The Commonwealth of Massachusetts
Massachusetts Senate

The December 1989 Heating Oil Crisis

Senate Committee
on Post Audit and Oversight

Senator Richard A. Kraus, Chairman

Senate Post Audit and Oversight Bureau

Commonwealth of Massachusetts

MASSACHUSETTS SENATE

The Honorable William M. Bulger
President of the Senate

THE DECEMBER 1989 HEATING OIL CRISIS

A Report of the

SENATE COMMITTEE ON POST AUDIT AND OVERSIGHT

Sen. Richard A. Kraus, Chairman

Sen. W. Paul White, Vice-Chairman
Sen. Linda J. Melconian
Sen. Paul J. Sheehy
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February 1990

The Commonwealth of Massachusetts

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February 20, 1990

Edward B. O'Neill
Clerk of the Senate
State House, Room 208
Boston, MA 02133

Dear Mr. O'Neill:

Pursuant to M.G.L. Chapter 3, Section 63 as most recently amended by Chapter 557 of the Acts of 1986, the Senate Committee on Post Audit and Oversight respectfully submits to the full Senate the following report: **The December 1989 Heating Oil Crisis**.

This report describes the impact that rising oil prices have had on Massachusetts residents, and analyzes some of the reasons for the rapid price increase. The report also offers recommendations for preventing substantial fluctuations oil prices in the future.

Respectfully filed by the Senate Committee on Post Audit and Oversight:

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Senator W. Paul White
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EXECUTIVE SUMMARY

The impetus for this report by the Senate Committee on Post Audit and Oversight came from widespread concern about the soaring cost of home heating oil this winter. Faced with record-low temperatures, Massachusetts residents were forced to use unprecedented amounts of oil in order to keep warm. At the same time, the retail price for home heating oil shot up by 68 percent over last year's price. These two factors combined to create a crisis in home heating oil, costing Massachusetts consumers millions of dollars in additional fuel payments. Furthermore, the nature of the oil industry puts Massachusetts consumers at continued risk of similar price increases if there is another prolonged cold spell.

This report by the Senate Committee on Post Audit and Oversight describes some of the factors in the dramatic rise in home heating oil prices and analyzes the role of the oil industry during this crisis. The Committee's major findings are summarized below:

A. FACTORS AFFECTING THE RISE IN OIL PRICES

- The northern hemisphere suffered the coldest December of the century in 1989, creating extraordinary demand for oil.
- Regional inventories of oil were unusually low, and oil companies were unprepared for the sudden surge in consumer demand created by the cold weather.

- A shortage of domestic ships and congestion in U.S. ports may have worsened the impact of the cold weather and low regional oil inventories.

B. THE CHANGING OIL INDUSTRY

- Control of the oil industry has become less concentrated, shifting power away from a few companies and the oil-producing nations to an international array of producers, refiners, and other industry participants.

- In response to these changes in the oil industry, the New York Mercantile Exchange introduced futures contracts for home heating oil. The prospect of profit from these contracts attracted speculators to the oil market.

- Because of increased competition within the oil industry and price speculation by non-industry participants, wholesalers have become less able to predict oil prices and are more reluctant to keep large inventories.

- Lower oil inventories reduce wholesalers' risks from possible declines in oil prices, but they also increase vulnerability to sudden changes in demand.

C. THE ROLE OF INDUSTRY PARTICIPANTS IN THE CRISIS

- Retailers did not cause the increase in oil prices, but they benefitted from larger sales volumes during the oil crisis and from wider profit margins in the aftermath of the crisis.

- Companies that had large inventories of oil and companies that were able to refine crude oil into heating oil made the most profit from higher oil prices. However, the availability of oil inventories may have prevented even greater price increases to consumers.

D. RESPONSES TO THE OIL CRISIS

- Massachusetts should work with other state and federal offices to examine the need for nation-wide regional oil reserves. Such reserves would be maintained to meet fuel needs during defense or consumer emergencies.

- The federal government should re-consider its policies regarding the transportation of cargoes between U.S. ports during emergencies. These policies should ensure that sufficient vessels are available to transport essential items such as food and fuel during times of extreme need.

- Massachusetts should extend continued political and financial support for monitoring oil prices and inventories. Such monitoring would enable the state to better avert emergencies such as this December's oil crisis.

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INTRODUCTION

The oil industry has been the subject of intense scrutiny and concern this winter. Massachusetts was struck by bitterly-cold weather, and the price for home heating oil soared to unprecedented heights. The impact of this price increase grew to crisis proportions, as Massachusetts consumers faced the dual burdens of record-high oil prices and record-low temperatures.

In this report, the Senate Committee on Post Audit and Oversight describes the impact that rising oil prices had on Massachusetts residents, and analyzes some of the factors affecting the rapid price increase. The report presents relevant information about the structure of the oil industry, along with a summary of governmental activities in response to the oil crisis. Finally, the report offers recommendations for reducing the impact of fluctuations in oil prices in the future.

THE REAL IMPACT OF THE OIL CRISIS

Oil consumers, who make up 54 percent of Massachusetts residents, bore the brunt of increases in home heating oil prices this winter.[1] According to the Fair Share Development Corporation, the oil crisis cost Massachusetts consumers an average of $4 million per day in additional fuel payments.[2] Low-income families and the elderly were particularly hard-hit, as escalating oil prices depleted limited household budgets and fuel assistance funds.

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[1] Larry Tye, "Bay State's heating oil prices falling in January," Boston Globe (January 12, 1990).

[2] Fair Share Development Corporation, "Oil Supplies Cut and Prices Double (press release)" (December 29, 1989), p. 1. According to Fair Share's Robert Mitchell, the $4 million figure was calculated by multiplying average oil consumption (.13 gallon per degree day per customer), average degree days during the oil crisis (40.0), number of Massachusetts oil consumers (1.3 million), and average added cost per gallon of oil during the crisis ($0.60).

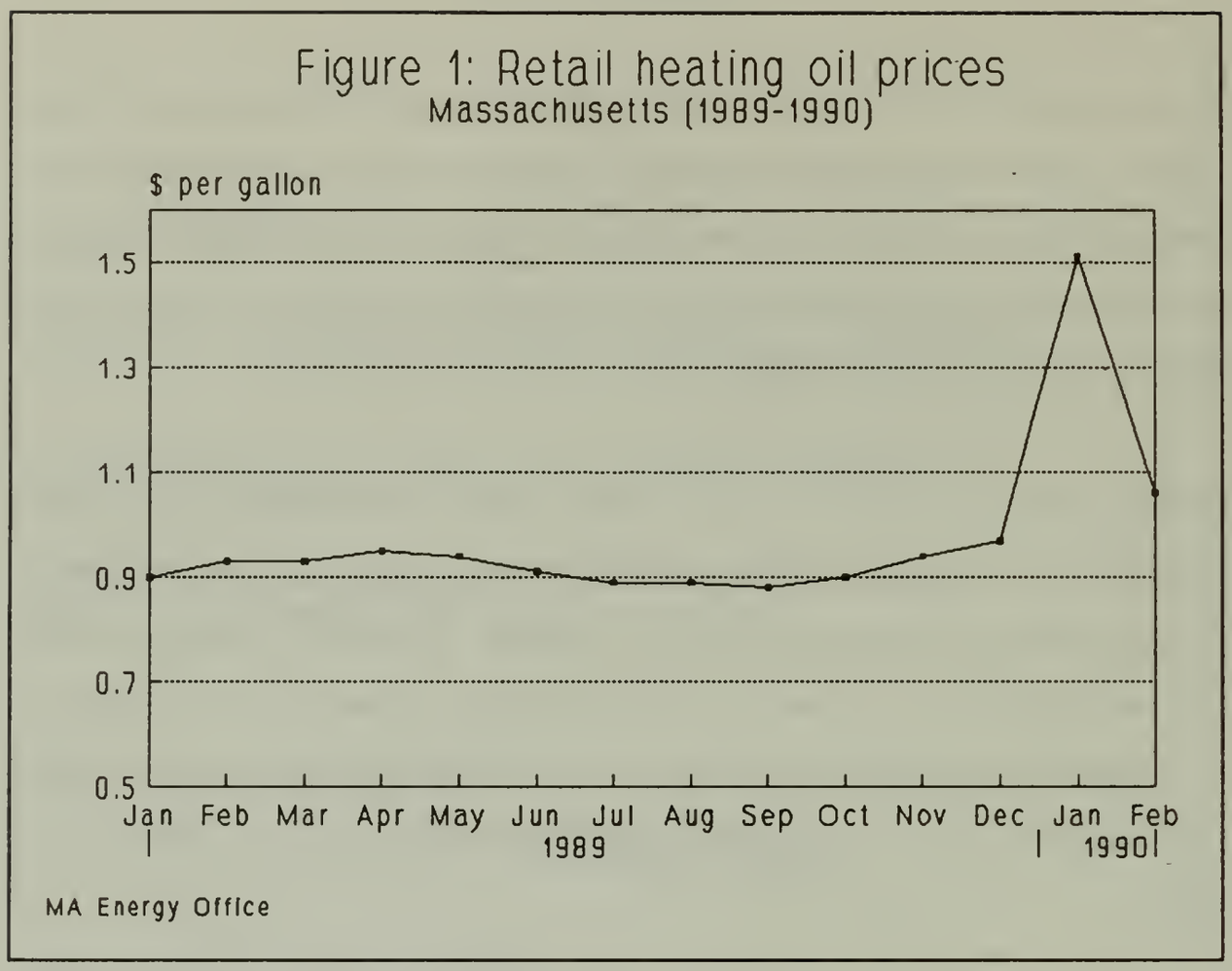


Figure 1: Retail heating oil prices illustrates monthly changes in oil prices from January 1989 to February 1990. As shown in Figure 1, the retail price for home heating oil in Massachusetts had been relatively stable over the past year, remaining at about 90 cents per gallon. Only in December 1989 did prices rise significantly above this level.

During the month of December, Massachusetts consumers saw oil prices jump by an average of over thirteen cents per week. On January 2, 1990, the average retail price for home heating oil in Massachusetts was $1.51 per gallon--a 55 percent increase from the December 4, 1989 price of $0.97, and a 68 percent increase from the price one year earlier.

Fortunately, home heating oil prices have fallen since early January. By February 5, 1990, the retail price of oil was down to $1.06 per gallon--a reduction of 45 cents (30 percent) from the previous month's price. Although the heating oil crisis seems to be over, it is crucial to understand why oil prices changed so quickly and drastically this winter. Only then can the state take action to ensure that this crisis will not be repeated.

FACTORS AFFECTING THE RISE IN OIL PRICES

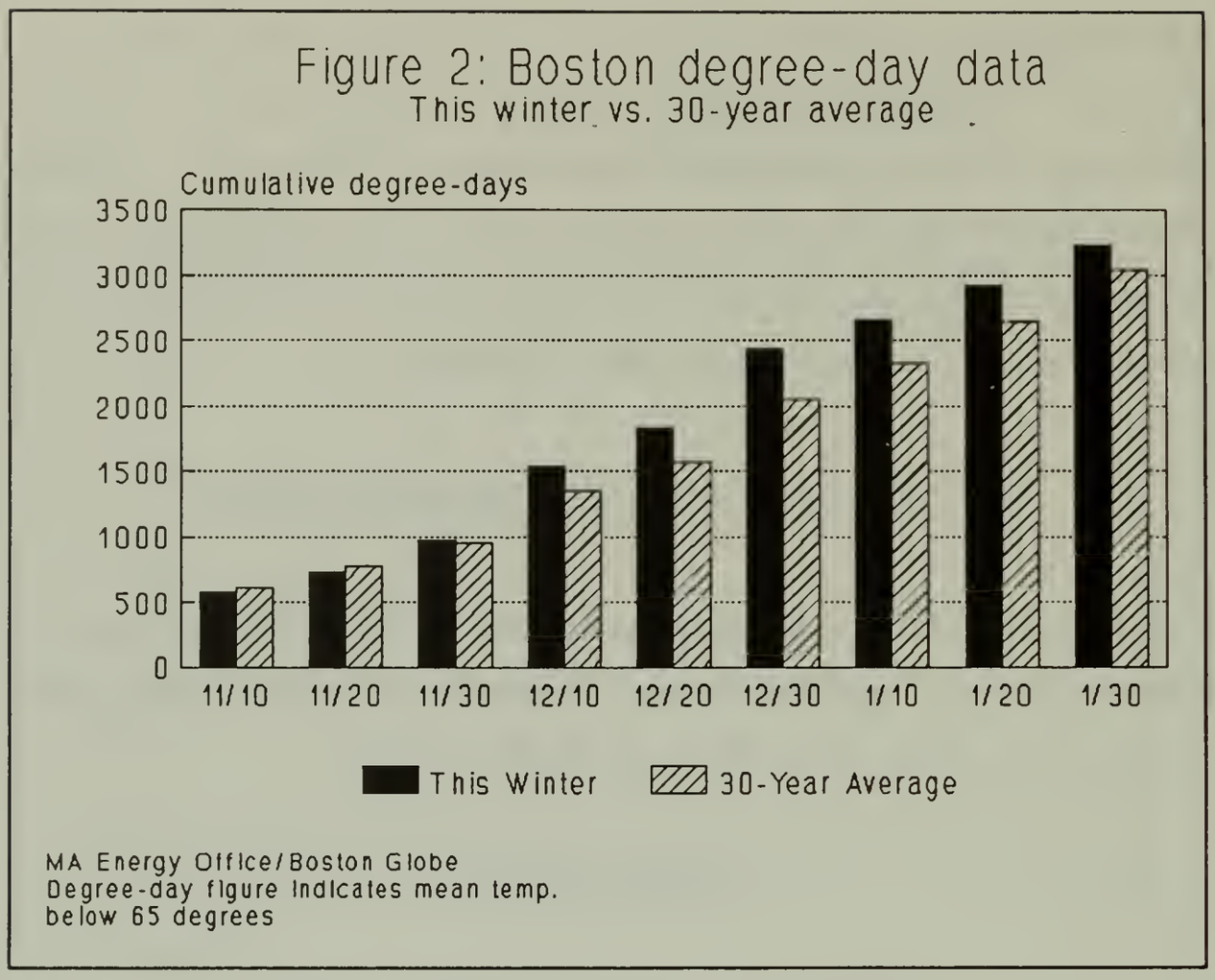
The rapid rise in the price of home heating oil in Massachusetts can be attributed to a combination of factors, including extremely cold weather, low heating oil inventory levels, and transportation problems.

1. Cold weather

a. The northern hemisphere suffered the coldest December of the century in 1989, creating extraordinary demand for oil.

Figure 2: Boston degree-day data compares cumulative degree-day figures from this winter to the 30-year average for this time of year. The degree-day figure, a measure of fuel consumption, is determined by how far the daily mean temperature falls below 65 degrees. The greater the degree-day figure, the colder the temperature.

The Greater Boston area suffered a significant drop in temperature in the weeks following Thanksgiving of 1989, reflected in Figure 2 by the sharp rise in the cumulative degree-day figure. By Christmas Eve of 1989, the National Weather



Service announced that Boston had suffered the coldest December since 1876.[3] Similar weather conditions were felt throughout the New England region.

As temperatures dropped to record lows, consumer demand for home heating oil increased sharply. At the peak of the oil crisis, regional demand for oil grew to 40-45 percent more than normal winter demand.[4] With consumers' increased demand for the existing supply of oil, prices rose significantly.

In past winters, New England had been able to rely on excess oil from Western

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[3] Jeffrey Raynes, "Statement of Jeffrey W. Raynes, CAE, President and Chief Executive Officer, Better Home Heat Council, to the Massachusetts General Court, Joint Committee on Energy" (January 16, 1990), p. 5.

[4] Letter from T.C. DeLoach, Vice-President, Mobil Oil Corporation, to the Honorable Michael S. Dukakis (January 9, 1990), p. 1.

Europe to meet its emergency fuel needs. However, December 1989 brought cold temperatures to the entire northern hemisphere, including Western Europe and the Soviet Union. As a result, European-bound tankers that would normally have delivered excess oil to New England were not available.

b. The cold spell occurred early in the winter season and caught everyone--particularly the oil industry--unprepared.

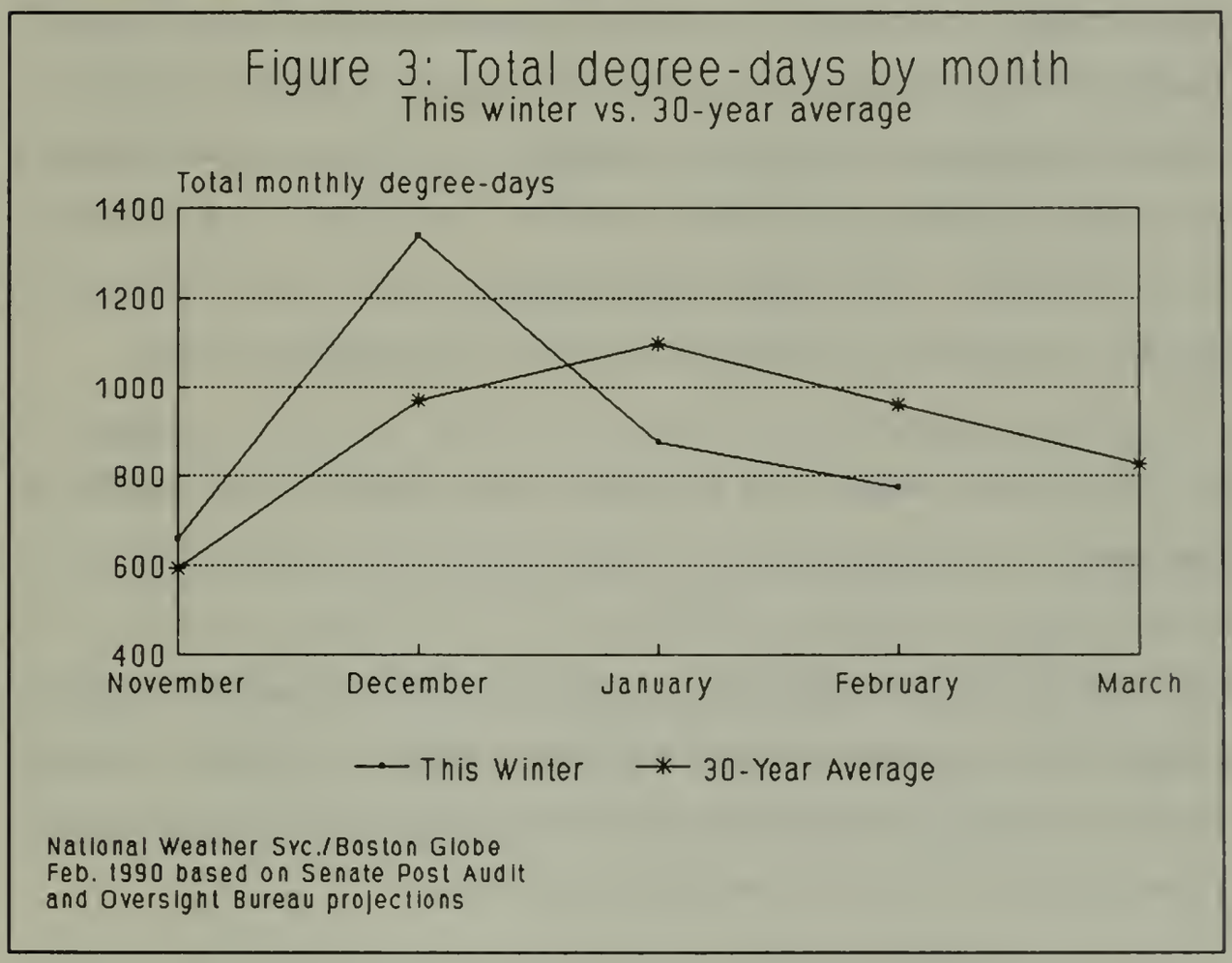

Figure 3: Total degree-days by month compares monthly degree-day information from this winter to the 30-year average. Total monthly degree-days provide a measure of how cold temperatures were in a given month. As temperatures fall, the total degree-days for the month increase.

As shown in Figure 3, data from the past thirty years indicate that temperatures

typically get colder from November to January and tend to grow warmer from January onward. Data from this winter season, however, reveal that New England deviated from the normal trend in temperature fluctuations. Temperatures in November and December of 1989 were unusually cold, while January 1990 was significantly warmer than both the previous month and the 30-year average for January.

This deviation from normal temperature fluctuations caught everyone off-guard. The oil industry, in particular, was unprepared for the early drop in temperature and the ensuing rise in demand for home heating oil. Production and delivery schedules are typically planned to correspond with anticipated levels of demand. According to some industry analysts, "had it occurred in January, as expected, the cold snap would have caused little problem."[5]

c. Cold weather caused other problems, exacerbating the home heating oil shortage.

Cold weather has been blamed for production and delivery problems in the oil industry. These problems include the December 24th explosion at Exxon's Baton Rouge, Louisiana refinery; frozen locks on the Mississippi River; and weather-related closures of refineries throughout the nation.

The unusually cold weather also put unprecedented pressure on other energy sources. Certain commercial and industrial gas customers--known as "interruptibles"--experienced cutbacks in service.[6] Electric customers in the

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[5] David Warsh, "When feeling is believing," Boston Globe (January 7, 1990).

[6] "Interruptible" service is typically offered to commercial and industrial customers by regional gas distributors. Distributors contract to provide gas to these customers during warm months, with the understanding that service may

Northeast nearly suffered a blackout in early December because of excessive demand and strained supplies.[7] Oil industry analysts claim that some of these gas and electric customers turned to home heating oil.

Drought conditions in Canada further worsened the crisis in home heating oil. Electric utilities in the Northeast had planned on drawing from Canadian hydroelectric sources this winter; instead, low water levels in Quebec and elsewhere actually forced Canadian utilities to buy from U.S. power sources. In order to meet peak demand, electric utilities fired up their oil-burning combustion turbines, putting additional pressure on the strained oil market.[8]

2. Low inventory levels

a. Regional oil inventory levels in New England were unusually low this year.

New England wholesalers had lower-than-average inventories of oil at the start of the 1989-1990 heating season. This reduction in the regional supply of home heating oil proved to have near-disastrous consequences. Faced with increased consumer demand and limited wholesale supply, some regional oil retailers reported that they were unable to serve all their regular customers.

Figure 4: New England oil inventories compares New England oil inventory levels for the average heating season (based on the past five years) with preliminary inventory figures for this year. As illustrated in Figure 4, oil

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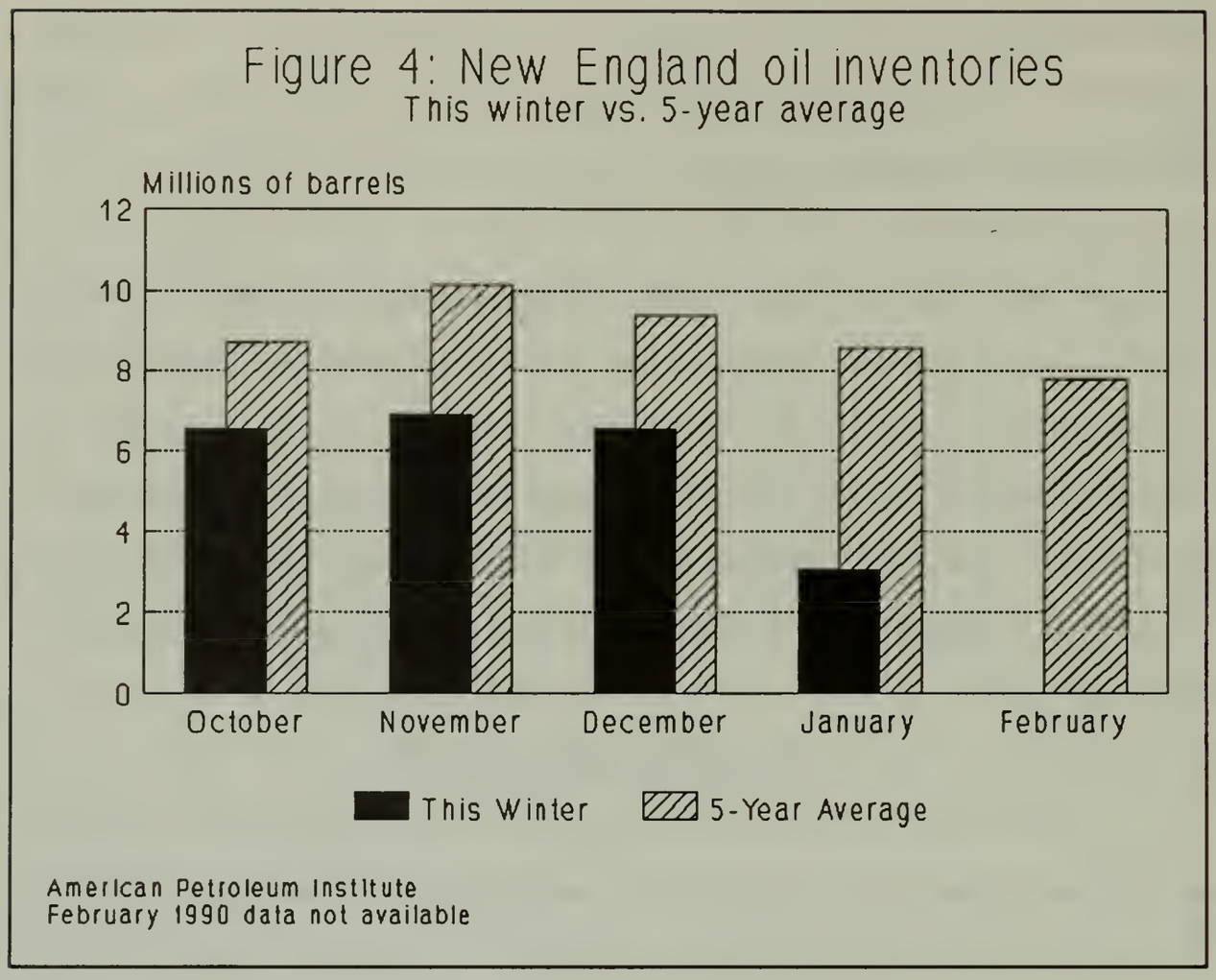
be interrupted during peak-load seasons. According to Jeffrey Raynes of the Better Home Heat Council, over 50 percent of all gas in the pipeline system is designated as "interruptible."

[7] Raynes, pp. 3-4.

[8] Raynes, pp. 3-4.



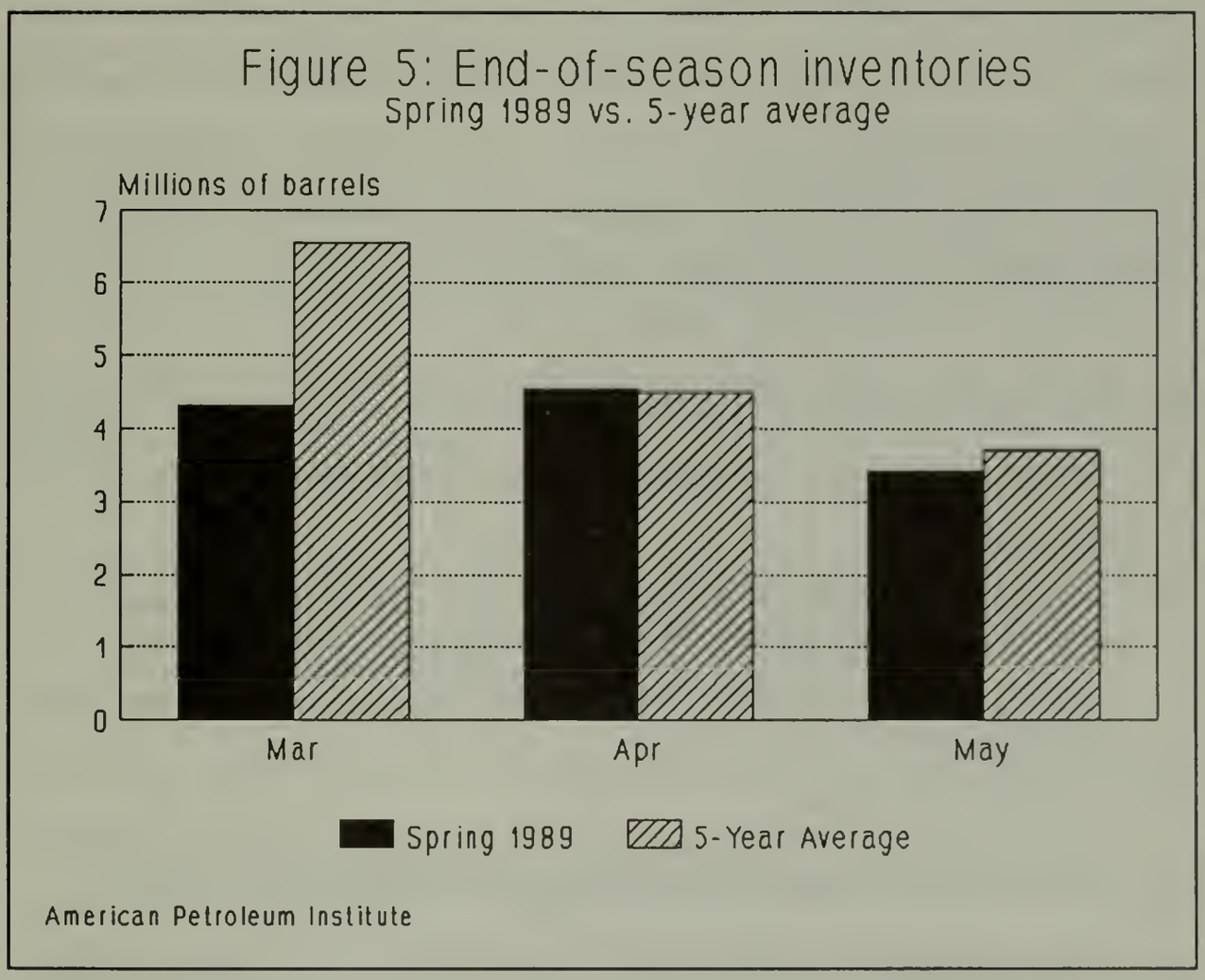
inventory levels typically reach their peak in November--as wholesalers prepare for the onslaught of winter--and decline as the season progresses.

Figure 4 shows that regional oil inventories were significantly lower at the beginning of this winter than in previous years. October regional oil inventories were over 2 million barrels short of the 5-year average--a reduction of almost 25 percent. By November, regional supplies of oil were down 3.26 million barrels--or 32 percent--from previous years' levels.

Regional oil wholesalers offer several explanations for their lower-than-average inventory levels. Some wholesalers claim that they expected oil prices to decline, so they started the winter with low inventories in hopes of buying cheaper oil later in the season. These expectations were fostered by rumors that

the OPEC nations would reach a stalemate during their annual meeting in November. Moreover, wholesalers claim that warnings about the effects of "global warming" strengthened fears of another exceptionally mild winter, and they responded by reducing inventory levels.

In addition, some wholesalers assert that they had lost money last year because of excess oil left after an unusually warm winter. Wholesalers made less profit on this excess oil, due to lower springtime oil prices and to the costs associated with insuring and maintaining inventories. Accordingly, these wholesalers set lower inventory levels for this winter.



Data from the American Petroleum Institute, however, place into question wholesalers' claims of excess inventory. Figure 5: End-of-season inventories

compares regional inventories of oil from March to May of 1989, to the five-year average for the same months. Figure 5 reveals that oil inventory levels last spring were comparable to--if not lower than--inventory levels in previous years.

3. Transportation problems

a. There may have been an insufficient number of domestic vessels to transport the needed quantity of oil.

As demand for oil reached unprecedented levels this winter, so did demand for oil-transporting vessels. According to the oil industry and the U.S. Energy Department, the number of available domestic vessels was insufficient to meet demand for oil, and foreign vessels that could have eased the shortage were prevented by federal law from making deliveries.[9] However, information from the U.S. Maritime Administration contradicts these allegations, indicating that vessel availability was not a problem during the December oil crisis.[10]

The federal law in controversy is the Merchant Marine Act of 1920--commonly known as the "Jones Act." The Jones Act places certain restrictions on shipping in the United States:

> No merchandise shall be transported by water, or by land and water . . . between points in the United States . . . in any other vessel than a vessel built in and documented under the laws of the United States and owned by persons who are citizens of the United States.[11]

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[9] Allanna Sullivan, "Maritime Agency Blocked Fuel Shipment That May Have Eased Regional Shortage," Wall Street Journal (January 8, 1990).

[10] Critics of the Jones Act claim that the definition of "availability" may not be sufficiently specific in all circumstances. For example, during the December 1989 oil crisis, vessels that were deemed "available" may not actually have been accessible for several weeks.

[11] 46 U.S.C. 883.

The Jones Act was established to protect and develop American merchant marine, ship building, and sea personnel.[12] According to a Maritime Administration spokesman, waivers to the Jones Act are generally reserved for national defense purposes, and waivers are rarely granted for commercial reasons.[13]

Applications for commercial waivers must be submitted to and approved by the U.S. Customs Service of the Treasury Department. The Customs Service usually consults with the Defense Department and Maritime Administration during the waiver approval process, and the Energy Department may be asked to make recommendations on proposed energy shipments.

During the oil crisis, the Customs Service received six applications for waivers to the Jones Act: three for home heating oil shipments and three for propane deliveries.[14] The Customs Service contacted the Maritime Administration, which in turn approached members of the domestic tanker industry, to assess the availability of U.S. vessels.

The Maritime Administration determined that there were enough U.S. vessels to move the heating oil within a reasonable time period, but there were no U.S. vessels to handle the proposed shipments of propane. The Customs Service accordingly denied the three waiver applications for home heating oil and

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[12] Wirth Ltd. v. S/S Acadia Forest, C.A.La.1976, 537 F.2d 1272.

[13] Telephone interview with Walter Oates, Office of External Affairs, U.S. Maritime Administration.

[14] Letter from Captain Warren G. Leback, Maritime Administrator, U.S. Department of Transportation, to the House of Representatives (February 1, 1990), p. 2.

granted two of the three propane waivers.

In the history of the Jones Act, only 150 waivers have been granted.[15] The Energy Department, oil industry, and consumer groups have criticized the Jones Act for being overly protectionist. These critics claim that the Jones Act should be amended to allow for waivers during consumer emergencies such as the December oil crisis. The Customs Service and Maritime Administration, however, assert that the waiver process worked during the oil crisis and question whether such amendments are necessary.

b. The increase in shipping traffic may have caused congestion and delays in U.S. ports.

Representatives from the oil industry have blamed "berth congestion" for aggravating the oil crisis.[16] As more vessels engaged in transporting oil during the crisis, some U.S. ports may have experienced increased congestion and other traffic-related problems.

Berth congestion does not appear to have been a problem in Boston Harbor, however. In response to inquiries by the Senate Post Audit and Oversight Bureau, representatives from Massport, the Coast Guard, and the Boston Harbor Pilots Association have stated that harbor conditions were not overly congested during the oil crisis. While they acknowledge that traffic into Boston Harbor increased in December, these representatives assert that there were no noticeable delays or back-ups in port activity.

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[15] Sullivan, "Maritime Agency Blocked."

[16] Platt's Oilgram (December 19, 1989), p. 7A.

THE CHANGING OIL INDUSTRY AND ITS ROLE IN THE CRISIS

The price of home heating oil this winter was affected by cold temperatures, low inventory levels, and transportation problems. However, these conditions alone do not explain why oil prices rose to such heights. In order to understand the oil crisis, it is important to consider the interaction of these conditions with particular aspects of the oil industry.

The oil industry has undergone significant changes over the past twenty years. Up until the 1970s, a few major oil companies held control over the oil industry. With the creation of OPEC, control of the industry shifted to several oil-producing nations. More recently, the industry has been shaped by an international array of producers, refiners, and other industry participants. These changes have created additional competition between oil companies and have had an impact on both inventory and price levels for home heating oil.

1. The changing oil industry

In November 1978, the New York Mercantile Exchange introduced the first futures contracts on home (or "No. 2") heating oil. The futures market for home heating oil developed in response to the changes within the oil industry, and it quickly attracted a large number of speculators as well as industry participants.

Most oil speculators are not involved in the actual oil industry, but they trade in the futures market in order to make a profit. In contrast, oil refiners, wholesalers, and other industry participants use the futures market as a "hedge" against changes in the value of oil. By doing so, these industry participants

reduce risk and protect profit margins.

"Hedging" involves taking opposite positions (i.e., buying and selling) simultaneously in the futures and physical markets, so that losses in one market are balanced by gains in the other. For example, a wholesaler buys a quantity of oil, but he wants to protect the oil from future declines in price. Such declines would reduce the value of his inventory and force the wholesaler to absorb financial losses. The wholesaler therefore engages in the opposite transaction (i.e., selling) on the futures market in order to balance the risks on his physical product.

In this case, the wholesaler would contract to sell oil in the future at a somewhat higher price than the current market price. If the price of oil goes down, the wholesaler's inventory becomes less valuable, but he makes money from selling the oil at the contract price. If, on the other hand, the price of oil goes up, the wholesaler's inventory becomes more valuable, but he may lose money if the market price for oil exceeds the contract price.

By his use of hedging techniques, the wholesaler minimizes his risks from swings in oil prices. In contrast, speculators assume risks in the market, hoping to gain from unanticipated changes in oil prices. The heightened activity of hedgers and speculators in the oil market has affected both inventory and price levels.

2. The impact of the changing oil industry on inventory levels

The emergence of oil futures and speculators is symptomatic of the oil industry's loss of control over price levels. Wholesalers are less able to predict

changes in oil prices and have consequently become reluctant to keep large inventories of oil on hand. According to an analyst on the MacNeil/Lehrer Newshour:

> With big inventories you'd risk having too much inventory in a warm winter and your costs would rise for storage, cleaning up messes. . . . These higher inventory costs would simply be passed along to . . . customers.[17]

While hedging on the futures market reduces some of this risk, wholesalers protect themselves from volatile oil prices by cutting down their inventory levels.

Unfortunately, shrinking inventories mean thinner margins of error. Wholesalers with small reserves of oil may be unable to accommodate sudden increases in demand. This increased vulnerability to changes in demand contributed to the December 1989 oil crisis.

While they generally reduce business risk, smaller inventories do not always work to the advantage of the oil industry. Wholesalers that started this winter with small inventories were faced with empty tanks and high oil prices by late December. Meanwhile, those with large inventories enjoyed substantial profits as the value of oil began to skyrocket.

3. The impact of reduced oil inventories on pricing

Industry-wide reductions in oil inventory levels have resulted in pricing consistencies among wholesalers. Because they now have smaller inventories of oil, wholesalers are constantly in the market for oil. With this increased market activity, wholesalers adjust their prices to keep pace with their competitors.

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[17] Paul Solman, "Heated Up," MacNeil/Lehrer Newshour (January 12, 1990).

Richard Slifka of Global Petroleum Corporation (an oil wholesaler) testified to the Massachusetts Energy Committee that it is nearly impossible today for an oil company to charge significantly more or less than its competitors.[18] Dealers that charge less than their competition quickly sell all of their oil, while dealers that charge more are unable to attract business.

Moreover, wholesalers argue that competitors who offer lower-than-average prices may, in fact, be hurting their long-term customers. As new customers flock to the lowest-priced dealer, oil supplies are depleted and long-term customers are forced to look elsewhere for oil. In a tight supply situation such as this past December, oil dealers cannot fluctuate far from their competitors' prices without compromising their long-term customers' needs.

4. The role of industry participants in the oil crisis

All segments of the oil industry have come under fire recently as a result of the massive increases in home heating oil prices. Concerned citizens across the nation rightfully want to know where their money went during this winter's oil crisis.

Figure 6: Home heating oil prices compares the retail and wholesale prices of home heating oil to the "spot" price of crude oil for the period of October 10, 1989, to January 30, 1990. As Figure 6 reveals, the cost of crude oil remained relatively constant throughout the crisis, while the margin between crude oil and wholesale heating oil prices grew significantly wider during the month of

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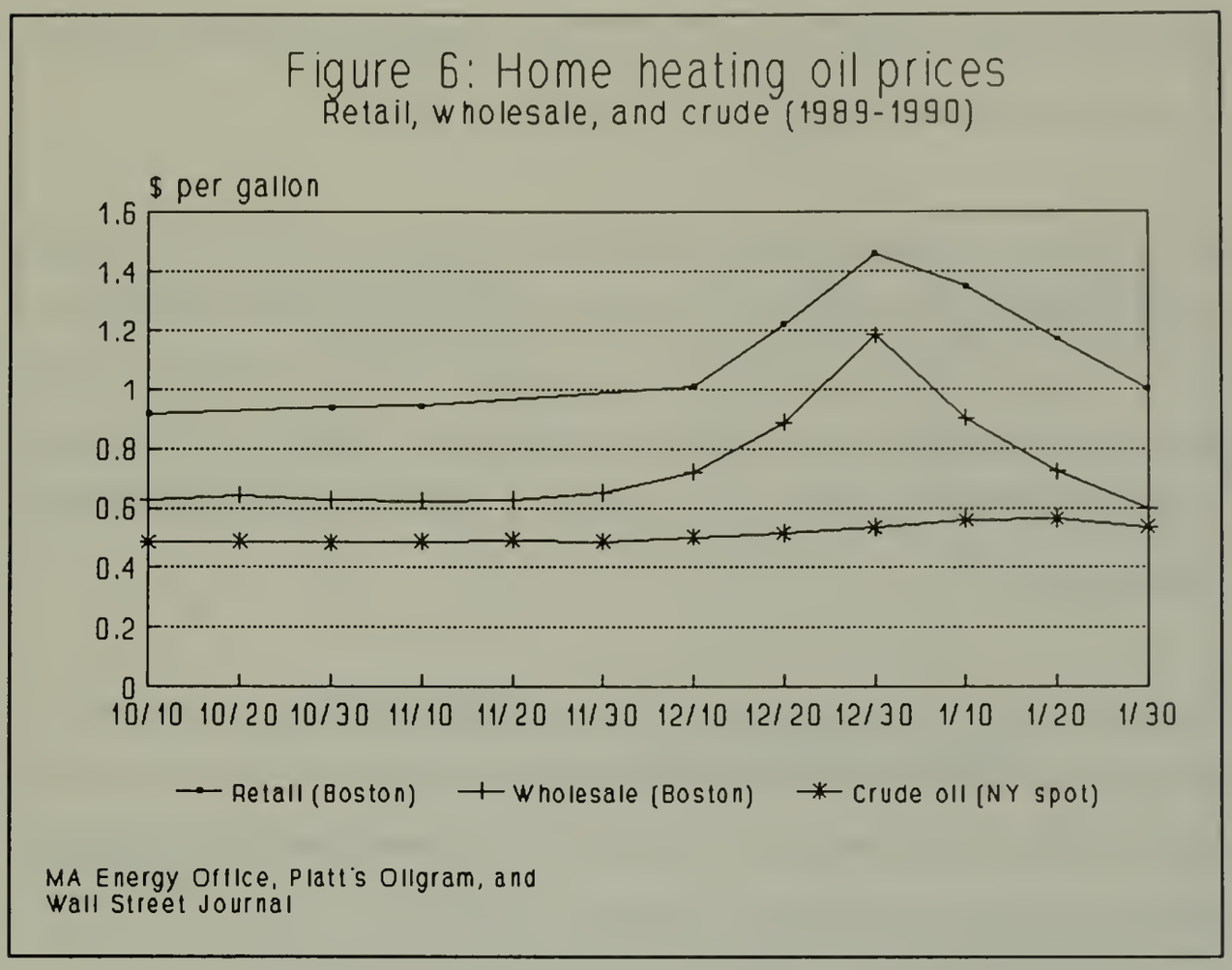
[18] Testimony of Richard Slifka, Treasurer, Global Petroleum Corporation, before the Massachusetts General Court, Joint Committee on Energy (January 16, 1990).



December. Retail prices shadowed the wholesale trend.

Heating oil retailers assert that they did not make windfall profits during the oil crisis. They point out that the margin between wholesale and retail oil prices has remained fairly consistent all winter, and that profit margins actually decreased at the peak of the oil crisis.

While they did not cause December's sudden surge in oil prices, retailers certainly benefitted from it. It is true that the margin between wholesale and retail oil prices remained fairly constant during the oil crisis, but this profit margin has expanded in the aftermath of the crisis. From October 10 to December 30, the margin between wholesale and retail prices stayed between 28 and 33 cents per gallon. By January 10, 1990, this profit margin increased to

almost 45 cents per gallon; and on January 30, 1990, the margin was still about 40 cents per gallon.

Oil retailers would have enjoyed significant profits even had their margins stayed constant. Fixed costs for oil retailers remained relatively stable during the oil crisis. As consumer demand for oil soared, retailers experienced record-high sales volumes that translated into profits. Most likely, the profits derived from the increased volume more than offset increased variable costs associated with the crisis.

Wholesalers argue that they were not responsible for the huge increases in oil prices either. Wholesalers that held large inventories at the beginning of the winter season acknowledge that they made significant profits during the oil crisis. However, according to an industry spokesman:

> They may have made some profit in the last three weeks, but they're not going to be able to hold on to it because this market is going to go down just as fast as it went up.[19]

As oil inventories are depleted to meet consumer demand, wholesalers have to replenish their stock with higher-priced oil. Once the price of oil begins to decline, inventory values decrease and wholesalers must absorb losses on their oil.

Those most likely to have benefitted from this winter's crisis were companies that had large inventories of oil and companies that were able to refine crude oil into heating oil. As consumer demand for home heating oil surpassed industry production, these companies began drawing from their inventory reserves and were able to take advantage of higher oil prices. Although production and delivery costs increased during the crisis, these additional costs

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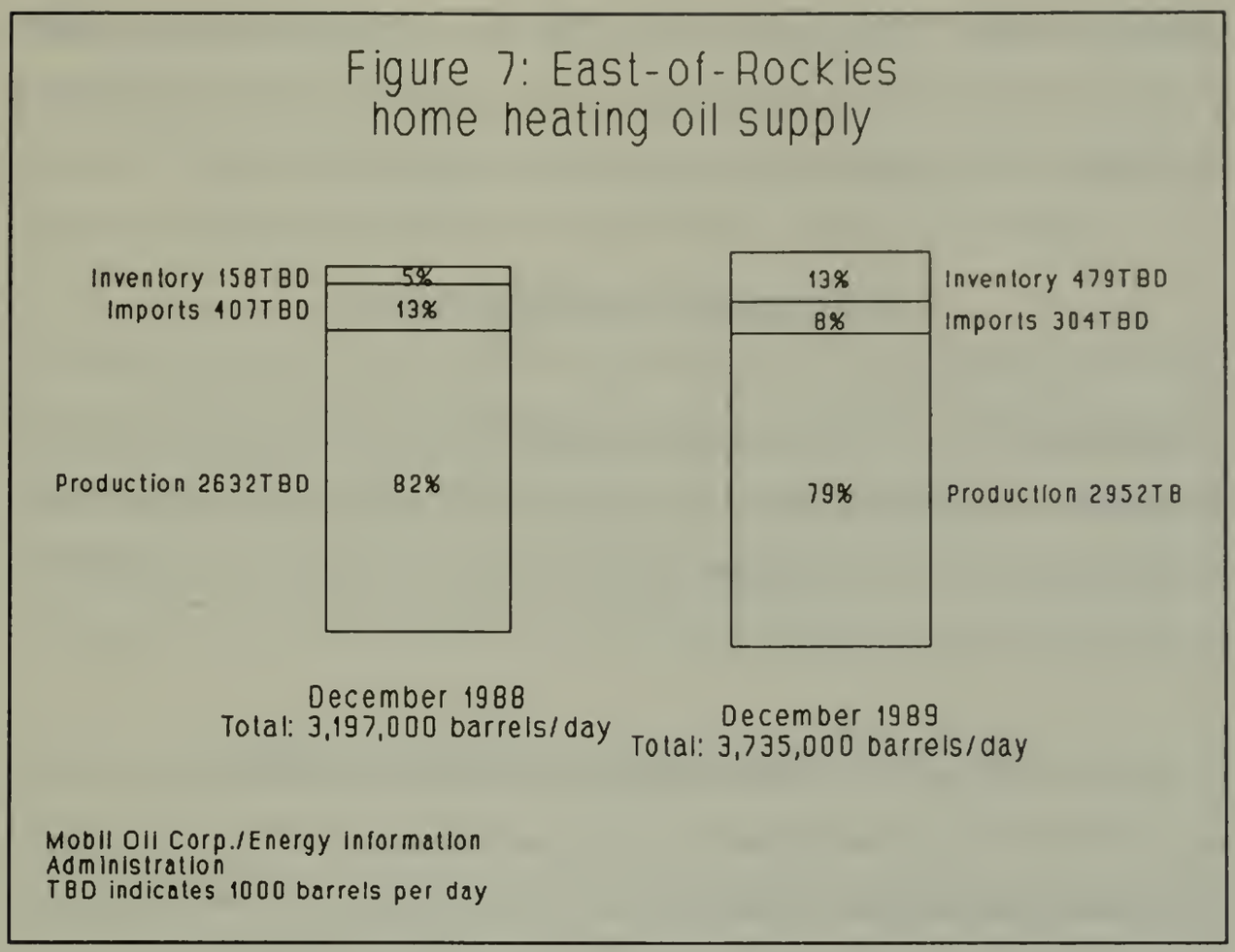
[19] Paul Solman, "Heated Up."



to the oil companies were more than offset by profits on oil from inventories.

While they made substantial profits on their inventories, oil companies provided needed oil to the region. Figure 7: East-of-Rockies home heating oil supply compares the volume of home heating oil provided by refinery production, imports, and inventory "draw" in December 1988 and December 1989. Figure 7 reveals that while refineries increased daily production by 320,000 barrels--or 12 percent--this December, this increase alone could not accommodate the sudden surge in consumer demand.

In order to fill the need for home heating oil, an additional 321,000 barrels of oil were drawn from industry inventories--an increase of over 200 percent from the previous year's inventory draw. As shown in Figure 7, inventory draw accounted for 13 percent of the total volume of oil delivered to consumers in

December 1989--a considerable increase over the 5 percent in December 1988. This rise in inventory draw helped to ease some of the stress created by increased consumer demand and decreased oil imports this winter.

RESPONSES TO THE OIL CRISIS

The problems faced by Massachusetts residents this winter were shared by many throughout the United States. The severity of the oil crisis has provoked widespread calls for investigations into the oil industry and for new legislation to prevent future oil crises.

In response to these calls, the U.S. Justice Department is conducting a review into the need for an investigation of the oil industry, and the U.S. Energy Department has promised a full report on the crisis by June 1990.[20] Meanwhile, federal legislators, including members of the Massachusetts congressional delegation, have called for emergency fuel assistance funds to help those hardest-hit by the oil crisis.

Federal legislation has also been proposed to establish nation-wide regional reserves of refined oil products.[21] Such reserves would act as an emergency source of fuel to alleviate the kind of shortages that New England suffered this winter. In addition, state and federal officials have called for amending the Jones Act to allow for specific defense and consumer emergency waivers.

At the state level, the Massachusetts Joint Committee on Energy held a public

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[20] Solman, "Heated Up."

[21] Testimony of Senator John F. Kerry before the Massachusetts General Court, Joint Committee on Energy (January 16, 1990).

hearing on January 16, 1990, with Governor Michael Dukakis, Energy Commissioner Paul Gromer, members of the oil industry, and others to discuss reasons for the oil crisis and ways to avoid future crises. The Committee expects to issue a report analyzing the oil crisis sometime this spring.

The state's Energy Office, which compiled much of the raw data used in this report, has been monitoring the home heating oil situation. Their activities include daily oversight of wholesale oil prices, weekly surveillance of Massachusetts retail oil prices, and continued communication with other state and federal offices concerned with the oil situation.

LESSONS LEARNED AND RECOMMENDATIONS

The home heating oil crisis this winter was due to a unique combination of factors. Some of these factors--record-low temperatures, the premature onset of winter, and oil refinery disasters--could not have been predicted and cannot be prevented. Other factors such as oil inventory levels and availability of oil-transporting vessels are controllable, however. Without appropriate monitoring of these factors, the experience of December 1989 could be repeated.

The Senate Committee on Post Audit and Oversight therefore makes the following recommendations:

1. The state's Energy Office should work with the U.S. Energy Department to examine the feasibility and risks of a regional oil reserve system.

A system of regional reserves has been suggested by political leaders across the country to alleviate fuel shortages in the future. Over the past several years,

the Massachusetts Energy Office has asked the U.S. Energy Department to establish such a reserve system. However, no action to establish a regional reserve system has occurred at the federal level.

Regional reserves may prove useful in future emergencies, but they raise some difficult questions. For example, who should hold the reserves, when will they be used, and how will they be distributed? If wholesalers are required to hold the reserve oil, who will compensate them for the additional operating and insurance costs? And perhaps most important, what should be the minimum reserve maintained in these inventories?

Even if these questions were answered, regional reserves could create additional problems. One regional oil dealer, speaking at a legislative hearing on home heating oil prices, admitted that wholesalers would be more likely to narrow their own inventories if they knew government oil reserves were available for emergencies. Such a reduction of inventory margins would defeat the original intent of the reserve system.

At the same time, oil consumers may find that prices are not as competitive with a regional reserve system. Oil industry participants would not be able to take full advantage of the futures market if they were required to maintain minimum levels of inventory. This could result in greater risks for the oil industry and higher prices for consumers.

These questions and problems must be considered before a nation-wide regional reserve system can be established. Because of the nature of the oil industry, individual states cannot realistically maintain their own reserve system. It is therefore imperative that the federal government take the initiative in weighing

the costs and benefits of a regional oil reserve system.

2. The federal government should re-examine the procedures for granting waivers to the "Jones Act," particularly in light of emergency situations such as the oil crisis.

The "Jones Act" gives U.S. vessels an advantage over foreign vessels in the business of domestic transportation. However, the Act may produce harmful effects under certain circumstances--effects that the federal government should bear in mind when considering waivers to the Act.

For example, if a city such as Boston needs oil--domestic or foreign--that is sitting in a foreign vessel in another U.S. port, the oil has to be removed from the foreign vessel into a U.S. vessel before it can leave for Boston. This can be a costly and time-consuming process, creating higher oil prices and increasing port congestion.

In addition, all domestically-refined oil must be shipped in U.S. vessels. When demand for and production of domestic oil reach the record levels of this winter, U.S. vessels may not be sufficient in number to transport the oil from refineries to consumers. In such situations, foreign refineries and vessels could enjoy an advantage over their U.S. counterparts.

Furthermore, critics of the Jones Act claim that the waiver process does not work for time-sensitive requests. According to the Wall Street Journal, two foreign ships had to wait five or six days at the peak of the oil crisis before a waiver was ultimately granted; by that time, the ships had already left to pick

up cargoes elsewhere.[22] Shipping companies often cannot afford to wait for waiver approvals, since idle vessels can cost owners $30,000 per day.[23]

In another instance, a Connecticut-based fuel company recounts that it requested a waiver to the Jones Act in order to deliver oil cargo to New York by a contracted due date of January 15, 1990. The Customs Service denied the request, based on the finding that there were enough U.S. ships to handle the cargo. According to the fuel company, no ships were actually available until early February.[24]

The waiver process for the Jones Act was designed to work for national defense purposes, not necessarily to respond to consumer crises. However, federal investigation into the implementation and enforcement of the Jones Act may help to alleviate some of the concerns expressed by consumers, the oil industry, and Energy Department officials alike. Statutory or regulatory changes to the Jones Act may be required in order to alleviate future shortages in shipping vessels.

3. The state should provide continued financial and political support for monitoring oil inventories and prices.

Continued monitoring by the state of oil inventories and prices would help to anticipate shortages or problems in the oil supply. Speaking before the Massachusetts Joint Committee on Energy, representatives from the oil industry have expressed their willingness to provide such information to the state.

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[22] Sullivan, "Maritime Agency Blocked."

[23] Sullivan, "Maritime Agency Blocked."

[24] Sullivan, "Maritime Agency Blocked."

The state entity best able to collect this information is the Massachusetts Energy Office. The Energy Office currently surveys retail heating oil prices, compiles wholesale oil prices and inventory levels, and gathers other relevant information. However, the Energy Office has recently been restructured, experiencing reductions in both funding and staff. Ironically, these changes occurred just before the crisis arose in home heating oil.

If fuel inventories and prices are to be monitored, the state has to provide sufficient financial and political support for these activities. Moreover, since monitoring programs are of little use if they are dismantled immediately after a crisis, the state must maintain continued support for these programs. Without such support, Massachusetts consumers may be at risk for another oil crisis in the future.