide rates were higher when the amount of oil activity was rapidly changing, increasing or decreasing, especially in the highly involved parishes. The decennial data largely supported the intermediate processes suggested by the theories. As hypothesized by social disorganization theory, increasing industrial activity was associated with greater immigration in communities experiencing industrial development. However, there was no evidence of the expected increases in heterogeneity. The results also supported the intermediate processes outlined by relative deprivation theory. New jobs were created and housing costs increased. These factors, combined with evidence from other studies that show that not all residents participate in the economic good fortune of a community experiencing industrial growth (Little and Lovejoy 1979; Molotch 1976; Seyfrit 1986; Summers and Clemente 1976; see chapter 7 also), suggest that perceived relative deprivation may increase during rapid industrial growth since those who do not obtain better employment yet endure higher costs of living may feel that they are economically deprived.

Although the data fit the expectations derived from the theory of relative deprivation, the higher homicide and suicide rates during greater oil industry activity could also be explained by the attraction of social isolates or "riff-raff" thesis (Wilkinson et al. 1982). According to this theory, greater industrial activity and the anticipation of jobs in a community attracts people, especially young, unattached males and transients. These people enter a community where they know no one and are cut off from their family, friends and social support networks. They are social isolates in the new community until they can establish social networks in this community. These social isolates are hypothesized to be at high risk for substance abuse, homicide and suicide. Evidence concerning this explanation is contradictory. Although Milkman et al. (1980) found that young males were the main portion of the growing work force in boomtowns and that these young males were more vulnerable to substance abuse, Massey and Lewis (1979) demonstrated that newcomers were neither "riff-raff" nor social isolates.

If the increase in social isolates and transients, especially unattached young males, is the reason for the higher homicide and suicide rates during the increase in oil activity, then there should have been an increase in the percentage of males, in net migration of young males, and in the percentage of mobile housing units and a decrease in the number of people per household between 1950 and 1980, especially in the highly involved parishes. Most of these changes did not occur. None of the 12 highly involved parishes experienced an increase of more than 0.1 percentage point in the percentage of males in the parish from 1950 to 1980 and, in seven of these parishes, the percentage of males decreased by more than 1 percentage point (U.S. Bureau of the Census 1953b, 1982b). Also, net migration figures showed only a small increase in males between ages 15 and 29 from 1960 to 1970 and from 1970 to 1980

(Christou no date; Maruggi and Saussy 1985). Seven of the highly involved and five of the minimally involved parishes gained young males between 1970 and 1980, but these gains were quite small. Although the percentage of mobile housing units increased between 1950 and 1980, it increased in all 23 parishes (U.S. Bureau of the Census 1952, 1982a). With the exception of large differences in two of the highly involved parishes, the amount of change was the same for both groups of parishes. Further, although the number of people per household decreased from 1950 to 1980 in all 23 parishes (U.S. Bureau of the Census 1953b, 1982b), the decrease was larger in the minimally involved parishes and was probably due to the declining birth rate in the entire country.

Thus, the data on the percentage of males, net migration of young males, percentage of mobile housing units and number of persons per household did not support the hypothesis that large numbers of young, unattached males and transients migrated into the more involved parishes, thus raising their suicide and homicide rates.<sup>5</sup> However, the question of who commits suicide and homicide, long-term residents (which supports relative deprivation theory) or recent immigrants (which supports the attraction of social isolates thesis), cannot be addressed with aggregate data and must be answered to determine the utility of relative deprivation theory as an explanation of social problems in boomtowns.

Answers to the three questions. Based on the results presented above, there was a significant effect of oil industry activity on social problems in communities. High or rapidly changing levels of activity in the oil industry were associated with greater social problems (higher suicide and homicide rates), especially in the more involved parishes. The findings suggested that the impact of the oil industry on social problems in communities did not differ by their degree of involvement. Although the level and stability of oil industry activity had more effect on homicide and suicide rates in the highly involved parishes, the suicide and homicide rates rarely significantly differed by degree of involvement. There appeared to be long-term effects of oil industry activity on social problems in the community. Suicide rates increased faster in the highly involved parishes and homicide rates rose in both groups of parishes. However, because the homicide rates increased in both groups of parishes, the long-term increase in homicides might not be due to oil industry activity.

Methodological implications. The methods used in this study have implications for future research. The results supported the need for annual data as opposed to data for two different points in time. There were large fluctuations in yearly homicide and suicide rates; thus the selection of just one year to represent a particular stage in oil industry development would have led to misleading results. Means of rates for several years are more stable than are percentage changes between rates for two individual years. The findings also demonstrated the importance of considering the degree of involvement of the community in the energy development project and examining the impacts in less involved communities as well as the boom communities. The effect of the level and stability of oil industry activity on homicide and suicide rates was significant in the minimally involved parishes, although the effect was greater in the highly involved parishes.

This study demonstrated the difficulty in obtaining appropriate data. Much relevant data was either unavailable, incomplete, or so flawed as to be invalid. When there is an expectation, as with the new finding of oil in the Gulf of Mexico, that a particular region of the country will be impacted by dramatic increases in economic activity and the accompanying influx of population, special attention should be given to the collection of baseline data and the establishment of an adequate data collection program.

The theories used in this study need to be tested in other contexts. It is important to ascertain if the effects of development on social problems would be the same in communities where there are mitigation policies since Louisiana had no such policies. It would also be useful to compare the impacts of development across states to determine if the effects vary by cultures and state policies. Another potential control factor should be considered -- duration of involvement in development. Involvement in the oil industry in Louisiana occurred over several years; in fact, the pre-boom took almost two decades. Thus, it is necessary to discover if communities whose involvement in oil extraction is of short duration experience the same impacts on social problems.

## ENDNOTES

1. Readers familiar with the literature on boomtowns will find that some research often cited was not used in this study (e.g., Cortese and Jones 1977; Gilmore 1976; Gilmore and Duff 1975; Little 1977; Weisz 1979). These articles were criticized for a lack of methodological rigor by Wilkinson et al. 1982 and we agreed with their assessment, although we disagreed with their evaluation of some other articles and did include these other articles.
2. Dr. Don Starsinic of the Population Division of the Bureau of the Census suggested this technique to estimate the parish population.
3. The highly involved parishes were Acadia, Calcasieu, Cameron, Iberia, Lafayette, Plaquemines, St. Bernard, St. Charles, St. James, St. Mary, Terrebone and Vermilion. The minimally involved parishes selected were Allen, Ascension, Avoyelles, Beauregard, Caldwell, DeSoto, Grant, Madison, West Carroll, West Feliciana and Winn. While one other parish, Vernon, was minimally involved, it was not included in the study because a military base located there makes the population very unstable. Although Orleans and Jefferson Parishes have the largest number of offshore employees, these two parishes were not included in the analyses because their level of involvement, calculated as discussed above, was only moderate.
4. We contacted the Office of Employment and Training, Research and Statistics Division to obtain the earlier unemployment rates and were told that, because the definition of unemployment had changed, the older data would not be comparable; therefore, they would not release these figures. We then attempted to get the data and statements of the various definitions from published sources, but were unable to obtain the information.
5. Data on the marital status of males and alcohol consumption by parish, except for marital status of males in 1950, were not available.

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**CHAPTER 5****DEVELOPMENT, HUMAN CAPITAL, AND ECONOMIC HEALTH:  
AN EMPIRICAL EXAMINATION****Ruth Seydlitz, University of New Orleans****Shirley Laska, University of New Orleans****Daphne Spain, University of Virginia****Elizabeth W. Triche, Yale University****and****Karen L. Bishop, Virginia Polytechnic Inst. and State Univ.**

Researchers in several fields are interested in the impact of development on communities. These researchers have focused on communities in the Western United States and have found that communities experiencing rapid development also undergo changes in crime, mental health and community satisfaction, ability to provide basic services, employment and wages, and educational attainment of their residents. Offshore oil extraction, a type of energy development, has some characteristics in common with the Western energy development projects and some differences. The similarities include the cyclical nature of the extraction, the creation of new local jobs, and the attraction of immigrants in response to perceived job opportunities. In contrast, not all new employment opportunities are located near the source of the oil and many jobs may not be filled by local individuals since work schedules on oil rigs allow long-distance commuting (Forsyth & Gauthier 1991; Gramling 1989; Gramling & Brabant 1986).

The development of the offshore oil industry in Louisiana provides an excellent opportunity to examine the impact of development on long-term human capital and economic health because the development has taken place over decades and has been massive. The purpose of this study is to examine the effect of oil industry involvement on long-term human capital and economic health in several Louisiana counties (called parishes). Two questions are asked. First, are long-term human capital and economic health affected by changes in the level of oil industry activity. Second, does the impact of changes in industry activity differ by the degree of involvement of the community in the industry?

Further studies on the impact of energy development on long-term human capital and economic health of communities are necessary for several reasons. First, there is a paucity of studies on the impacts of offshore oil and gas development, especially concerning the Gulf of Mexico, which is the main site of known American petroleum reserves (notable exceptions include Brabant 1984; Gramling 1984a, b, c, and d; Gramling & Brabant 1986; Gramling & Freudenburg 1990; Manuel 1984a and b). Second, very few studies discuss

long-term human capital and the literature on economic impacts is contradictory. Third, various methodological issues have contributed to confusion about impacts on communities.

### CONTRADICTIONARY EVIDENCE<sup>1</sup>

Long-Term Human Capital. Very little is known about the effects of energy development on the level of education in involved communities. Brabant (1984) found positive changes in education during the boom, including lower per pupil expenses and a higher level of educational attainment, but others have found negative impacts, such as overfilled schools, strain, and increased costs in providing adequate education (Gramling & Brabant 1986; Gramling & Freudenburg 1990; Murray & Weber 1982).

Economic Health. It seems straightforward to determine if communities experiencing rapid development are in an improved economic position. It is logical that, if a new industry with new jobs enters a community, the economic health of the community would improve. However, the results of studies concerning income, prosperity, and creation of jobs contradict each other. Positive economic changes reported in the literature include: reductions during the boom phase in the percentage of households receiving food stamps and the demand for welfare (Dixon 1978; see also chapter 7), improvement in economic conditions and increases in income (Bunker 1984; Dixon 1978; England & Albrecht 1984; Finsterbusch 1982; Harris et al. 1986; Manuel 1984b; McNicoll 1984), and reductions in unemployment and increases in employment particularly in the construction phase of an energy development project (Antonov 1988; Harris et al. 1986; Leistritz et al. 1982; McNicoll 1984). However, locals who are not skilled or are not willing to train for work in energy-related jobs do not benefit from the improved economic conditions (Little & Lovejoy 1979; Lovejoy 1983; Seyfrit 1986; Summers & Clemente 1976).

In contrast, negative economic impacts include inflationary prices and an increased cost of living (Harris et al. 1986; Massey 1980; Moen 1981), housing shortages and higher housing costs (Antonov 1988; Harris et al. 1986), increases in poverty and the disparity in income during the boom (see chapter 7), elevated unemployment rates (Molotch 1976) and strain and increased costs in providing basic services (Brookshire & D'Arge 1980; England & Albrecht 1984; Gramling & Brabant 1986; Gramling & Freudenburg 1990; Murray & Weber 1982). Economic conditions in the immediate vicinity of a development project may not improve because of the diffusion of the impact due to commuting by workers (Summers & Clemente 1976).

### THEORIES OF THE EFFECTS OF RAPID INDUSTRIAL GROWTH

Long-term Human Capital<sup>2</sup>. According to Becker (1975) and Mincer (1974), individual investment in human capital is determined by a rational comparison of costs and benefits. Their models assume that individuals engage in maximizing behavior when deciding to

invest in their education. Several factors affect the decision to invest in education: costs, rate of return, market influences, and supply and demand conditions.

Human capital investment is costly. Beyond the direct costs of education -- tuition, fees, books, supplies, transportation, lodging, etc. -- there are indirect costs -- foregone earnings due to the postponement of earnings, the reduction in the span of years in which to work, and foregone leisure (Becker 1975; Mincer 1974; Parsons 1974). Schooling steepens the age-earnings profile because people earn less when they are in school and they earn more later in life (Becker 1975). Thus, assuming that the choice to invest in human capital is rational, such an investment will not be undertaken unless it is expected to increase income later.

Perceptions of the rate of return also affect investment in education, but the rate of return is uncertain. Moreover, the marginal rates of return decline as the years of schooling increase and eventually there are diminishing returns due to the limitations of the person, such as memory capacity (Becker 1975). If the marginal return on the investment is higher and the indirect cost is lower, then the individual will be more likely to make a greater investment at that particular time.

Further, large expenditures like college are more difficult to afford than are smaller expenditures like short-term migration so changes in the market will affect human capital investment. People are more likely to migrate than invest in education when higher paying jobs can be obtained simply by moving and higher education is not necessary (Becker 1975). In a larger market, individuals are more likely to invest because a larger market induces skill investment (Becker 1975).

Although there are individual differences in investment due to factors such as the anticipated amount of time in the labor market (Becker 1975) and ability to reap the rewards of additional schooling (Becker 1975; Mincer 1974), supply and demand also affect investment. Supply, in this context, refers to conditions that enable a person to invest in his or her education (e.g., luck, family wealth, subsidies, availability of cheap funds) and demand refers to the individual's ability to benefit from the investment (Becker 1975). Supply conditions vary due to access to less expensive sources of funds (e.g., gifts from parents, relatives, friends, foundations, and the government) and the need for more expensive funds (e.g., commercial loans). Costs of investment, particularly college, increase over time as less expensive resources are exhausted and costs rise with the speed of investment since more expensive sources become more necessary. For example, the part-time student more slowly accumulates human capital and is more able to use his or her own resources to finance the investment; thus, he or she is dependent largely on cheaper sources. Supply and demand conditions vary due to differences in aspirations, private generosity and public policy. For instance, it is possible to equalize supply conditions through programs such as subsidies to educational institutions, scholarships for the poor, and government loans.

Changes in oil industry activity are changes in market conditions and will affect the rational cost/benefit analysis and supply conditions of human capital investment in contradictory ways. When the oil industry is more active, more highly paid jobs become available without greater education. The availability of such jobs reduces the marginal return on investment and increases indirect costs causing a shift in benefits and costs that decreases the likelihood that individuals will invest in human capital when the industry is more active. Further, because college is more expensive than migration, people will move to obtain these jobs instead of going to college.

However, increases in oil industry activity also affect supply conditions. If parents are able to obtain higher paying positions, they will have money to assist their children in advancing their education. Moreover, communities may have more money to invest in human capital and may give scholarships, less expensive loans, and engage in similar programs which improve the availability of cheaper sources of funds for education. Thus, less expensive sources of money for greater human capital investment become more available when industry activity is greater making human capital investment, particularly college, more attractive.

Thus, due to the reduced benefits and the increased costs of human capital investment, we anticipate that investments in human capital will decline when the industry is more active.<sup>3</sup> In contrast, increases in supply of less expensive sources of money for human capital investment should increase investment in college. However, because the indirect costs of investing are so much greater and the rewards are less, we expect that the human capital enhancing effect of the increase in supply of cheaper resources will be outweighed by the greater indirect costs and the reduced benefits of such an investment at this time. Thus, the first hypotheses to be tested are:

H1a: During a period when the oil industry is more active, investment in basic level human capital (high school) will be higher, but investment in enhancement level human capital (college) will be lower, especially in the more involved communities, as opposed to a time of low activity. High school dropout rates and percentage of high school graduates enrolling in college will be lower when oil industry activity is greater, primarily in the highly involved communities.

H1b: During a period when oil industry activity is rapidly increasing, dropout rates and the percentage of high school graduates enrolling in college will be lower, especially in the more involved communities, as opposed to a time of stable or rapidly decreasing activity.

H1c: Increases in oil industry activity will be associated with decreases in dropout rates and in the percentage of graduates enrolling in college, mainly in the more involved communities.

## COMMUNITY ECONOMIC HEALTH

In much of the energy development literature, it is assumed that, if a community's major industry is doing well, the price and production of its product will be high, and the community's economic health will be better than when the industry is doing poorly. When price and production are high, more people are employed and incomes are greater to attract the additional employees needed.

Prior research partially supports this expectation. Some studies have found improved economic conditions in boom communities, increases in median family income and decreases in the demand for welfare (Dixon 1978; England & Albrecht 1984; Finsterbusch 1982; Manuel 1984b). However, this improved economic situation does not apply to all residents (Little & Lovejoy 1979; Lovejoy 1983; Seyfrit 1986; Summers & Clemente 1976). Also, communities experience inflationary prices, increased costs of living, and rising costs of providing public services (Brookshire & D'Arge 1980; England & Albrecht 1984; Gramling & Brabant 1986; Gramling & Freudenburg 1990; Massey 1980; Moen 1981; Murray & Weber 1982). Leistritz, Murdock and Leholm (1982) suggest that there is an increase in jobs, but Molotch (1976) shows that unemployment rates rise in rapidly growing cities and Freudenburg (1986) states that the benefits of secondary jobs are overestimated and the population increases due to energy development are underestimated. Therefore, the final hypothesis is:

H2: Increases in oil industry activity should be related to elevations in the economic health of the communities highly involved in the industry. Incomes in these communities should rise, per capita transfer payments will decrease, and immigration will increase because people will move into the area for jobs following increases in oil industry activity.

## DATA

The data were obtained from diverse federal and state government agencies. The dependent variables measured two major concepts: long-term human capital and community economic health. The indicators of long-term human capital were dropout rates and college enrollments. The indicators of economic health were per capita transfer payments, average per capita income, and net migration. The two independent variables indicated the degree of oil industry activity; they were the price of oil and the number of exploratory wells (explained in chapter 4.) The data were obtained annually.

Separate analyses were conducted for two groups of parishes -- parishes highly involved in the oil industry and those minimally involved. The parishes were divided into these groups based on the percentage of people in the parish employed in the oil industry and the percentage of the total income of the parish residents derived from employment in the industry (discussed in chapter 4.)

Operationalization of the Variables. The dependent variables were created separately for the two groups of parishes. True dropout rates and college enrollments, the desired measures for long-term human capital, were unavailable. The proxy for true dropout rates was the percentage of ninth grade students who did not complete high school in the parish in four years (the estimation procedure employed by the Louisiana Department of Education). The approximation for enrolling in college was the percentage of winter, spring and summer high school graduates who enrolled in institutions of higher learning in the subsequent fall (the manner in which the Louisiana Department of Education calculates the percentage of students going on to college).

The percentage of high school students who do not complete high school in the parish in four years was estimated by summing the number of ninth grade students in the parishes in the group, subtracting the sum of the graduates four years later, dividing the difference by the sum of the ninth grade students and multiplying by one hundred. The percentage of high school graduates entering institutions of higher education (including out-of-state institutions) was figured by summing the number of students from the parishes that enrolled in such institutions, dividing by the sum of the students who graduated from high school before the fall and multiplying by one hundred. Estimates for both variables were calculated for the years 1955 to 1987; a value for both variables was calculated for each year for each group of parishes.<sup>4</sup> (The education data were obtained from the Louisiana Department of Education 1952-1989.)

The indicators for economic health were: 1) per capita transfer payments in constant dollars, which includes maintenance payments (supplemental security income, aid to families with dependent children, food stamps, and other maintenance) and unemployment payments (state unemployment insurance compensation; unemployment compensation for federal civilian employees, railroad employees, veterans; and other unemployment compensation); 2) average per capita income of the parish residents in constant dollars; and 3) net migration.

Per capita transfer payments were calculated by summing the maintenance and unemployment payments for the parishes in the group, dividing by the sum of their populations and then dividing by the consumer price index to control for inflation. Per capita income was figured by adding the per capita incomes (in dollars) for the parishes in the group, dividing by the number of parishes and then dividing by the consumer price index to convert the numbers into constant dollars. Net migration was calculated by summing the number of people in the parishes in the group, subtracting the sum of the people in the parishes the previous year, subtracting the sum of the births in the parishes and adding the sum of the deaths in the parishes. Data for these three variables were only available from 1969 through 1987. A figure for each year for each group of parishes was calculated. (The data used to calculate these variables came from the U.S. Department of Commerce 1990 and the Department of Health and Human Resources 1956-1987.)

## METHODS AND RESULTS

Effects of the Oil Industry on Human Capital and Economic Health by Level and Rate of Change of Activity. To answer the first question of this study, the effect of the level of oil industry activity and the influence of the rate and direction of change in activity on long-term human capital and economic health must be determined. The test of hypothesis 1a, that high school dropout rates and enrolling in college are lower when oil industry activity is greater, was accomplished by using ANOVA to compare the means for years in which price and wells were low with the years where price and wells were higher. This analysis was conducted only for the measures of long-term human capital because the series for measures of economic health were short (only 19 years) and had few data points where price or wells were not high. For this hypothesis, only the years 1956 through 1981 were included due to the decrease in price and wells after 1981. The inclusion of the later 1980's in the high level of price and wells would introduce a confounding variable in the analysis, direction of change. Therefore, these years were not included in the analysis of the level of activity (hypothesis 1a), but were part of the test of the rate and direction of change (hypothesis 1b).

During the period 1956 through 1981, there were only two levels of price: low (1956 through 1973) and high (1974 through 1981). The comparison of means for these two sets of years was essentially a pre-boom to boom comparison. During the same period, there were three levels of developmental wells: low (1956 through 1964), medium (1965 through 1975), and high (1976 through 1981).

The results supported hypothesis 1a in that the mean dropout rates and percentages of graduates enrolling in college were lower when price or the number of wells were higher (see Table 5.1). As expected, the proportion of variance explained by the level of price or wells was greater for the highly involved parishes, except for the effect of wells on dropout rates.

The test of hypothesis 1b, that high school dropout rates and enrolling in college are lower when oil industry activity is rapidly increasing and higher when activity is stable or rapidly decreasing, was accomplished by using ANOVA to compare the means for years in which price and wells were stable with years where price and wells were rapidly increasing and years where price and wells were quickly decreasing. For this analysis, the entire series were used. The three periods for price were: stable (1956 through 1973), increasing (1974 through 1981) and decreasing (after 1981), while the periods for the number of wells were: stable or slowly increasing (1956 through 1974), rapidly increasing or very high (1975 through 1981), and decreasing (after 1981). The comparison of these three groups of years

Table 5.1. Means of long-term human capital by levels of and stability in price and wells.

<u>PRICE</u>								
	Level			Stability				
	<u>Low</u>	<u>High</u>	<u>R<sup>2</sup></u>	<u>Stable</u>	<u>Increasing</u>	<u>Decreasing</u>	<u>R<sup>2</sup></u>	
<u>Dropout Rates</u>								
More Involved	37.88	33.73 <sup>a</sup>	.250*	37.88	33.73 <sup>b</sup>	37.20	.229*	
Less Involved	37.11	33.66 <sup>a</sup>	.202*	37.11	33.66 <sup>b</sup>	38.47 <sup>c</sup>	.258*	
<u>Enrolling in College</u>								
More Involved	41.59	35.52 <sup>a</sup>	.385*	41.59	35.52 <sup>b</sup>	42.52 <sup>c</sup>	.397*	
Less Involved	38.18	33.99 <sup>a</sup>	.326*	38.18	33.99 <sup>b</sup>	42.58 <sup>cd</sup>	.527*	
<u>WELLS</u>								
	Level			Stability				
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>R<sup>2</sup></u>	<u>Stable</u>	<u>Increasing</u>	<u>Decreasing</u>	<u>R<sup>2</sup></u>
<u>Dropout Rates</u>								
More Involved	41.15	34.15 <sup>a</sup>	34.27 <sup>a</sup>	.749*	37.56	33.99	37.20	.158
Less Involved	40.43	33.53 <sup>a</sup>	34.09 <sup>a</sup>	.816*	36.84	33.89	38.47 <sup>c</sup>	.203*
<u>Enrolling in College</u>								
More Involved	38.88	42.91	35.14 <sup>e</sup>	.460*	41.37	35.25 <sup>b</sup>	42.52 <sup>c</sup>	.376*
Less Involved	37.56	37.60	34.59	.139	37.77	34.49	42.58 <sup>cd</sup>	.446*

<sup>a</sup> Post hoc Scheffe test shows that this mean is significantly less than that for the low activity period.

<sup>b</sup> Post hoc Scheffe test shows that this mean is significantly less than that for the stable period.

<sup>c</sup> Post hoc Scheffe test shows that this mean is significantly greater than that for the increasing period.

<sup>d</sup> Post hoc Scheffe test shows that this mean is significantly greater than that for the stable period.

<sup>e</sup> Post hoc Scheffe test shows that this mean is significantly less than that for the medium activity period.

\* At the .05 level of significance, the means are not all equal.

was similar to, but was not, a pre-boom, boom, and bust comparison. Although both price and wells decreased after 1981, they remained at relatively high levels until the rapid decline between 1985 and 1986. The 1986 levels of price and wells were slightly over half of their 1985 levels. A true pre-boom, boom and bust comparison would require data for several years after 1985 and these data were not available.

The findings confirmed hypothesis 1b in that dropout rates and the percentage of high school graduates enrolling in college were lower when industry activity was rapidly increasing and higher when activity was stable or rapidly decreasing (see Table 5.1). In contrast to the expectation, the explained variance was greater in the minimally involved parishes and was not significant for the effect of wells on dropout rates in the highly involved parishes.

Hypotheses 1c and 2 state that rises in the level of activity in the oil industry are associated with reductions in high school dropout rates, enrolling in college and transfer payments and increases in per capita income and immigration, primarily in the more involved parishes. To test these hypotheses, regression was used. When change over time is analyzed with regression techniques, first differences are preferred (Dalecki & Willits 1991).<sup>5</sup> The first differences of dropout rates, percentage of graduates enrolling in college, net migration, transfer payments and average per capita income (minimally involved parishes only) were regressed on the first differences of each independent variable separately. Price and the number of wells were used separately because they were highly correlated. Average per capita income in the highly involved parishes was differenced twice.<sup>6</sup>

Further, because the effects of fluctuations in oil activity may not be immediate, lags of the independent variables were included in the models, up to the third lag.<sup>7</sup> Thus, initially four equations were calculated for each pair of independent and dependent variables. First, the dependent variables (first differences for all variables except income in the highly involved parishes) were regressed on the independent variable (first differences of price and wells in most equations, second differences in the equation for income in the highly involved parishes). Then, the lag of the independent variable was included in the equation. Third, the second lag of the independent variable was added and, finally, the third lag was entered into the model. In consequence of the results of these equations, particular lags or the original independent variable was dropped from the equation as necessary. Several model statistics (the Durbin-Watson and the adjusted  $R^2$  shown in tables and the press statistic and the sum of the squared residuals not displayed), as well as significance levels of the terms and F-tests for the differences between models, were compared to determine the best fitting model. The final models of these regression analyses are shown in table 5.2.

The results supported hypothesis 1c; dropout rates and the percentage of high school graduates enrolling in college decreased when oil industry activity increased. Contrary to the hypothesis, these inverse relationships were significant only in the minimally involved parishes. The only significant effect of oil activity on long-term human capital in the highly involved parishes was the increase in dropout rates three years after an increase in price; this

Table 5.2. Regression results for the effect of changes in oil industry activity on long-term human capital and economic health<sup>a</sup>

## A. Human Capital - Highly Involved Parishes

Dropout Rates on Price

	B	beta
Lag3 D1 Price	0.405*	0.540*
Constant	-0.389	
Adjusted R <sup>2</sup>	.266*	
Durbin-Watson	1.989	
First Order Autocorr.	-.091	

## B. Human Capital - Minimally Involved Parishes

Dropout Rates on Wells

	B	beta
D1 Wells	-0.010*	-0.362*
Lag1 D1 Dropout	-0.504*	-0.475*
Constant	0.024	
Adjusted R <sup>2</sup>	.223*	
Durbin-Watson	1.900	
First Order Autocorr.	-.031	

Percentage Going to College on Price

	B	beta
D1 Price	-0.197 <sup>b</sup>	-0.264 <sup>b</sup>
Lag2 D1 Price	0.448*	0.477*
Constant	0.053	
Adjusted R <sup>2</sup>	.259*	
Durbin-Watson	1.770	
First Order Autocorr.	.059	

## C. Economic Health - Highly Involved Parishes

Income on Price

	B	beta
D2 Price	29.116+	0.492+
Constant	-7.604	
Adjusted R <sup>2</sup>	.188+	
Durbin-Watson	1.976	
First Order Autocorr.	-.000	

Transfer Payments on Price

	B	beta
Lag2 D1 Price	11.039*	0.681*
Constant	.130	
Adjusted R <sup>2</sup>	.430*	
Durbin-Watson	2.397	
First Order Autocorr.	-.235	

Net Migration on Price

	B	beta
Lag1 D1 Price	578.337*	0.386*
Lag3 D1 Price	-985.206*	-0.636*
Constant	-24.545	
Adjusted R <sup>2</sup>	.608*	
Durbin-Watson	2.255	
First Order Autocorr.	-.219	

## D. Economic Health - Minimally Involved Parishes

Income on Wells

	B	beta
D1 Wells	1.584+	0.462+
Constant	119.429	
Adjusted R <sup>2</sup>	.164+	
Durbin-Watson	2.099	
First Order Autocorr.	-.067	

<sup>a</sup> D1 stands for first differences and D2 stands for second differences.<sup>b</sup> Although this variable is not significant, removal of it causes a significant decrease in R<sup>2</sup>.

+ p &lt; .10

\* p &lt; .05

increase was not predicted. In fact, the findings suggested a cycle of changes in long-term human capital in which dropout rates and enrolling in college declined shortly after increases in oil activity, but they rose in the second and third year after elevations in activity.

Hypothesis 2 was also confirmed by the findings. The relationships between price or wells and the three indicators of economic health were significant only in the highly involved parishes. Also, increases in industry activity were significantly related to increases in average per capita income (0.10 level) and immigration. However, transfer payments did not decrease when activity increased and the results suggested that improved economic health in response to increases in activity was transitory. Although income and immigration rose within the first two years of an increase in oil activity, transfer payments and outmigration increased in the second and third years after an increase in price. This finding supported the idea of a cycle of improved economic health followed by declining economic health.

Effects of the Oil Industry on Human Capital and Economic Health by Degree of Involvement. The results just discussed suggest differential impacts on communities by their degree of involvement in the oil industry. To more directly answer the question concerning the differences by degree of involvement in long-term human capital and economic health, the mean for each dependent variable for each group of parishes for each year was calculated and the difference between the means for each year was examined with t-tests.

The outcome demonstrated that degree of involvement did not significantly affect the levels of long-term human capital (see table 5.3). The means of dropout rates and the percentages of high school graduates enrolling in college significantly differed by degree of involvement in only one year for each variable, and the values and patterns of the means were the same for both groups of parishes. The results also indicated that community economic health differed by degree of involvement. In the highly involved parishes, transfer payments were significantly lower for almost all of the years (1969 through 1981 and 1985), income was significantly higher for all years, and outmigration was significantly greater between 1984-86.

## DISCUSSION

Theoretical Implications. The results supported the hypotheses derived from theory and literature concerning long-term human capital and community economic health. As predicted, basic level human capital (completing high school) was greater and enhancement level human capital (seeking formal education beyond high school) was lower during periods of higher or rapidly increasing economic development activity and the effect of the level of the development activity on human capital was stronger in the highly involved parishes. Also, increases in development endeavors were related to rises in basic level human capital and declines in enhancement level human capital. Moreover, elevations in development were associated with increases in economic health (income and immigration) only in the highly involved parishes.

Table 5.3. Means of human capital and economic health by degree of involvement<sup>a</sup>.

Year	Dropout Rates		Going to College		Transfer Payments		Income		Net Migration	
	M	H	M	H	M	H	M	H	M	H
1956	42.80	38.29	35.48	34.76						
1957	41.38	40.29	32.78	34.27						
1958	44.11	40.49	36.77	35.22						
1959	41.51	40.81	39.29	38.36						
1960	40.85	39.18	38.77	37.19						
1961	41.14	41.13	38.76	41.10						
1962	40.69	41.95	39.21	39.93						
1963	40.74	43.15	37.38	41.11						
1964	36.80	37.12	41.85	43.10						
1965	34.38	35.38	46.25	42.73						
1966	34.92	34.98	41.43	41.84						
1967	32.94	37.44	41.45	43.10						
1968	32.54	36.07	37.93	45.12*						
1969	34.01	36.11	38.34	42.59	269.80	129.54*	5603.91	7278.38*		
1970	33.01	35.93	38.53	45.90	320.95	156.93*	5946.34	7331.62*	-156.91	-73.00
1971	35.22	33.28	37.32	38.87	344.65	178.26*	6212.79	7533.95*	105.91	-19.92
1972	35.36	32.55	36.39	37.51	336.83	180.29*	6504.78	7835.53*	76.73	430.67
1973	36.33	30.93	32.78	36.37	306.75	176.43*	7170.97	8305.93*	-204.82	233.33
1974	31.71	34.40	31.07	35.41	344.32	184.74*	7203.39	8752.37*	37.09	-69.42
1975	33.28	33.79	34.98	33.51	384.78	209.09*	6793.00	8945.63*	343.91	284.33
1976	34.61	33.64	36.21	32.33	372.77	216.43*	7653.30	9267.57*	203.91	661.25
1977	32.18	34.33	37.11	31.28	355.91	207.82*	7739.87	9804.73*	289.82	302.08
1978	37.05	35.50	34.67	34.00	309.06	177.54*	7969.46	10573.24*	133.73	286.92
1979	34.23	36.93	35.05	34.22	310.92	173.02*	8038.07	10820.82*	231.91	416.33
1980	38.29	36.10	35.11	33.78	347.26	196.47*	7704.88	10939.42*	370.09	647.42
1981	35.83	34.26	33.20	35.80	329.96	180.51*	7932.89	11312.80*	163.09	594.67
1982	39.15	32.98*	37.54	36.54	360.82	240.98*	7548.85	11010.62*	139.91	969.83
1983	39.97	38.84	43.82	40.37	399.64	381.14	7553.12	10592.29*	171.91	54.17
1984	37.75	38.86	44.37	42.97	347.11	285.59	7636.54	10477.14*	79.91	-1118.92*
1985	40.06	37.91	42.44	42.42	361.67	254.84*	7641.69	10392.89*	-18.36	-550.50*
1986	37.59	34.59	43.63	40.68	369.14	343.75	7427.17	10015.43*	-48.09	-873.58*
1987	38.78	34.38	44.82	44.19	321.30	284.24	7451.02	9752.13*		
1988	42.81	36.75	46.39							

<sup>a</sup> M stands for minimally involved parishes and H stands for highly involved parishes.

\* The difference between means is significant at the .05 level.

In opposition to the hypotheses, the effect of the direction and rate of change in development activity on human capital and the relationship between increases in development endeavors and human capital were greater in the minimally involved parishes. Further, the expected inverse association between changes in development activity and transfer payments was not confirmed. Moreover, the regression results demonstrated more complex relationships of development with long-term human capital and economic health than anticipated. These findings suggested that the effect of oil-related activity on communities is transitory. Within the first two years of increases in resource extraction activity, highly involved communities experienced improved economic health and less involved communities underwent betterment in basic level human capital and declines in enhancement level human capital. However, in the second and third years after the increase in activity, the highly involved communities showed signs of erosion of the improved economic conditions and enhancement level human capital increased in the minimally involved parishes.

These results suggest important modifications in theory and literature concerning energy development and boomtowns. First, the boomtown literature must be more cognizant of the fact that communities near those highly involved in energy development are affected. Impacts are not confined to the borders of counties where industrial activity is occurring at a high level.

Second, there may be a cycle of impact besides the obvious boom/bust cycle. The results suggest a relationship between oil activity and its impact on communities characterized by a series of disruptions and reorganizations. The findings support the idea that, following an increase in development activity, immigration rises as people attempt to obtain the new higher paying jobs. Therefore, too many people arrive after the increase in activity, thus some of these newcomers find themselves unemployed and this increases transfer payments. Then, some newcomers without jobs begin leaving the community in the third year after the increase in activity, thus outmigration increases and equilibrium is re-established. Further research is needed to replicate these results and to determine if the cycle is completed within four years or more impacts occur later. Also, the cycle must be examined more directly.

Answers to the Two Questions. Based on the results presented above, the answer to the first question concerning whether long-term human capital and economic health are affected by activity in the oil industry is yes. In general, such activity reduced enhancement level human capital and increased basic level human capital and community economic health.

The findings suggest that the answer to the second question concerning the difference in the impact on communities by their degree of involvement in the oil industry is that the degree of involvement does not affect long-term human capital, but does influence economic health. The difference in means by degree of involvement was significant every year for average per capita income and for almost all years for transfer payments. Moreover, the relationships between industry activity and the economic health variables were significant only in the more involved parishes.

**Policy Implications.** A community highly involved in energy development temporarily reaps the benefits of better economic health and basic level human capital when resource extraction activity is rapidly increasing or is at high levels. However, there is a price of rapid development for highly involved communities, which is not paid during the rapid development but may affect future development opportunities and the ability of the community to produce lateral linkages (Bunker 1984). This price is reduction in enhancement level human capital.

The costs and benefits of involvement in energy development must be examined in comparison to impacts in the less involved communities. Less involved communities also undergo increases in basic level human capital and declines in enhancement level human capital, but they do not experience improved economic conditions. However, regardless of the degree of involvement, all impacts depend on the level of industry activity and its direction of change. Improvement in economic conditions and rates of basic level human capital occur only when industry activity is high or increasing and can be lost when activity decreases. Economically, communities highly involved in energy development projects ride a rollercoaster driven largely by the price of the extracted commodity. Further, there may be a cycle of effects precipitated by increases in extraction activity in which initial rises in basic level human capital and economic health and declines in enhancement level human capital are succeeded by reversals of these changes in the third and fourth years after an increase in activity.

An obvious problem for communities is that enhancement level long-term human capital is detrimentally affected by involvement in resource extraction. Many people forego skills training and higher education for high-paying but cyclical, non-career jobs during periods of greater resource extraction activity. In order to reduce negative impacts, young people must be encouraged to attend college rather than seek high-paying jobs. To accomplish this, the supply conditions and the cost/benefit ratio must be altered to promote investment in higher education. State and community governments could allocate some of the money accrued due to the heightened resource extraction activity (e.g., severance and income taxes) to increase access to publicly-sponsored cheap sources of funds for investment in higher education (e.g., subsidies to educational institutions, scholarships, and low-interest community government loans). Since only highly involved communities experience improved economic conditions and both types of communities undergo changes in long-term human capital, highly involved communities could finance educational incentive programs for their own residents and states could support such programs for residents in impacted minimally involved communities. Also, communities could work with industries to develop programs to avoid the shift in indirect costs and benefits that decreases the incentive to invest in higher education when resource extraction activities are at high levels. For instance, companies could offer promotion credits, attractive work schedules and part-time employment to individuals who pursue formal education beyond the high school degree.

The other impacts which highly involved communities could designate some of their extra income to ameliorate are not just the inevitable bust, but also the cycle of impacts following increases in energy development activities. These communities should prepare for the influx of newcomers seeking employment who will increase the welfare rolls. They could work with companies to appropriate money to employ the extra staff and to pay the needed benefits to accommodate the newcomers who lack employment.

## ENDNOTES

1. Readers familiar with the literature on boomtowns will find that some studies often cited were not used in this study (e.g., Cortese & Jones 1977; Gilmore 1976; Gilmore & Duff 1975; Little 1977; Weisz 1979). These articles were criticized for their lack of methodological rigor (Wilkinson et al. 1982) and we agreed with their assessment, although we disagreed with their evaluation of some other articles and did include these other articles.
2. Much of the work, especially the more recent research, in the area of human capital focuses on comparisons of earnings of different groups, such as racial and gender groups (e.g., Bielby & Bielby 1988; Blau & Jusenius 1976; Roos 1985; Trieman & Roos 1983); thus it is not relevant to the topic of interest in this study.
3. Personal communication with Michael E. Parker, Staff Engineer Offshore Division Regulatory Affairs Engineering, Exxon Company, U.S.A.
4. One highly involved parish, Iberia, had to be omitted from the computations for this variable because the number of students enrolling in institutions of higher education was unavailable for several years. Also, there were problems with some of the data. Seventeen values for the number of ninth grade students, high school graduates, and students who enrolled in higher education were found to be extreme outliers. Contact with the Louisiana Department of Education, which had provided the original figures, confirmed that we had received erroneous data. They obtained the correct figure from one of the parishes for us and we replaced it in our analysis. However, due to the cost to the agency to verify each possible error, it was not feasible to obtain correct data for the others. Thus, linear interpolation was used to replace the other 16 numbers. As there are values for three variables for 40 parishes for 34 years (a total of 2,080 values), changing 16 through linear interpolation to reduce the error should not cause problems.
5. First differences are the result of taking the value of the variable for each year and subtracting the value for the previous year. Thus, the figure for 1957 for a particular variable, would be the difference between the 1957 value and the 1956 figure.
6. The results of the regressions and of ARIMA analyses of the residuals and of the original and differenced series showed that average per capita income in the highly involved parishes had to be differenced twice. Second differences, the result of differencing a series twice, are the differences of the first differences. Second differences are the outcome of taking the value of the first differences of the variable for each year and subtracting the value of the first differences for the previous year.
7. In time series analysis, the value of the lag of a variable is the value for the previous year. The value of the second lag of a variable is the value for the variable two years previously and the value of the third lag is the value for the variable three years previously.

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## CHAPTER 6

### THE IMPACT OF THE RECESSION IN OUTER CONTINENTAL SHELF ACTIVITY ON THE PROVISION OF PUBLIC SERVICES BY THE STATE AND BY LOCAL GOVERNMENTS IN COASTAL LOUISIANA

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#### THE LOUISIANA COASTAL ZONE AND THE OIL BOOM

Severance Tax Background. That most patrician of Louisiana governors, John Parker (1920-1924), initiated a modest severance tax on oil extraction in 1921. Not giving Parker credit for courage to enact the tax, a young Public Service Commissioner named Huey Pierce Long provoked both Parker's ire and a slander lawsuit by claiming that Parker had allowed the attorneys for the Standard Oil Company in New York City to draft the severance tax legislation which was passed (Sindler 1956, p. 47). The severance tax imposed under Parker was 2% of the value of the oil extracted.

Amidst this turmoil evolved the concept of "state revenue sharing"; 20% of the severance tax revenues were remitted to the parishes of production, with any one parish limited to \$200,000 in a year (Moses 1943, p. 610). The financial script for the future of Louisiana state-local relations was being written. Up to that time, the state had relied almost entirely on a very modest general property tax for revenue. During the 1921 Constitutional Convention debate, the idea of a graduated state income tax similar to the federal income tax which had just gone into effect under the 16th Amendment to the U.S. Constitution (1913) also was considered; however, it was strongly opposed by Governor Parker and commercial and business interests generally. The end result was a mildly permissive clause in the 1921 Constitution allowing the state a maximum 3% income tax with the understanding that any funds thus raised would substitute for property tax or auto license levies (Sindler 1956, pp. 44-45). It was not until 1934, in the depths of the Great Depression, that a state income tax actually was enacted in an effort to offset the enlarged personal residence "homestead exemption" enacted to avoid massive Depression-era home foreclosures.

Whether consciously or not, Louisiana opted to rely on severance taxes to offset the revenue lost from Louisiana citizens and their property, especially the taxes on their personal residences. At first, the burden on the state finances was not great. Even with the initial severance tax in 1921, the state received little revenue and, in turn, spent accordingly. Huey Long changed all that.

When he was elected Governor in 1928, Long moved very quickly to greatly increase the rate of the severance tax collections by changing the basis of calculation from percent of value to quantity of resource severed (Moses 1943). The change in tax calculation brought about the fabled unsuccessful impeachment attempt orchestrated by the big oil companies against Governor Long. The governor took the increased severance tax revenues and moved the state very actively into the heretofore uncharted waters of social service provision. For example, he used some of the severance tax proceeds to underwrite a program to purchase and distribute free textbooks to school children, an idea challenged in court and upheld in 1930.<sup>1</sup>

Long also passed Louisiana's first modern bond issue in 1930 to underwrite a major state road and bridge building effort because the state had one of the most primitive road systems in the country. Over the next sixty years, Louisiana spent generously in providing numerous social and physical services at both the state and local levels. Local and state taxes remained very low despite the services provided, something to which the Louisiana citizen became accustomed. After a while, a political equilibrium set in; a pattern developed with the governor and his plentiful revenues at the epicenter of an intergovernmental system in which the state took a very dominant position both as banker and as direct service provider. Maintaining favor with the governor was the key to getting more local services and projects. The political price extracted was support of the governor and his programs and policies.

Oil Price and Production Collapse. This system worked, albeit imperfectly, until the state obligations became so heavy that the severance tax revenues failed to provide the necessary revenues. Things came to this point very dramatically in the early 1980's, although the state had experienced ups and downs in its fiscal health periodically for many years prior to the worldwide collapse of oil prices. Each crisis prompted "good government" groups to issue unheeded proclamations calling for more fiscal prudence in running the state. This latest and most serious crisis finally prompted the State of Louisiana to take stock of its financial underpinnings in a comprehensive fashion. There was no choice. Oil prices, which soared to over \$33 per barrel in 1982, dropped to single digit figures in 1987 and only recently have moved above the twenty dollar mark.<sup>2</sup>

During the last decade, Louisiana went from riches to rags to subsistence. Nowhere was the impact of this roller coaster ride felt more acutely than in the oil producing coastal zone parishes which support the offshore oil industry and which provide the bulk of the supporting governmental services for a population that increased rapidly almost overnight and then declined just as suddenly when the oil boom evaporated.<sup>3</sup> By and large the coastal zone included many of the same parishes that received the original severance revenues distributed by Governor John Parker in the early 1920's, an event that soon shaped local budgets given expectations of continued bounty from oil. Suddenly, without oil and natural gas revenues, local governments simply could not survive, for they had failed to develop sufficiently diversified economies to buffer the shock of an oil price drop. Oil was everything.

Rapid change had come to the Louisiana coastal parishes before, most notably in the initial boom accompanying the development of the Gulf of Mexico offshore oil and gas drilling industry after World War II (Fortune Editors 1949). That boom occurred much more gradually, however, and the actual rate of in-migration attributed to the boom was relatively modest. Local residents shifted from employment in a seafood and nature based economy to one based on oil and gas extraction. They did so largely within the context of an insular environment with many family interrelationships and a concurrent web of social supports for the families of men either working long hours, or working offshore and away from home for extended periods of time. During the boom of the 1970's and the early 1980's, however, a different kind of phenomenon occurred. The local social service agencies such as those providing Food Stamps and Welfare Assistance reported that many people who had no prior familial or other ties to this region were coming to coastal Louisiana. Their move to the state was prompted largely by the simultaneous decline of both the Northeast and North Central "Rustbelt" economies and the out-migration of jobs from those regions. Because jobs were thought to be plentiful in the booming Louisiana coastal economy, the region attracted many hopeful and often desperate in-migrants, many of whom were not prepared for life in an area where social services just were not as available as they had been in Ohio or Michigan for example.

By and large, Louisiana local general purpose governments (parishes and municipalities) were not well prepared to deal with an influx of new residents who had no local family network in place and who needed social services in great profusion. Nor were they prepared for the rapidly mounting demands on their physical infrastructure prompted by the population boom. Congestion on local streets was one thing; lack of social services was yet another. Local governments in the Louisiana coastal zone did not provide much in the way of social services and had never done so. That is not to say parish governments were idle; local governments increased their total expenditures during the boom period, but largely within the traditional governmental categories such as police and fire protection, law enforcement (including the courts and district attorneys), streets/roads/bridges, and drainage. They did much less in the provision of social services even when the need was apparent. In the main, the coastal parishes made small appropriations to help non-profit social service agencies defray increased expenses rather than using the revenues from the oil boom for direct social service provision by local government agencies.

The State of Louisiana, directly or indirectly, took up the slack in the provision of social services during the oil boom years largely by contracting to private providers such as church groups, non-profits, and the like. When Louisiana itself fell on hard times in the mid-1980's as oil revenues declined, it had no alternative but to retract much of its existing expenditures at the local level, especially in the social services field, to help balance the state budget as required by the Constitution.

Parishes then had no choice but to follow suit as elaborated in the appended Terrebonne-Houma parish-city consolidation and Lafayette Parish-City of Lafayette annexation case studies. State expenditure reductions even were accompanied by a new state philosophical

framework: Governor Charles "Buddy" Roemer continuously made the point that the local governments had to shoulder much more of the direct responsibility for the funding of local level services deemed necessary. The state no longer could afford to do so. As shown in Table 6.1, mineral revenues as a percentage of the total budget revenues dropped precipitously from 41.2% in 1981-1982 (\$1.6 billion) to 17.1% in 1988-1989 (\$649.7 million). Had this dramatic but necessary change in state policy been worked into the state-centered intergovernmental framework gradually, the impact might have been tolerable. As it was, the abrupt state policy change after a half century of largesse landed like a sledge hammer on local governments which may never recover because they do not have the ability to raise revenues to take up the slack.

### **LOCAL GENERAL PURPOSE GOVERNMENT AND HOME RULE**

Louisiana has had a long history of powerful governors who insured a dominant state fiscal posture *vis a vis* general purpose local governments. Parallel to the fiscal dominance of the state over local governments was the legal domination of local governments by the legislature and, in turn, the domination of the legislature by the governor. Until its 1974 Constitution, Louisiana generally did not vest its local general purpose governments with home rule powers beyond the reach of the legislature (Thayer and Hadley 1989).

Since Louisiana's governor was given such wide powers, he, in turn, could and did dominate the legislature and push through legislation to curb local action. Huey P. Long and his immediate successors O.K. Allen and Richard Leche used this very tactic to bring New Orleans (Orleans Parish) to the very brink of fiscal bankruptcy in 1936. Only the resignation of Mayor T. Semmes Walmsley under protest in a "peace pact" allowed New Orleans to gain sufficient control over its affairs to fend off bankruptcy (Williams 1969).<sup>4</sup> Of course, this is an extreme example of legislative (and gubernatorial) dominance over a local government, but it is a well-known example offered to illustrate the difficulties local general purpose governments faced when they incurred state displeasure.

Louisiana traditionally vested its local general purpose government with limited "home rule" in a deliberately limited fashion. The "new" 1974 Constitution was to correct this situation by giving more autonomy to municipalities and, in fact, did so to a degree unparalleled in Louisiana history; however, there was a catch. Although Article VI, Local Government, was touted by reformers as being almost a textbook statement on home rule, it also is circumscribed by the continued refusal of the state to lift onerous restrictions on local revenue raising ability, especially evident in the restrictions on property taxes and the absolute prohibition of local income taxes. The latest constitutionally prohibited tax is one on inheritance which was adopted by the voters in October 1990 after New Orleans levied such a tax and had its legality upheld in the courts.

Of relevance to this coastal zone parish study is that fact that, as a direct result of these revenue limitations, local general purpose governments were unable to raise sufficient

Table 6.1 Louisiana mineral revenues (in millions) by category and percent of total budget revenues, fiscal years 1976-1988.

Fiscal Year	Severance Tax	Royalties	Rentals	Bonuses	Total*	% Total Revenues
1976-1977	492.9	152.4	6.6	46.6	698.5	35.9
1977-1978	474.1	167.5	13.8	89.4	744.8	32.8
1978-1979	466.3	182.0	17.4	47.1	712.8	28.5
1979-1980	522.8	223.1	23.5	275.6	1,045.0	4.3
1980-1981	813.0	326.6	39.7	128.6	1,307.9	37.6
1981-1982	980.4	478.9	54.1	120.4	1,633.8	41.2
1982-1983	868.4	459.8	42.1	42.5	1,412.8	37.7
1983-1984	836.7	422.5	21.2	52.3	1,332.7	35.5
1984-1985	718.9	422.7	20.8	59.5	1,221.9	27.8
1985-1986	657.6	369.6	20.5	29.8	1,077.5	25.3
1986-1987	451.1	246.7	8.0	12.0	709.8	19.0
1987-1988	477.7	240.3	6.8	28.5	753.3	19.2
1988-1989	399.6	229.1	6.0	15.0	649.7	17.1

\*Includes a small percentage (less than 5%) of non-mineral severance taxes.

revenues to deal adequately with either their population increase associated with the oil boom or the near depression conditions that followed the collapse of oil prices. Local revenue collections lagged at the onset of the boom and public services deteriorated under the load. Traffic congestion and serious drainage problems came quickly, more quickly than the parishes could cope with them.

Then, at the onset of the decline, local general purpose governments initially did not recognize the boom was over and tried hard to complete projects underway by cutting expenditures in areas deemed of lesser priority. First among the spending casualties were social services, most of which were small appropriations to non-profit social service providers. Later came cuts in capital construction projects followed by the layoffs of public employees and the contracting out of selected public services such as solid waste collection and disposal and maintenance of public buildings. In the process, the topology of a new unit of general purpose local government began to emerge in Louisiana.

## THE NINETIES

Recent statistics indicate that the worst of the oil crisis may be over. For example, unemployment statistics in key oil centers as Houma-Thibodaux and Lafayette now approach the national average after having been in double digits for several years (O'Donnell 1990).<sup>5</sup> Any preliminary optimism over this early reduction in unemployment must be tempered by the sober realization that a portion of the lower rate has to be attributed to out-migration and expiration of unemployment benefits. This assumption is corroborated further by preliminary statistics from the 1990 U.S. Census indicating that the Louisiana has lost significant population over the last decade as shown in Table 6.2. The preliminary population loss figures for the state and New Orleans respectively are 125,000 and 70,000.

The population loss was especially severe in both larger metropolitan areas and in the coastal zone parishes. The loss was severe enough to cost Louisiana one of its eight congressional seats. Moreover, it was the first time Louisiana lost total population since statehood in 1812. The New Orleans population was reported to have dropped below 500,000, a population level that would cost the city badly needed federal entitlement funds because a major eligibility criterion is a half million population (Nicholas 1990, p. B-8). Not surprisingly, New Orleans, among other cities, has filed a protest against the U.S. Bureau of the Census count.

Not only did the local governments lose sales tax-paying residents, they also lost other tax revenues because property assessments dropped and tax delinquencies rose. Business tax collections slumped because local businesses fell on hard times. Very few economic statistics were positive. Local governments had no place to turn for relief except to the state where former Governor Edwin W. Edwards did manage to grant some relief at the beginning of the bust. However, by 1986, even he gave up and abdicated to the legislature. Most of the ensuing attention given the fiscal crisis was focused on the state government and

Table 6.2. Louisiana population in the 1980's.

	Mid-Year Population	Annual Number	Percent Change	Births	Deaths	Natural Increase	Net Migration
1980	4,225,000	75,000	1.8	81,000	36,000	45,000	30,000
1981	4,300,00	84,000	2.0	83,000	35,000	48,000	36,000
1982	4,384,000	58,000	1.3	84,000	36,000	48,000	10,000
1983	4,442,000	21,000	0.5	80,000	36,000	44,000	(23,000)
1984	4,463,000	23,000	0.5	81,000	35,000	46,000	(23,000)
1985	4,486,000	13,000	0.3	79,000	37,000	42,000	(29,000)
1986	4,499,000	(51,000)	-1.1	76,000	36,000	40,000	(91,000)
1987	4,448,000	(40,000)	-0.9	73,000	36,000	37,000	(77,000)
1988	4,408,000						
	TOTALS	183,000	4.3	637,000	287,000	35,000	(167,000)

Source: U.S. Department of Commerce, Bureau of the Census 1982; 1987; and, Louisiana Department of Health and Hospitals, Office of Public Health Statistics. Calculations performed by the University of New Orleans, Division of Business and Economic Research.

the interplay between the legislature and the governor in balancing the budget of the state as the constitution required (Thayer and Hadley 1989).

Not only local general purpose governments were caught in the fiscal squeeze. Under Governor Roemer, the state announced the termination of its longstanding practice of directly paying for many services delivered by special districts at the local level. The most painful example was the state decision to pay only for direct educational services under the state Minimum Foundation Program funding formula for elementary and secondary education (Nicholas 1988). Roemer refused to allow state funds to be used by local school boards for such expenses as school bus drivers and cafeteria workers. School boards were aghast, claiming that such action would cause wide layoffs. A one year "bridge" funding mechanism was cobbled together to allow school boards time to raise substitute revenues (Katz 1988). How they would do so in the face of hard times was unclear. In many areas, the local parish school board was the largest single employer. Cutbacks of this magnitude would have the same impact as the closing of a large plant or military installation. Nevertheless, Services were cut back and, eventually, the Minimum Foundation Program was rewritten.

Local general purpose governments were hit less directly by state action although the proposed elimination of state supplemental pay for police and fire employees was bitterly fought and ultimately partially restored. Local governments were in no position to fill the state-created revenue or service void. Not that they did not try; some parishes even tried to directly confront the state to head off budget cuts. New Orleans, for example, was compelled to file suit against the state, arguing that the practice of the state mandating services, such as the courts, was in direct violation of the state constitution prohibition against mandating services without the provision of financial reimbursement. This suit failed, as others had done in the past (Katz 1989a).

As state oil severance tax revenues further declined during the 1980's, the state government was forced to shrink its fiscal presence. This was not easy to do because a very large proportion of state expenditures is mandated by law. There are only three areas of major expenditure where the state could make budget cuts: 1) health and human services (including the Charity Hospital System); 2) education (including elementary and secondary education where the funding largely is distributed by a complex equalization formula); and 3) transportation. Elementary and secondary education received cuts; higher education appropriations slumped to the lowest level in the South, a region which already lagged the nation. Transportation was cut to the point where the federal government stepped in and pointedly noted that, unless the state kept up required maintenance of its part of the interstate highway system, all federal monies for roads would be jeopardized (The Associated Press 1987).

It appears, however, that the greatest *proportional* cuts at the state level were made in the area of health and human services encompassing many state supported social services delivered at the local level. Cutbacks forced reductions in the services provided *directly* by the state as in the charity hospitals, but there were even sharper reductions in state contracted

services delivered by "private providers," usually non-profit organizations which operated at the local level as a social services complement to local general purpose governments.

Local general purpose governments received their cuts as well, but they were phased in more gradually. First, the actual flow of state funds to local governments often was mandated either by law or by administrative regulations, thus precluding a quick cut. Second, the local governments, long acknowledged to be masters at applying lobbying pressure, did just that at the state level and thus alleviated some of the worst budget cuts. Third, the actual presence of local governments as service providers had transformed them into a patchwork of "project" or "categorical" programs loosely knit together by a general fund administered by local officials who had limited discretion to move monies from one project fund to another. The local general fund with "flexible" revenues was used to subsidize individual project funds that might run short, allowing local governments to remain solvent.

At one end of the spectrum was the 1984 Terrebonne Parish-Houma (city) consolidation examined as Case Study 1 in the Appendix, a move designed to offset the twin financial difficulties that each partner was experiencing even before the oil crisis deepened. More frequently encountered, as many local governments in the Louisiana coastal zone reported during this study, was the investigation of a wide range of cost-cutting ideas. However, the twin impacts of Reagan Administration federal budget cuts and the reduced state presence hit too hard and too close together to enable the general development of sensible and fair solutions.

Some consolidation of local government services was overdue at the local level anyway, and the fiscal crisis accelerated it. Selected restructuring had been underway (as in Houma-Terrebonne) before the oil crisis in order to get an organization better able to deal with a burgeoning population. In Houma-Terrebonne (covered in Case Study 1 in the Appendix) the original plan was to reexamine the delivery pattern of local services needed to deal with a booming population base and rapidly rising expenditures. After consolidation, it turned out that the cost cutting efforts had to be focused on both declining population and revenue bases. In either case, the strategies under examination were similar. For example, an arrangement for entering into "privatization" (contracting out) with private firms was developed. Solid waste collection and disposal were always high on the list of possible services to be consolidated.

Though it was debatable whether it was a social service or not, parks and recreation was an area which continued to receive local government revenues during the crisis, although at a reduced rate. Even so, recreation was a net loser for budgetary and related reasons. Personnel were cut and programs reduced. Facilities were minimally maintained with the enlistment of volunteers. Parks and recreation was a double loser as were other "discretionary" services provided by local governments. In the early 1980's, skyrocketing costs for liability insurance and widespread non-availability of coverage had forced the closure of many recreation sites, especially swimming pools. Deferred maintenance occasioned by the fiscal crisis contributed to the premature deterioration of conditions in

many parks, thus making the liability exposure even worse. More sites were closed. In turn, the deferred maintenance led to higher rates of vandalism against such facilities. When local governments witnessed falling revenues, they often had to close park and recreation facilities or risk major lawsuits from injury or lack of sufficient oversight. The user population suffered a real loss as a result (Thayer and Wagner 1982).

New local taxes were considered, sometimes adopted, but always resented. Local governments are limited in the possible scope of taxes that they can levy. Given the constitutional restrictions on wider use of the local property tax, the state balanced its budget over the 1985-1990 interval largely by suspending existing exemptions to the state sales tax (in effect, a sales tax increase).

Local governments contemplating a tax increase in the one area left available to them -- the sales tax -- had to consider that the cumulative sales tax might terminally cripple local businesses fighting for their very life. There had to be a better way to provide services, and the method usually selected involved the creation of a special district and the concomitant establishment of a source of dedicated revenues for its operation.

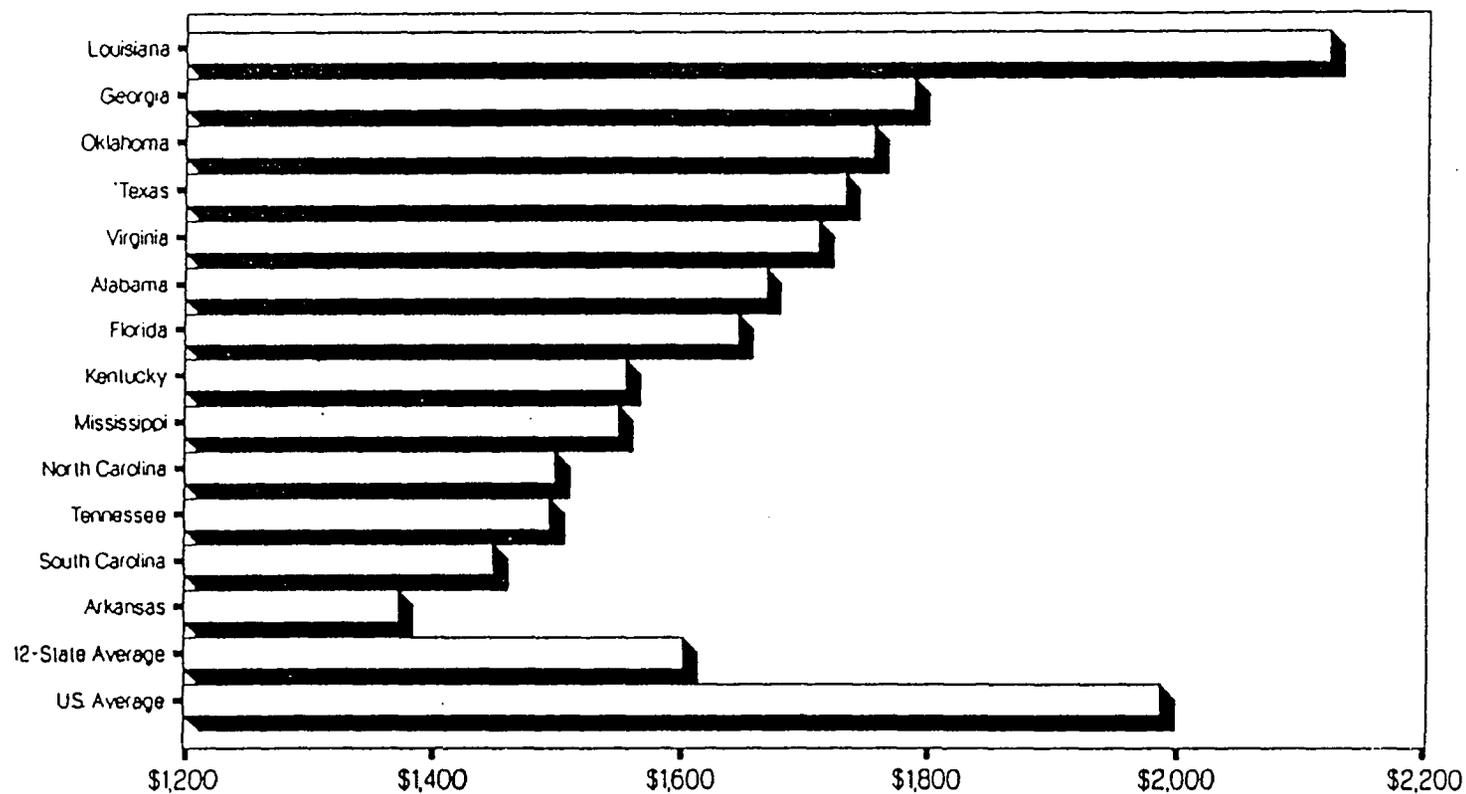
### **THE ROLE OF SPECIAL DISTRICTS**

A shift to providing more services at the local level by "special districts" or "special taxing areas" had been slowly underway in Louisiana since the 1960's. The fiscal crises in the 1950's and 1960's accelerated the trend of voters being unwilling to support general tax increases, but being less opposed to increased taxes "earmarked" for specific purposes, geographic areas, or both. Taxes to provide a specific service were levied on those who were its direct recipients. As a result, local governments began to look like a jar full of soda straws, each straw representing yet another insular funding channel linked to its neighbors by proximity, but separated from them by law and public expectation. Incidentally, physical services such as streets and drainage adapt themselves well to the special district approach. Social service programs do not; they had their origin in the discretionary revenues in the local general fund. Rarely can social services gain dedicated revenues.

This emerging pattern of local governance will not easily sustain a widening of the responsibilities for service provision by local general purpose governments. Rather, more and more the focus for service design, funding, and delivery will be given over to a plethora of "special districts" or "special taxing areas" (to use the modern nomenclature). There are many reasons for this conclusion.

Local governments had become overly reliant on state funds rather than developing their own capabilities and funding base. At the height of the oil boom, fiscal year 1983, Louisiana total per capita government expenditures were \$2,119, as shown in Figure 6.1. For comparison, the average for the other twelve southern states, including Oklahoma, was \$1,601 while the U.S. average was \$1,986. Louisiana per capita state and local expenditures

Figure 6.1 Total Per Capita State and Local Expenditures for Louisiana, the Southern States, and the U.S. Average, 1983



Source: Public Affairs Research Council of Louisiana, Inc. (1985.4)

in that year exceeded the southern state average by 25%, the U.S. by 6.2%. Considering that the local property tax burden in Louisiana ranks 49 of 50 states, the state was spending over its head if the oil revenues were to fall. When the crash came, the local general purpose governments were not legally or fiscally empowered to fill the state void. With the restricted revenue sources left to them, they were unable to approach making up such a shortfall. Services had to be cut.

The power imbalance between the state and local governments was only partially corrected by the 1974 Constitution despite widespread expectations to the contrary. On paper, local government seemed to gain substantial power to act on behalf of their citizenry.<sup>6</sup> However, many knowledgeable commentators were much less optimistic about local affairs, especially in the area of local revenue raising capability. According to one respected analyst, D. Michael Dendy (1977, p. 974), "On the whole, the grant of home rule autonomy in the Constitution of 1974, while admittedly broader than that of most provisions of the Constitution of 1921, is narrower than the autonomy granted home rule cities in most other states recognizing autonomy."

Parishes, except urban ones such as Jefferson and Orleans, were given much attention in home rule details, but they really were not given much additional power. For example, the pre-existing home rule authorities of Jefferson and East Baton Rouge parishes were allowed to stand in the new Constitution. Of 64 parishes in the state, all but three still retain the more rural "police juror" system of government. In fact, they remain organized much as they were in the 1950's when Earl K. Long was governor.<sup>7</sup>

Discussion of the home rule issue was focused largely on the more populous metropolitan areas. Rural parishes were indifferent to the document; and, a majority of parishes actually failed to turn out a majority vote for the Constitution in 1974. The document garnered huge Orleans and Jefferson Parish majorities to offset vote deficits in rural areas. Even that was not necessarily a positive development. The large vote majorities in these two parishes largely was attributed to the energetic activity of elected Jefferson Parish Assessor Lawrence A. Chehardy, Jr., who, as a Constitutional Convention delegate, was the principal author of the very confining restrictions on property tax increases built into this document (Public Affairs Research Council of Louisiana, Inc. 1974).<sup>8</sup>

Carrying forth the restrictions on the property tax from the 1921 Constitution to the 1974 version virtually ensured that local general purpose governments would never be able to develop sufficiently large and stable independent revenue streams to enable them to continue their activities at pre-bust expenditure levels if the state presence shrank significantly. A particular quirk of Louisiana law and history guaranteed this would be the case. It is the "tax give-back" mistakes made in the boom years.

## TAX "GIVE-BACK" MISTAKES

It now is certain that Louisiana officials in the 1970's and early 1980's badly misjudged the future of Louisiana revenues despite many warnings to the contrary. During the oil boom, the state took several actions that turned into permanent revenue losses because of a constitutional provision unique to Louisiana. In 1956, the voters accepted an "anti-Earl K. Long" amendment to the Constitution; it requires a two-thirds vote of both houses of the legislature for any measure to raise taxes just to get the issue before the voters.<sup>9</sup> This tax increase limitation was carried forth in the 1974 Constitution. As a result, a minority in one house of the legislature literally can hold hostage any proposed tax increase bill. This is a situation that was prophetically warned of by long-time Louisiana observer William C. Havard (1958-1959, p. 143), "The Louisiana legislature is, as far as this writer knows, the only one in the United States which has bartered away its taxing power by proposing a limiting amendment. . . ." <sup>10</sup>

This amendment has caused great problems for ensuing governors. Two major examples are offered for illustration. First, in the field of property tax, the state responded to a series of well publicized court decisions about inequities in the property taxation system by vacating the property tax field in 1976. Of course, by statute the Louisiana Tax Commission retains an oversight role in tax matters even though the state no longer collects its allowed six mill property tax by virtue of an amendment approved by the voters. Consequently, the Louisiana Tax Commission, never the most robust of agencies, was pushed even further to the rear; and, elected tax assessors were given an even larger role in tax matters. Even the remedies available to the Louisiana Tax Commission are a bit unrealistic.<sup>11</sup>

At any rate, like the income tax before it, the surrender by the state of its right to collect a property tax became a permanent revenue loss, as Governor Charles "Buddy" Roemer discovered when he tried to get the state back into the property tax field in 1988 as part of his tax reform initiative. It is debatable whether the state ever should have abandoned its property tax in the face of the knowledge that it would take a two-thirds vote of both houses just to get it back before the voters. Leaving the property tax field appeared justified as a pro-local government move in that it gave them more room to move in the property tax field. However, the constitutional restraints on local government action in the property tax arena have kept them from capitalizing on the state departure from the property tax field.

The state also permanently gave back a portion of its income tax. As the first elected Republican governor in the state since Reconstruction, David C. Treen (1980-1984) was so confident of the state's future financial health that he initiated a major cut in the state income tax in 1981. Just six years later, Roemer again found himself blocked from raising the income tax back to its previous levels as proposed in his 1988-1989 tax reform initiatives. In fact, the only time the state was able to get around the "anti-Earl K. Long" amendment and balance its 1986 budget was when then Governor Edwards got a highly debatable Attorney General's opinion to the effect that a legislative action to *suspend existing sales tax exemptions* for food and drugs was not a tax increase and, therefore, needed only a majority

legislative vote. The state continues to balance very precariously on this fulcrum to this day. The "temporary suspensions" remain in force at this writing. Other proposed solutions have failed to pass the legislature.

### **FISCAL PROBLEMS, FISCAL REFORM**

Swimming Against the Tide. Louisiana's fiscal position started to weaken as oil prices began to soften in 1982, just after the Treen income tax cut went into effect. Realizing that the state would soon move into a deficit posture unless some corrective actions were taken, Treen was moved to push an earlier revenue idea of Governor Edwin W. Edwards' -- taxing oil and gas produced beyond Louisiana's territorial limit but which then had to traverse the Louisiana marshes on its way northward (Wardlaw 1982a).<sup>12</sup> In 1978, Edwards successfully proposed a very similar tax revenue measure, a "first use tax" to be levied on gas produced beyond Louisiana's territorial limits. While the first use tax was passed and signed into law by Edwards, it immediately was challenged in court on constitutional grounds by Maryland and several other states. In May 1981, the U.S. Supreme Court overturned the first use tax on the grounds that it not only violated the constitutional "supremacy clause" but also was a clear infringement on interstate commerce. In addition to the legal costs incurred, the state also was forced to return some \$650 million in collected but escrowed taxes with interest (Public Affairs Research Council of Louisiana, Inc. 1982, p. 1).<sup>13</sup>

Consequently, legislators were understandably wary of Governor Treen's subsequent proposal to enact what looked suspiciously like the same tax under a different name, the "Coastal Wetlands Environmental Levy," or CWEL as it was called. Treen and his legal staff assured the legislature that this proposed tax met the legal tests previously failed by the Edwards version, but the state legislature remained unconvinced and failed to support the tax. It is interesting to note that former Governor Edwards, from the sidelines, was one of the leaders of the opposition to the Treen version of "his" tax.

Again, Treen could not get the necessary two-thirds vote to bring a tax before the voters (Wardlaw 1982c). The idea of a first use tax as an antidote to Louisiana's fiscal ills died although the idea seems to resurface periodically. This tax might have been the last chance the state had to generate revenues of sufficient magnitude from "out of state payers" to offset the crash in oil prices without draconian increases in local and state taxes that the electorate was conditioned not to accept.

When Treen left office, the estimated 1984 state budget deficit was \$1 billion, although no one knew for sure. In 1984 special and regular legislative sessions, Edwards managed the truly prodigious feat of pushing through over \$700 million in new taxes to barely keep the state afloat. Though he sought over \$1 billion on new taxes, he was opposed by a solid legislative minority of Treen supporters and fiscal conservatives who kept many of his tax

initiatives hostage just as Edwards' allies had done to Treen's proposals. Louisiana managed to balance its 1984-1985 budget and eagerly awaited the promised Edwards tax initiatives (See, Public Affairs Research Council of Louisiana, Inc. 1984).

His solution to the state fiscal ills were the twin ideas of a statewide lottery and legalized gambling. In fact, his 1985-1986 budget submitted to the legislature contained revenue estimates and proposed spending based on those revenue generators being in place. The legislature refused to go along. Opposition to the Edwards' solution mounted. By spring 1986, he turned the budget process over to the legislature, which adamantly opposed the adoption of a budget based on revenues sources the voters might not approve (Wardlaw 1986).<sup>14</sup>

In the 1987 state elections, Edwards ran a poor second to U.S. Representative Charles "Buddy" Roemer in the first primary and conceded defeat rather than contest the general election. Involved in the budget process soon thereafter, Roemer sought and received sweeping powers to deal with the budget in a special session of the legislature held soon after his inauguration. He then submitted a widely praised barebones budget, but also set in motion the chain of events that shook local governments to their fiscal roots. His intent was to underline the seriousness of the situation as a way of pressuring the legislature to produce the necessary two-thirds vote to allow his comprehensive tax reform package to come before the voters (See, Public Affairs Research Council of Louisiana, Inc. 1988a, p. 1; cf. Wardlaw 1988).

A New Era? In late 1988, Roemer finally got the legislature to agree to submit to the voters a major tax reform package that was backed by virtually every business organization in the state and opposed only by so-called splinter groups, prominent among them being the Legislative Black Caucus led by Senator (now U.S. Representative) William Jefferson of New Orleans. Governor Roemer traveled around the state from October 1988 to April 1989 promoting this package. Unhappily, the tax reform package was defeated soundly by nearly a 2:1 margin. Ironically the proposal received support in many areas where the burden was to have been the heaviest, but was then almost obliterated in lower income areas that would have been major beneficiaries (Katz 1989b).

A later effort in October 1989 rescued some of the more attractive elements of the tax package, such as the creation of a highway (transportation) trust fund into which receipts from increased gasoline taxes would be directed and spent only on state and local highway and transportation projects. This action, moreover, insured that gasoline tax receipts would no longer be siphoned off by the state to bolster its beleaguered general fund. The trust fund did offer some relief to local government capital budgets, though most of the state's revenue problems remained unsolved since the state general fund no longer can "borrow" from this revenue source.

On the minus side, the state's continued reliance on the "temporary" suspension from state sales tax exemptions blocks local governments from their only avenue of raising revenue, the

sales tax. Louisiana has several governments, such as New Orleans and the New Orleans International Airport, with respective sales tax rates of 9.5% and 13%, the latter being *the highest rate in the nation*. Increasing sales taxes under such circumstances only would create an additional hardship for the poor who have to spend virtually everything they earn just to survive. High sales tax rates also put local businesses at a big disadvantage, especially in retail sales.

### A MOVEMENT TOWARD SPECIAL DISTRICTS

The financial squeeze on local general purpose governments did not hit special districts as hard because many of them had a long and special relationship with the legislature which frequently gave them access to statutorily protected sources of funds. Local general purpose governments also had some constitutionally dedicated revenues such as State Revenue Sharing, royalties, severance taxes, and tobacco taxes among others, dedications which brought in \$235,800,000 in 1986-1987, as shown in Table 6.3. At the same time, local general purpose governments also have a much wider range of responsibilities than do single purpose districts.

The 1982 Census of Governments reported Louisiana ranked 40th among the states relative to the number of local government units. There were 64 parishes (counties), 66 school districts, 301 municipalities, and just 39 special districts, of which 28 had property taxing power (U.S. Department of Commerce, Bureau of the Census 1982, p. 3). This special district statistic is somewhat misleading, however, as the comparable figure for 1972 was 419 (from the same source), of which 295 or 71% had property taxing power (U.S. Department of Commerce, Bureau of the Census 1972, p. 371). The higher number appears a better reflection of reality because few districts actually were eliminated between 1972 and 1982, except on paper. The numerical difference is partly attributable to a definitional change adopted by both the U.S. Bureau of the Census and State of Louisiana in its 1974 Constitution as to what constitutes "local government."<sup>15</sup>

Many Louisiana special districts were not required to report through a local general purpose government to the state; rather, they were accorded relatively independent status. In practice, they were something similar to a single purpose municipality. Once in place, special districts tended to operate with little public oversight and often bypassed local general purpose governments altogether. This led to calls to reform the process by which the special districts reported. Delegates to the 1974 Constitutional Convention responded by redrawing and specifying the line of authority for special districts. In Article VI, Local Government, a number of the existing special districts were consolidated into local general purpose governments, mainly parishes. Then special districts were redefined further to ensure that their inferior status to local general purpose governments was apparent. The 1974 Constitution then transferred responsibility for many special districts to local general purpose governments, but many districts had outstanding revenue bond issues and other legal obligations which mandated keeping their revenue streams separate and distinct from those of

Table 6.3. Major non-education revenues for Louisiana local governments (in millions), 1984-1988.

Aid Program	Actual 1984-1985	Actual 1986-1987	Estimated* 1987-1988	Budgeted 1988-1989
State Revenue Sharing {1}	\$90.1	\$90.0	\$90.0	\$90.0
Severance Taxes {1}	28.2	26.5	25.2	26.0
Parish Royalty Fund {1}	40.6	23.4	26.3	22.9
State Supplemental Pay {2}	46.7	51.7	43.9	32.7
Parish Transportation Fund {2}	52.1	18.4	11.0	7.7
Tobacco Tax {2}	32.0	13.4	11.4	9.1
Horse Racing Dedications {3}	6.7	5.9	4.5	4.0
Fire Insurance Premium Tax {2}	5.3	6.6	4.8	3.5
Total (Selected Programs)	\$301.7	\$235.8	\$217.1	\$195.9

\*As projected by the Legislative Fiscal Office (January 15, 1988) less cuts by Executive Orders BR 88-1 through 11.

{1}Constitutional dedications.

{2}Appropriations (\$53 million total) from one-year "bridge" funding revenues.

{3}Not all funds dedicated to local governments.

Source Public Affairs Research Council of Louisiana, Inc. 1988b, p. 7)

the local general fund. Since special districts are created to guarantee that project revenues will be paid to bondholders for support of the facilities funded by the bond issue as well as for bond repayment, those created prior to 1974 had a presumption of some independence from local general purpose governments. This presumption was reversed in the 1974 Constitution by vesting "local governmental subdivisions . . . with new, broad authority for their consolidation or merger with special districts. . . . (Edwards 1975, p. 6)." However, the pre-1974 obligations of special districts largely were left in place.

Special districts are now often given life as "project" or "categorical" funds within the parish budget for purposes of revenue collection. Technically, they are "special taxing areas" subordinate to the local general purpose government in the area. But, the fact that the taxing area has revenues and a restricted mandate for service delivery often means they are healthier than their superior government unit. If a special district with adequate revenues to carry out its functions wishes to retain its independence, it may have to publicly resist consolidation with a local general purpose government with designs on its revenues. An example comes from the coastal St. Bernard Parish where Cazaubon (1990) reported that:

Our special districts have dedicated revenues (*ad valorem* tax and State Revenue Sharing). These are fixed (as to percent or amount) and have only experienced moderate increases which results in more use of general fund revenues to maintain services when costs rise. In reality, the Parish has cut expenses.

Not all special districts are small in territory and within the orb of a parish or municipality. Of the 39 special districts currently reported by the state as having significant autonomy, 15 are in the area of transportation, especially port, harbor or terminal activity, or in the general area of drainage and flood control. Some districts are very large and employ many people. All have their constituency. In general, they provide services which are not good candidates for consolidation with local general purpose governments with little experience in such matters. The state now has fewer reported special districts than existed prior to the 1974 Constitution, but significant administrative diffusion of responsibility for service provision remains. This distinction is often papered over in the summary statistic delineating the number of special districts that exist in Louisiana.

To highlight this trend at the state level, for example, special districts are being created to take on ever larger responsibilities. A recent example is the creation of the Louisiana Tourism and Promotion District, established to promote tourism statewide. As the press story announcing the establishment of the district notes (Anderson 1990):

...the Louisiana Tourism and Promotion District, meeting for the first time, voted to begin collecting 0.03% of the state's sales tax for tourism advertising [about \$12.6 million per year]. The Legislature this summer [1990] approved the shaving of the 0.03 cents from the state's sales tax base to beef up tourism efforts. The special district and the tax it collects will dissolve July 1995, unless extended by legislation.

Just as the Louisiana local governments have found themselves using the general fund to prop up a profusion of special districts rather than for new initiatives, so may the state come to rue the proliferation of such districts which have priority claims on state revenue streams.

## SUMMARY AND CONCLUSION

Louisiana is at the stage of recovery from the decline in world oil prices and decreased OCS oil drilling and production. Unemployment is declining, jobs are increasing, the price of oil is up, and a gas boom appears likely. Over the past five years, Louisiana weathered some very trying economic times. The state shored up its fiscal position by undermining that of its cities and its municipalities and, to an even greater degree, its parishes. By enlarging its presence in the sales tax field, for example, the state pushed aside the needs of its fiscally hamstrung local general purpose governments and made their fiscal plight all the more painful. The state directly and indirectly caused a significant decline in the quality and quantity of public services available at the local level, particularly social services.

Given the structure of Louisiana government system, no other result was possible. Local general purpose governments in the state have had their revenue raising capabilities increasingly limited by a succession of governors since Huey P. Long in 1928. The state has long maintained a dominant fiscal position over its local governments. With its abundant oil and gas severance tax revenues, Louisiana directly funded the provision of many services at the local level, services which are local responsibility elsewhere.

Within the coastal zone itself, the boom of the 1970's and early 1980's led to some very speculative building in order to accommodate the demands of a growing population. The state helped out as needed to get projects off the ground. It is not surprising that local governments did not expand the scope of their traditional governmental roles in the process; they just got bigger doing what they had done traditionally. For example, parishes often did not create new departments to provide the social services. The state administered the block grant funds and contracted with non-profit agencies to do much of this work at the local level. When state funds ran low, there was limited local government capability to take up the slack.

When the oil price collapse hit, local general purpose governments made major cuts in public services. Because they were unable to raise significant new revenues from their hard pressed citizens, they were forced to investigate a range of service provision alternatives from privatization (contracting out) to the imposition of service charges to offset the revenue loss. Some projects were abandoned "temporarily" although others were in the "pipeline" and had to be built. Counter-cyclical spending by local governments as an antidote to depressed local economic conditions was envisioned but little practiced in the face of the practical fiscal realities. Some services were abandoned altogether.

Unhappily, it does not appear that very many of the impacted OCS communities used the decline period to re-examine future community directions. Spending cuts were made, but dreams did not die. The 1983 capital improvement projects are now being dusted off for massive capital expenditures planned or underway, particularly in the area of highways and bridges, where highway trust fund revenues underwrite them. No one debates the fact that many of these infrastructure elements are needed; but, much of this spending will actually contribute to the continued weakening of the older and more constricted commercial areas at the expense of continued expansion into marginal lands needing major improvements to prevent flood danger. That is a danger sign for the future.

Social services long were regarded by local general purpose governments as the proper purview of state funded non-profit entities, but were given some local government financial support if possible. During the oil boom and subsequent decline, the population of the Louisiana coastal parishes fluctuated rapidly; the demand for social services was very high in both cycles. As a result, the overburdened social service system staggered from funding crisis to funding crisis as state and federal funds were cut back under Reagan economics first, and then with the collapse of the Louisiana oil industry. Local governments, while close to the problem, were helpless fiscally to avert the outright closure of many service providers. Social services simply were not given an equivalent priority to physical construction projects and the mandated government functions, such as law enforcement. This situation does not appear about to change.

## APPENDIX

### Case Study 1

#### LOCAL GOVERNMENT IN A TIME OF FISCAL STRESS: The Houma-Terrebonne Consolidated Government

In July 1980, near the peak of the oil boom, an unusual event took place in Terrebonne Parish, the largest coastal parish in Louisiana. Upon recommendation of a study commission, voters in Terrebonne Parish and the City of Houma adopted a Parish Home Rule Charter that provided for the consolidation of parish and city government functions effective January 1, 1984. Such a parish-city consolidation was not without precedent in the state -- witness the 1949 consolidation of East Baton Rouge Parish-City of Baton Rouge (e.g., Havard and Carty 1964). The City of Houma continues to exist as an Urban Services District to provide the municipal services delineated in its charter, but, the Parish of Terrebonne now acts as the governing authority of both the City of Houma and the parish. This consolidation was made possible by provisions in the 1974 Louisiana Constitution allowing parishes to adopt home rule charters with a great deal more flexibility than accorded previously.

In the late 1970's, given the more liberal constitutional provisions for parish home rule, several parishes were motivated to appoint charter study commissions to determine if their existing mode of governance, usually the "police jury" system, could or should be replaced with a more modern form of government that more closely connected the executive and the

special district. There are fifteen (15) parish councilmen elected by districts and a parish president elected from the new Terrebonne Parish Consolidated Government (TPCG).

Contained within what is termed the Parish Reporting Entity are units over which the TPCG exercises oversight responsibility. They include: Terrebonne Parish General Hospital; Waterworks Districts No. 1, 2 and 3; Terrebonne Council on Aging; Houma-Terrebonne Airport Commission; Terrebonne Parish Sales and Use Tax Department; Houma-Terrebonne Regional Planning Commission; Terrebonne Parish Recreation and Parks Board; Terrebonne Parish Recreation Districts 1-10; Terrebonne Parish Library; and the Houma- Terrebonne Tourist Commission.

However, in line with the historic tradition of fragmented local government service responsibility, the following entities are not included within the parish reporting unit since the TPCG exercises remote or no oversight over them: Terrebonne Parish School Board; Terrebonne Parish Sheriff; Terrebonne Parish Assessor; Terrebonne Parish Clerk of Court; Thirty-second Judicial District Court; Houma-Terrebonne Trust Authority; Terrebonne Parish Housing Authority; Zoning Commission; Houma Parks Commission; Civil Service Board; Census Complete Count Committee; Housing Authority Board; Mayor's Committee on the Handicapped; Downtown Development Committee; City Court of Houma; and the Terrebonne Parish Industrial Development Board.

Under the provisions of the 1974 Louisiana Constitution and Act 433 of 1981, Terrebonne Parish was permitted to levy taxes up to \$1.40 per \$1,000 of assessed value for property within the Urban Services District and \$2.80 per \$1,000 in the rest of the parish for general governmental services other than the payment of principal and interest on long term debt. The tax base at the time of the 1984 consolidation is presented below:

<u>Location</u>	<u>Total Value</u>	<u>Exempted</u>
Urban Services District	\$ 94,300,000	\$28,900,000
All other property	<u>\$321,500,000</u>	<u>\$52,700,000</u>
<b>TOTAL</b>	<b>\$415,800,000</b>	<b>\$81,600,000</b>

It is instructive to look at a Consolidated Revenue/Expenditure statement for the TPCG for FY 1984, the height of the oil boom.

<u>Revenues 1984</u>		<u>Expenditures 1984</u>	
Taxes	\$926,633	General govt	\$4,681,921
Licenses/permits	245,743	Public Safety	757,938
Intergovernmental	4,753,633	Streets/drainage	1,134,477
Service charges	102,837	Sanitation	189,633
Fines/forfeitures	61,138	Health/welfare	154,113
Miscellaneous	778,837	Culture/recreation	66,390
		Education	19,638
		Economic devel. asst	88,957
<b>TOTAL</b>	<u>\$6,868,821</u>		<u>\$7,092,257</u>
		<b>DEFICIT</b>	<b>(\$223,706)</b>

The operating deficit was offset by transfers into the general fund from other revenue sources in a net amount of \$1,345,469. The fund started the year with a balance of \$3,185,415 which put the TPCG into a reasonable fiscal position. Problems soon surfaced. The revenue category critical to TPCG was the Intergovernmental.

In 1984, it totaled \$4,753,633 or 64.5% of the general fund revenues with the state contributing:

Mineral royalties	\$3,813,442
Severance taxes	536,010
Revenue sharing	79,497
DOTD grant	60,717
Detention charges	9,303
Oral history grant	5,683
City Court salary reimbursement	248,981
<b>TOTAL</b>	<u>\$4,753,633</u>

The general fund, however, represents only 11.7% of total TPCG revenues. The restricted Special Revenue accounts, with a total of \$37,833,494, account for 64.4% of TPCG revenues or eight times those of the General Fund. Special revenue funds are restricted ones that range from the state Roads and Bridges Fund to those for Sanitation, Drainage, and

Sewer. Too, some federal monies are earmarked by Special Revenue Accounts; it is from these sources that any social services generally are provided. For example: Council on Aging Fund; Health Fund (Parish Health Unit); Retarded Citizens Fund (state revenue sharing plus 5 mills of parish levy to run schools and the like for the retarded).

The Urban Services (Special) District of Houma has some additional programs. In addition to those above that are operated by the TPCG, the Urban Services District receives Community Development Block Grant funds and Section 8 Housing Assistance from HUD, as well as summer feeding money from the U.S. Department of Agriculture. Many of the Special Revenue Accounts are administered by boards and commissions appointed by the Parish council. Examples are the Library, the Parish Parks and Recreation Board, and the various Recreation Districts.

The picture that emerges is one of a consolidated government that went through a rather complicated process of merging many special funds into a new reporting and accounting framework while downgrading Houma city to the status of an urban services district. Most of the parish revenues do not flow to the general fund; rather, they go into restricted special accounts or funds earmarked for specific purposes, such as highway construction. The general fund also was bolstered by the infusion of \$520,573 in federal revenue sharing monies.

Bonded indebtedness at the end of 1984 for the Parish and Urban Services District was as follows:

Public hospital	\$22,005,000
Public Improvement	23,167,000
General obligation	15,005,987
Special assessment	1,339,221
Revenue	54,204,000
<b>TOTAL</b>	<u>\$115,721,208</u>

Nearly half of the General Obligation bonds were for drainage and sewerage improvements, the remainder going for water or fire protection. The consolidated government was sufficiently healthy to report a December 31, 1984, General Fund surplus of \$1,189,70.

The picture that emerges is one of a generally fiscally healthy community devoting significant resources to capital projects to accommodate the demands of a growing population. Even so, the budget was starting to show strain. General government expenditures were down 13% from the budgeted amount while those for public safety were up 26%, indicating an increase in unlawful activity occasioned by the worsening economic circumstances. Intergovernmental

revenues were off only 2.7%, a drop of nearly \$155,000 or nearly the amount of the deficit in public safety expenditures. Four years later on December 31, 1988, the situation had changed. The General Fund was running a \$3,823 deficit though \$563,537 was projected. The big loser was the Intergovernmental Revenue category (\$4,753,633 in 1984; \$2,277,380 in 1988) which comprised such a large part of the General Fund, the 1984-1988 difference being \$2,476,253 or a 52% decrease. The General Fund Expenditures of the total operating budget witnessed a similar decline, from \$7,934,933 in 1984 to \$4,301,326 in 1988 for a difference of \$3,633,607 or 46%.

The budget for the Federal Revenue Sharing Account showed a deficit fund balance of \$34,965 on December 31, 1988. Four years earlier, the same fund took in \$520,573, a difference of \$555,538 which reflected the termination of the federal revenue sharing program. Together, the two Intergovernmental funds produced \$3,031,791 less in 1988 than in 1984. The 1988 budget was brought close to break-even due to a 13% reduction (\$463,177) in General Government largely due to layoffs and other economy measures. Public safety expenditures declined 3% and Culture and Recreation 7%, both of which reflected layoffs in Recreation personnel. Total General Fund Expenditures were \$513,602 less than budgeted, nearly the amount of money the consolidated government lost with the termination of federal revenue sharing.

The remainder of the reduced revenues was due almost entirely to the falloff in Louisiana intergovernmental transfers, largely severance tax based. One bright spot, reflecting more drilling in Terrebonne parish itself, was in mineral royalties which increased from \$124,386 in 1984 to \$366,552 in 1988 or 194% (\$242,166). Debt service and the restricted revenues in the Special Funds were less subject to fluctuation due to revenue dedications. Altogether, the General Fund took in \$2,571,318 less in 1988 than in 1984. Adding that amount to the 1988 expenditures for General Government (\$463,177) yields a total of \$3,034,495. Compare that total to the loss in Intergovernmental Revenue since 1984 (\$3,031,791) produces a difference of only \$2,704 or .00089%.

The inescapable conclusion is that the General Fund absorbed nearly the entire reduction in federal and state intergovernmental revenues over the 1984-1989 oil bust period. It was the main source of non-dedicated revenues which had to be cut to bring the budget into precarious balance. The result was generally a decline in the level of service available to the citizenry and a virtual elimination of any social services previously supported but not mandated.

## **APPENDIX B**

### **Case Study 2**

#### **LOCAL GOVERNMENT IN A TIME OF FISCAL STRESS: Lafayette Parish and the City of Lafayette**

Located in the heart of the Louisiana "Oil Patch," the City of Lafayette usually was chronicled as the throbbing heart of the booming oil industry in its halcyon days. The surrounding Parish of Lafayette, although not as widely chronicled, also was materially benefitted by the oil boom. Growth projections were very rosy, capital projects were envisioned, and the future looked very bright from the early 1970's through the early 1980's. From 1985 to 1989, however, the reality of the oil bust became apparent in both Lafayette City and Lafayette Parish.

As of September 1, 1990, the population of 269-sq mi. Lafayette Parish was 168,090; it was predominately white (80%) and relatively young (54% under the age of 25, 72% under the age of 40). Its 1988 per capita income was \$14,538 which ranks well below the national average. Major industries are agriculture and retail sales, agriculture being bigger by far. Major employers tend to be in the public and quasi-public sector: the University of Southwestern Louisiana, Acadian Ambulance, Lafayette Parish School Board, University Medical Center, and Our Lady of Lourdes hospital.

The City of Lafayette with a 1986 population of 89,000 occupies 41.05 square miles in Lafayette Parish. The city's 1989 population was estimated at approximately 88,000 persons. For a parish centrally located in the "Oil Patch" and headquartering the offshore oil industry, the future looked very bright. When the slump in oil prices began, Lafayette Parish started to see a different future. The realization was slow in coming, but the parish budgets tell a story of belt-tightening and a shaken confidence in its ability to meet all future obligations.

The beginning of the oil bust can be seen in the budgets of Lafayette Parish and budget messages that accompanied them to the Parish Council. For example, in the foreword to the 1986 budget submitted to the Parish Council in January 1986, Parish President Walter Comeaux (1986, p. 1) noted, in relation to parish capital needs said to be tremendous, "At the current time, we do not have any tax dollars or revenues of any sort that are dedicated to capital project construction and, accordingly, find ourselves extremely handicapped in our efforts to address these (capital) needs through traditional long term financing methods." His suggested remedy was predictable:

While we do have revenues dedicated for operations such as drainage maintenance, road maintenance, and building maintenance, we also find that we are currently subsidizing these functions with General Fund dollars.... I do not believe that we

could request any additional revenues for these purposes from the taxpayers and, accordingly, we must do everything possible to streamline these operations in order to make them more efficient while staying within the revenue limitations which currently exist.

The Parish Finance Director also was concerned and left no doubt where he felt that the source of difficulty could be found (Menard 1986): "Because of the decrease in the Federal Revenue Sharing Funds, along with state revenues, combined with the continuing erosion of certain General Fund Revenues because of annexations by the municipalities in our Parish, it is evident that current revenue sources will only be sufficient to fund capital projects on a limited pay-as-you-go basis."

Lafayette Parish faced the same plight of the other coastal zone parishes, the loss of federal and state revenues with no replacement sources and accelerated annexation activity by fiscally strapped municipalities that resulted in a re-direction of some parish sales tax revenues.

The parish responded by adopting a near classic public administration textbook approach to financial management. A parish hiring freeze immediately was initiated and moves were made to reduce the full-time parish work force by using contracted labor as needed. A major consideration was the possibility of consolidating service provision activities where feasible with the City of Lafayette. Planning and Development was one example. Three planning commissions were consolidated into the Lafayette Areawide Planning Commission. The Parish had 218 employees by the end of 1985 while the "row offices" (Coroner, Judges, District Attorney, Justice of the Peace, and Constables) accounted for 197 employees for a total of 415. Total 1985 General Fund expenditures were \$8,669,984.

Several 1985 General Fund expenditure categories noted below could be construed as direct support for social services:

1. Lafayette Parish Council on Aging	\$35,700
2. SMILE Community Action Agency	45,000
3. Southwest Rehabilitation Center	30,000
4. Acadiana Youth Council	7,500
5. Lafayette Juvenile and Young Adult	2,000
6. Boys Club	10,000
7. Elderly Blind	13,000
8. Aide House	5,000
9. Faith House	19,000

**TOTAL**\$167,000

Another series of decisions, one of which had a direct impact on the provision of social services, are apparent from the FY 1987 Lafayette Parish budget. As expressed by the Parish Finance Director (Menard 1986),

In addition to the major expenditure reductions, there were also areas which had been funded in the past which were not funded for 1987. *All external agency funding was eliminated, as well as funding to several agencies and governmental units traditionally funded in part by the Parish.* Also, no road or drainage capital improvements other than the Off-System Bridge Program were budgeted. [Emphasis added.]

There would have been a very significant 1986 budget shortfall had some drastic actions not been taken. The parish reduced its number of full time employees by 53 or 25%, the bulk of whom (38) were laid off by Public Works during the 1986 Christmas season. Had the layoffs and expenditure reductions not taken place, the parish General Fund would have had to subsidize the various categorical funds by \$777,000. It literally would have wiped out any operating reserve in the General Fund. The Finance Director prudently refused to permit such an action.

The stress largely was caused by the same factors as in 1985; federal revenue sharing to Lafayette Parish fell from \$300,000 in 1983-1984 to zero in 1985-1986 while state revenue sharing dropped from \$66,300 to \$32,575. Sales or use tax revenues totaled \$3.88 million in 1985 and fell to \$2.67 million in 1986 for a loss in excess of \$1 million. Total revenues for Lafayette Parish witnessed a \$1,518,484 decline (17.5%) from 1985 (\$8,669,984) to 1986 (\$7,151,500) and declined an additional \$1,116,290 (15.6%) to \$6,035,210 in 1987, a modest increase of \$42,253 taking place in 1988.

Over the 1984-1989 period which spanned the worst years of the oil bust, Lafayette Parish, for reasons depicted, lost over one-third of its total revenues. By 1990, total parish expenditures appear to have stabilized at approximately one-third below the pre-oil bust level. However, other forces remain at work as the financially hard-pressed municipalities in the parish strive to offset their fiscal woes by pecking away at the parish territory mainly through annexation by the City of Lafayette. There is little tangible benefit to remaining in a fiscally strapped parish; annexation to a municipality may be viewed by some as a preferable alternative. The parish can do little to stem the annexation tide.

Lafayette Parish, like so many others in the state, now has almost non-existent discretionary spending. General fund parish revenues are increasingly used to subsidize the project accounts. Because this situation continues even as the fiscal climate improves, it may signal a permanent shift in the role played by the parish general fund. As the Parish President aptly put it in the FY 1990 budget submitted to the Parish Council on March 8, 1990 (Comeaux 1990, p. 1):

In short, the overall [1990] revenue outlook remains relatively stable with significant off-setting fluctuations in tax collections and intergovernmental revenue. The increase in ad valorem taxes is the result of the Council rolling millages forward. It is important to note that the FY 90 revenue projection includes \$1.1 million of [dedicated] Parish road funds provided by the State as compared to \$169,000 received in FY 89. This was made possible by the passage of Constitutional Amendment No. 1, which created the Transportation Trust Fund. It is equally important to note that, in spite of this total revenue increase, the fund balance of General Fund continues to subsidize the Road and Bridge Maintenance Fund.

The Parish of Lafayette did reinstate \$60,000 of external agency funding in 1987. This was increased to \$97,000 in 1988, \$107,000 in 1989, and \$110,452 in 1990. The parish should be commended for its effort but, to put this expenditure in perspective, the amount spent *per capita* in this category for 1990 was 66 cents. They simply have too many problems of a physical and regulatory nature with which to deal within the confines of a declining tax base to spend much more on social services. Even if parish revenues increase, they may come in the form of statutory dedicated revenues which must be spent for a specific purpose. New revenue sources are foreclosed rather effectively by either the state constitution, the attitude of local voters, or both.

President Comeaux pushed for and the Parish Council approved the creation of a Parish Tax District which went before the voters on November 6, 1990. This district would have the ability to levy a sales tax for all areas in the parish not currently incorporated regardless of future annexation status as a way of stabilizing sales taxes. In anticipation, the pace of municipal annexation accelerated. The voters, by a 700 vote margin, turned thumbs down on the parish district, a proposition on which municipal residents did not vote.

With the notable exceptions of the state court and law enforcement functions, school board, and other "row offices", Lafayette Parish is now becoming a public works construction, finance, and maintenance district relying on dedicated funds to pay for the maintenance of streets, bridges, and drainage between the boundaries of the municipalities within the parish. It is difficult to conceive of how increased social services can be provided for the coastal population in such a situation.

## ENDNOTES

1. *Cochran v. Louisiana State Board of Education*, 281 U.S. 370 (1930).
2. As this was being written, the Iraq invasion of Kuwait occurred and the price of oil soared to a record high due to the embargo on Iraqi oil and fears of interrupted supplies; however, prices declined since the war. While there is no way to determine the long term impact of these high prices on Louisiana, it did mean a short term increase in severance tax revenues.
3. The coastal parishes were designated in the Louisiana Coastal Zone Management Program submitted to the National Oceanic and Atmospheric Administration in its 1979 Coastal Zone Management Plan.
4. On the final defeat of Walmsley, see especially Williams (1969), pp. 851-853.
5. See especially Chart 1, "Summary Statistics, 1986-1989, By Quarter."
6. According to Gordon Kean, who was the highly respected author and dean of "local government lawyers" in Louisiana: "The local government article is the most dramatic and advanced article in the new constitution. It is as near a political scientist's dream as one might reasonably wish." (Quoted in Engstrom, 1982: 184.) Kean, moreover, was instrumental in drafting the article as was New Orleans' Mary Zervigon, a Landrieu administration official.
7. St. Bernard Parish is scheduled to change its form of government next year; and, St. Tammany Parish, after a four year trial period with the president-council form of government, reverted back to the police jury system in 1984, as noted earlier.
8. The Constitution was rejected in 36 of 64 parishes. It passed in the New Orleans metropolitan area, including the parishes of Jefferson, Orleans, St. Bernard, St. Tammany, St. Charles, and Plaquemines with a majority vote of 103,371 (77%) to overcome the statewide shortfall.
9. In July 1956, Amendment No. 1 passed with a bare 50.2% margin in an election with light voter turnout. It became Article X, Section 1 (A) of the 1921 Constitution. The amendment was strongly opposed by Governor Earl K. Long who won an unexpected first primary victory earlier that year.
10. Any amendment to the Constitution had to pass the legislature before it would go before the voters.
11. *Bussie v. Long*, 257 La. 623, 243 So. 2d. 776 (La. 1971). See also *Levy v. Parker*, 364 F. Supp. 897 (1972). Act 385 of 1977 provided that all laws relating to state supervision of property tax assessments will be administered and enforced by the Louisiana Tax Commission. If assessment levels deviate more than 10% from the state prescribed standard,

the Tax Commission shall order a reappraisal of all property in the parish within one year or when collection of a property tax shall occur. Of course, local governments are likely left without access to property tax revenues until the reappraisal is complete.

12. The proposal was to tax oil and gas production, calculated on a volume basis, limited to the first 6 cents per MCF for natural gas and 36 cents per barrel for oil. Treen's outraged supporters in the oil and gas industry heavily lobbied against the proposal.

13. The merits and demerits of the issue were argued by Treen and Edwards as reported by Jack Wardlaw (1982b). Proceeds of the Edwards first use tax were to be used for debt reduction and to shore up the ailing state retirement system. The U.S. Supreme Court nullified the tax in *Maryland et al. v. Louisiana*, 451 U.S. 725 (1980).

14. Opposite this lead story was a rare front page editorial blasting the Edwards plan as the "old politics" and calling for budget cuts and new taxes in lieu of the "quick fix" of gambling, a lottery, or both. Over the next several years, the New Orleans business community relaxed its opposition to a lottery which eventually was accepted and is being implemented for 1991; but, it remains adamantly opposed to casino gambling.

15. The U.S. Bureau of the Census now classifies most special districts as "subordinate agencies of state and local government." It further notes that many districts which previously were designated "special districts" are now more accurately classified "special taxing areas" within the territory of an established local general purpose government (On this point, see: U.S. Department of Commerce, Bureau of the Census 1987: A-89).

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## CHAPTER 7

### THE IMPACT OF A BOOM-BUST ECONOMY ON POVERTY

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#### INTRODUCTION

Alexander Godunov, Mikhail Baryshnikov, Rudolph Nureyev--names associated with stages in New York, San Francisco, possibly Chicago, Washington D.C., maybe New Orleans--but Lafayette, Louisiana? Yet between 1982 and 1986, each of these internationally acclaimed ballet superstars appeared on the stage of the Lafayette Municipal Auditorium (now Heymann Center for the Performing Arts) under the auspices of the Fine Arts Foundation. How could this be? The answer is simple--oil.

In October, 1980, Money named Lafayette as one of ten small cities with big futures. The rationale for this follows:

No city can live by bread alone; Lafayette, about 50 miles from the Gulf of Mexico, lives by oil. Over 750 oil production, drilling and service companies have offices there (Tuhy and Dreyfus 1980, p. 68).

And oil means money, lots of money. By March of the next year, this oil money had captured the attention of The New York Times. Stevens (1981, p. 4) wrote:

...there is an astonishing amount of money for a city of 85,000 people. Arthur Broussard, president of Guaranty Bank, Lafayette's largest, estimates that there are "a thousand, perhaps more" millionaires in town. Others say there are as many as 2,000. As many as one Lafayette family in 15 may have a net worth of \$1 million or more, and the super elite, what one of the millionaire class calls the Big Rich, are the present-day counterparts of the steel, auto and rail millionaires of a half a century ago.

Stevens explains this phenomenon:

With oil selling at \$37 a barrel, and investors consequently rushing to put money into drilling for that oil, once-in-a-lifetime fortunes are being made by those engaged directly in the oil business, and by those capitalizing on the prodigious, oil-induced growth of Lafayette itself.

Oil, however, is an "elastic" commodity; with the rising price of crude oil refined products, consumers reduced consumption, primarily with more fuel-efficient automobiles. In 1981,

petroleum energy consumption in the United States fell below pre 1973-1974 embargo levels (Oil and Gas Journal 1988).

In 1982, in response to this decline in demand, the price of crude oil on the world market and the world "rig count" (the total number of working drilling rigs) also declined. In the ensuing years, the price of oil fluctuated but remained relatively strong, declining only to \$24.51 per barrel by December of 1985. By June of 1986, however, it had fallen to \$9.39 (Oil and Gas Journal 1988, p. 101). By summer of 1988, the Fine Arts Foundation was no more (Brabant 1989). In 1989, The New York Times Magazine (King 1989) described Lafayette as "Bad Times on the Bayou."

The present research shifts away from front stage Lafayette to the back streets, the world of the poor. How did fluctuations in oil and gas activity impact poverty. An oft quoted biblical statement suggests that the poor are always with us (cf. Matthew 26:11). Did poverty disappear during the boom? If not, who were the poor? And the bust--what happened then? Using requests for assistance with basic needs as an indicator of poverty, this chapter examines poverty against the backdrop of the Louisiana oil and gas boom-bust scenario.

## REVIEW OF LITERATURE

Economic declines readily evoke images of individuals forced to go beyond kin or neighborhood networks for assistance in order to meet basic needs. Two recent studies provide validation. Perrucci et al. (1988) describe the impact of the closing of a major plant in Indiana; Gulliford (1989) chronicles the impact of the termination of the shale industry in Colorado. In contrast, economic growth usually evokes images of widespread prosperity. The early boom town literature, however, suggests that the sudden economic growth associated with energy related development may result in an increase in individuals and families who are unable to meet their basic needs: "High employment and wealth of boom conditions does not necessarily mean...less welfare involvement" (Kohrs 1974, p. 5); unemployed drawn to a growth area "form a work force sector that is continually unemployed" (Molotch 1976, p. 321); more "people to provide with social services" (Cortese and Jones 1977, p. 82), and an inability to live in attractive surroundings despite high wages (Albrecht 1978).

In describing the problems of women in boom communities, Moen (1981) reports the breakdown of social support systems for the longtimers (p. 152). With respect to newcomers, Moen and Boulding (1981) note the problem of having to live in a "dump" experienced by middle class women (p. 46) and the negative image associated with working class migrants (p. 51). Of more relevance to this research, Moen (1981, pp. 153-154) warns that the prosperity associated with a boom economy may not be universally enjoyed. She writes:

On the whole, Craig is more prosperous, but it is not clear how many longtimers are sharing in that prosperity. It is clear that some longtimers are

suffering from absolute or relative deprivation. Those whose incomes have not kept up with the inflation caused by energy development are having a hard time, and those who used to be wealthy by Craig standards and who may still be living comfortably feel poorer and have lost status because of the even higher incomes of the energy workers. Furthermore, many local employers who are not able to pay higher wages may be forced out of business, and the city and county governments are finding it hard to compete with the energy industries for competent personnel.

In fact, the boom town has been pictured so negatively that constructing new communities rather than coopting old ones has been suggested as a desirable alternative (Pribble 1984). Despite the evidence that rapid economic change, growth or decline, produces stress in various sectors of the community, the specific ways in which these scenarios unfold (cf. Brookshire and D'Arge 1980; (Freudenburg 1982; Wilkinson et al. 1982) and which sub-populations are most heavily impacted (Krannich and Greider 1984; Greider and Krannich 1985) are a matter of considerable debate.

Given the indications of economic and social stress, it is particularly surprising that the literature is virtually silent concerning those who are most economically marginal, and are thus, arguably, very likely to be impacted by rapid economic change, the poor. One reason for this may lie in the communities most likely to be studied (cf. Gramling and Brabant 1986). First, the communities are almost without exception small, generally under 10,000 and usually under 1,000. What this means is that a development project which suddenly employs several thousand, doubling or tripling the community's size, completely overpowers these communities. These "exaggerated" examples of impacts are understandably most attractive for research, since the effects of the initiating agent are less obscured by other factors. Second, almost all the communities reported in the boom town literature have been very isolated. Small rural communities may be more likely to handle informally the community's less fortunate (cf. Freudenburg 1986); isolated communities may also be less accessible for in-migration of poor from other areas; and the life style of the transient poor may be less sustainable in rural as opposed to urban areas (cf. Wooddell 1990). Finally, short term growth cycles are less likely to produce extensive adaptations to boom conditions (cf. Freudenburg and Gramling 1990), such as the less fortunate finding a niche which allows them to live on the spillover from those who benefit from the local economy. Thus communities most likely to have been studied may present an atypical or limited picture.

A major problem, then, is the lack of an adequate data base. Data collection has been and continues to be problematic in boom-bust research. Kohrs (1974), almost two decades ago, noted how difficult it was for the social scientist living in a boom situation to do controlled research; Seyfrit (1988) argues that post-impact study is critical, a costly and time consuming enterprise at best. Additionally, the very nature of poverty inhibits data collection. Thernstrom (1968, p. 161) wrote:

Poverty has been viewed as a state of mind, a state of the pocket book and a good many other things. There is, however, one simplifying element for the historian. The poor left but a vague imprint on the historical record; much of what we would like to know about them is irrevocably lost.

This chapter represents an ethnographic attempt to examine poverty across time and within the context of a measurable fluctuation of events (the boom-bust scenario in Louisiana).

## METHODOLOGY

**Operationalization of Variables.** The independent variables. Offshore oil and gas activity is operationalized in three ways: (1) the Louisiana offshore rig count; (2) the world rig count; and (3) the price of crude oil on the world market. (See Table 7.1). Thus, both local and global impacts of the oil/gas boom-bust can be identified.

The dependent variable. Poverty is assumed to be present when individuals or families go outside kin and neighborhood systems to request assistance in order to meet one or more basic needs: (1) food; (2) shelter; (3) clothing. This definition eliminates two problems long associated with attempts to operationalize poverty (cf. Brabant and Gramling 1985). The first is that value judgements are avoided, e.g., differentiating the "deserving" from the "undeserving." The second is that class factors are eliminated. If a person seeks assistance to meet basic needs, that person is poor regardless of other considerations, e.g., life style, previous history.

**Site Selection.** For decades, a major source of income for state government in Louisiana has been the severance tax on oil and gas (New Orleans States Item 1978). Thus, energy related development is of singular importance to the state as a whole. Oil and gas production, however, has not been uniform across the state, nor has it been uniform in a particular locale across time (Stallings 1984). Despite a major emphasis on Lafayette, other sites were needed in order to investigate both similarities and differences across time and location. Four parishes were selected for the final study: Lafayette, St. Mary, Calcasieu, and Ouachita. These parishes were chosen because they provide a broad range of both direct and indirect effects of oil/gas activity. Using Calhoun (1979), U.S. Department of Commerce (1981), and Gramling and Freudenburg (1989) as resources, a brief description of these parishes, their similarities and differences, and the rationale for selection follows.

**Lafayette Parish.** Lafayette Parish was established in 1823. Physically one of the smallest parishes in the state, it became the administrative center of offshore oil. Other industries include wholesale and retail trade, but oil and gas far outweigh the others in importance. Although oil and gas related employment in the parish has been largely administrative, 13.5% of the 1980 labor force was engaged directly in mining. Employment in this parish is highly correlated ( $r=0.88$ ) with the world price of crude ( $r=0.8754$ ). (See Table 7.2.)

Table 7.1. Parish employment, world rig count, world price of crude, offshore rig count:  
raw data

Year	Lafay	Stmay	Calca	Ouach	World Rig	World Price	Offshore Rig
1970	32275	20250	48025	40975	2747	3.18	79
1971	33325	19600	48325	42075	2662	3.41	74
1972	34450	18700	48375	42800	2798	3.39	82
1973	35200	19125	51275	45100	2610	3.89	71
1974	30250	22025	46500	44725	2542	6.74	67
1975	35425	25200	49725	44700	2713	7.67	77
1976	42875	24725	55575	46175	2796	8.19	83
1977	43300	27425	58375	47875	3226	8.57	109
1978	47850	27700	61050	48400	3604	9.00	122
1979	55625	29825	65525	49325	3680	12.64	138
1980	63175	31425	72500	51400	4622	21.59	139
1981	71050	32600	73700	51500	5636	31.77	154
1982	77150	31300	67400	51300	4782	28.52	136
1983	71700	28150	67000	53200	3718	26.19	124
1984	82900	26025	65300	59500	3927	25.88	132
1985	83400	25600	65000	61900	3580	24.09	129
1986	76500	21575	65200	62900	2232	12.66	69
1987	72200	19450	66500	63300	2098	14.85	65
1988	73700	20925	66400	61900	---	---	---

Source: Gramling and Freudenburg 1989.

Table 7.2. Parish employment with world rig count, world price of crude, and offshore rig count, 1970-1987: correlation matrix

	World Rig	World Price	Offshore Rig
Lafayette	0.4882 (18) P= .020	0.8754 (18) P= .000	0.5830 (18) P= .006
St Mary	0.8804 (18) P= .000	0.7266 (18) P= .000	0.8995 (18) P= .000
Calcasieu	0.6851 (18) P= .001	0.8619 (18) P= .000	0.7491 (18) P= .000
Ouachita	0.1145 (18) P=0.325	0.6237 (18) P=0.003	0.2546 (18) P=0.154

Source: Gramling and Freudenburg 1989.

**St. Mary Parish.** Originally organized in 1811, this parish is bifurcated into two economically distinct entities: West St. Mary, site of the parish seat of Franklin, and East St. Mary, site of Morgan City. The former is agricultural, e.g., sugarcane, rice, corn and soybeans. The latter is predominantly oil and oil related industry. Indeed, Morgan City is the "prime jumping-off point for offshore [oil] operations" (Petersen 1969). Despite the agricultural emphasis in a major portion this parish, 10.2% of the 1980 labor force was engaged directly in mining. The heavy involvement in extractive activity is also evidenced by the presence in 1979 of the world's largest commercial helicopter base. Employment in St. Mary is more highly correlated with both the world rig count ( $r=0.88$ ) and the offshore rig count ( $r=0.90$ ) than Lafayette, but less with the world price of crude ( $r=0.73$ ), further evidence of the blue-collar involvement in oil and gas production. (See Table 7.2).

**Calcasieu Parish.** Calcasieu was organized as a parish in 1840. A large sulfur deposit, discovered in 1860, resulted in the development of one of the world's largest sulfur industries through the first quarter of this century. With the development of deep well drilling techniques and the construction of a deep water port, oil and oil related industries, e.g., chemical and petrochemical plants, were established. Although only 5.7% of the 1980 labor force was directly engaged in mining, employment is highly correlated with world price of crude ( $r=0.86$ ) and offshore rig count ( $r=0.75$ ). (See Table 7.2.) Calcasieu's economy is more diversified than Lafayette and St. Mary, but like both Lafayette and St. Mary, Calcasieu is directly impacted by oil/gas production.

**Ouachita Parish.** Established in 1807, Ouachita Parish, named for the Ouachita Indians, was one of the original nineteen parishes. Industry consists of highly diversified manufacturing plants and both wholesale and retail trade. In 1980, only 1.7% of the labor force was engaged in mining and correlations between employment and all three indices of oil and gas impact are low. (See Table 7.2.) In addition, the graph of employment<sup>1</sup> for Ouachita Parish lacks the peaks typical of boom-bust conditions seen in the graphs for Lafayette, St. Mary and Calcasieu. (See Figure 7.1.) Ouachita Parish serves as a control.

**Time Frame.** Because the oil embargo occurred in 1973/1974, the time frame for this study is 1970-1989. This includes the period before the embargo (1970-1973), the rapid escalation in the price of crude oil following the embargo (1973-1982), and the subsequent decline in price (1982-1989).

## DATA COLLECTION

Interviewing the poor directly is problematic for at least two reasons: problems contacting them and problems with communication (cf. Brabant and Gramling 1985). With respect to locating the poor, poverty may be temporary, the poor tend to migrate or have addresses that

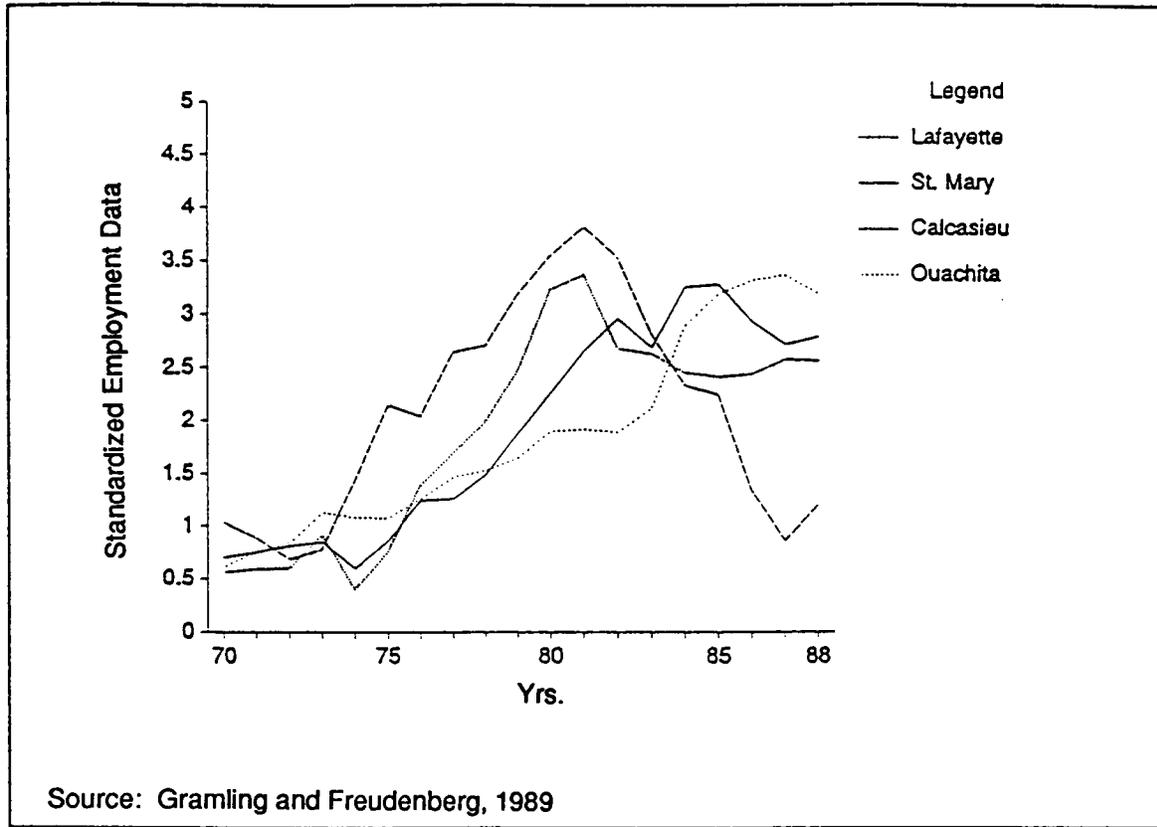


Figure 7.1. Employment Patterns in Lafayette, St. Mary, Calcasieu and Ouachita Parishes: 1970-1988.

are unavailable to researchers, and the poor often maintain anonymity for a variety of reasons. Even when these problems are eliminated, however, class, ethnic and situational differences between researcher and respondent often preclude meaningful dialogue. These problems are compounded when the time frame is historical rather than immediate. A next best alternative is to interview persons who have or have had face-to-face contact with the poor. Thus, the major method of collecting data for this study was interviews with key informants on poverty, i.e., persons who, at some time during the time frame, worked directly with individuals who requested food, shelter and/or clothing.

The researcher was uniquely suited for this task. For over 15 years she has been actively involved with human service concerns and needs in Lafayette Parish. She served for eight years as the faculty advisor for the student interns in the Lafayette Counseling Services Program, an advocacy program administered by the City of Lafayette (cf. Brabant 1983). She also serves or has served on the board of directors/advisory committees of ten agencies or groups primarily engaged in the delivery of human services. Included are public, private, and religious agencies and groups. In this capacity, she has had extended personal contact with individuals involved in day-to-day delivery of human services, and has developed not only rapport but trust (cf. Gold 1982).

Interviews were open ended and for the most part unstructured. All informants were told the purpose of the study, the funding source, and were asked for permission to tape the session. They were assured that anonymity would be preserved<sup>2</sup>, and that at any time during the interview the recorder would be turned off immediately following a prearranged hand signal. They were then asked if they had any questions or concerns about the study or their participation. The first interview questions established when and under what circumstances the informant had contact with the poor. They were then asked (1) What kind of people came (come) to you for help? (2) What did (do) they need? and (3) What, if any, changes have you noticed over the years? This last question included both changes in requests for help and how these requests were met. Within these parameters, questions were interjected throughout the interview for points of clarification or in order to encourage the informant to continue talking. After asking the informant if he or she had anything else to add, the exit question, "Why do you do this?" was asked. Using the "snowball" sampling technique (cf. Richardson 1988), respondents were asked to recommend others both in their parish or one of the others who were (are) actively involved in addressing basic human needs. Care was taken to seek out informants from both public and private sectors.

Early in the study it became apparent that individuals who determine eligibility for food stamps were particularly valuable as informants, since requests for food stamps indicate an inability to meet the most basic of needs, hunger. Additionally, since offices are located in each parish, individuals who work under similar conditions and guidelines could be interviewed. Individuals who worked in the private and church-related agencies in Lafayette Parish were already known to the researcher. These persons and food stamp workers in the other parishes provided both names and introductions to persons working in private and church-related agencies in St. Mary, Calcasieu and Ouachita. Thus, requests for services

across both public and private sectors in four differentially impacted parishes could be explored.

In all, fifty interviews were completed between July 1989 and May 1990. Twenty-nine interviews were conducted in Lafayette Parish, the central focus of the study. These included persons employed by the state, the city, church related agencies, other private organizations and volunteers. As noted above, food stamp eligibility determinations workers and persons involved with emergency centers (church related or private) were interviewed in the other parishes: St. Mary (6); Calcasieu (8); and Ouachita (7).

A second component of the data collection was an attempt to identify existing material that might reveal numbers and/or types of requests. Informants were asked what, if any, objective data sources existed and the availability of this data. During one of the interviews, it was learned that food stamp statistics could still be obtained for each parish from 1970-1990.

As with any oral history, specific dates and even reliable time frames often could not be established. Thus, local and state newspapers were gleaned for articles that might delineate particular periods or specific events. These articles constitute a third source of data. Thus, the data were collected in three ways: (1) interviews with key informants, i.e., persons who, at some time during the time frame, worked directly with individuals who sought food, shelter and/or clothing; (2) statistics maintained and/or reports prepared during the time period by agencies or organizations involved in dispensing food, shelter and/or clothing; and (3) newspaper accounts.

## FINDINGS

Pre-boom Poverty. In 1968 a seminar on the subculture of poverty was held at the University of Southwestern Louisiana (USL) in Lafayette, seat of Lafayette Parish (Chesteen and Rolston 1968). The seminar's focus was on the 13 civil parishes (counties) in the Diocese of Lafayette (Roman Catholic): Acadia, Allen, Beauregard, Calcasieu, Cameron, Evangeline, Iberia, Jefferson Davis and Lafayette. Summary statements for the area as a whole include the following: (1) the population was predominantly native born with little movement across parishes; (2) the educational level for the area was below both state and national averages; and (3) area employment (93.1% of the labor force) was comparable to the state, but individual income was less with over one-half of the families in seven of the parishes earning less than the national poverty level. Differences between Lafayette, St. Mary, and Calcasieu and the other parishes in the area were evident. Lafayette and Calcasieu showed greater in-migration than all of the other parishes. St. Mary's in-migration exceeded all the other parishes with the exception of Beauregard. Both Calcasieu and Lafayette exceeded the mean state educational level (the only two parishes to do so), and the median family income for all three parishes (Lafayette, St. Mary, and Calcasieu) was greater than the national poverty level at that time (\$3,600). Even in these parishes, however, poverty was apparent. In

Lafayette, 32.7% of wage earners earned less than \$3000 per year; for St. Mary it was 31.6% and for Calcasieu it was 23.8%. Who were these people? What were their needs?

In the memories of Lafayette Parish food stamp workers, the majority of the pre-boom poor were the underemployed. "Clients who received food stamps had jobs but did not earn enough money to support them [and] their families independently of food stamps" (Interviewer Identification Number #7); they were "illiterate, those who had menial jobs with lower incomes without any hope of being able to rise above that" (#8); "mostly hotel maids, housekeepers, some laborers" (#1). One recalled "a lot of students, a lot of young people who were earning a living posing for artists or making candles and that sort of thing, all the young people that were on drugs, rebelling from parents" (#6). And there were the elderly, "who are always with us on the food stamp program" (#6). The director of a church-related program recalled:

They were the first, second and third generation welfare recipients, and a few unskilled farm people that moved into the city...on rare occasions we'd have a working class family that may have had an extreme setback of some kind (#11).

Both a minister (#21) and an informant in a city-based program (#17) remembered unemployment was a problem. Lack of education was an important factor. The minister remembered working with families in which "neither father nor mother could read or write" (#21); a former civil rights worker noted that lack of education was particularly true of blacks (#19). Racially, however, the poor were mixed. One recalled the ratio as "half and half" (#20), another as "pretty well mixed" (#45). The former civil rights worker remembered the poor as "predominantly black" (#19). White informants were more likely to perceive the poor as predominantly black than were black informants.

In St. Mary's Parish a food stamp worker remembered the poor as those "on welfare or old age assistance...or people working for very, very low just bare minimum wages" (#2). On the agricultural side of the parish, many of the poor were farm laborers whose work was seasonal (#2, #3, #4). Informants from both state and private agencies recall that the poor were predominantly black.

In Calcasieu Parish a food stamp informant remembers the poor as "pretty much cut and dry, black and white; you know every once in a while you got an unusual situation, someone you didn't expect to see coming through the door, but it was pretty much the same people over and over again" and "pretty much black" (#32). Another informant remembered the poor as "about 50/50 for both black and white, maybe a little bit more for black" (#34). In Ouachita Parish, the poor were as likely to be white as black (#25, #28), maybe more black but many white (#27). They had "a lot of children, numerous children" (#28); "long term poverty" (#29); those people who were continuously on food stamps" (#31). For the most part, the pre-boom poor across all four parishes were similar. They were local people, they were uneducated, and they lacked skills.

"Let the Good Times Roll": Boom Time in Louisiana. Oil had been "a carefully controlled and relatively stable commodity with a steady growth trend" for most of the 20th century (Gramling and Freudenburg 1989, p. 5). The oil embargo, imposed by OPEC in 1973-74, ended both the control and the steady growth. The world price of crude increased annually (cf. Manuel 1984; 1985; also Table 7.1). Gramling and Freudenburg (1989, p. 6) write:

Steady and significant increases in the price of crude oil from 1973 to 1981, combined with an active federal leasing program, resulted in tremendous growth in the construction of offshore rigs and in offshore activity more generally. By 1981, the northern Gulf of Mexico was easily the most developed offshore area in the world...Not only were the primary activities associated with oil and gas exploration and production growing dramatically during this time period, but the secondary and tertiary support sectors of the economy kept pace. The coastal Gulf of Mexico, primarily Louisiana, experienced tremendous employment and population growth during this period.

One of the volunteers interviewed, a prominent matron from an "old" family commented, "It was really a boom time here in Lafayette for everyone...we all reaped rewards in business and so that just rippled out to everyone. It was a good time all those years" (#50).

In a sense this was true. Beginning in 1975, the annual mean number of households receiving food stamps began to decline for both Lafayette and St. Mary. This decline began in 1974 for Calcasieu; Ouachita does not show a decline until 1976. (See Table 7.3.) A food stamp specialist recalled:

Later on in the 70's and the early 80's our caseload started to dwindle down because people were getting off the welfare rolls, because you could find a job anywhere in Lafayette. If you wanted to work you could work...the motels were really doing a booming business and a lot of our ADC mothers were hotel maids and they were doing so much overtime that they were over their grants, they got closed out (#1).

For some, the boom times meant more than just getting off welfare. "We had welders who used to be welfare clients and they were making like \$20 an hour" (#1). Not everyone, however, enjoyed the good times. "[For] the people who could respond with skills, it was all right. But there were some people in Lafayette that never had the required skills, and never got in on the oil boom" (#14).

For the elderly poor, boom times made poverty even worse. "The cost of living went up...[and] that bled finances" (#45). For those on fixed income and those whose incomes were relatively low, housing was also problematic unless they owned before the boom. An informant with a municipal program noted:

Table 7.3. Number of households receiving food stamps: yearly mean.

Year	Lafayette	St Mary	Calcasieu	Ouachita
1970	2130	1285	3812	2523
1971	2831	1597	4212	3330
1972	3027	1708	4766	3785
1973	3905	1995	4952	4362
1974	4166	2101	4878	4425
1975	3888	2045	4592	4700
1976	3472	1762	3997	4524
1977	2827	1459	3232	3916
1978	2454	1275	2804	3548
1979	3612	2070	4097	5053
1980	4337	2495	5344	6364
1981	3919	2424	5203	6542
1982	3063	2252	5054	6267
1983	3696	2925	6006	6570
1984	4240	3180	7266	6652
1985	4710	3310	8099	6581
1986	5462	3848	8425	6524
1987	6105	4318	8495	5988
1988	6626	4270	8244	6155
1989	6972	4290	8268	6354

Source: Office of Eligibility Determination, Food Stamp Program, Baton Rouge Office.

Housing was very expensive and we still did not have available in this community what we consider affordable housing for low income people...during the boom anybody [that] had any resemblance of a building, that building could be rented out at an exorbitant price (#17).

Comments on the impact of the boom on minorities is mixed. For example, one informant who has been engaged in civil rights in the Lafayette area for years said:

I think better job opportunities were possible for blacks as well as poor whites. I think that it was the first time they got paid decent wages and so the whole lifestyle began to change. The whole family structure began to change. So yes, the oil boom did have a real impact on the poor and better opportunities were provided for them (#19).

For the most part, however, these opportunities were in the secondary and tertiary sector (cf. Manuel 1984). The above informant noted "they [the oil industry] did hire a few blacks, but it was just the minimum and the same thing with women...it was only to meet quotas." A long time activist in St. Mary Parish remarked, "it was mostly the whites who were in the oil industry; a handful, only a handful of blacks who really fought their way in" (#43). The impact on blacks in Calcasieu may have been different from the impact in Lafayette and St. Mary. A Calcasieu food stamp worker commented:

And I have to say personally that the plant, the industry did a lot for blacks. I mean without these industries it probably would have taken a lot longer for black people to get the positions where they would have been able to make the money to educate their children (#32).

Parish differences may well be attributable to the type of industry. For Lafayette and St. Mary industry was primarily non-union. Plants in Calcasieu "employed a lot of construction workers" and these workers were unionized; "the unions came in and gave them [blacks] these jobs" (#32).

Attention turns now from those persons who were native to the area prior to the boom to those who moved in. In July of 1981, The Times of Acadiana in its "Guide for Newcomers: How to Survive a Move to Lafayette" (Ropp 1981, p. 1) noted:

Living in Lafayette is easy; moving to any large city is not. This guide will tell you everything you need to know to survive a move to Lafayette, and spend your time once you get here.

The article warned that finding a place to live wasn't that easy, but assured the reader that the homes were out there. Garden homes began at \$40,000; townhomes ranged from \$49,000 to over \$200,000 and "executive" homes from \$150,000 to \$250,000. Some drawn to the area probably never saw this article; if they did, it wasn't relevant.

The Grapes of Wrath Revisited. In 1939 John Steinbeck (1976, p. 151) wrote:

66 is the path of a people in flight, refugees from dust and shrinking land, from the thunder of tractors and shrinking ownership, from the desert's slow northern invasion, from the twisting winds that howl up out of Texas, from the floods that bring no richness to the land and steal what little richness is there. From all of these the people are in flight, and they come into 66 from the tributary side roads, from the wagon tracks and the rutted country roads. 66 is the mother road, the road of flight.

Steinbeck was describing the flight from the dust bowl during the depression. For those people, California was the promise of a better life. For many poor in the late 1970's it was Louisiana and oil. One informant recalls:

As the oil industry made a plea for workers and the word got around that if you go to Lafayette, Louisiana, anybody can get a job, people came from all over. Many of these people had been unemployed for a while and they came on foot, they were hitching rides here. When they came here they were penniless...We had families living in cars. We had people sleeping in ditches. We had people sleeping anywhere downtown and the police would pick them up and try to find a place for them to go (#14).

In the early days of the boom, most found work. The manager of Job Services (state employment) recalled:

It was practically impossible to furnish the oilfield people with the personnel that they needed to do what they wanted to do while prices were high... they wanted warm bodies, right. They didn't bother too much about physical exams and things like that" (#47).

The director of a church related agency remembered most of the early ones as working class:

A few unskilled people that just didn't have any skill, there were a few of those. But there were the working class. In those days we use to call them the white collar workers. They were the ones moving in. We did have a few that we had to help get off the ground and find a house for a family, get food for them, clothing, what have you, because in the process of moving here they'd use all their savings. Some had no savings at all. Some had been going from state to state and by the time they reached here there was nothing left, little furniture, little clothing, and they had gone through everything. So we saw ourselves doing a lot of that. Lafayette was still pretty stable. Jobs were available, people were working. If you really wanted to work there was something you could do (#11).

At first the people coming in were "mainly men, white males. And then as the years went by and unemployment became a national problem, there were families, white families" (#11). The plant superintendent at a downtown church recalls:

Half of these people, which got to be quite a bit of people, half of them were single men coming down and a few were married. But a lot of them were men coming down to find jobs before they would bring their families. The other half brought their families down and had not a penny with them, ran out of money and needed assistance in shelter, clothing, food, medicine, you name it, they needed it (#41).

Money and The New York Times were not the only ones who noted the boom. In October 1981, National Enquirer described Lafayette as "Boom Town, USA" (Mullins 1981). The nation was in recession, and several informants (#13, #29, #41) felt this article proved to be a drawing card for the homeless migrant as well as the recently unemployed, particularly those fleeing the "rust belt" (e.g., "Michigan, Ohio, where the steel industry had shut down. Mostly the eastern part of the United States" (#48); "the eastern states" (#3); "Some from the mid-states, but not too many. It was mostly from the northeast coast" (#41). So many came from Michigan that they were dubbed by some social service workers as the "black license plate gang" (#18). The director of a shelter in the early 1980's remembers them as coming "from all over the United States" (#13).

Some hitchhiked down. Others came in "regular cars like a recent model appearing to be in good condition" (#13). Still others came in cars "just barely chug-a-lugging, you know, but they finally made it down here. Yeah, they did have some old beat up vehicles" (#41).

Some were just old cars packed to the, I mean like something you'd see in movies or something, things hanging out the windows it's so stuffed. And trucks. I remember that! Trucks just being loaded down with people's belongings" (#13).

One informant exclaimed:

"Oh, it was horrible, you know, just to see some of these people the way they came down, you know. Not a penny to their name. Everything they owned was in a couple of old trash bags and that was it. The clothes for the whole family" (#41).

Wherever they came from, whatever their condition, there were a lot of them. This same informant, the plant superintendent of a downtown church, recalls that "when it got real bad, I was seeing up to 20 and 30 people every day. That many. And I mean that was every day" (#41). These people stopped by the church looking for help.<sup>3</sup>

For many who came, especially in the late 1970's, it was the Promised Land. The stories abound of those who did get jobs, settled down, and then tried to help other newcomers

(#48). For still others, even those who came during the boom, the Promised Land turned into a nightmare. The arrest of Jack Henry Abbott, author of In the Belly of the Beast, in an oilfield pipe yard (Hodge and Anderson 1981) brought both state and national attention to the labor camps around Morgan City (cf. Associated Press 1981; Rawls 1981). The arrest of the convict-author for questioning about a slaying in New York publicized the apprehension on the part of local officials that the labor camps harbored many undesirables. Informants who worked with the poor reveal another picture of the labor camps, a picture of human exploitation.

A food stamp worker from the Morgan City area remembers:

Morgan City also had what they called labor camps. There were, I guess, two labor camps and these men, they'd hire these men on to go to work and it was what they called "day laborer." They'd go to this labor camp and they'd get hired on and they'd have these buildings with a bunch of bunk beds in it and a bathroom and these men would sleep there, all single men without families or if they had families, the families were some other place and they'd work for these labor bosses. They'd bring them to the job site, they'd work there during the day and then they'd bring them back to the labor camp at night so they could sleep. When it came time for their pay checks, they owed for the bed they slept in at night, they owed for their meals. They wouldn't get a check, you know, they'd work a whole week and then they'd maybe end up with \$10 cause naturally they were selling their cigarettes at a higher price than what they paid for them (#2).

The St. Mary food stamp workers became familiar with these "day laborers."

Oh yeah, they were coming in. They'd show us their check stubs, what their net was, but naturally we had to look at the gross. We couldn't take out all these deductions for them. And a lot of times they weren't eligible and you felt sorry for them. You knew they were only getting \$10-15 a week after working all week (#2).

The camps themselves afforded few amenities. A Lafayette minister said:

What I heard was that conditions were untenable. Unsanitary. Lacking of food, lacking of soap, lacking of bed clothes, such as that. lacking of ability to wash their clothes. Just something to kind of herd the people off the street until they could screen them and hire whoever they wanted to. The people in charge of the labor camps were not particularly sympathetic with the needs of the poor (#21).

The owners of the labor camps were more than just unsympathetic. In some cases the men would end up owing them [camp owners] money instead of being paid (#15). A long time church worker in Morgan City recalls:

They would charge them for a lemon, they would charge them for bathroom uses, the meals were atrocious. I mean like thin soups that had very little nutrition and they charged them outrageous prices and they'd only feed them twice a day. Cigarettes, they charged maybe \$20 a carton. They would supply their steel toe shoes and helmets and stuff, but like, double the price and most of these people at the end of the week owed the company. There was no way to get out because you always ended up owing the company cause they'd give you just enough hours to keep you there and pay part of the bill which you always owe. You can't, they can not get out. The only way they can get out is to walk out and I've had some have to leave their belongings and just walk and just not go back (#44).

Although the men were frightened to go back and get their things, this informant was not aware of any who were physically forced to stay. Another informant contributed the following:

They'd wind up owing more than what they're making. And then when they'd try to leave they would have, I guess you would call them the old term "bulls," like on the trains when they use to kick the tramps off the train. They'd have "bulls" to run the yards. They would beat them up, threaten them and you know, poor old man, you know, he's just trying to make ends meet, just trying to survive (#40).

The labor camps exemplify the worse case of human exploitation. Even when there was no exploitation, however, hardship stories abound. Families sleeping in cars were common in both Lafayette and St. Mary (#11, #2). A St. Mary food stamp worker recalls a common plea during the boom period:

My husband got a job and went offshore and he won't be home for three weeks. We don't have any place to stay. We slept last night in the car, we don't have any food, what can you do to help? (#2).

Both parishes also saw the emergence of "tent cities" which sprang up on the outskirts of towns as newcomers streamed into the area (#13, #42). A volunteer with a church-related agency in Lafayette recalled:

At the time when everything was so affluent here and there was no housing we had the strange situation of people living in "store and locks" and the "store and lock" people were afraid of fire. What the person would have would be a lamp and a little hot plate and a cot in there and live in those places. The

store and lock people were really alarmed when they'd find out about it and appeal to the public to help these people in some way. And we put a lot of those people into rent houses. But rent houses were so costly, even the most dreadful shelter, that it was ruinous for us [the agency]. It meant cutting other services (#14).

Some slept in the open. "They would sleep next to the air conditioners, wherever there was any closed area, in the corner, in the back of the shrubbery by the church" (#41).

There were problems other than housing. "Some families didn't have transportation so that posed another problem" (#13). In addition, the nature of offshore work (cf. Gramling 1989) compounded problems faced by families. The director of a shelter notes:

First of all you leave anything that's familiar to you approaching something that's uncertain. Then the family is separated and this is very frightening I know for the children, I'm sure for both. They're still in an uncertain situation, and then let's say they go offshore. Well, they may be gone a couple of weeks, a month, and you just never know. Here the wife and the children are in a strange environment no matter how loving or supportive the people, and they did make strong bonds with other women and children within the shelter. That was always very special. But none the less, you could see that it was very hard on the family (#13).

Despite the many hardships, many of the newcomers did find at least some semblance of the Promised Land. A food stamp worker remembers that they tended to get off food stamps quickly. "Yes, they would get off pretty soon. Like in the beginning of the 1980's, well no one would be on over a month...because they would definitely find work in the oil patch" (#3). For some, however, it was over before they arrived. A shelter director recalls:

I remember this one family and they all came with all their belongings piled in the back of a truck. I'll never forget...the mom and the daddy and I think there were four or five children. It's like they had come to the Promise Land. Everyone had been hearing about all the work being available. But what they didn't realize was that the bottom was going out and the cost of living here at that time was astronomical (#13).

The Bust. Pinpointing the bust is not easy. There was no Black Monday. Using telephone access-line gain, South Central Bell's economic forecaster tracks the boom-bust for Lafayette and Calcasieu Parishes as follows:

Immediately after 1973 the Arabs instituted an oil embargo and the national economy went into a recession. The Lafayette area mirrors that recession by a decline in telephone access-line gain. Then the oil companies started gearing up for the increased prices in oil and what we have is a continued increase, every year, one year over the other... And then the oil industry itself slowed down in November of 1981

but the local economy continued accelerating until the second week in May of 1982. At that point [in time] we started seeing significant losses in our rate of increase. We're still gaining stations, but we're gaining stations at a much, much slower rate. This continued...and then we leveled off...about the same base that we had before the oil industry ever occurred (# 23).

And then the bottom fell out.

In January of 1986 the Arabs decided they were going to take the price of oil down. In one month the price of oil went from \$28 a barrel down to \$18 and then in six months it was down to \$12...[By] the end of 1986, we had lost 6,600 access lines in the Lafayette area (#23).

The good times were over on the front streets. For many on the back streets the good times had ended four years earlier.

The annual mean number of households in Lafayette Parish receiving food stamps declined steadily from 1980 until 1982. (See Table 7.3.) By 1983, however, the number increased 20.7% and continued to increase throughout the decade. (See Table 7.4.) Similarly, the annual mean for St. Mary Parish fell between 1980 and 1982, increasing 29.9% in 1983. Again, this upward trend continues with the exception of 1987-1988. For Calcasieu Parish, the overall picture is similar to both Lafayette and St. Mary, although the percentage decrease between 1981 and 1982 is much less. The increase between 1982 and 1983 is closer to that in Lafayette; the decrease between 1987 and 1988 is more similar to St. Mary. In contrast, the Ouachita picture is quite different. The increase between 1982 and 1983 is much smaller than any of the other parishes and the mean decreased each year from 1985 until 1987. Ouachita was impacted to some degree, but for the other parishes, 1982 was the beginning of the end.

Among the first to be hurt were those who were the last to come.

A lot of these people [the newcomers] did find work and went to work. But then when the economy dropped, they were the last employee and they were the first to be laid off (#41).

Others who came too late never experienced the good times.

Well, people read articles and newspapers, magazines. That would always kind of surprise me when they said that they read this, or someone told them about this article in a magazine that there was so much work here. For a long time people continued to come with this information and it wasn't correct at all for some months which made it doubly hard because here they were, no work available. I remember one young man and his wife. They had pets...and he stayed at the men's shelter for as long as he could and she stayed with us

Table 7.4. Households receiving food stamps: yearly percentage.\*

Year	Lafayette	St. Mary	Calcasieu	Ouachita
1970-1971	+32.9	+24.3	+10.5	+32.0
1971-1972	+6.9	+7.0	+13.2	+13.7
1972-1973	+29.0	+16.8	+3.9	+15.2
1973-1974	+6.7	+5.3	-1.5	+1.4
1974-1975	-6.7	-2.7	-5.9	+6.2
1975-1976	-10.7	-13.8	-13.0	-3.7
1976-1977	-18.6	-17.2	-19.1	-13.4
1977-1978	-13.2	-12.6	-13.2	-9.4
1978-1979	+47.2	+62.4	+46.1	+42.4
1979-1980	+20.1	+20.5	+30.4	+25.9
1980-1981	-9.6	-2.8	-2.6	+2.8
1981-1982	-21.8	-7.1	-2.9	-4.2
1982-1983	+20.7	+29.9	+18.8	+4.8
1983-1984	+14.7	+8.7	+21.0	+1.2
1984-1985	+11.1	+4.1	+11.5	-1.1
1985-1986	+16.0	+16.2	+4.0	-0.9
1986-1987	+11.8	+12.2	+0.8	-8.2
1987-1988	+8.5	-1.1	-3.0	+2.8
1988-1989	+5.2	+0.5	+0.3	+3.2

\*Increase (+), decrease (-).

Source: Office of Eligibility Determination, Food Stamp Program, Baton Rouge State Office.

and...got a part-time job...They use [sic] to meet at the park, not far, and exercise their animals and things. Next thing I heard, he got arrested for shoplifting. He couldn't get the work. So that created a whole other problem with no money, discouragement, strange place, being separated, they resort to things like theft, shop lifting, end up in jail, with no money for a lawyer in a strange place...Animals all went to the dog pound. Then I heard again that he got out, drinking and drugs occurred, abuse. Just a whole cycle of things (#13).

Previous welfare recipients lost jobs and had to return to food stamps. In addition, a class of people emerged who came to be known as the "new poor." A food stamp specialist recalls:

When the bust came in the early 80s not only did we get the repeat of our welfare, our usual welfare clients, but you start getting what we term "the new poor." You got people who had \$80,000 homes, who had a huge mortgage, the wife may not have been working and the husband was working offshore or for an oil company making beaucoup amount of money...and then when this hit, they were not prepared for the future (#1).

Both background and time of emergence of this "new poor" vary across parishes. The food stamp specialist added:

In Morgan City (St. Mary) because of the offshore industry, they got really affected bad, but it wasn't until later, 83, 84 that you saw the administrative staff, the secretaries in Lafayette start getting affected because of the cutbacks in the oil industry (#1).

Thus, for St. Mary Parish, the layoffs at McDermott and Avondale in 1982 signalled the end of the boom (#2). A New Orleans newspaper reflects the suddenness and unexpectedness of the bust. On May 27, 1982, the newspaper reported record earnings for McDermott; one week later, the same newspaper reported that McDermott Marine at Morgan City had laid off 450 workers (Hall 1982a; 1982b). One worker remembered:

When we did have the layoffs people started coming in and applying for food stamps and it was a completely new breed of people, people who had never been through our doors. They didn't know what we did or anything (#2).

Another recalls:

We had your larger plants like McDermott, Avondale [and] they began to have tremendous, you know, large layoffs, and you had your offshore people that had worked. In fact, I had engineers, people that made maybe \$200-\$300 [an hour] back in the days they were really up there. And they start coming in for our assistance so I began to, in my mind, label these our new poor, because they had never been, in fact, these are the type of people that I doubt even if

they knew this agency existed until that particular point in time that they began to come in and want our assistance (#3).

For Calcasieu, it was the closing of the petrochemical plants that initiated the bust (cf. Associated Press 1982). One food stamp worker from this parish referred to the new clients as "virgin cases...people that never came in before" (#33). Another worker recalls:

I'm going to say that a lot of [them] were either people who had lost jobs when a lot of the plants started closing and those that had jobs related to plant work. So they did have a lot of... people who worked as secretaries...and a lot of people who had been working at some of the plants for quite a while who had lost their jobs for whatever reason, either taken retirement or their sections closing down or things like that (#34).

Another worker added: "When the plant, the industries went down, well construction workers, they were out of work too" (#32).

Although not impacted as definitively as the other three parishes, Ouachita did feel the effect of the end of the oil boom. One food stamp worker from this parish commented that "it seems like the first two or three years I was here it was not that stressful of a job. It seems like maybe the last four or five years it's gotten hectic" (#29). She continued:

We've had a lot of jobs up here that have been terminated, a lot of businesses that have been closed here. But we have a lot, I would say probably about a third of them that come from other areas have come because they have family here or they were from this area originally where they've come back (#29).

Some had worked in the oil industry, but not all.

Maybe they were [in] business[es] that had depended on the oil industry and they've cut [back], kind of a, you know what I'm saying, kind of a domino effect maybe (#29).

As mentioned earlier, the "new poor" became evident somewhat later in Lafayette Parish. Like the "new poor" in other parishes, they had made huge salaries in the oil industry. Unlike the others, they were likely to be white-collar and many were highly educated. The bust was a great equalizer. In desperate plight, these people turned not only to food stamps but to private and church-related agencies as well. The director of a church-related agency, long familiar with requests from traditional poor in the area told the following account of Lafayette's "new poor."

I had the occasion to interview a young woman in her mid 20's. Their expense account [household] a month was \$2000 [back in the oil days] and she didn't even have a quart of milk in her house at that time. I went with her to the food stamp

office and the welfare office and she was frightened to death. Now this was someone who always had more than she needed. But what I saw on her face and what I saw on the faces of the poor, just the poor people, wasn't any different. I saw fear, I saw hopelessness, I saw apprehension, I saw sometimes anger. I saw this on her face and I saw this on, of course it was very very common to see this on the faces of the poor. But I also saw this on her (#11).

Most of the "new poor" were "middle management or laborers"... "but still, in the oil field, blue collar, that was a considerable income" (#8). There are stories, however, of people who "had several million dollars and who now live in \$165-\$200 a month rent houses" (#21).

The common characteristic of the "new poor" was not type of job or income. It was that they had never been poor before. A coordinator at a community action agency noted:

The poor is a whole new class of people now. People who never were poor before; who never had problems trying to live... People who had never been in for help before came in with tears in their eyes saying, "I hate to come here; I've never had to do this before (#16).

Homelessness became commonplace. One informant came and left Lafayette on a number of occasions and was, thus, able to pinpoint dates. In August of 1983:

They were taking reservations. The street people were telling me that at the underpass at University, they were literally taking reservations to be sleeping under that underpass (#18).

This informant was gone from early 1984 until summer. "You still [had] that onrush of men, women and children coming down. In 1985, he left again. Later that year when he returned "the pressure had lessened." Minutes from meetings held by United Christian Outreach (UCO) shed further light. June 16, 1983, minutes report "there are not as many transients requesting help as previously"; the July 21, 1983, minutes report on "the plight of the 'new poor' who have exhausted their unemployment benefits."

The manager of Job Services in Lafayette, however, remembers early 1986 as the critical time.

We had massive unemployment. We had people standing in line all the way out the door and into the streets. We didn't have near enough staff to service the people coming in. We were hiring temporary people... We had engineers, people with Ph.D.'s, geophysicists, geologists, people making upwards to \$250,000 a year coming in and filing claims for unemployment insurance for \$205 a week.... If you or a member of the family are a stockholder in a company, you must prove that the company has been dissolved. People had board meetings at the interviewer's desk to dissolve their companies right here

in the office so they could qualify for the unemployment insurance. It was really a hard thing to look out and see (#47).

As the crunch began to affect the middle and upper class, domestic workers lost their jobs (#11, #12). The bust had begun in 1982; by 1986, the boom was over for everyone; the poor, the near poor, the middle class; the rich; and the very, very rich. As one informant put it: "It's affected everybody. I guess that'll be the best way to explain [it]" (#12).

The Aftermath. One of the impacts of the bust often noted in the boom town literature is the loss of population. Although there was some outmigration, it was not as high as the literature would suggest. South Central Bell's forecaster noted: "The net outmigration in Lafayette Parish was not nearly as severe as you would have expected it because those that left [were the people who] did not have the familiar roots in this parish, in this area" (#23).

Others concur. The director of a church-related agency noted that "it's people that were born and reared here" that have stayed. You find that families in Lafayette are still kind of clannish and they want to remain because their families are here (#11). The director of another church-related agency felt "people stay here because that's the way you were raised. You never left home; you never left your family" (#12).

For some, staying meant changes in living arrangements:

[There] are different arrangements, living arrangements. Everybody's living with everybody. I don't mean sexually, I mean families moving in together" (#11).

Another informant noted:

There was a tremendous reformation of families. The single kids that had moved out of the house and were on their own came back in to the central, to the core household. The single parents moved back in with mom and daddy. And the grandkids live with the grandparents, with or without the parents (#23).

For some, however, just the opposite took place. One informant, associated with a shelter for men, remarked:

When the oilfield crunch hit back here it took a lot of hard working men and put them into depression. They lost their families because they couldn't keep up their house note anymore (#40).

For other couples, role reversal enabled the family unit to survive. Huggs (1989:10) writes:

With husbands no longer able to count on the security of a fat company check and company benefits, and often not skilled enough to move into a lateral job with equal pay, former housewives have been forced to join the work force. Often finding jobs more easily and earning more in the marketplace than their spouses, many oil industry wives are turning the job of homemaker over to their husbands.

A food stamp worker in Lafayette commented, "I have more men now... receiving food stamps" (#8). Another stated that "a lot of time, when it's families, most of the time it's the woman who's working. Some men will come in, some men still won't come in, so the woman will take off" (#9). Workers at other agencies in the parish also report men coming in for help for their families (#16, #48).

In July 1989, a local Lafayette newspaper quoted the director of the University of Southwestern Louisiana Center for Business and Economic Research (The Daily Advertiser 1989, p. 6):

Eighteen months have elapsed since the last business survey of south Louisiana. During that time economic activity has begun to grow once again...Employment is up; unemployment rates are down; help-wanted advertising is higher now than at any time in the past two years. Building activity is slow, but steady. Bank lending is also slow, but steady. The rebound in retail sales...portends continuing economic strengthening.

This optimism based on the decline in unemployment was shared by others in the community (cf. Baudoin 1989). Comments from those who work with the poor, however, reflect a picture that stands in stark contrast to the above. According to the informants, there is widespread underemployment in the area. One informant notes:

We're seeing quite a number of working poor people. They're just not able to make ends meet. Not that there's poor managing. The economy, the cost of living has gone up so much that there just isn't enough to make around...They still maintain that they can pay their bills, they want to pay their bills, but once they pay their light, the gas, the rent, the insurance, there's nothing left (#11).

Another informant reports that "all of these jobs that are available now here are part-time. That means you're offered nothing; no health insurance, no pension, no nothing" (#12). And the number is growing. The informant added that some men left to find work, but "it's been such a burden on the wife and the children that he's had to quit his job and come back and try to find something over here because they're just not use to living that way" (#12).

The cultural prescription against moving away from family may also be a factor in the creation of another component of what may become a new Appalachia.<sup>4</sup> A food stamp specialist describes this new class:

We have young kids coming in without a college degree and maybe without even a high school diploma whereas during the boom these young kids could make it because they were hired offshore or they were hired in some oil related business and they were making quite a bit of money per hour. But when you see them coming in now and some are working at Burger King or Taco Bell or whatever at minimum wage and the wife is working part time doing baby sitting or something like that, these young kids will never, in my opinion, obtain the American dream of having a home of their own or an education for their kids if things don't turn around in this part of the country (#1).

Many of the parents are middle class with pensions from the oil industry. With help from the parents, the kids can make it. The informant continues, however, "But when mom and dad won't be there, that's what worries me. When mom and dad won't be there, what's going to happen to these young children and people?" (#1). A food stamp worker's comment affirms this. "A lot of prominent people in our area, their children are applying for [food stamps]. I guess the parents can do just so much" (#9).

A food stamp worker in St. Mary Parish reflects about the aftermath of the boom in that area:

There's no future anymore. We don't even have a movie house in Franklin. That's it, it had to close down. We used to have two. There's nothing for the children in this town to do. The adolescents, there's nothing. They ride around town, Friday, Saturday and Sunday.

An informant in Morgan City notes:

I've seen a lot of middle class people fall into very low class status, just squeezed out and tremendous despair and hopelessness cause they don't see any way out. They once, they didn't have big dreams, but they dreamed of a home, a car, educating their kids, having the things they need, medical care, and now they don't have that. They can't provide for their families (#44).

For Calcasieu, the arrival of Boeing Military Aircraft Company offered hope (Judice 1987), "but the improvement is hard to measure" (Judice 1988, p. 6). One informant noted that Boeing had not had much effect:

Because they still have not hired the number of people that should be working. They have them out there working and every so often they have a big layoff.

Well they claim...when they had to hurry and hire all these people and then after they had a chance to check their records, if they was to have any kind of record or they've been on drugs or alcoholics, they have to let them go. So every so often they purge the records and it's like 80-100 and some odd people will be laid off. So they're still training. So it really haven't helped that much and they're not paying that much. They're not (#38).

When asked "What has oil done for this area?" one informant responded: "Well, it made it and then it broke it" (#18).

### SUMMARY

Characteristics traditionally ascribed to other areas impacted by extractive industries are also evident in the three oil/gas impacted parishes presented in this research. These include rapid population growth, increased cost of living, and the suddenness and unexpectedness of the bust. This chapter addressed one specific impact, poverty, as evidenced by requests beyond the informal networks for food, shelter, and/or clothing. A major finding is that poverty defined in this way increased during both boom and bust periods. The particular configuration, however, varied throughout the cycle.

Before the boom, the poor in all four parishes were similar to the poor in other rural areas of the South. They were native to the area, uneducated, and lacked skills. The boom benefitted some of the traditionally poor. Domestic workers found jobs in hotels; others learned new skills, e.g., welding. Blacks were afforded increased opportunities particularly in Calcasieu parish where union labor was prevalent. For some, however, the rising cost of living made things even worse. This was especially true for the elderly.

In addition to the native poor further impoverished by the boom, the growth economy drew poor from other areas. Some were looking for work; some were looking for "better pickings." This situation was exacerbated by the national recession in the early 1980's. Some newcomers, particularly those who came early in the boom, found jobs. Finding work, however, did not always mean the end of troubles. The most commonly available work was shift work (7 on/7 off) which separated families already in crisis. With respect for single men, the need for a readily available labor force led to human exploitation at its worse, the labor camps.

The ensuing bust forced many of the traditional poor back into poverty and the out-migration of many of the formerly poor who had come in from other areas. Additionally, a "new poor" emerged. These people included both white and blue collar workers. What they had in common was that they had never been poor before. Some of these people also left the area. Other, particularly those native to the area, remained preferring underemployment to

separation from family and kin networks. There is evidence that these persons and/or their children may eventually constitute a new underclass population.

Given these findings, the following recommendations are made:

1. Carefully controlled leasing of mineral rights could minimize social costs both to individuals and to communities. Massive growth inevitably ties local economics to the vicissitudes of the commodities market. Leasing less area over longer periods of time would result in more stable economic and employment conditions.
2. Communities impacted by offshore drilling should be closely monitored. This should include but not be limited to cost of housing, cost of food, and changes in food stamp eligibility determinations. These figures, rather than unemployment rates, would be better indicators of a community's health.
3. Legislation protecting migrant labor should be expanded or enacted to include extractive and extractive related industries. Work camps need to be monitored for housing conditions, job contracts, pay scales, and the degree to which salaries can be indebted.
4. Networking between public employment agencies with respect to the availability of jobs needs to be developed.
5. Development of housing for workers and their families should be considered as part of the preleasing negotiations.
6. Programs to alleviate the pressure of the high cost of living inherent in boom conditions for those on fixed incomes should be developed. The cost of these programs should be part of the leasing costs.
7. Preparation throughout the boom for the inevitable bust to come should include, but not be limited to the following:
  - a. Promotion of general education as well as skill development, i.e., trades.
  - b. Educational programs across subpopulations on the elastic nature of extractive industry.

### ENDNOTES

1. Because of population differences, employment data for all parishes were standardized before plotting.
2. Accordingly, quotes from interviews are referenced by number only, e.g., (#2).
3. There was no formal program in place, although many of these people were assisted.
4. The author is indebted to Bill Freudenburg for this analogy.

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## CHAPTER 8

### FROM BOOM TO BUST: COMMUNITY RESPONSE TO BASIC HUMAN NEED

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#### INTRODUCTION

In an earlier chapter, requests for assistance with one or more basic needs (i.e., food, shelter and/or clothing) were traced across the Louisiana oil and gas boom-bust cycle. Using interview material obtained from the same key informants, agency memos and minutes, and newspaper accounts, this chapter examines community response to those requests. The major focus is on public, church-related, and private agencies in Lafayette Parish, the administrative center of offshore oil. As in the earlier chapter, similarities and differences in St. Mary Parish (high blue-collar involvement in off-shore oil), Calcasieu Parish (directly impacted by oil and gas but with greater economic diversity), and Ouachita Parish (impacted only indirectly by energy related activity) are interspersed for comparative purposes.

Both the emergence of and interrelation between public and private efforts to eliminate local poverty in the pre-boom period (1970-1973) are described. These agencies are then followed across the boom-bust cycle from 1973 to 1989. Groups with a national base of control are compared with locally controlled groups with respect to format flexibility and adaptability to economic change. The emergence of new agencies, change or lack of change in older ones, and failure of agencies/programs to survive are discussed. The importance of church-related structures, preexisting networks, and both local and federal funding are considered. Finally, factors which enhanced and/or limited both individual and community response during the boom-bust cycle are presented.

#### REVIEW OF LITERATURE

As noted in an earlier chapter, a basic assumption in the early boom town literature was that sudden economic growth associated with energy related development results in negative impacts on the community. One of the negative impacts was the increase in individuals or families who are unable to meet their basic needs without assistance (e.g., Kohrs 1974; Molotch 1976; Moen 1981). The early boom town literature also reports on the impact this increased demand has on community agencies. For example, Gilmore (1976) notes the increase in mental health case loads, Christiansen and Clack (1976, p. 581) mention "severely strained already limited local government services [and health care], and Cortese and Jones (1977, p. 82) remark on the increased need "to provide [people] with social services, medical and mental health care."

Cortese and Jones (1977, p. 82) suggest further that service agencies are not only impacted by the increase in numbers, but also that "the nature of the problems" change.

When the boom ceases, new problems emerge. Gilmore (1976, p. 191) describes this phase as the completion of the "problem triangle." "As population grows at boom rates, existing social services fall short of need." This inability to meet needs results in problems attracting and retaining a satisfactory work force.

[With] declining productivity, or at least the absence of expected increase in productivity and profits, there is less money coming in to support public sector activities...local service and facilities [find] it even harder to keep up with...demand.

Brookshire and D'Arge (1980), however, argue that not all impacts are negative, and contend instead that boom-towns may be indicators of economic health and should be viewed as demonstrating adjustment to change. Thus, the present research examines change in community response to requests for assistance with basic human needs against the backdrop of the Louisiana oil and gas boom-bust scenario.

## FINDINGS

Pre-Boom Response to Requests for Basic Needs. Resources for the poor were limited outside of family and/or neighborhood networks. An informant who worked with the poor in her neighborhood in the late 1960's and early 1970's recalls:

We either took them to welfare for assistance and then tried to get them some food stamps or you took them to a church. You had some church organizations who would help. Not many. You had a little bit, a little bit. And some time you take them to the Salvation Army for clothing or [gave them] something that you were able to gather at that time (Interviewer Identification Number #45).

The American Red Cross had been in operation as an official unit in Lafayette Parish since 1917 (Credeur 1990); the Salvation Army came in 1948 (Blaskowsky 1990). It was not until the late 1960's and early 1970's, however, that federal War on Poverty programs impacted the Lafayette area. The St. Martin, Iberia, Lafayette Community Action Agency (SMILE), the official anti-poverty agency for the three parishes, was founded in 1968 (Reedom 1989). It was not until April 1970, however, that food stamps, the major component of the War on Poverty, were in effect in all four parishes studied.

Just as poverty at the national level (cf. Harrington 1963) became visible in the 1960's, the Lafayette community also became aware that poverty existed locally. In 1969, the local newspaper introduced a remarkable program known simply as "The Milk Fund."

The Milk Fund began when The Advertiser invited a group of clergymen, volunteers with the St. Vincent de Paul Society, and officials of the Welfare Department, the

School Board and the Southwest Louisiana Education and Referral Center (SLERC) to the newspaper's offices in a series of meetings...The Advertiser Milk Fund was launched...SLERC takes applications and review case histories, usually over the phone so the families don't have to bring in extensive documentation. SLERC then contacts Borden's, and within the week, families receive free, fresh quarts of milk daily (The Sunday Advertiser 1989, pp. 1,6).

There are "no overhead costs because The Advertiser handles all of the accounting and donations" (p.1). By August of 1989, this unique program had distributed "618,030 quarts of milk to 86,486 people at a cost of \$352,161.19" (p.1).

Other programs also emerged in the area. The Milk Fund is an example of a local response to the hunger problem that prompted a national response. In a similar vein, a private program, Lafayette Catholic Service Center, is a local response that parallels the community action agencies. Both The Milk Fund and food stamps are programs initiated by the non-poor for the poor. In contrast, community action programs such as SMILE were designed to bring the poor into active participation in meeting the needs of the poor (cf. Harrington 1984). In these programs the poor were not only recipients, but also served on boards and/or staff. As with SMILE, the Lafayette Catholic Service Center emerged from the Civil Rights movement and, at least in the early days, was both managed and staffed by poor persons or by persons who chose to identify with the poor.

The Lafayette Catholic Service Center opened in "July of 1973 in response to an awareness of Bishop Gerard Frey (Roman Catholic) of the lack of sufficient resources for the needy and poor of the parish (church)" (St. Julien 1989). A brochure on the program continues:

The first facility occupied by the center was a room made available by Bishop Jude Speyrer, then the pastor of Our Lady Queen of Peace Church. The room, located in a church building on Martin Luther King Drive, was furnished with a borrowed chair, a three-legged table and a phone.

One more pre-boom resource needs to be mentioned. In 1973, Kenneth Bowen, recently elected Mayor of Lafayette, appointed a Human Services Coordinator as an assistant to the mayor. This created a mechanism by which municipal officials could be made aware of the needs of the poor (Taylor 1990). Thus, as the result of political and social change at both national and local levels, there were a number of programs in the Lafayette area that provided or facilitated basic assistance to the poor. Each of these was in place prior to the 1973 oil embargo. The transition from informal "caring" to "formal" caring (cf. Freudenburg 1986) had, to some extent, taken place prior to the boom period.

The Boom Period. The pre-boom programs were designed and oriented toward the local poor. The kind of people who came to these agencies changed after 1973. The director of one agency describes this change.

The trend, people started moving into Lafayette from other states...Some had no savings at all. Some had been going from state to state and by the time they reached here there was nothing left, little furniture, little clothing, and they had gone through everything. So we saw ourselves doing a lot of that (#11).

Many of these people were part of "uprooted" America, those people caught in "the crisis of the Western economy in the late seventies and eighties" (Harrington 1984, p. 115).

Rossi (1989, p. 34) suggests that homelessness "began to take on new forms by the end of the 1970's." One form was the mass movement of men, women, and children across the United States. Rossi continues (p. 35):

Reminiscent of the Dust Bowl migration of the Great Depression, stories began appearing in the newspapers about families migrating from the Rust Belt cities to the Sun Belt. The resemblances were striking. The family breadwinner has lost his job in a factory and, after weeks of fruitless search for employment in one or another mid-American city, had loaded household possessions and family into an old car, driving to Houston to Phoenix in search of the employment reputed to be found in the booming Sun Belt.

For some of these migrants, Lafayette was the final destination; others were just passing through.

The ones who were just passing through had no interest whatsoever in a permanent situation, a permanent offer of any kind. The ones who came, obviously, it was very obvious that they wanted to become stationary. They wanted to become a part of the community. They wanted to belong to a church...to a neighborhood. The others, on the other hand, could care less whether or not there was a church anywhere or anyplace that was community oriented. They had a couple of things in mind. They wanted what they wanted which was usually gasoline for the car, food and clothing, those three things and they just wanted to keep on going (#11).

Programs initially developed for local poor adapted to these different populations. Where sacks of groceries had once been a mainstay, "finger food", e.g. vienna sausages, peanut butter, etc., became a part of many service groups' larder in order to better meet the needs of those on the move.

As mentioned earlier, certain individual churches were already resources for those working with the poor. It is questionable whether this was ever sufficient for the local poor. It certainly was not sufficient to serve the influx of people coming into Lafayette.

The churches felt that God had called them to service and to care for the poor. They also recognized that it was going to be a tremendous job because these people were flooding into Lafayette. And they found another thing that some people were going from one church to the next getting services and money and then when someone else in need came, there was nothing left. That there was a tremendous duplication of services and no one church had enough money to do any real good. So the idea of pooling resources came (#14).

The result of pooling resources was United Christian Outreach (UCO).

We began in 1977 with the idea [that] churches were helping families, individual families, each church, and they couldn't do that much for them. So their idea was to join forces and have more facilities and money to help these families. We had mostly families of transients going through Lafayette in those days. We didn't have that many local people (#10).

The movement of churches toward centralization of outreach services was not limited to Lafayette Parish. The Emergency Aid Center was started in Franklin (St. Mary Parish) some time around 1978 (#42).

It started with the Catholic Church and we got together all the ministers through the Ministerial Association and they all agreed that this was a good idea, that it would save them from screening, plus they wouldn't have somebody going to this church with a sad tale and going to another church with the same sad tale and sort of ripping people off. It sort of centralized it (#42).

Centralization did not occur in Ouachita until 1983 when Christian Community Ministries emerged in Monroe (#25).

In Calcasieu Parish, Catholic Services Center had been in place since the 1960's, but centralization of church dispensed meals did not take place in this parish until Abraham's Tent was opened. Both Abraham's Tent and St. Mary Outreach in Morgan City (St. Mary Parish) opened in 1986 (#39,#44) in response to the oil bust.

The emergence of battered women's shelters and rape crisis centers in the four parishes is probably a result of national consciousness raising precipitated by the women's movement. Although these facilities provided services to poor women, they were designed primarily for specific situations, not poverty in general. For this reason, the need for these facilities and

their relationship to the oil and gas boom-bust are beyond the scope of this research. Of relevance, however, is the emergence of Faith House, a shelter that was created in direct response to the boom.

Well it came as a need, a result of a need that we realized because of our work in the center, constant[ly] having to deal with families moving in from out of state. Some mothers were brought here and just dumped and left by husbands or common-law husbands. And there were no other resources or any other agency in Lafayette that dealt with this problem. So we were always given these people and we didn't know what to do with them. So Sister Mary Thomas realized and said something had to be done, a shelter had to be built for women (#11).

Although the idea was conceived in late 1979, Faith House did not open until September 1981. The bust began in May, 1982.

During the boom, church affiliated persons and church related programs were pushed beyond their resource limits. Funding was always a problem. Given both high employment and high wages, monies certainly were available and could be tapped. According to the informants, there were very few instances in which either a major or minor oil company contributed directly to a program. However, persons employed by oil companies were among those who contributed generously. Simply put, community people in general responded to need if they knew about the need. The problem was that those who were working with the poor on a day-to-day basis were often too exhausted to make the needs known to the public. In addition, many of those actively involved were "doers" not "askers," and fund raising presented a new and somewhat frightening task. As a result, the poor remained invisible to much of the community.

Although the poor may have been invisible to the community, community services were not invisible to many of the poor. There was concern among some city officials that increasing services would draw more poor to the area (#15). This concern was credible. Many of the informants told stories of clients who knew about the agency before they arrived in the area (#11, #12, #15, #41).

What is remarkable is that many needs were met, and met by relatively few people. It was not uncommon for one person to serve on several agency/program boards, nor was it uncommon for a board member of one agency/program to also function as a volunteer in another agency/program. This interconnectedness was functional in that it reduced conflict between groups. Additionally, waste was minimized since agencies shared surplus donations.

The Bust. The heroes and heroines of the boom were individuals, usually church affiliated, who joined together to meet the needs of the poor. One informant noted:

I think Sister Mary Thomas is, in a sense, the paradigm of the person who was just a well meaning individual working with Lucy St.Julien and, wow, oooah, ohah, golly gee whiz. Let's do this because it's needed. And it was beautiful (#18).

When the bust began, it was the food stamp workers who went beyond the call of duty. Suddenly, without warning, the food stamp offices were deluged with individuals desperate for help. In Lafayette, St. Mary, and Calcasieu, the stories are similar. A former administrator in St. Mary recalls:

The workers had finally gotten to the point where they had, they could do a quality job and then the numbers became just so humongous that there was no way we could do it. I mean we've been through months where we had like four or five hundred applications and I might have had seven people to do it. It was an impossible task. You're taking applications; you have no time to work on them. Normally a couple of hundred applications, something like that and it was just hard because the workers were burning out (#42).

Not only were the numbers overwhelming, the "new poor" were markedly different from the clients food stamp workers were accustomed to. These new clients had never experienced either poverty or asking for help.

"It was a more angry, hurt person that was coming in" (#6); "They just weren't ready for paperwork, it's just the paperwork overwhelmed them" (#3); "I mean everybody just thought we were the answer and we weren't. I mean we weren't equipped for that [the numbers] and the people [coming in] were hostile" (#42).

They were just, they weren't your normal welfare type of person. They didn't want to wait. We went to a walk-in basis on intake and we'd take applications until 12 o'clock. I mean we went to group applications. We'd take them in the conference room and have group applications until 12 o'clock where you'd take 20 people maybe and you explain all the policies and what have you. We'd have people roving to sort of help them fill out their form. And then we'd take them individually to a room for the confidential information. But it was just such a humongous task. Everywhere you look people were interviewing. I mean, we didn't have a cranny there wasn't somebody sitting there just writing as fast as their little fingers would go (#42).

To complicate matters, many of the workers were personally experiencing loss, e.g., husbands and/or other family members were out of work (#42).

The impact of the bust began to affect other parts of the state. Ouachita began to feel the pressure around 1985/1986. One food stamp worker noted that her job hadn't been too stressful before then. Around 1985/1986, however, she began to have clients who had been

temporarily laid off from local businesses as well as those "from down south" who "came up here because they have relatives from up here" (#29). Additionally, as the impact of the bust affected state revenues, staff positions in state programs, including food stamps, were eliminated. Thus, parishes minimally involved in oil and gas development were impacted through a domino effect.

As a result of this domino effect, Lafayette, St. Mary, and Calcasieu were impacted yet again. It was as though a first massive wave swept over them, moved on to impact the state, and thus set in motion another wave which added to the first. It is to the credit of both food stamp supervisors and workers that these persons, mostly women, met the challenge. One informant from another sector said simply: "The only reason that people aren't starving is because of food stamps" (#17).

Driven by basic needs, the "new poor" frantically turned not only to the food stamp program, but to local programs as well. As mentioned earlier, new coalitions of churches emerged in both St. Mary (Morgan City) and Calcasieu. These new groups, those already in place in Lafayette, St. Mary (Franklin) and Calcasieu, and the local community action programs were besieged with requests. A number of these community based organizations were staffed by blacks, some not too long removed from poverty themselves and accustomed to working with local poor and transients. They now found themselves working with recent members of the privileged class, whites who previously thought of poverty as something that existed in countries like India. Again, it is to the credit of these black service workers that they put aside past injustices and met the "new poor" with compassion and gentleness.

In November 1982, Monsignor Alexander O. Sigur, a long-time local leader in ministry to the poor, organized a group called Friends of the Poor (Ashy 1990).

Membership is open to non-denominational, caring people who meet one hour at noon each First Friday to discuss approaches to help the poor. We are not involved in organizational procedures, minutes, elections, etc...The exchange of experiences which lend aid to the poor promotes enthusiasm; generates new ideas, and usually results in solutions to problems.

One participant/informant commented:

It's just a group of interested people who come together the first Friday of each month and it's just an hour's program and it's just people who work with the poor and are interested in helping the poor. We have speakers. There's a round table introduction of everyone there. Those who are involved with different agencies are able to ask for certain things they needed. And the response is wonderful. It's put in the church bulletin or in the organization bulletins, and whatever is needed is usually gotten right quickly (#48).

Friends of the Poor is still active and continues to facilitate networking between agencies and programs.

Other groups emerged for only a short time. One was the Soup, Hope, Soap mission, organized in 1982 or 1983 (United Christian Outreach 1983). One informant recalls:

Well there were two fellows [in fact, there were three] that opened up the place, and one of them, if my memory serves me right, was supposed to have a record somewhere in Florida, some kind of discrepancy, and then we had a minister, which I shall not name, who really, really didn't want to give that man a chance. And I didn't agree with him because no matter who we are, sometimes if you want to change your life you should be given the chance. If it's disclosed that you need to be monitored, that could have been arranged, I think, without having to run the guy out of town, cause actually he was doing a good service by housing the men at a time which they had no place to stay and he was doing, I think, a fairly good job on it because a couple of times we drove over to look the situation over and he had so many of them in there that it was unbelievable, but at least they had a place to sleep and some food to eat (#41).

Another informant suggests "structural...and moral weaknesses" led to the demise of this program (#21). Whether this was the reason is debatable. In fact, this program never received formal acceptance by church or city officials or, with few exceptions, informal approval by persons working in and for other local programs.

Other programs, started by persons with impeccable histories, failed because the leader could no longer continue. An example of this kind of program was Feed My Sheep which began around 1985 (#46).

It's just a sweet little woman...she was just a good Christian woman and she got this scripture, "If you love me, feed my sheep." And that's just what the Lord had laid on her heart to do...she had, I guess she just knew a lot of people, but she would go to other organizations too and she'd try to find pots and pans and a couch and sofa and she'd try to help them set up house.

Feed My Sheep no longer exists. The Lighthouse, a grass roots attempt to shelter homeless men burned to the ground. Taken over by persons affiliated with the Roman Catholic Church, this program emerged as the St. Joseph Shelter and survives to this day.

As the secondary and tertiary industries and businesses (cf. Manuel 1984) began to collapse, more and more people were affected and traditional social service funding sources evaporated. The November 15, 1984 minutes of United Christian Outreach (UCO) report that "the bank balance became alarmingly low. At one time the account was down to \$800 with more than that owed." Other agencies were in similar circumstances. In 1983, what

became known locally as the FEMA funds came into play. Handled through a national board chaired by the Federal Emergency Management Agency (FEMA), the funds were designed to assist local communities provide services to the needy. Community eligibility was based on unemployment rates. Only two parishes in southern Louisiana were eligible for the first two years (1983-1984), but by 1985, all parishes in the Acadiana area were eligible(#22).

Community based organizations are often leery of federal (outside) funding. The individual primarily responsible for bringing these funds into Lafayette recalled:

In the beginning some service providers were skeptical. They said any federal funds is bound to be complicated with a lot of red tape. And I said I promise you it is the simplest operation I've ever worked with, with a minimum of reporting. Now you have to keep good records and one of the requirements is that your agency have an annual audit...but I had to actually convince some people not to be afraid of it (#22).

The Christian Community Ministries in Ouachita still receives no federal monies. "We prefer to keep our free offerings with no ties with any governmental organizations at all. This way we have our guidelines and we can follow them" (#25). Extreme poverty, however, alters community based organizations just as it affects the persons they serve. A Lafayette informant states:

Without them (FEMA funds) we'd never been able to make it because the churches, although they have been loyal in their pledges have not been able to give as much as they once did because they don't have, the offering plates are not as full...pledges are not as generous as they were partially because some of the people do not have the job that paid so well that their salary's been cut and partly because people are afraid for the future and thinking, I'd better put something away (#14).

Another informant from Lafayette states, "I don't know how we would have survived without that kind of money [FEMA funds] coming in" (#17). An informant from Calcasieu responds, "...if the FEMA money had not been here, a lot of people would not have been able to hold on to their homes" (#38). A St. Mary informant puts it simply, "We could not have survived without the FEMA funds" (#44).

FEMA funds provided assistance with food, shelter, utility assistance, and rehabilitation for buildings used to provide these services. Another program that enabled existing programs to survive was Food Net. Based on a California program, Food Net sponsors a one day drive in eight parishes during which food is collected at a central place. With one exception, food collected in this drive is distributed through other agencies. In Lafayette Parish, Persons with AIDS (PWAs) are permitted to come to the warehouse as individuals to select their groceries (#50).

The Aftermath. Although some of the attempts to meet the needs of the different poor populations that arose from the oil/gas boom-bust failed, many survived. Some, like Abraham's Tent in Calcasieu, were intended to remain open only until the unemployment rate went down to 7%. Although this rate has been reached, the unemployed and underemployed in the area and the transients moving across the country continue to need the meals provided by this program (#39). In St. Mary Parish, in Franklin "there's still a lot of people who just need jobs, need affordable housing, need help in lots of ways" (#43); in Morgan City, "people find employment but they work for two or three weeks and then they're laid off because there isn't any job" (#40). Programs in this parish continue today much as they did in the past.

In Lafayette, there have been some changes not found in the other parishes. Faith House received national recognition when it and several other shelters across the country were written up in Homeless in America (1988) as model programs for the homeless. Faith House now functions primarily as a shelter for battered women. Lafayette Catholic Services Center has grown from a small program housed in an office with a three-legged table to a complex structure that encompasses the Msgr. A.O. Sigur Service Center, St. Joseph's Diner, St. Joseph Thrift Store, St. Joseph Shelter for Men (which literally rose from the ashes of The Light House), St. Joseph Family Shelter Two-Plex, and St. Joseph Family Shelter Four-Plex. In 1989, a professional was brought in by the Bishop of the Diocese of Lafayette (Roman Catholic) to coordinate these programs. This complex organization provides a number of services, among which is the feeding of approximately 5,000 people a month. Although under the auspices of the Diocese of Lafayette (Roman Catholic), the diner continues to be staffed by volunteers from Protestant as well as Roman Catholic churches (#49).

One more change needs to be mentioned. For lack of a better term, this change may be thought of as the emergent respectability of work with the poor. In the 1960's and 1970's, few people on the front streets of Lafayette were aware of either the poor or of those who worked with them. In 1983, Acadiana Volunteer Activist was established to promote volunteerism in the community. A number of persons who work with the poor have been recipients of this award. Three years ago, the Bishop's Charities Ball was established to raise money for the various poverty programs under the umbrella of the Diocese of Lafayette (Roman Catholic). Persons actively engaged in programs for the poor, both Catholic and non-Catholic, are singled out for recognition at this gala social event.

## SUMMARY

As mentioned in the chapter on the impact of the boom-bust on poverty, certain characteristics of communities impacted by extractive industries apply to the three oil and gas impacted parishes studied in this research. These include rapid population growth, increased cost of living, and the sudden and unexpected nature of the bust. As suggested in the literature, these sudden shifts in the economy resulted in tremendous demands on community resources. Much of the early boom town literature suggests that these demands result in a

breakdown of community agencies. In fact, the present research suggests adaptation (cf. Brookshire and D'Arge 1980) rather than breakdown. Certain unique aspects of both time and location, however, may have been ameliorating factors in this adaptation.

First, as a result of the Civil Rights movement and the War on Poverty, a number of community based organizations were already in place prior to the boom-bust period. This proved to be extremely important. The structure, scope, and guideline limitations of national organizations such as the American Red Cross and the Salvation Army often made it difficult if not impossible for the leaders of these programs to meet the changing needs in the boom-bust parishes. Probably because control was local and guidelines could be rewritten with little difficulty, community based organizations proved to be more flexible and thus better able to adapt programs to the changing flux of poverty.

A second factor is, of course, the presence in the community of persons already committed to the task of helping those in need. Programs inaugurated and carried out by individuals, regardless how well intentioned and well meaning, are often doomed to failure. Sheer physical and emotional exhaustion of the leader is often a problem. In addition, new programs are highly susceptible to destructive criticism on the part of those with other agendas. Lafayette, St. Mary and Calcasieu were unique in that a powerful bureaucratic entity, the Roman Catholic Church, was already in place. This entity gave both credibility and structure to several efforts to serve those in need. In addition, the Civil Rights movement of the late 1960's created networks of Protestants and Catholics which facilitated both the development of programs and subsequent networking.

Finally, the presence of two federally funded programs, Food Stamps and FEMA, were critical. The individual pain brought about by both the boom and the bust and the need for the most basic assistance should not be minimized. It was terrible. Without these programs, however, it would have been even worse.

One of the most important implications of this research is the need for predevelopment planning. A second implication is the need for adequate preparation for the bust phase or termination of resource development. A third implication is the value of community based organizations during periods of rapid economic change. Given these implications, the following recommendations are made.

1. Community based service organizations should be included in predevelopment planning as well as throughout the period of resource development.
2. Funds to assist these agencies should be part of the leasing package.
3. State agencies providing basic services should be protected by legislation from sudden loss of staff during the period of decline following resource development.

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## CHAPTER 9

### FAMILIAL STRUCTURAL RESPONSES TO CYCLICAL FATHER ABSENCE: THE OFFSHORE OIL FAMILY

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#### INTRODUCTION

The exploration for and extraction of deposits of oil and gas principally occur in remote, inaccessible areas under coastal and OCS waters. The movement of workers between these offshore worksites and onshore support bases requires expensive transportation and extensive time. In order to reduce this expense, altered work schedules have developed (Gramling 1989).

The typical pattern for working offshore is for the employee to meet at a designated site in order to be transported offshore by either helicopter or boat. The worker will normally stay offshore for 7 days, but a stay of 14, 21, or 28 is not atypical. Following the offshore stay, the employee is returned to the meeting site and has a period of days off, typically the same length as the stay offshore; although, some variations occur in these patterns (e.g. 14 days on/7 days off). These patterns of offshore employment have been in existence for over four decades (Gramling & Brabant 1984; 1986).

The individual who works this concentrated work schedule is away from his family for an extended period of time and is also potentially at his residence for an extended period (Gramling 1989). Appropriately, Forsyth and Gramling (1987) have called this a feast or famine schedule. The effect of this concentrated work schedule on the family of the offshore oil worker is the focus of this research.

#### FAMILY STRUCTURES AND OCCUPATIONALLY RELATED FATHER ABSENCE

The consequences of work scheduling on family life have become a major topic for research (Bohen & Viveros-Long 1981; Boss et al. 1979; Gramling & Forsyth 1987; Kanter 1977; Piotrkowski 1979; Pleck et al. 1980). Adding to this concern has been the upward trend in the number of jobs with nontraditional work scheduling (Hedges & Sekscenski 1979; Staines & Pleck 1983). An almost universally accepted finding from this research has been that nontraditional work scheduling is problematic for families (Bohen & Viveros-Long 1981; Boss et al. 1979; Burr 1972; Decker 1978; Forsyth & Gramling 1987; Harding 1981; Hill 1949; Hillebrand 1976; Houseknecht et al. 1984; Jones & Butler 1980; Lein et al. 1974; Maritime Administration 1982; McCubbin & Dahl 1985; McCubbin et al. 1976a;

Metres et al. 1974; Orbach 1977; Pearlman 1970; Piotrkowski 1979; Pleck et al. 1980; Scanzoni 1978; Staines & Pleck 1983; Stiles 1972).

Offshore oil workers may represent an extreme form of nonstandardized scheduling, but their problems have differed only in degree from those who work other nontraditional schedules. Families with unconventional work schedules could not be expected to have conventional familial-management strategies and familial roles (Gramling & Forsyth 1987). A career as an offshore oil worker and a stable family life are seemingly incompatible. Consequently, many offshore oil workers either forsake family life for offshore or abandon life offshore for a normal pattern of family life.

The purpose of this research is to explore the types of familial adaptations to periods of separation and reunion among offshore oil families. Due to the nature of this occupation, offshore oil workers are frequently absent from the home for extended time periods. The family has to adapt to these absences in order to remain an integrated and functional unit. A similar process of adaptation occurs when the father/offshore oilworker returns, because the family now adjusts its previous adaptation to his extended absence to what now becomes an extended stay. The review of the literature looks at several occupations that require extended father-absences such as offshore oilworkers (Forsyth and Gramling 1987; Gramling and Forsyth 1987; Gramling 1986; Gramling & Brabant 1984; 1986; Storey et al. 1986; House 1985; Fuchs et al. 1981); military personnel (Isay 1968; Snyder 1978; Boynton and Pearce 1978; McCubbin et al. 1975a and 1975b; Metres et al. 1974; Hillebrand 1976; McCubbin 1976a and 1976b; Hunter and Nice 1978; Brown 1944; Cuber 1945; Griffith 1944; Hill 1945, 1949; Hoffer 1945; Price-Bonham 1972; Decker 1978; Schuetz 1945); merchant seamen (Sherar 1973, pp. 24-32; Hohman 1952; Fricke 1973a, 1973b; Healey 1936; Nolan 1973; Hill 1972; Forsyth and Gramling 1987; Forsyth 1988); and fishermen (Orbach 1977; Stiles 1972; Tunstall 1962; Anderson 1972; Horobin 1957).

## **REVIEW OF THE LITERATURE**

The review of the literature will focus first on the familial problems encountered by the four occupations mentioned above: merchant seamen, military personnel, fishermen, and offshore oilworkers. The review will then focus on a more general approach to father absence.

Merchant Seamen. The life of a merchant seaman is one in which great uncertainty exists. Because the work entails long hauls to numerous ports on each trip out, the merchant seamen is unable, due to weather and other mitigating factors, to establish a stable pattern of time to be spent at home with his family. The time that he does possess is often spent readjusting to the changes that have occurred in his family while he has been away (Forsyth and Bankston 1983, 1984; Forsyth et al. 1984; Forsyth 1988; Maritime Administration 1979, 1982). His life is thus a continuous cycle in which he leaves home, returns months later, reestablishes the relationships that have been altered with his absence, and then ships out once again.

With such a work schedule, the merchant seaman's role as a father figure is necessarily forgotten in order for the family to cope successfully without him (Forsyth and Gramling 1987). The wife of the seaman therefore must take a dominant role in the dynamics of the family as well as the everyday running of the household. She is unable to rely on communications with her husband aboard some ship whether under sail or anchored in a distant port, and must consequently utilize her own resources to cope with any situation that might arise (Nolan 1973, p. 92). However, research suggests that the wife of the merchant seaman may be unequipped to manage such an independent lifestyle. As a product of the working class, the seaman's wife possesses a distinct set of characteristics that could be detrimental to the survival of the family unit described (Sherar 1973, p. 25).

For the most part the seaman's wife is a product of the working class. Women of this class because of the socialization process are conditioned to think and behave in certain ways. These behavior patterns and values may assist or be detrimental to her ability to withstand the pressures of the long absences and enforced independence of being a seaman's wife...This would mean, of course, that she seeks the external for guidance and direction. In other words she is guided by "other people" rather than seeking direction from within herself. Such a woman seeks advice and direction from her husband or her family and friends. Her orientation is not that of a woman seeking answers from within herself. Such a quality would make it difficult for her as a seaman's wife, for when the husband is absent for long periods of time and decision making falls upon her she has to assume responsibilities not normally thrust upon a woman of her status (Sherar 1973, p. 25).

A working class wife, typically, desires a predictable and stable pattern of life (Rainwater 1959), but the schedule of the merchant seaman can change at a moment's notice. Therefore, she is destined to worry as her lifestyle remains suspended from the proverbial cliff, with no firm foothold in sight (Sherar 1973, p. 26). She must, in order to cope, develop a level of self confidence that enables her to break out of the working class expectations of a life filled with external guidance, and in utilizing this newfound confidence, she becomes determined to succeed at the imposing task of maintaining her family (Sherar 1973, p. 29).

The marriage relationship of the merchant seaman and his wife requires a unique adaptation to the circumstances of his schedule. Affection, a necessary ingredient in a successful marriage, becomes a much sought-after commodity when many months have passed since the couple last were together. This element can affect a marriage in either a positive or negative manner. On one hand, lack of affection can contribute to the appreciation the individuals feel for one another, as expressed in the gifts and special favors they give one another, thus enabling the couple ultimately to renew their love each trip in. On the other hand, the long months of sexual abstention can drain the individuals, or lead to sexual double standard

whereby the male may have affairs of convenience while he is away, yet his wife cannot (Forsyth 1986; Forsyth & Gramling 1985; Sherar 1973, p. 27; Healey 1936, pp. 67-68; Fricke 1973b, p. 135).

Gerstel and Gross (1984), in a comparison of merchant marine and commuter couples, both found that living apart jeopardized the psychological intimacy that was expected of marriage. Husbands and wives did not arrange their daily activities around the schedule of the other while they were separated. Nor did they come to experience the other's presence as natural. Merchant marine couples described their relationships as "strange, weird and awkward" (Gerstel & Gross, 1984, p. 160) upon reunion. Gerstel and Gross's analysis suggested that these feelings threaten the symmetrical quality of marriage.

Marital interaction, the day-to-day sharing of minutiae of life, we argue, validates and nurtures the roles and selves of spouses. This function of marriage results in part from the fact that living together allows couples to share space and organize their daily time commitments around each other's schedules. Shared time and space help produce the order-sustaining quality of marriage. (Gerstel & Gross, 1984, p. 160)

The merchant seaman experiences a great deal of isolation because of the nature of his work and its scheduling. Not only is he absent from the larger society so much that it becomes difficult to keep up with even simple changes, but he also must continually confront the fact that he seldom sees his family or friends for any substantial length of time (Forsyth 1989; Maritime Administration 1979, pp. 72-73). In fact,

an analysis of data collected from Merchant Marine officers by the National Maritime Research Center indicates that the majority of officers (78 percent) prefer home-oriented shipping schedules and short runs (56.8 percent). Additionally, the major reasons (other than retirement) for leaving the sea involved disruption of normal home life and marital disharmony (Maritime Administration 1979, p. 73).

Because his wife has become so independent, the merchant seaman finds himself in a strange situation whereby his role as both father and husband has virtually dissolved and he now takes a nearly inactive role in the lives of his family. They, in turn, tend to shield him from what has been going on by neglecting to communicate troubles to him, so that problems can be avoided while he is at home (Maritime Administration 1979, p. 74). This lack of communication only contributes more to the sense of isolation and role ambiguity the merchant seaman experiences (Gramling and Forsyth 1987, p. 170). This sense of isolation and unfamiliar routine(s) frequently drives the merchant seaman back to the familiar confines of the union hall (Forsyth 1986; Forsyth & Bankston 1983). This phenomenon increases in severity with the increase of time the seaman spends at sea. It thus becomes more and more difficult to become a fully functioning member of his family while he is at home (Forsyth 1988, p. 41). This may ultimately affect his level of job satisfaction, and induce the

merchant seaman to leave the occupation (Maritime Administration 1979, p. 73). Familial problems are cited as the major causes of the high attrition rate among merchant seamen (Forsyth & Gramling 1990; Forsyth 1988; 1989; Horbulewicz 1973; Lantis 1970; Maritime Administration 1979, 1982; Moreby 1975).

Military Personnel. A military man and his family encounter many of the same problems as does the family of a merchant seaman, with a few important differences which center around the nature of the work. Military life emphasizes attention to rules and regimentation and general concentration on restraining individual expression, all of which ultimately have an effect on the military family (Kaslow and Ridenour 1984, p. 55). A child's misbehavior might very well influence his father's status in the military and slow the desired achievement of upward social mobility (Kaslow and Ridenour 1984, p. 56). Family disharmony may also be due to the father's considerable separation from the family, as well as the frequency with which permanent change of station moves occur (Hunter and Nice 1978, p. 18). A military man can be absent from the family for great lengths of time, causing necessary adaptations to his absence to take place. In addition, adaptation must occur upon his return home as well.

There are two types of adaptations on the part of the wives of military men, with the roles varying for different branches of service. The matricentral type is unable to accompany her husband on his tour due to the specific area assigned. She will assume full responsibility for all major and minor decisions which must be made in her husband's absence. She becomes lax with both housework and rules regarding children's behavior while he is gone, but immediately tightens this relaxed state of affairs on his expected arrival day. Upon arrival, the military man then assumes the management of the family affairs, thus threatening her independent status as well as temporarily upsetting the normal pattern of the family. The second type of adaptation on the part of the military man's wife is that of the complementary wife. She is able to become an integrated part of her husband's occupation and is in fact required to learn the proper means of promoting her husband's career through the social opportunities she is able to influence through entertaining and ceremonial occasions (Hunter and Nice 1978, pp. 160-161).

This is not to say that the wives of military men do not experience hardships due to the absences associated with their husbands' career. The submariners' wives syndrome (Isay 1968) consists of four phases. The weeks before her husband's departure, the wife is likely to become depressed and feel unable to handle things without his presence. After his departure, she must adjust to his absence and thus become detached from him. When he does return home, she must then cope with the feeling of intrusion as he assumes his role of husband and father in their family life. The difficulties she faces during his absence are aggravated by her feelings of a lack of companionship and loneliness (McCubbin et al. 1976a; Montalvo 1976; Duvall 1945; Hunter and Nice 1978).

During the military man's absence, the family becomes, necessarily, more female-centered in order for the needs of its members to continue to be satisfied (Hill 1949). The wife tends to demonstrate a tendency to handle any problems that arise by herself or with the aid of friends

or relatives, if available (Hunter and Nice 1978, p. 128). Her increased independence might become a problem for some couples, although some might see this as a benefit of separation (Hunter and Nice 1978, p. 20). This female-centeredness may be affected by the presence and number of children, as well as the sex of the oldest child. The presence of children might be viewed as either an inconvenience which restrains the wife's outside activities, or as comfort during the absence of her spouse. If the oldest child is male, he typically might assume a position as a substitute father figure, thus giving support to his mother in difficult times. However, this could lead to role conflict upon the return home of the father, as the son does not want to withdraw from the position in order that his father might assume it (Hunter and Nice 1978, p. 182).

The frequent moves with which the families of military personnel must contend can place additional stresses on the family. Because they are usually unable to control the location or frequency of relocations, the family unit may experience dissatisfaction and unhappiness. The inconvenience and economic hardship of moving further contributes to their growing feelings of resentment. Also stressful are the moves involving transcultural socialization, in which family members are dislocated from not only the local community roots they have established thus far, but also the overall society of which they are a part. No move is without its side effects, and all are distressing to the family unit as a whole (Kaslow and Ridenour 1984, p. 60).

Additional problems found in the family lives of military personnel include sexual frustration due to the extended separation of spouses (Hunter and Nice 1978, p. 117). Also difficult is the fact that many military men must miss important events in their family life because of their occupation. Events such as births, birthdays, anniversaries, and special holidays are typically not shared with family (Hunter and Nice 1978, p. 119). This certainly adds to the feeling of resentment felt by military families and can ultimately affect the intention of military men to remain in the service (Hunter and Nice 1978, p. 17).

An extreme form of the adaptation of military family life is that of the prisoner of war (POW) family. Due to the prolonged and indeterminate absence of the father from his family, special problems must necessarily occur. The wife of the POW has, during his absence, become both the acting father and mother and in doing so has become the full head of the household. This, in turn, has helped foster an ever growing independence whereby she now asserts herself in all areas of life. The husband, on the other hand, has become increasingly dependent on his captors as well as out of touch with the continually changing world. It is not surprising, then, that the couple must necessarily face conflicting views about family decisions, values, and goals upon his return home.

Hunter (1984, pp. 169-170) comments on the feelings of POW fathers as they attempt to return to their families:

When they observed how the wives had grown and matured while they vegetated in a Rip Van Winkle time Capsule, they sometimes wondered if they

were really still needed. Children, through years of practice, continue to seek out mothers for permissions and allowances. When fathers tried to discipline, they found that even the slightest critical remark about the children's behavior evoked their wives' defensiveness because these innocuous remarks were interpreted as direct criticism of the manner in which the children had been reared during their absence.

Some POW wives had gained so much through their struggles that they now felt the freedom to go their separate way once their husbands have returned. Many had gained independence and felt a sense of accomplishment that resulted in their no longer feeling the need to remain married. The husband in these instances, although sometimes consulted, usually did not have much input in the decision-making process, and many wives actually decided before their husbands' imminent return, and merely broke the news on his arrival.

The majority of the POW families, however, are able to remain together through a continuing process of communication and effort. It appears that those families most likely to be successful at reintegration were the ones who had left the role of the father open during his absence. He was thus able to step into his place in the family a little easier. Although the problems are only just beginning for these families as they attempt to work toward a new life together, they do have greater potential for success (McCubbin et al. 1976a, pp. 112-143).

Fishermen. A fisherman is at sea for eight or nine months a year, with two or three trips home during this time, lasting each time about two or three weeks. He is also home at the end of the year for about a month before shipping out to begin the new season in January (Orbach 1977, p. 23). Thus, he is in a similar situation to the merchant seaman and his family, as well as the military man and his family.

One problem associated with the fishing occupation's effect on the family occurs simply by nature of the work itself. The fisherman returns home with new tales of fresh adventures at sea but his family quickly tires of hearing his stories and cannot appreciate his work as well as can another fisherman. Therefore, he turns to their company even while he is onshore and subsequently turns away from his family and from sharing this part of his life with them. This familial estrangement of the father contributes to a sense of isolation and loss of contact amongst the family. Already the father is home so seldom that most activities focus around the mother of the household who has naturally assumed management in his absence (Orbach 1977, p. 272; Maril 1983, pp. 89-97). Although she does have help from friends and relatives, particularly her mother whom she may visit quite often if possible, the wife of the fisherman is ultimately alone with regard to the organization and discipline of her home (Tunstall 1962, p. 161).

During her husband's absence, the shrimper's wife is both mother and father for her family. This means she not only must carry out the traditional role of housewife but also must respond to the daily demands that her husband, were

he at home, would handle. As one captain said, a shrimper expects his wife to cope with emergencies on her own, filling in for him when he is gone. This particular shrimper said that his wife was liberated long before the feminist movement. He was proud that his wife could, if necessary, mow the lawn, do minor repairs on the car, and pay the bills--all traditional male roles--and also cook the meals, clean the house, and raise the children (Maril 1983, p. 90).

Fishermen as a group are well aware of the tremendous pressures and expectations placed upon their wives. For some it affects their choice of a wife.

One shrimper, twice married, said that the second time around he chose a woman who came from a shrimping family because she knew what to expect--how to handle the extra demands required by being married to a shrimper. He recommended that other shrimpers marry the same kind of women or, at the very least, explain to their potential wives what their marriage would be like (Maril 1983, p. 90).

While the fisherman is absent, he may call home to check on things from time to time, but these calls are usually not afforded much privacy from shipmates, and therefore the couple is unable to express their thoughts and concerns, neither sincerely nor in detail. Many fishermen do not call at all because they know they will be unable to help or change whatever may be happening at home, and rather than suffer the frustration and unhappiness that this realization will bring, they remain in their isolated world until they again return home. Often, this means they may learn of births, deaths, accidents or special events months after they have occurred. In addition, the conversations they do have with their family must be guarded so as not to reveal the location of the fleet to other ships who may try to track down the good locations for fishing. Such guarded conversations naturally lead to frustration for the fisherman and his family, and consequently, they may limit the number of calls. Each of these situations only serves to emphasize the isolation already felt by family members (Tunstall 1962, pp. 275-276).

When the fisherman returns home, he invades the pattern his family has established, and this often means upsetting his wife's position in the family. She may respond with resentment, as neither of them has successfully adapted yet to the other's presence. Thus, they will now have to get to know one another all over again. Change has occurred for everyone in the family during the fisherman's absence, and these changes must now come to light, as expectations held of one another may soon be disappointed. A father may expect his child to be at the same developmental stage as when he departed, but the child has matured over the weeks or months and now exerts new independence or personality characteristics that his father is unwilling to accept as yet (Orbach 1977, pp. 277-279).

The fisherman's family is usually a large one, and his wife does not usually work outside the home. Most fishermen feel that outside work is unnecessary and demeaning, as he is already sacrificing by working away from his family so they might have a better life. If his wife

worked, he would feel insulted. In addition, some fishermen do not want their wives to have the opportunity to meet other men, and the workplace would definitely permit this. They prefer them to stay home and care for the family (Tunstall 1962, p. 161).

The fisherman's wife, indeed, does just that. This, however, can be an additional problem when her husband returns home. He does not usually assume what would be called the traditional father role in his family. For example, he does not want to create bad feelings while he is at home for such a short time so he does not deal with the discipline of the children in a serious manner. Often, he lets misbehavior go unnoticed, and thus undermines the mother's attempts at discipline. Her control over the children falls apart in his presence, and she must therefore wait until he departs before resuming her role as disciplinarian (Orbach 1977, p. 279). In fact, the father often behaves more like an uncle than a father to his children and thus remains distant from them, never really able to get to know them in such a short time. Some feel guilty for this state of affairs and attempt to make it up to their children by endowing them with special gifts each trip in. One fisherman, complaining he was seldom home, said: "The wife told me not too long ago that my little daughter asked, 'Mummy, who's that man who comes to stay with us?'" (Tunstall 1962, p. 162).

Because the wife often feels her husband is interfering while he is home, she becomes annoyed and soon wishes he were gone again. This even seems to overcome her own needs for love and affection (Orbach 1977, p. 279). The fisherman, on the other hand, senses this pressure for him to return to sea after being home only a short time and becomes resentful as well. Some fishermen come to feel that their marriage is a contract in which he obtains sexual and cooking services, while his wife obtains his paycheck. In fact, if he brings home less money, he seems to be pushed back out even quicker. These events contribute to the negative feelings fishermen as a whole tend to have for women (Tunstall 1962, pp. 164-164; Orbach 1977, p. 282).

In addition to the difficulties listed above, most fishermen feel that they are trapped in this occupation. Although many desire to obtain a good job onshore, most eventually return to the fishing industry. Reasons for the inability to leave the occupation successfully are numerous, including a lack of skills for onshore jobs and the consequential fact of not being able to provide as high a standard of living as that to which his family has become accustomed (Orbach 1977, p. 281; Tunstall 1962, pp. 143-147). Therefore, the fisherman is trapped in a vicious circle, unable to leave a job which causes so many problems for his family life and unable to solve the problems of his family life without leaving his job.

Offshore Oilworkers. Although little research has been conducted with regard to the adaptations of the families of offshore oilworkers, what has been written illustrates the similarity in the approaches taken in order to remain an integrated family unit (Gramling 1989). The same problems occur as with the occupations of merchant seamen, military personnel, and fishermen. However, a distinct difference is that oilworkers experience scheduling situations in which they are possibly allowed more participation in family life than they would be were the lengths of their absence extended to the extremes these other

occupations possess. The dominant factor worth noting here is the increased frequency and duration of the father's periodic presence in the home, in comparison to merchant seamen, military personnel and fishermen. But in comparison to these other occupations, the family of the offshore oil worker has many more departures and reunions to adjust to. Some researchers compare this cyclical adjustment pattern of separation and reunion to the crisis of bereavement; the difference being in any loss through death the process of adjustment is not continually interrupted by the return of the one who was lost (Morrice et al. 1985).

A Canadian study (Storey et al. 1986) of family life adaptations provides the bulk of the information stated here with regard to offshore oilworkers. Coping with the lifestyle engendered by this occupation tends to be viewed as either a positive or negative process, with little room for ambivalence. The financial rewards associated with such work appear to offset many of the disadvantages encountered, such as undertaking additional responsibilities on the part of the wife (Storey et al. 1986, pp. 65-66). She necessarily adapts to her husband's absence through a realization of the need to carry on familial life competently without him. This adaptation, accordingly, leads to the problem of releasing her authority to him when he returns home, something she may feel resentful in doing. He, on the other hand, tends to believe he should resume his traditional male role as the head of the household and may resent her competence in this area (Gramling and Forsyth 1987, p. 169).

In addition, he must necessarily learn to adapt to the two separate worlds of rig and home, especially in relation to the interactions required of him with his spouse and children. Not only must he cope with the pressures of his job, he must also cope with the expectations of his family when he returns home exhausted and grouchy. He may find family squabbles awaiting his arrival that need settling, or possibly the plumbing is in need of a plumber, a part he is often expected to play (Storey et al. 1986, pp. 71-72). Often, he is merely considered a guest in the home who returns periodically for visits which can prove to be problematic after a few days (Gramling and Forsyth 1987, p. 170).

Another problem associated with offshore oilwork is the need of the oilworker to sleep once he returns home. His spouse, on the other hand, may wish to discuss events that occurred in his absence, or perhaps to simply share the excitement of reunion. Most wives tend to adapt to these varying needs by simply learning to accept the situation, although arguments may be common in this time period. The wife of the offshore oilworker often feels that, although her life is difficult with such a work schedule influencing it, her husband has the more difficult lifestyle with which to cope. In fact, wives usually tend to protect their husbands from the problems that occurred during his absence, believing that it is unnecessary to bother him with something he can do nothing about (Storey et al. 1986, pp. 77-78).

Many wives do not attend social activities without their partners, and thus are subjected to periods of loneliness during his absence. Some turn to their relatives for emotional support during this time. This can be quite helpful, because handling the children may become more difficult in some cases during the father's absence. Children can, however, also be an asset to their mother, giving additional comfort by their mere presence. Yet this can lead to the

problems that arise when special events and holidays occur while the father is away. The sense of loss felt by everyone, especially the children, is quite intense (Storey et al. 1986, pp. 78-84).

Problems also occur with the lack of ability to communicate between spouses. The wife is unable to understand the nature of her husband's work, and expressing concern over the dangers involved could lead to more tension, so she refrains from doing so. When it is desirable to communicate while her husband is offshore, a definite inadequacy exists with the communication system provided by some companies. Mail delivery also leaves much to be desired; thus communication during this critical time can be limited. Many offshore oilworkers prefer their wives not to phone them, due to a lack of privacy during the call, as well as the potential for stressful news to be relayed (Storey et al. 1986, pp. 92-93).

The independence that must be achieved by the wives of offshore oilworkers is therefore an apparent need. However, it leads to feelings of resentment on the part of both husband and wife. Although some couples manage to handle their two separate worlds successfully, others are not so fortunate (Storey et al. 1986, pp. 98-99).

Another study conducted in the North Sea area was concerned with the adjustment patterns of wives of oil men working either offshore or onshore (Morrice et al. 1985). The study found three main types of responses.

Firstly, some women find it impossible to accustom themselves to their husbands' comings and goings; in his absence, such a wife feels lonely, incomplete, anxious, and depressed, counting the days till his return. Secondly, some wives adopt a life-style which is much the same, whether their husbands are onshore or not; at first, his absence may prove difficult to deal with, but they soon learn to cope, extend their own interests, and come to enjoy the sense of freedom and responsibility. Thirdly, there is the wife who resents her husband's absence, but equally resents his return. In particular, she rejects the demands made upon her in terms of serving his needs, both general and sexual, while feeling angry that her own are largely discounted (Morrice et al. 1985, p. 479).

The study found that the rapid cycle of partings and reunions, which characterizes the life of the offshore oil worker and his family, and the stressful reaction to it are not unique. It seems to characterize what is found in other occupations having similar work patterns.

Many different occupations entail a husband's absence from home, regularly or irregularly, for shorter or longer periods of time. The armed forces, merchant navy, long-distance lorry-driving, deep-sea fishing, and jet-setting business executives are familiar examples. Employment difficulties...may encourage men in other occupations to find jobs away from home. An absent husband means dislocation of the familiar pattern of family life; stress may be thrown

upon the wife...The offshore wife is an outstanding example of someone under this kind of stress (Morrice et al. 1985, p. 482).

One of the mitigating factors to this stress was the supportive networks. Those without supportive networks, for example recent migrants to an area, were seen as more prone to stress reactions. Oil families were found to be more lacking of supportive networks than were occupations like fishermen.

A More General Approach. Generally, family role structures have been described as either traditional, egalitarian, or role-reversed. Another consideration has been whether or not the partners have agreed on these role relationships (Hunter 1984). Research on family roles among merchant seamen and offshore oil workers has revealed no egalitarian family role structures (Forsyth & Gramling 1987; Gerstel & Gross 1984; Gramling & Forsyth 1987; Sherar 1973). Studies of military families (Hunter & Nice 1978; Kaslow & Ridenour 1984) and fishermen (Orbach 1977; Tunstall 1962) have revealed similar patterns.

In concert with the different patterns of separation and reunion characteristics of these occupations were those adjustments that each family made in response to its unique circumstances.

Forsyth and Gramling (1987), studying the different management strategies among periodic father absence, single-career families, found five familial role structures. The first of these is the "replacement father/husband." The father leaves and is usually replaced by a male relative. The family has either moved or already lives near this relative, and he makes the decisions for the household regarding discipline, emergencies, and other such realities of life. The husband then resumes control upon his return, while the wife must rely on either male in order to get things done. There is potential for conflict in this type of adaptation because of the presence of the replacement father even during the time when the husband is home. Opinions and advice offered by the replacement father may conflict with those of the husband, and thus provide a source of tension to the situation.

A second adaptation observed by Forsyth and Gramling is that of "contingent authority." There is no replacement father/husband and thus the wife assumes the responsibilities necessary in order to keep the home going during her husband's absence. However, it is extremely important to note here that the power to make these decisions was given to her by her husband. Thus, he ultimately maintains control over how much control she possesses. This is especially noteworthy in cases of discipline as a control technique whereby the mother utilizes threats of what the father will do upon his return. However, the husband returns to what has now become a long list of problems with which he must contend. Due to the unpleasant nature of this activity, discipline is often neglected, thereby giving the children high levels of power in such families.

A third adaptation observed by Forsyth and Gramling is that of "alternate authority." Theoretically, the level of authority is equal between both parents. However, the wife

possesses power to decide only when her husband is not present, while his power comes into being upon his return and in her presence. In addition, she undertakes all traditional female and male roles during his absence, while he assumes only the traditional male roles upon his return. According to Forsyth and Gramling, such an adaptation is common among offshore oilworker families because of their shorter and more frequent absences. However, this technique could lead to two separate systems of authority, a situation which is problematic, particularly for those members who must participate in both the mother's as well as the father's system. As the wife and children are such members, they consequently can be adversely affected.

A fourth adaptation situation is one in which there is conflict. The wife assumes authority in her husband's absence and, in time, defines herself as competent in this area. Consequently, they argue because neither will handle a situation in the same way, and thus they will disagree over various situations. A major source of conflict usually becomes the children. The mother handles them daily and thus defines appropriate behavior in one way while the father has been absent. As he has not been an active member in forming the definition of appropriate behavior, he may not agree with it. The result is conflict. Such an adaptation is usually transitional as the family does not last long in this state. Usually, the transition is to a situation in which the father becomes a periodic guest, the final type of adaptation discussed by Forsyth and Gramling.

The "periodic guest" situation usually occurs with longer periods of absence. In this situation, the wife assumes all responsibilities except that of wage-earner. She is thus similar to a single female head of household, except that she does not make the money and periodically a "guest" visits the home. Usually there is much celebration upon the return of the father/guest, but his constant presence eventually becomes a problem as he does not have a functional role in the family and merely serves to get in the way and disrupt normal family functions. His return, then, is more a vacation in which he chooses not to make any decisions or do anything. Eventually, the mother and children may even become peers as they manage the family on their own (Forsyth and Gramling 1987).

Other researchers have used the terms boundary ambiguity and psychological father presence/absence in analyzing adjustment patterns among families experiencing occupationally induced father absence (Boss 1977, 1980a, 1980b; Boss & Greenberg 1984; Pasley & Ihinger-Tallman 1989). Family boundary has been used to refer to rules regarding family members as to who, when, and how each member participated in the family structure (Minuchin 1974). Boundary ambiguity, derived from family systems theory, has been conceptualized as the uncertainty of family members regarding who was performing what tasks and roles within that family system (Boss & Greenberg 1984; Pasley & Ihinger-Tallman 1989). Psychological presence/absence has been a concept used to describe the situation when the father was absent but still maintained his familial roles. The greater the degree of boundary ambiguity, the greater has been the degree of family dysfunction. Also, the more incongruent the psychological father presence/absence with the actual familial situation, the greater has been the dysfunction. From this theoretical perspective, the family in which the

father was absent has been only dysfunctional if he remained psychologically present when he was physically unavailable to the family system. The physical absence of the father has not necessarily resulted in a dysfunctional family. It has been the absence of or unattendance to his role that has resulted in a dysfunctional family (Boss 1977).

Families must be capable of changing their basic structure and organization if they are to remain viable social systems. For most occupations, family role is unrelated to the relationship between family and work commitments (Boss 1977; Jones & Butler 1980). But as Jones & Butler (1980, p. 368) indicate,

certain occupations appear more susceptible than others to organizationally induced competition between work and family roles. Stated differently, work and time demands of some occupations may be so encompassing that they severely curtail normal family interaction.

Offshore oil workers, when off-work, have a 24-hour a day schedule to meet family role expectations and to fulfill family role demands. Alternatively, his work schedule requires an expanded work role to a 24-hour a day full-time commitment with no time allocated to family roles. Consequently, family life for the offshore oil worker is indeed problematic or at least always susceptible.

## METHODOLOGY

The intention of this research is to describe the structures adapted by offshore oil workers and their families as they respond to the periodic absence of the father. Interviews were conducted with an available sample of 161 offshore oil families. These interviews ranged from 20 minutes to three hours. A guide was used to conduct each interview. Using the guide, the following topics were pursued: a) Marital satisfaction; b) Contact with kin and the roles of kin, if any; c) Type of family adaptations to father absence/presence, both at present and in the past; d) A comparison of father absence/presence as it affects family, both at present and in the past; e) A comparison of associations outside the family when the father is absent/present, both at present and in the past; f) Job satisfaction; g) Plans for the future; and h) What services, if any, could the oil companies provide to improve your family life. The following social characteristics were also obtained for each family: age, educational level, marital history, race, whether or not they were living in their hometown, the employment status of the spouse, and whether or not their parents were offshore oil workers. Incongruent answers between spouses were rare on most items, but the decision was made to opt in favor of the wife's response on these occasions because the wife is present in the family system at all times while the husband obviously cannot be. Therefore, it was felt that the wife may be better able to respond accurately for having more familiarity in the situation. Although this decision may lead to some bias in the research, the frequency of incongruent answers was so low that it seemed a favorable risk. In order to avoid missing data, callbacks were conducted with thirty-seven families in November 1990.

## FINDINGS

As shown in Table 9.1, our data suggest four general familial structures to the periodic absence of the father: the traditional father/husband centered family, the role-reversed or mother/wife centered family, the egalitarian marriage/family and an unresolved structure. But our data also enunciate some rather unique variations (adaptations) among some of these familial structures. Three separate adaptations are contained within the father/husband centered familial structural framework: contingent authority, replacement kin and traditional. The role-reversed mother/wife centered family is represented by the marginal father adaptation. The unresolved structure contains two distinct adaptations, terminal conflict and habitual conflict. The egalitarian structure is represented by an alternating roles adaptation. Throughout the literature review of this paper the terms familial structure, adaptation and strategy are used almost interchangeably. In Table 9.1, two of these terms, structure and adaptation, are distinguished for analytical purposes. Our findings will continue to distinguish between the two terms. As such, an adaptation will be considered as a subdivision of structure. Although no two families are exactly alike, the differences between families in different structures are always greater than the differences between families having different adaptations within a given structure. Table 9.1 also contains the frequency of these adaptations.

Another way of looking at these types would be in the consideration of change in adaptation. Changing from a contingent authority adaptation to a marginal father adaptation represents a greater change than a change from contingent authority to replacement kin because the former represents a change in familial structure while the latter represents a change in adaptation within the same familial structure.

The researchers chose to keep the one adaptation under both egalitarian and mother/wife centered familial structures because we feel that these adaptations are not the only adaptations that could occur within these structures. We feel that other adaptations will be revealed by further research.

### FAMILY STRUCTURES AMONG OFFSHORE OIL WORKERS

1. Father/husband Centered Families. As shown in Table 9.1 and as would be expected, the most frequently occurring familial structure is the father/husband centered family (N=93). Nearly fifty-eight percent of the families were using this type of structure. As previously mentioned, there are three adaptations within this familial structure: traditional, contingent authority and replacement husband.

a. Traditional. The primary adaptation observed in the father/husband centered families interviewed was that of traditional husband/wife roles. Seventy-three (N=73) of the families interviewed illustrated this adaptation. As such, these families tended to pass the authority

Table 9.1. Types of familial structures/adaptations among offshore oilworkers.

Familial Structure	Adaptation	N	Percent
Father/Husband Centered	Traditional	93 (73)	57.77
	Replacement Father	(5)	
	Contingent Authority	(15)	
Mother/Wife Centered	Marginal Father	29 (29)	18.01
Egalitarian	Alternating Roles	22 (22)	13.66
Unresolved	Terminal Conflict	17 (6)	10.56
	Habitual Conflict	(11)	
Total		161	100.0

back and forth between the parents, therefore allowing both parents active participation in family life. The wife tended to relax her authority during the husband's presence, while he simultaneously would embrace decision-making.

I do what I have to when he is gone...His check always comes in when he is home so he handles all the finances...he sort of takes over the kids when he is in and that's when I get all my household done...He takes care of the yard and checks the car before he leaves...I only take care of mechanical stuff if it can't wait...When he is gone I discipline the kids... (Interview)

In all of these families, the relationship was not egalitarian, however, because the wife would assume both the traditional male and female roles during her husband's absence, while he would assume only the male role upon his return. Because authority would alternate upon the husband's arrival home, problems invariably arose because of the differing styles between the spouses. Primarily in the areas of decision making and child rearing, each family experienced some difficulties in adjusting to this alternating system of authority.

My biggest problem with it is that for seven days I'm the boss and then he comes in and tries to take it over. With the kids, with anything that goes on. I'm a free agent and I can do what I want to and then he comes in and tells me how to run the house and tries to tell me how to run the kids. (Interview)

The traditional adaptation described here corresponds to the alternating authority adaptation of Forsyth and Gramling (1987). We choose the term traditional to separate it further conceptually from the alternating roles adaptation of the egalitarian structure described in this paper.

b. Contingent Authority. A second adaptation observed among the father/husband centered families interviewed was that of contingent authority. Fifteen (N=15) of the families interviewed illustrated such an adaptation. In this type of familial structure, the wife has been given the authority to make all necessary decisions in her husband's absence. Usually, the husband will return to resume all authority and responsibility for the functioning of the family, and the wife will recede into the background to make no real decisions without first obtaining her husband's stamp of approval.

I pretty much let everything go until he comes home... Finances I'm not very good at...Paying bills and everything, I can't...I let the discipline wait until Dad gets home. (Interview)

In addition, anything major that came up usually had to be discussed with the husband before being dealt with, especially in the area of child discipline, as the mother did not feel comfortable enough with decision-making to take a stand, not even with her own children. Rather, she threatens them into behaving well, lest she reveal their mischievousness to their father upon his return. This tactic, however, is extremely problematic. One reason is that

the husband resents having to do all the "dirty work" rather than being able to enjoy his children upon his return.

When I come in from offshore, I don't feel like it's fair for my wife to say what the children did wrong. As soon as I walk in the door my children feel like here comes the big bad wolf. I want to run to them and love on them. (Interview)

Another husband/father states the same problem with the strategy.

Their mother would threaten them by telling them that when Daddy got home, I was going to blister their behinds. That caused a lot of problems between my wife and myself, because I feel that if you're going to correct a child for something, you should correct them right then and there. Whenever she would make these threats, they didn't want me to come home, and this was not fair to me. This made the boys partial to their mother because she never whipped them. (Interview).

A second reason for this style of discipline to be problematic stems from the first in that, often, the children will simply not be disciplined at all because the father dislikes the role he is forced into so often. This, in turn, undermines the mother's authority.

Perry does not take full command of the discipline when he comes in from work and I disagree with that. The children seem to turn to their father when he comes in, I guess they know he will not tell them no when he has been away for so long...and this sometimes makes it harder on me when he leaves because I look like the bad guy. (Interview)

The common theme, then, occurs when the mothers in this type of adaptation use contingent authority to manage their families. The differences occur when the father chooses sometimes to enact his role as authoritarian upon his return, while sometimes he may choose not to enact his role. However, the important point here is that he chooses to do so often enough to satisfy the wife in contingent authority to continue to use it. Whether or not the husband chooses to do so appears to depend on each individual situation as it arises.

c. Replacement Father. The third of the adaptations within the father/husband familial structure was that of replacement father. Families who use this adaptation necessarily live very close to kin. Only five (N=5) of the families used this strategy. A male relative "replaced" the father during his absence.

My husband's uncle lives about 2 miles away. He handles all the discipline of my son. If he doesn't listen I call his uncle...I also call him if something

breaks...When my husband comes back (28 on, 28 off schedule) we seldom see him (the uncle), unless my husband and him do something together. (Interview).

One of the problematic areas for families using this strategy is the relinquishing of authority by the replacement once the father returns. This inherent conflict is easier to resolve when it is between the husband and his own kin, rather than between the husband and the wife's kin. This conflict is perhaps the reason that in all cases reported here the male was either the brother or father of the husband.

2. Mother/wife Centered Families. As shown in Table 1, the second most common familial structure among the families interviewed was the role-reversed or mother/wife centered family. Eighteen percent (N=29) of the families were in this type of structure. Only one adaptation was found within this structure, the marginal father.

a. Marginal Father. A fourth adaptation observed in the families interviewed was that of the marginal father. Our marginal father is similar to the periodic guest of Forsyth & Gramling (1987), but since this research is focused only on offshore oil workers, the former category was an extreme one, perhaps better describing merchant seamen. The offshore oil worker is home "too" often to term his stays periodic. In this situation, the mother has taken on both the traditional male and female roles and makes all decisions regarding the family with no real involvement on the part of her husband. He merely acts as a visitor in the home who takes a near inactive role in the management of his family. In a sense, coming home is like having a vacation every seven or fourteen days because typically his needs are catered to upon his arrival and throughout the duration of his stay.

The wife in a marginal father family comments:

He doesn't do a thing when he is off. He thinks he is on some sort of vacation I guess...I handle all the discipline...because when he was home he felt that since he was away all of the time he did not feel that he should...he is like a close acquaintance to his children. (Interview)

The husband in the same family gives his view:

I did not want to correct my children because I did not want them to be mad at me the few days I was home...I feel like I am a visitor in my own home because I am not a part of their everyday lives...I am looking forward to my retirement so that I can spend the rest of my time with family and maybe get to know them better. (Interview)

Another family comments how the marginal father strategy accommodates their needs.

The husband:

She has to become the mother and the father, and she's got to mold the children and run the household and everything. I never took on myself to pay the bills or anything, she took care of all that...I don't know how everybody else reacts but she's always run the whole nine yards...I told my boss, the wife of a guy that works in the oilfield has got to be a very unique special person. I mean to be a good wife...They have a lot of women that really don't care. If you think of the responsibility that they have to take on...like maintenance of the car, maintenance of the house, they have to do it all...

The wife:

I think our family system is good. In some ways I think it makes him feel bad because I could really do lots of things without him but it makes him feel good because he doesn't have to be on the rig working worrying about us for 7 days...that would be horrible...I guess it is a unique way of life. We started off more or less this way and gradually adapted to the point where I do almost everything...it's got a lot of drawbacks but we really enjoy his time off...(Interview)

This can be problematic if the wife does not want to remain the primary authority.

I've taken on more of the controlling role than he has because he's always kind of left everything up to me...and a lot of times I'll get angry because he doesn't take enough of the head to go ahead and do something on his own. I'll have to push him to do it sometimes, because he has allowed me to control. And I don't necessarily want to be in control. [His working offshore] has given him that shadowed effect. He's there, but he's that shadow in the corner. (Interview)

In addition, the father gets in the way of normal family functioning because he is there in the home with no responsibility other than to bring his paycheck with him. His mere presence creates a disturbance.

I am glad when he is here, that he's come home, but you do develop your own life and it does start to infringe on my lifestyle, so...I didn't really want him coming in, I felt like well he doesn't know anything anyway, he's never been around. And I'm too busy to stop and tell you right now. You're going to be gone tomorrow, so what difference does it make? (Interview)

**3. Egalitarian.** As shown in Table 9.1, twenty-two (N=22) of the families interviewed were in an egalitarian type of familial structure. Only one adaptation was found within this structure, alternating roles.

a. Alternating Roles. Families within this category all had two wage earners. In all cases, both spouses were employed full-time, and at least one spouse had a father who was an offshore oil worker, or an occupation that required extended father absence. Less than fourteen percent (N=22) of the families were typed as egalitarian. These spouses also had negative remembrances of their family life as a child and did not want these same circumstances to cause their family life to be unhappy. They have made a conscious effort and are able to have this type of relationship. Unlike the husbands/fathers in families using a traditional strategy, these men assumed traditional female tasks while at home.

When he came in, he would help with the housework and the children and try not to upset my routine. What I thought was commendable was that of his days off he would get up and feed the baby at night and change her diaper.  
(Interview)

Another family expresses this "sharing of roles" in terms of domestic activities undertaken by the husband during his time off.

We usually have company over to eat when my husband is off work. He keeps the children and he does the work around the house, including preparing the meals. (Interview)

An offshore oil worker/father/husband comments on the adjustments he has to make continually to maintain this strategy.

...having to be part of the family for half the month and being away for half the month. It's like learning how to live with someone then having to leave and live alone again. I often find that after being gone for such a stretch that I have to sometimes convince myself that I'm a part of this family. After all, they are doing fine without me. I sometimes feel like I'm intruding and am disruptive to their patterns. I have to take time when I return home to settle down and become part of the family again. (Interview)

**4. Unresolved Families.** The fourth familial structure observed in the families interviewed was the unresolved. Less than twelve percent (N=17) of the families illustrated this structure. There are two adaptations within this structure; terminal and habitual conflict.

a. Terminal Conflict. The primary characteristic of those families engaged in terminal conflict (N=6) was that they had ended in divorce, thereby signifying ongoing, continual, and seemingly unresolved conflict. Usually, these conflicts occurred after having failed at

one of the adaptations already described. These families proved to be either unable or unwilling to work out the difficulties. In one family, it appears that the wife was attempting to exercise contingent authority, but the stress proved to be too much for her husband of fourteen years.

Whenever you get home, you need to unwind. But instead, my wife was always in my ear telling me that when the boys got home I had to get on them for his or that. I hated myself for some of the times I spanked my sons, but she was on me so much, so long about getting on them, that I would lose my head for the littlest things they had done. Instead of making our time together quality, I was taking my frustrations out on them. (Interview)

A second family appears to have been involved in terminal conflict over who would maintain the authority in the home. Each spouse believed he/she should have it, a belief which naturally caused tension. The mother in this situation seems to have been operating out of a marginal father mode, but her spouse had other ideas and eventually the only resolution was that of divorce.

He wanted to have the final word on all subjects. This caused tension. I did not know when and when not to decide on things. So I continued to do so, but he hated that...He was gone so much of the time that when we became legally separated the kids thought nothing of it. (Interview)

In another situation, the family was involved in a modified version of what Forsyth and Gramling (1987) called the replacement father. In this instance, however, the grandmother was forced into caring for the two year old child abandoned by her mother during the father's absences. The wife was not ready to accept the responsibilities left to her by her offshore husband, and thus she went out while he was gone, leaving their daughter in the able hands of her mother-in-law.

The reason for the change in our marriage was that she hated staying home, and did not work. She did not have a life while I was gone, so she found one by going out while I was offshore. (Interview)

The father would return and resume the care of his child, and at present continues to do this after his recent divorce.

b. Habitual Conflict. Families using the habitual conflict (N=11) strategy appeared to be similar to the conflict type of Forsyth & Gramling (1987), the difference being that these families had "agreed to disagree" regarding what strategy to use. Much like Cuber and Harroff's (1963) conflict-habituated marriage, there is much tension and conflict, but it is largely controlled.

My husband and I have argued for years about finances and disciplining the children...He wants to lay back and do nothing and I want him to get involved...We have argued about this forever...We don't seem to agree on anything...But we're still married...Then again, sometimes he wants to do everything his way sort of too much. That also screws everything up...so we fight about that...The kids know it...they are glad when he is gone and so am I... (Interview)

Or the comments of a wife about having too much responsibility:

He is never home for holidays...He expects everything to go ok... but he doesn't do any of it...I refused to make some decisions... sometimes I call him up and tell him something...then I'll say take care of it when you get home...he will tell me to take care of it...I will not do it...I know it drives him crazy but I refuse to do it all. (Interview)

Among merchant seamen Forsyth & Gramling (1990) found these "conflict couples" eventually to arrive at a periodic guest strategy, but offshore oil families can assume this as a permanent adaptation. Although like Forsyth & Gramling's (1990) periodic guest, our marginal father adaptation is sometimes arrived at through conflict.

The distribution of our structures and adaptations, as indicated in Table 9.1, is not necessarily indicative of the actual distribution of these types for two reasons. First, this is an availability sample, hence not necessarily representative of the population of offshore oil families. The second and more fundamental reason concerns the individual family histories of these workers. Only the strategy of the present or most recent marriage is indicated in the frequencies of Table 9.1. If a worker terminated his first marriage due to conflict, but is now married using another strategy, only the latter strategy is indicated. As a consequence, strategies of former marriages are a source of qualitative data only. Only in the case of presently divorced workers are the former strategies used in our frequencies. Hence, the frequency of terminal conflict is probably higher than indicated in Table 1.

## DISCUSSION

The findings presented herein represent a typology of familial structural responses to the periodic father absence found in offshore oilworker families. Although elements of one type might be found in another, generally, the familial structure itself stands distinctly apart from any distracting factors. Each of the four structures and the adaptations within these serves to aid in the recurring transitions the families must make to both the presence and then the absence of their fathers.

The marginal father adaptation is easy to achieve given that the wife/mother is willing to assume the role of mother and father at all times. If she is so willing, the offshore

oilworker's shift rotation causes no real problems to the family as it will simply function on one system of authority, that of the wife/mother. In fact, the oil worker's schedule is very conducive to such an adaptation. The families who operate under such an authority system experience the least conflict as the familial roles lack ambiguity and thus possess clear boundaries to each family member as to what is expected of him/her in his/her role.

Forsyth and Gramling (1990), found the marginal father to be the most used adaptation among merchant seamen. Each spouse seemed to know their roles, and such families seemed to have a sense of social cohesion. There was a congruence between the father's absence and the actual family situation; there is no boundary ambiguity.

There is, of course, a debate as to who has power in such families. Using the definition of Blood and Wolfe (1960), who consider economic power to be foremost, the breadwinner would certainly retain the most power in such families. If one uses the concepts of power developed by Kranichfeld (1987), who gives wives/mothers the most powerful role, then the mothers in these families have the most powerful role. Kranichfeld labels the father's power as coercive, while the mother's is influential.

The resolution of this problem of involvement in his family life is one which continually confronts the offshore oil worker. The higher the degree of his involvement in the life of his family the higher his level of stress at work. The lower his level of involvement in his family's life the lower his level of stress. Regardless of what familial structure and adaptation the family utilizes, the offshore oil worker must continually resolve this problem.

The most problematic area for the mother/wife centered families using the marginal father adaptation occurs when the father becomes unemployed. Since the father has abdicated all roles, except breadwinner, to the mother, his being unemployed results in the father having no roles. Hence this family is potentially a female-headed household with all the associated problems. When and if he loses his last and only familial role he has no tangible function in the family. He changes from a periodic guest to an unwanted extended guest. He may attempt to regain his authority with no success, since the mother's power is now overwhelming his. This family typically engages in a short period of conflict until the father returns to work, at which time the family returns to its normal adaptation, that of having a marginal father.

The contingent authority adaptation also lacks ambiguity. Each person knows the expectations of his/her role in the family. However, problems arise when the father does not choose to exercise his role as is expected of him. As long as he does choose to exert his authority in the majority of cases upon his return, the adaptation will remain a successful one. This adaptation remains viable because the absences of offshore oilworkers tend to be short and frequent, thereby providing for regular and frequent contact between the father authority and his family. Thus, contingent authority endures as an effective adaptation.

Those fathers who are unwilling to exercise contingent authority lead the family in one of two adaptive directions. If the marriage is to remain successful, the family may become mother/wife centered and move into a marginal father adaptation, whereby the mother assumes the role as permanent head of the household. If she is unable or unwilling to assume this role, the marriage may be thrown into an unresolved structure. The result of this may be terminal conflict and may ultimately conclude in divorce, or the family may continue to "debate" this issue, hence habitual conflict. This idea of terminal conflict is in direct opposition with the interpretation Forsyth and Gramling (1987; 1990) offer with regard to their typology of conflict, whereby all conflict adaptations resolve successfully into the periodic guest adaptation. The terminal conflict adaptation offered here implies that Forsyth and Gramling's conflict adaptation was, perhaps, not an adaptation at all, but rather a stage of distress which occurs in other adaptive techniques in families headed toward the periodic guest adaptation. It is when these families are unable or unwilling to adapt to any of these techniques that terminal conflict occurs. The duration of this adaptation is varied. However, final resolution is almost certain to culminate in divorce. Other researchers (Cuber & Harroff 1963) have suggested that conflict can become a permanent characteristic of the family. Indeed, our habitual conflict type is a permanent strategy.

The adaptation of traditional husband/wife roles is the strategy most often used, and for obvious reasons, since it is the most ideal, given the working class-traditional backgrounds of the majority of offshore oil families (Komarovsky 1967). Both parents are active participants in the family and share decision making between them, although the father tends, for the most part, not to undertake traditional female roles. The most important aspect of the success or failure of this adaptation lies in the willingness of the mother to relinquish her hold on all the authority and assume a shared role in the authority of the family. When she has little problem doing this, as is often the case, a successful traditional adaptation occurs.

Forsyth and Gramling (1987) offered a fifth adaptation in their typology, that of the replacement father. In this research, however, the replacement father adaptation was found to be an infrequent adaptation. It did not tend to work because of one primary factor. The father/offshore oilworker returns too frequently to foster such an adaptation. Most of the families interviewed never considered such an alternative necessary because the father would be returning shortly. There were many examples found of replacement kin which occurred in cases of emergency. However, it is important to note that there was little difference in this action and that of shore based occupations and their families. Therefore, such an adaptation as replacement father was only sparsely found to be present in this study of the adaptations of offshore oilworker families. Also, the increased reliance on kin by dual-career couples (Fischer 1981; Houseknecht & Macke 1981; Tamir & Antonucci 1981) is not typically considered to be a replacement kin strategy (Forsyth & Gramling 1987, 1990).

Egalitarian relationships among offshore oil workers were infrequent. This was of course expected since the literature seems to indicate that such relationships are only likely to occur between two professionals and, given the small number of couples who fill this seemingly prerequisite category among this sample. What is unique in our sample is that at least one of

the spouses, in each of these families, had a father who was periodically absent due to his occupation.

It should also be noted that these are ideal-typical categories created along a continuum. As such, some are "better fits" than others. In addition, due to the change of schedules that these workers face, their adaptation may change. Hence, it is not only a problematic strategy that causes a change to another. Below are the comments of a wife whose husband had been working a 7 days on/7 days off schedule for several years and was changed to a five days on (sometimes home for a few hours at night) and the weekends off schedule.

...when he transferred to a five and two job, it was really a big adjustment from having him home all the time for 7 days. When you have a husband that works 7 & 7 when he comes home... he pays a lot of attention to us...he took over the family chores, the discipline...I had some time to do things...On his 5 & 2 schedule he didn't do anything. He was always so tired. I had to do it all...He finally went back to a 7 & 7 schedule and we got back to our old routine...which was better. (Interview).

This family originally was in a traditional strategy. They moved into a conflict mode as described by Forsyth & Gramling (1987). Like the model of Forsyth & Gramling (1990), they moved into another adaptation. For the duration of the father's 5/2 schedule the family remained in a marginal father adaptation. When the father resumed his 7/7 schedule (at his own request) the family gradually moved back into their former traditional adaptation, although the wife said he has the tendency to go back to being a marginal father.

...he has the tendency to fall back into his doing nothing mode if I don't keep reminding him of what he is doing...I am selfish..I want that freedom when he's home. (Interview)

Indeed this family has undergone some rather drastic shifts, as it changed from a father/husband centered structure to a mother/wife centered structure and back again to a father centered structure although the latter does not seem to be firmly in place.

This research has examined those familial structures and adaptations utilized by offshore oilworkers and their families in response to the nonstandardized work schedule of the father. Regardless of the structure used, working offshore is problematic for families.

We miss out on a lot of holidays as a whole family because I might have to work for Christmas, or I might have to miss the kid's first communion. My wife takes pictures, but it's just not the same as being there. At times I feel a little guilty, but I am able to provide them with nice things and the kids will be able to get a good education because of the money I make at this job. (Interview)

It's a total disruption of the family unit because when he's away we're not a family. We're only part of a family. And it's not that I encountered any tragedies or any...speaking of long-term... your life of raising your children and being a family...when they're going to grow up...50% of the time their father was around, 100% of the time their mother was...I'd have a much better part in raising our children than we would have and I don't think that's right. I want a full time family, a full time husband. Not a single parent half of the time and a marriage the rest of the time. Typical families...everybody leaves that morning and comes in that evening...and they have some time together, even if it's not quality time every day, they have some type of encounter. It's not that long period where what happened today...if you don't get to talk to Daddy about it or if Daddy doesn't find out about it, well he'll know tomorrow. Well it's not that way because you might forget or your feelings about what you felt at that time will go away before he comes in and there's a lot of things that you'll never share with him because it has to be fresh...he has to be there in a reasonable amount of time. (Interview)

An offshore oil worker reflects on his long career,

...after 21 years, it got to a point where I just didn't want to leave home no more. I spent too much time away from home and that gets back to where you get to lookin' back and realize that you didn't have too much to do with raising your kids. Your wife did it. She had it all. (Interview)

With the upward trend in nonstandardized work scheduling, the consequences of work scheduling on the family have become recognized as a problem. Scholars have begun to address the topic. The consistent finding is that nonstandardized scheduling is a problem for families, and although offshore oilworker's scheduling is unique, the problems encountered by these families may or may not be unique.

In some families, the absences necessary for working offshore will, because of social, interpersonal and economic factors, come to be defined as appropriate; in others they will not. Obviously these two structural dimensions, family and work, affect one another and may lead to cyclical changes both in the ongoing construction of family strategies and in the work schedule. But for the majority of offshore oil families, the luxury of altering their work schedule to accommodate family does not exist, particularly if they are to maintain their standard of living. Consequently, work scheduling typically alters family and not visa versa. Gramling and Forsyth (1987), using Berger and Kellner's (1964) construction of reality paradigm found that intrafamily problems caused by work scheduling typically occur for one of two reasons.

(1) Problems arise if a family is unable to construct a consensual construction of reality. This will mean that behaviors are not interpreted in the same way by all family members,

rules for interaction are not agreed upon, and the identities of individual members are not commonly perceived. Meaning is not shared.

(2) A second problem emerges when an agreed upon construction does exist, but the behavioral and identity implications of that construction are intolerable to one or more family members (Gramling & Forsyth 1987, p. 171).

Among offshore oil families, problems associated with their adopted structures fit within these three general problematic areas: (1) Family members may disagree regarding the rules associated with an adopted structure. Although the structure itself is agreed upon, the roles associated with it may have to be negotiated over time. (2) The structure may be agreed upon, but the construction of the structure may have been primarily arrived at through power. Hence, the structure is intolerable to at least one member of the family. (3) A third problem emerges when there is no agreed upon structure.

Problems resulting from negotiation appear to be the least severe; indeed, these revisions may be healthy updates for successful familial structures/adaptations. A structure arrived at through power, if not renegotiated, may eventually terminate the marriage. Many families have renegotiated their way out of this problematic situation. The third general problematic type is those families habited by conflict, maintaining their relationship within this adaptation. The degree of problems experienced by any of these families is inversely related to the level of renegotiation that takes place within the family unit. As Berger & Kellner (1964, p. 7) state, they must construct the reality within which they live.

The reconstruction of the world in marriage occurs principally in the course of conversation, as we have suggested. The implicit problem of this conversation is how to match two individual definitions of reality. By the very logic of the relationship, a common overall definition must be arrived at...otherwise the conversation will become impossible and, ipso facto, the relationship will be endangered...The longer this conversation goes on, the more massively real do the objectifications become to the partners. In the marital conversation a world is not only built, but it is also kept in a state of repair and ongoingly refurbished. The subjective reality of this world for the two partners is sustained by the same conversation.

Offshore oil families have less time for such conversation, when compared to families with traditional work schedules (Gramling & Forsyth 1987). But these families must continually update their rules, guidelines and norms if they are to survive the problematic work scheduling of offshore oil successfully.

The adaptations these families make to the work scheduling of offshore oil have allowed many of them to survive the boom/bust cycle of the industry. When the downturn in the oil industry occurred in the mid-1980's, many workers lost their jobs. These included offshore workers, as well as, workers in oil and other industries who worked normal work schedules.

Many offshore oil workers were able to leave the state to find work. Their families remained in south Louisiana, virtually unaffected by the change because they were adaptable to father absence. When the oil industry started to return some of these workers to work, they merely changed job locations. The family faced no major crisis. In essence then, these workers were *able* to seek out-of-state employment without a major disruption to their familial structure.

Workers whose employment had not forced them to adapt did not have familial structures in place that would allow them to leave without their families. These workers had to relocate their families. In contrast then, they were *unable* to seek out-of-state employment without a major disruption to their familial structure.

Hopefully, this research will lead to a greater understanding of the problematic family life encountered by families with nonstandardized schedules. As society becomes more complex, so will work scheduling. As work scheduling responds to the complexity of industrial/economic needs, the familial response will vary accordingly. Although structurally generated, these responses will be mitigated by the capabilities of each family.

#### **A NOTE ON THE EFFECT OF SOCIAL STRUCTURE ON CULTURE**

Much has been written about the traditional culture of South Louisiana, referred to as either Cajun culture or culture of Acadiana (Gramling et al. 1987; Gilmore 1933; Parenton 1938). Before the drilling for oil offshore began nearly half a century ago, the patterns of life in this culture fit the traditional man concept of Weber (1958).

It was Weber's thesis that the Protestant Ethic broke down traditionalism and that it was a major factor in the transition from agricultural to industrial society. Weber gave the following example of traditionalism:

A man, for instance, who at the rate of 1 mark per acre mowed 2-1/2 acres per day and earned 2-1/2 marks, when the rate raised to 1.25 marks per acre mowed, not 3 acres, as he might easily have done, thus earning 3.75 marks, but only 2 acres, so that he could still earn the 2-1/2 marks to which he was accustomed. The opportunity of earning more was less attractive than that of working less. He did not ask: How much can I earn in a day if I do as much work as possible? but: How much must I do in order to earn the wage 2-1/2 marks, which I earned before and which takes care of my traditional needs?...A man does not "by nature" wish to earn more and more money, but simply to live as he is accustomed to live and to earn as much as is necessary to live and for that purpose (Weber 1958, pp. 59-60).

Weber considered such a traditional view to be a hindrance to the development of modern industrial-capitalism.

Wherever modern capitalism has begun its work of increasing its intensity, it has encountered the immensely stubborn resistance of this leading trait of pre-capitalistic labor. And today it encounters it the more, the more backward (from a capitalistic point of view) the labouring forces are with which it has to deal (Weber 1958, p. 60).

The idea that humans do not naturally seek to continually increase their standard of living is a "traditional" view of man. To increase one's economic position constantly and rationally must be learned, for without such teaching, people maintain their traditional outlook, an important impediment to the development of capitalism (Gramling et al. 1987).

One of the characteristics of this traditional culture of Acadiana has been the focus upon an extractive economy (fishing, hunting, farming, trapping, etc.), first as an occupation, which facilitated well the lack of, or need for, social mobility. Being self-employed in an extractive occupation allows one to set his own schedule or rather work only when he wants to or needs to.

The greatest intrusion upon this culture has been the oil and gas development. Not only did it bring in more rational views and their accompanying need for social mobility, but it brought with it a unique work schedule. But the demand for offshore oil workers was such that workers were able to quit anything they wished to participate in their extractive occupation, but what now had become a recreational/economic pastime. Offshore oil workers would quit during shrimping season to devote full-time to the occupation they enjoyed. They would return to work when they needed to. It allowed the culture to survive. With the bust in the oilfield, this ability to quit disappeared. The supply of workers vastly outnumbered the demand; consequently, the oil worker could not quit the oilfield job for two months and expect to get another oilfield job when his recreational job was over.

But the offshore work schedule still remains culturally attractive because of its recurring on/off cycle. It allows workers to participate in their extractive pastimes, although probably not with as much freedom as before. Few occupations would allow workers as much concentrated free time as working offshore.

The effect of culture on structure is also important. The culture is very attracted to the offshore oil schedule. Another cultural lifestyle might not be so accommodating, creating alienation among workers. The relationships between offshore oil and this traditional culture have been, for the most part, positive. No other industry would have allowed the culture to survive and no other culture would have given the industry such an accommodating workforce. Even in bust times the emergent family structures allowed the father to leave the family intact. The family also remained geographically in place, not disrupting the community. A resurgence of offshore activity should merely bring the worker back to his former work site. Given the volatility of the oil industry, these intact communities/workers are necessary to its survival. Likewise, the survival of this lifestyle is fostered by the unique scheduling of offshore oil.

Historically, industrialization has been seen as being incompatible with traditionalism (Goode 1963; Weber 1958). The structural/cultural interplay of offshore oil and Acadiana culture produces an exception to this seemingly law-like proposition.

### **RECOMMENDATIONS**

1. Literature on the problems encountered by families of offshore oil workers should be made available to these families. Families may benefit from the experiences of other families. In addition, if families are able to recognize the structure in which they exist, they will better understand the dynamics of such structures and hence better understand the problems they encounter.
2. The importance of culture cannot be overstated. The participants in the cultural past times of south Louisiana are attracted to offshore work. Few other cultures would be so attracted to it. Any factor which erodes this culture (i.e., elimination of shrimping, fishing, trapping) will make this culture less attracted to offshore work.
3. The least restrictive path for offshore oil workers is to reduce their involvement in family life. This reduces stress while they are away. Likewise, to increase involvement increases stress. Somehow the offshore oil worker must learn to cope with the stress of being away from his family. Taking the less stressful path has long-term negative consequences. Research should be conducted on mechanisms to increase family involvement while at the same time reducing the stress involved.

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### **The Department of the Interior Mission**

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



### **The Minerals Management Service Mission**

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The **MMS Royalty Management Program** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.