# FTC Staff Technical Report (December 21, 2004)

Robustness of the Results in GAO's 2004 Report Concerning Price Effects of Mergers and Concentration Changes in the Petroleum Industry

#### I. Introduction

At the request of Congress, the Government Accountability Office (GAO) undertook a broad study of the effect of mergers and changes in concentration in the petroleum industry. The resulting final report, titled *Effects of Mergers and Market Concentration in the U.S. Petroleum Industry* ("GAO Report" or "Report") was released in May 2004. The Report examined the eight industry mergers between 1994 and 1999. The Report provided 28 estimates of the effects of these mergers on wholesale prices of branded or unbranded gasoline for three gasoline types or specifications—conventional gasoline, reformulated gasoline ("RFG") and California Air Resources Board ("CARB") gasoline. The Report found that most mergers were associated with wholesale price increases, although the results were mixed. In sixteen cases, the Report found a positive and statistically significant price effect ranging from 0.4 to 6.9 cents per gallon ("cpg"). In seven cases, the Report found a negative and statistically significant effect, ranging from about -0.4 to -1.8 cpg. No statistically significant effect was found in the five other cases.

The GAO Report also examines relationships between wholesale price and concentration. The Report generally found positive, statistically significant correlations between Petroleum Administration Defense District ("PADD")-level refinery capacity concentration and wholesale prices. Ten estimates, covering the three fuel types and different geographic regions, were provided, all involved either conventional or RFG gasoline. In seven cases historically observed increases in concentration during the 1990s were associated with wholesale price increases ranging from 0.15 cpg to 1.3 cpg. Increases in concentration were associated with much larger increases in CARB gasoline prices (about 7 cpg for branded gasoline and 8 cpg for unbranded), although this result was less statistically significant than those for the seven estimations for conventional and RFG gasoline. Finally, the Report did not find a statistically significant effect of concentration on prices for unbranded conventional gasoline in the Eastern U.S. (PADDs I, II and III.).

The findings of the GAO Report have been widely interpreted to imply that petroleum mergers and changes in concentration during the 1990s were generally harmful to consumers. Accordingly these findings potentially have important implications for public policy, particularly for antitrust enforcement. However, the weight that any study should be accorded in informing public policy must depend, among other things, on the extent that its findings are robust to methodologically plausible alternative econometric specifications. The purpose of this Technical Report is to assist Conference Panelists by testing the robustness of a baseline model that represents our understanding of the methodology employed in the GAO Report. These robustness checks involve examining the empirical results of alternative approaches to controlling for the many factors affecting gasoline price other than mergers and concentration and with differing assumptions relating to statistical properties of the data. This technical report does not analyze all potentially important robustness checks of the GAO Report's empirical methodology. For example, we do not analyze market definition used in the GAO Report to construct market concentration for its price concentration study, or the endogeniety of concentration.

To undertake this robustness study, FTC staff purchased the same wholesale price data from the Oil Price Information Service (OPIS) that were used by the GAO researchers. We have limited our robustness analyses to the CARB and RFG gasoline specifications for budget reasons. However, these two gasoline specifications are of particular interest due to the frequently voiced concerns about competitive conditions in the sale of gasoline in California and the fact that, in RFG, the GAO Report found a positive and statistically significant price effect in the Exxon/Mobil merger, despite broad, FTC-required divestitures in RFG areas to address antitrust concerns. More importantly, it is possible to explore many important robustness issues with the data for these two gasoline specifications.

Sections II and III of this report describe the data set and modeling issues in establishing the baseline against which our robustness checks will be compared. Our baseline represents our attempt to duplicate the GAO Report's empirical findings.

<sup>&</sup>lt;sup>1</sup>As with the GAO Report, our baseline analyses of RFG includes only RFG with MTBE as an oxygenate and excludes localities using RFG with ethanol as an oxygenate.

To help establish this baseline, we had a series of very helpful exchanges with GAO researchers to understand key decisions made in constructing the data set used in their report and to seek clarification of various technical issues that were not transparent to us in the GAO Report itself. GAO researchers answered our specific questions about the data and methodological decisions and provided us with written documentation to clarify certain issues such as the identification of merger-affected and non-affected terminal racks. Our baseline statistical results, though very close, do not precisely match the corresponding results in the GAO Report itself. There may be various reasons for the difference between our baseline and the results of the GAO Report. For example, construction of a data set for an empirical analysis is a complicated process. Data sources are collected with different frequency (e.g., monthly, weekly, annually) and many data sets are partially incomplete (not all data are available in all time periods). Further, many economic variables are "conceptual" in that they must be created by the researcher and are not simply provided by a data vendor. The authors of the GAO Report probably had to make dozens of different decisions in defining variables, dealing with missing data, and combining data collected with different frequency in constructing the data set used in their merger and price concentration studies. As a practical matter, it would be difficult for any researcher to enumerate or transmit literally every assumption made in the construction or manipulation of a data set. In addition, confidentiality restrictions and agency protocols precluded GAO staff from providing us certain of their data inputs and their programming codes. Subtle differences in our coding and construction of these data may thus also be a source of the differences between our baseline and the GAO Report results.

Section IV discusses and empirically examines identification issues relevant to the empirical methodology used in the GAO Report. In this section, we estimate a difference in difference model for the RFG study. We also vary the assumptions about the timing of merger effects in the CARB study. Finally, we examine whether the findings of the GAO Report are affected by removing all the control variables. The results in the GAO Report are not robust to alternative identification assumptions and the control variables have little effect on the results in the GAO Report.

### II. Baseline: Construction of the Data Set

This section describes our recreation of GAO's data. This data recreation is based on the GAO Report and additional information given to the FTC staff by the GAO staff (see Appendix 1). We also provide some comments on some of the conceptual choices made in the GAO Report regarding the definition of some of the estimation variables.

#### A. Data Sources and Time Period.

We use the same five data sources used in the GAO Report. OPIS is the source for which firms post wholesale prices at given product terminal racks at a point in time and the posted prices. The Department of Energy's Economic Information Agency (EIA) is the source for market concentration, gasoline inventories, refinery utilization, and gasoline consumption data. Information on the timing of mergers comes from either the FTC or Thomson Financial. Inflation indices come from the Economic Report of the President.<sup>2</sup> Analyses of RFG prices are based on data from March 2, 1995 through December 31, 2000, (see GAO Report p. 122). GAO researchers's analysis of CARB gasoline prices uses data from May 16, 1996, though December 31, 2000 (see Report Table 16, p. 134).

#### B. Selection of Terminal Racks

The GAO Report examines the wholesale pricing of gasoline at various racks throughout the United States. Some racks sell a single type of gasoline (for example, conventional or CARB) while other racks offer multiple specifications of gasoline, most often both conventional and RFG. In presenting its regression results (Report Tables 21-28), the GAO Report states the number of rack locations included in each regression and each table corresponds to one of three types of gasoline: CARB, conventional, or RFG. The GAO Report itself does not state which racks are selling a particular specification of gasoline, nor does the Report provide information on how many potential racks were excluded or the reasons why particular racks were excluded. Additional documentation was provided to FTC

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<sup>&</sup>lt;sup>2</sup> See GAO Report Table 13.

staff by the GAO staff contains a list of the rack locations used for the conventional, RFG and CARB analyses (see Appendix 1). GAO staff also told FTC staff that rack locations were omitted from the estimations when there was not a posted weekly price for two or more consecutive weeks for a given formulation.

According to the OPIS data, 28 rack locations reported selling branded RFG gasoline (with MTBE) and 26 rack locations reported selling unbranded RFG gasoline during the sample period. GAO researchers' econometric requirement of a balanced panel implies inclusion only of cities with complete data sets, that is, a reported price for each week in the sample period.<sup>3</sup> This balanced panel requirement results in the exclusion of drop 6 branded and 7 unbranded racks from the GAO Report estimations. The racks dropped from both the branded and unbranded RFG study are: Newark, New Jersey (the primary rack supplying the New York City metropolitan area); Covington, Kentucky (a large rack supplying RFG gasoline to the suburbs of Cincinnati, Ohio located across the Ohio River from Kentucky); Warren, New Jersey; the New York state racks of Long Island, New York, New York City, Mt. Vernon/Westchester; and the Gulf Coast rack in Texas.<sup>4</sup> Consequently, the Report's empirical analysis only examines pricing for a fraction of the RFG cities in the United States.<sup>5</sup>

OPIS reports data at the level of OPIS specific rack locations. In some cases an OPIS rack location corresponds to a metropolitan area, e.g. Louisville; in other cases it corresponds to a city or a set of gasoline terminals in close proximity but possibly located in different cities, e.g. Metro Dallas. For this reason, we shall refer to the OPIS geographic designations as "locations," not cities. Table 1 shows the rack locations for RFG analysis as well as the

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<sup>&</sup>lt;sup>3</sup>If only one week in a sequence was missing, GAO researchers used linear interpolation to generate a price for the missing week. If 2 or more consecutive weeks of data were missing, GAO researchers dropped the rack from its sample.

<sup>&</sup>lt;sup>4</sup>The unbranded RFG rack in Springfield, Massachusetts is also dropped from the study. In addition, because GAO researchers' analysis does not include RFG with ethanol, the Chicago metropolitan area and Milwaukee, Wisconsin are dropped from the analysis.

<sup>&</sup>lt;sup>5</sup>Approximately 1/3 of all RFG is consumed in the areas not included in the Report's analysis. (EIA, Petroleum Marketing Annual, various years, Table 48)

merger overlaps used in the GAO Report. Tables 2 and 3 show the frequency of the number of firms posting at each RFG rack for branded and unbranded gasoline respectively.

OPIS rack locations do not necessarily correspond to distinct economic markets. Many OPIS rack locations are located very close together, and some are certainly located within the same metropolitan area. For example, in the sample of rack locations used in the GAO Report estimations analyzing branded RFG prices, five of the 22 OPIS rack locations are in metropolitan Dallas. One of the OPIS-reported Dallas racks, Dallas Metro, is simply the aggregation of the four local Dallas racks. Thus price observations from the Dallas Metro rack do not add any information to the observations from the four individual Dallas racks included in the data set. If the individual racks in Dallas were actual markets, one of them would be a monopoly most weeks, while a second terminal usually only has three firms posting prices (Tables 2 and 3). Similar to the situation in Dallas, racks in Philadelphia, Pennsylvania and Paulsboro, New Jersey are included as separate observations despite both being located within the Philadelphia metropolitan area (Paulsboro is just across the river from Philadelphia in New Jersey).

Turning to CARB gasoline, OPIS reports on a total of 14 rack locations posting branded and unbranded gasoline prices for CARB gasoline in California. There are complete, balanced panels for 13 cities selling branded gasoline. The GAO report states that it used data from six OPIS rack locations in analyzing branded CARB prices and seven rack-locations in analyzing unbranded CARB prices Table 4a contains a list of all of the CARB racks reporting price data used by in the CARB merger event study in the GAO Report. Table 4b contains a list of the cities not used in the GAO Report in the CARB merger event study but used in our robustness checks.

The OPIS data also include information on various characteristics of gasoline which correspond to different environmental requirements for gasoline. In particular, OPIS records

<sup>&</sup>lt;sup>6</sup>OPIS refers to these racks as: Dallas/Fort Worth, Dallas/Arlington, Dallas/Grapevine, and Dallas/Southlake and Dallas Metro.

<sup>&</sup>lt;sup>7</sup>The only CARB rack not containing a complete (balanced) panel of data during the Report's CARB studies time period is Barstow.

<sup>&</sup>lt;sup>8</sup>See GAO Report, Tables 23 and 28.

whether CARB gasoline contains an oxygenate (MTBE) and the "reid-vapor-pressure" (RVP) of gasoline. Seven of the fourteen racks posting CARB gasoline sell gasoline containing MTBE throughout the year. The other seven racks only sell CARB gasoline with MTBE during the winter months. Thus, every rack location posting CARB gasoline in the winter is selling CARB with MTBE. Environmental regulations also require that gasoline have different minimum RVP depending on the seasons. The RVP of CARB gasoline sold at *every rack* in California changes seasonally. No rack in California sold the same specification of gasoline throughout a calendar year over the sample period.

GAO researchers chose to analyze CARB gasoline prices at racks selling CARB gasoline containing MTBE throughout the year. This decision rule yielded six rack-cities posting a complete panel of CARB prices for branded gasoline (Colton, Imperial, Los Angeles, Sacramento, San Diego, and Stockton) and seven racks posting unbranded CARB gasoline (Barstow, Colton, Imperial, Los Angeles, Sacramento, San Diego, and Stockton).

Dropping from the data set those rack locations that require an oxygenate only for the winter eliminates half of the racks selling CARB in California (Bakersfield, Brisbane, Chico, Eureka, Fresno, San Francisco, San Jose). The excluded racks include those in the San Francisco Bay area, which is a major refining center, with almost 50% of the crude distillation capacity of California refineries that produce CARB gasoline. The San Francisco refiners are also an important source of supply of gasoline for southern California. As discussed in more detail below, inclusion of the omitted racks in the estimation significantly changes the results from our baseline estimate for the Tosco-Unocal merger.

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<sup>&</sup>lt;sup>9</sup> Reid-vapor-pressure ("RVP") is a measure of a gasoline's rate of evaporation. Because air temperatures are warmer during the summer, a different chemical blend is required to lower the evaporation rate to maintain air quality standards.

<sup>&</sup>lt;sup>10</sup>Prior to their merger, Tosco and Unocal both owned and operated refineries in the San Francisco Bay area. Tosco also owned and operated a refinery in Southern California.

# C. Variable Definitions and Frequency of Data

# 1. Dependent Variable.

The dependent variable in the GAO Report's merger and concentration estimations is defined to be the difference between the rack wholesale gasoline price and the spot price of West Texas Intermediate ("WTI") crude oil. In effect, this is a measure of the gross wholesale margin on gasoline sales. At any point in time, many firms are posting prices at the rack for a variety of types of gasoline, e.g., premium, diesel, or reformulated. GAO researchers reported "(w)e used the average rack prices at the rack cities...", and Table 14 of the GAO Report states that the rack price is observed weekly. However, the GAO Report does not state how the average is calculated, e.g., is this the average calculated over all firms posting a branded (unbranded) price on a given day, or all firms posting a branded (unbranded) price in a given week. After discussions with OPIS, it became clear to FTC staff that GAO researchers had purchased the OPIS' weekly rack price report. According to OPIS, the weekly OPIS rack price report is not the average weekly price of branded and unbranded price of gasoline at the rack but the closing average price as of the Thursday in a given week; that is, the price is a *daily* price observed weekly.

GAO researchers deflated the wholesale margin by an annual price index. It is often appropriate to deflate time series data to take into account the potential impact of inflation. Typically, this would be done with a broad-based measure of inflation, such as the consumer price index (CPI), producer price index (PPI), or gross domestic product (GDP) deflator. In the context of this study, one may want to deflate the price difference between gasoline and crude oil prices to take into account changes in the cost of inputs other than crude oil prices. If the prices of these other inputs increase with inflation, firms may increase their gross margins to cover the increased input costs. The GAO researchers deflated the prices in their study using the Finished Goods Energy PPI sub-series. This series is much more volatile than the overall measures of inflation. For example, between 1999 and 2000, the Finished Goods Energy PPI increased 19.4 percent, while the overall PPI only increased by 1.8

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<sup>&</sup>lt;sup>11</sup> Page 113, GAO Report.

percent.<sup>12</sup> In effect, use of this specific PPI deflator introduces the volatility of crude oil prices into the dependent variable. In section three of this report we test the sensitivity of using the Finished Goods Energy PPI as the deflator relative to the CPI.

# 2. Competition Variables.

## a. Merger Variables

The GAO Report assigns merger indicator variables that define the rack locations affected by particular mergers.<sup>13</sup> The specific rule by which GAO researchers defined a competitive overlap was supplied to the FTC staff:

A merger was assumed to affect a rack city if at the time of the merger both merging companies had posted gasoline prices for any formulation (conventional, RFG, or CARB) at the rack for at least 52 weeks immediately prior to the merger. The merger-affected rack city for each gasoline formulation was then identified, based on data availability. Then, for each gasoline formulation, the gasoline type (branded or unbranded) was also identified, based on data availability. (GAO staff communication, November 9, 2004).

Two firms are thus defined as competing at a rack if both firms post *any* form of gasoline price at *either* the branded or unbranded rack at any time in the year before the merger. For example, if Firm A sold only conventional gasoline at the unbranded rack in Houston and Firm B sold only RFG gasoline at the branded rack in Houston, the two firms would be defined as competing in Houston. Table 1 presents the rack locations used in the GAO Report RFG study and which cities GAO researchers treated as affected by which mergers.<sup>14</sup>

<sup>&</sup>lt;sup>12</sup>See Table B-66, Economic Report of the President 2004, p. 361.

<sup>&</sup>lt;sup>13</sup> The merger dummies are defined on pp. 124-125 and are described in Tables 14 and 15 of the *GAO Report*.

<sup>&</sup>lt;sup>14</sup>This decision rule may lead to misclassification in situations where firms participate in a region but do not post rack prices because they supply lessee retail dealers on a delivered tankwagon basis, sell gasoline at refinery gates under bulk contracts or own and operate retail outlets themselves. Thus they are selling gasoline in an area at retail but not at the rack. In addition, the GAO researchers are not consistent in how the deal with markets where the FTC required a divestiture following the merger. For example, the FTC required Exxon and Mobil to completely divest one of the merging firms branded marketing assets in the region corresponding to each rack included in the RFG

The merger variables are defined as indicator variables equal to 0 for the period before the merger is consummated, and equal to 1 for the period after the merger is consummated for those rack locations classified by GAO researchers as being affected by a merger. For example, the Marathon-Ashland indicator is equal to 0 prior to the joint venture (December 31, 1997) and 1 from the first observation in 1998 (January 5, 1998) through the end of the sample period (December 31, 2000) for those racks affected by the joint venture. <sup>15</sup>

The merger indicator variable for each merger is the same for the separate branded and unbranded estimations. The GAO Report estimates effects of mergers on wholesale margins separately for branded and unbranded gasoline. This approach might be justified because mergers in differentiated product markets can have different effects on different products. Many consumers view branded gasoline as superior to unbranded gasoline thus allowing branded sellers to charge some brand premium. An anticompetitive merger between two important brands might lead to a larger price increase for branded products than unbranded products. A merger of two substitutes leads to higher prices among products that are close (as opposed to distant) substitutes, see, e.g., Hausman et al. (1994)).

A reader of the GAO Report might then assume that merger effects for branded (unbranded) gasoline were estimated in rack cities where *both* of the merging parties sold

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study where Exxon-Mobil both posted prior to the merger, and as a result Exxon and Mobil did not merge their branded wholesale distribution assets in the RFG regions where they overlapped. GAO researchers however defined these racks locations as affected by the Exxon-Mobil merger. Exxon-Mobil was also required to divest one firms branded marketing assets and a refinery in California: the GAO Report however did not identify *any* rack in California as being affected by the Exxon-Mobil merger. This apparent absence of competitive overlap reflects the relative thinness of posted rack sales on the West Coast and differences in Exxon's and Mobil's marketing operations.

The type of fuel specification sold may also limit which firms participate in a market. RFG and conventional gasoline are different products. Refineries may need to invest significant resources to upgrade their plants to produce RFG gasoline. Refineries that produce RFG gasoline, however, typically also produce conventional gasoline. In contrast, some refiners producing conventional gasoline do not produce RFG gasoline. Thus, simply observing a firm posting a price for conventional gasoline at a rack location that posts RFG gasoline prices does not imply that that firm can also supply RFG gasoline at that rack. GAO researchers categorizes Total/UDS as competing at the Dallas Metro rack (although neither firm posts at the same rack in Dallas). According to OPIS data, however, during the sample period Total never sold RFG gasoline in the United States. However, as shown on Table 1,GAO researchers had an overlap between Total and UDS in RFG.

<sup>&</sup>lt;sup>15</sup>For a description of what assets were involved in each transaction examined in the RFG and CARB studies see Appendix 2.

branded (or unbranded) gasoline.<sup>16</sup> This assumption would not be correct. More often than not refiners typically post gasoline prices at either the branded rack or the unbranded rack, not both. An inspection of the OPIS data shows large differences in the merging firms' participation at the branded and unbranded racks, see Tables 5 and 6. Shell never posted unbranded prices for CARB or RFG gasoline in the relevant rack locations during the sample period. Mobil, Texaco, Total and Amoco *never* sold unbranded RFG gasoline in the rack cities included in the analysis. Total and Ashland *never* sold branded RFG gasoline in the included rack cities. Marathon posted branded RFG gasoline prices at only one rack in the GAO Report (Louisville).<sup>17</sup>

#### b. Concentration Measure

Refinery crude oil distillation capacity data from the Energy Information Administration (EIA) are the basis of concentration measures. These data are used to

<sup>16</sup>Exxon and Mobil, Shell and Texaco, and BP and Amoco *never* both sold unbranded RFG gasoline at the same rack. Thus, it would be impossible to estimate merger effects at the unbranded rack unless GAO researchers defined competition to include posting at either the branded or unbranded rack.

During the sample period of the GAO Report, Shell, for example, had a large number of gas stations in Los Angeles, San Diego, San Jose, and near the rack in Brisbane (north of San Francisco's airport) and did not post branded or unbranded gasoline prices at these racks. According to OPIS's station-specific retail pricing data, in the year prior to the Shell-Texaco merger there were 332 Shell stations in the Los Angeles metropolitan area (of 832 total stations in the OPIS data set) with 86 of these stations in the city of Los Angeles itself. In the OPIS sample corresponding to the San Diego metropolitan area there are 83 Shell stations (of 282 total stations) with 43 stations located in the city of San Diego. Finally, in the OPIS sample for the San Francisco metropolitan area, Shell has 340 stations (of 551 total stations). San Jose and South San Francisco (the city closest to the Brisbane Rack) are both included in OPIS's data for metropolitan San Francisco. There are 28 stations in OPIS data set for San Jose and 6 for South San Francisco. Shell was is a major participant in supplying gasoline to these regions. Similarly, Texaco was an important participant in Stockton. In the year prior to the merger 6 of the 25 gasoline stations reporting data in the OPIS sample were Texaco stations (10 were Shell stations).

In analyzing the effect of the Shell/Texaco joint venture in California, GAO researchers concluded that Shell and Texaco did not compete in Los Angeles and San Diego because only Texaco (and not Shell) posted at these racks. Similarly, GAO researchers did not classify Stockton as affected by the Shell/Texaco joint venture because only Shell posted prices at the Stockton rack. The information from OPIS shows, Shell and Texaco supplied gasoline in every region analyzed in the Report's branded CARB study. We conclude that the GAO Report incorrectly classified the Los Angeles, San Diego, and Stockton rack locations as being unaffected by the Shell-Texaco I joint venture.

<sup>&</sup>lt;sup>17</sup>The GAO Report's focus on rack overlaps does not account for other methods of distributing of gasoline. As discussed earlier, rack overlaps will not capture where refiners participate in a region without posting prices at a rack. Distribution through means other than rack sales is particularly important in California. The method of gasoline distribution varies dramatically throughout the U.S. In California only 18% of gasoline is sold at either the branded or unbranded rack (See EIA 2003 California Gasoline Price Study, Figure 6-2, p. 43).

calculate annual, PADD level concentration in refinery capacity. These annual data are available from the EIA website for 1994, 1995, 1997, and 1999-2004. The data are a snapshot of distillation capacity as of January 1st of each year. No data are available for 1996 and 1998. The GAO Report researchers estimated concentration for 1996 and 1998 by averaging the concentration in those years adjacent to the missing year. Based on the HHIs report for the year 2000 reported in GAO Report Figures 13-17 and accompanying text, the GAO researchers used data for operable total crude oil distillation capacity per calendar day. GAO researchers appeared to correct for some (but not all) refineries that are owned by the same company but are listed by EIA with different names or are part of joint ventures.

However, it appears that several joint ventures remain unaccounted for: Chalmette Refining LLC was treated as its own company, even though it is a joint venture between ExxonMobil and PDVSA, which also owns Citgo. Similarly, Lyondell Citgo Refining is a joint venture between Lyondell and Citgo, and Deer Park Refining is a joint venture between Shell and PEMEX, yet each of these apparently were treated as an independent firm. It also appears that the Shell Chemical refineries were assumed to be separate from Shell, and later Shell's joint venture with Texaco and Saudi Aramco. Finally, the GAO researchers apparently did not take into account that the Exxon Refinery in PADD V was being operated under a "hold-separate" agreement in 2000 pending the FTC's required divestiture of Exxon's California assets, which were purchased by Valero. Since the HHIs for all weeks in 2000 are based on the refinery ownership as of January 1st, the GAO researchers treated the

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<sup>18</sup> http://www.eia.doe.gov/oil gas/petroleum/data publications/refinery capacity data/refcapacity.html

<sup>&</sup>lt;sup>19</sup> EIA provides data for total capacity, operating capacity, and idle capacity. EIA also provides capacity data by stream day (the capacity for a single day) and by calendar day (the annual capacity divided by 365, which takes into account factors such as downtime for maintenance).

 $<sup>^{20}</sup>$  GAO staff gave additional information about the HHI calculations as shown in Appendix X, but were unable to share their HHI calculations.

<sup>&</sup>lt;sup>21</sup> In the FTC merger report, joint ventures between firms with other refining assets are divided between the owners based on ownership share of the joint venture, while joint ventures with a parent without other domestic operations are attributed to the parent with domestic operations. Therefore, the Deer Park Refining joint venture is attributed to Shell, while Chalmette Refining is split between Mobil (later Exxon Mobil) and PDVSA. The GAO researchers appear to treat these joint ventures as individual companies.

former Exxon and the ExxonMobil refinery as being under common ownership for the entire year.

Table 7 shows the concentration measures based on our understanding of how the GAO researchers calculated HHI for their report. The table also shows concentration corrected for the joint venture ownerships discussed above. Correcting the ownership of the refineries mentioned above changes the concentration levels for PADD II in 1995 and 1997, and PADD III for all the years with data.

Concentration may also be based on operating capacity instead of operable capacity as defined by EIA, and this measure is also shown in Table 7. The difference between the concentration measures based on total operable and operating capacity is that refineries that have crude distillation units which are not being used, in this case asphalt refineries, are not counted in operating capacity. Asphalt plants do not make gasoline. In the next section we test whether price-concentration relationships are sensitive to these three HHI measures.

#### 3. Control Variables

The GAO researchers used a number of variables to control for factors that affect gasoline prices over time but are not related to mergers or concentration.<sup>22</sup> Like the concentration measure, none of these variables are measured at the rack location level. The capacity utilization and the variables for specific supply disruptions are fairly straightforward. The third variable, Inventories Ratio, is an important control in the Report's estimations.<sup>23</sup> We begin this section with a detailed discussion of the creation of the Inventories Ratio variable and conclude with a brief description of the capacity utilization and supply disruption variables.

Inventories Ratio variable is designed to measure the ratio of realized gasoline

<sup>22</sup>In its econometric model (see Section III), the GAO Report also includes rack-location fixed-effects to control for differences in the price levels across locations.

<sup>&</sup>lt;sup>23</sup> See, for example, p. 147 of the GAO report, where GAO claims that this variable controls for seasonality. However, there are also seasonal impacts based on the extra cost of producing gasoline to meet more stringent summer specifications. These costs would not be captured by GAO inventory ratio.

inventories to expected demand. The Inventories Ratio is a key control variable in the GAO Report's analysis of gasoline markets. According to the GAO Report, this variable should control for factors that cause wholesale gasoline prices (net of crude costs) to change over time, including seasonality effects.<sup>24</sup>

The construction of this variable is involved. According to the GAO Report, the variable was created as follows:

Gasoline inventories were normalized using the PADD mean over the sample period. The demand for wholesale gasoline was based on prime suppliers' sales of total regular gasoline in each state. We used an approach similar to the Borenstein and Shepard's (1996b) study to estimate the demand for gasoline. A simplified demand equation, in reduced form, for each state was obtained using the following regression equation:

$$\begin{aligned} \text{NVOLUME}_{t} &= \mathbf{a}_{0} + \mathbf{a}_{1} \text{NVOLUME}_{t-1} + \sum \mathbf{b}_{j} \text{MONTH}_{j} \\ &+ \mathbf{a}_{2} \text{TREND}_{t} + \mathbf{a}_{3} \text{TREND SQUARED} + \mathbf{e}_{t} \end{aligned}$$

where t=time (monthly), j=2,..., 12. NVOLUME is the normalized monthly demand for gasoline in each state---prime suppliers' sales of gasoline in each state divided by the state mean over the sample period. The data for prime suppliers' sales was obtained from the EIA. Month<sub>j</sub> is a monthly dummy variable, and Trend and TREND\_SQUARED are time trend and square of time trend, respectively. The R<sup>2</sup> of these predicting equations varied between 0.50 and 0.96. The expected demand is the fitted values from estimating the regression equation above because it is assumed that suppliers' (sic) form their expectations of next-period demand based on current and past sales volumes observed in their markets. The expected demands for the states were aggregated to the PADD level to match the data for inventories.<sup>25</sup>

Appendix 1 offers additional information about the construction of the Inventories Ratio variable which was supplied to FTC staff. We now describe our recreation of the Inventories Ratio variable based on this understanding.

The Inventories Ratio is a function of two variables: gasoline inventories and expected gasoline consumption. Weekly inventory levels at the PADD level are reported by

<sup>25</sup> GAO report, page 121, footnote d to Table 13.

<sup>&</sup>lt;sup>24</sup>See page 197 section b, GAO report.

EIA and include all types of gasoline (e.g., conventional, RFG, premium, and regular octane). The consumption data are reported monthly by EIA at the state level.<sup>26</sup>

The inventories ratio is defined as the ratio of "one period lagged levels of normalized gasoline inventories" to expected demand as in the equation below:

$$Inventories \ Ratio_{pt} = \frac{\widehat{I}_{pt}}{\widehat{V}_{pm}}$$

Where  $\tilde{I}_{pr}$  is the gasoline inventory in PADD p in week t-1 divided by the average PADD level inventory over the entire sample period, and  $\hat{V}_{pm}$  is the predicted normalized level of gasoline volume (consumption) in PADD p in month m. While the GAO Report does not state how the *weekly* inventory data and *monthly* consumption data are combined, GAO staff informed us that the monthly number was used for every week within the month. In other words, the level of  $\hat{V}_{pm}$  used to construct the Inventories Ratio is constant within a month.

The predicted volume of gasoline in month m in PADD p,  $\hat{V}_{pm}$ , is derived from the following estimating equation (1) using *state* level gasoline consumption data:

(1) 
$$\tilde{V}_{sm} = a_0 + a_1 \tilde{V}_{s,m-1} + \sum_j b_j Month_j + a_2 Trend_m + a_3 (Trend)^2 + e_m$$

Where  $\tilde{V}_{sm}$  is the volume of gasoline sold in state s in month m divided by the average volume of gasoline sold during the sample period in state s,  $\tilde{V}_{s,m-1}$  is the one month lag of  $\tilde{V}_{sm}$ , Month, are month indicators, Trend, is a monthly time trend, and  $e_m$  is a disturbance. It appears, and we assume, that equation (1) is estimated separately by state since the GAO

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<sup>&</sup>lt;sup>26</sup> EIA consumption data used is derived from EIA's "prime supplier data" and measures consumption for regular gasoline only, excluding mid and premium octane grades.

Report informs that "(t)he expected demands for the states were aggregated to the PADD Level to match the data for Inventories."<sup>27</sup>

While the GAO Report does not exactly spell out how the (normalized) expected demands from states aggregated to the PADD level to match the (normalized) Inventory data, GAO staff told us that the expected PADD volumes are defined to have a mean of 1 (similar to the mean reported in Table 19, page 140). For purposes of establishing our baseline model, we therefore construct the PADD level expected volumes as:

$$\hat{\tilde{V}}_{pm} = \frac{\sum_{s} V_{sm}}{\text{Number of States in PADD p}},$$

where  $\hat{\tilde{V}}_{sm}$  is the predicted (scaled) volume in state s in month p.

Turning to the other two control variables, GAO researchers used a national measure of weekly refinery capacity utilization as a measure of gasoline supply. These weekly capacity utilization data are directly available from EIA. In describing the use of this variable, GAO researchers stated that, "(a)lthough the data for UTILIZATION RATES are available only at the national level and do not allow us to control for differences in utilization rates across the United States, the data are still useful because gasoline is mostly fungible, especially in the eastern part of the U.S."<sup>28</sup> We adopt this variable in our baseline model.

Finally, GAO researchers appropriately noted that short term supply disruptions can

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<sup>&</sup>lt;sup>27</sup> See page 121 GAO Report, last sentence of footnote d in Table 13.

<sup>&</sup>lt;sup>28</sup> GAO Report, p. 115. While there is certainly some validity to this statement, refiners in the Gulf region (PADD III) of the U.S. ship considerable amounts of gasoline to the PADDs I and II, it is at odds with the use of other variables in the report. For example, the key control variable relates *PADD* level inventories and consumption (Inventories Ratio) to rack location gasoline pricing, suggesting that the distinctions between PADD level capacity utilization and national capacity utilization are indeed important. The argument that gasoline is fungible across PADD's is in tension with using PADD level concentration measures.

Further, at least in the short run, it is not clear that gasoline is fungible across the United States. States have responded to EPA air quality requirements by creating literally dozens of fuel specifications, so called "boutique fuels." Because of the different boutique fuel specifications, it is often not possible to ship gasoline between contiguous geographic areas in response to supply disruptions. The GAO Report's separate estimations for different gasoline specifications itself reflects the important differences in gasoline specifications (and potential lack of fungibility of fuel types). The Report estimated price effects resulting from mergers and concentration differ substantially depending on fuel type (see tables 21-28).

dramatically affect gasoline prices. To control for these outages they constructed indicator variables for rack cities affected by supply disruptions during a defined time period. For the RFG estimations we examine below, the GAO researchers defined a variable, "MW Crisis", to "account for supply disruptions that occurred in the Midwest in June 2000." This variable is defined to equal to one during June, 2000 for cities in PADD II. (Louisville is the only rack location in the Report posting RFG-MTBE gasoline in PADD II.) For the CARB estimations, the GAO researchers created a single indicator variable to account for three separate supply shocks 1999 and 2000.

We adopt these disruptions variable definitions in our baseline model. However, as discussed in more detail below, we consider some alternatives as part of our robustness checks. Specifically, the supply shock in the Midwest lasted longer than one month and affected the entire eastern half of the U.S. (PADDs I, II, and III). <sup>30</sup> We also consider how the CARB estimation results are affected by controlling for the three West Coast supply shocks with three separate indicator variables.

#### III. Baseline Econometric Model

In this section we present our baseline model, which represents our attempt to duplicate the GAO Report's statistical methodology. We have focused our attention on the GAO Report's RFG (branded and unbranded) merger event studies and price concentration studies and the CARB branded gasoline merger event studies because they do not require analysis of the GAO Report's instrumental variables estimator.<sup>31</sup> GAO researchers used a very similar econometric model for estimating both the effects of mergers and of

<sup>&</sup>lt;sup>29</sup> GAO report, page 115.

<sup>&</sup>lt;sup>30</sup> RFG phase II which went into effect in January 2000 affected the entire United States not just PADD II as stated in the GAO report.

<sup>&</sup>lt;sup>31</sup>The GAO Report's instrumental variables estimator involved modification of the STATA procedure used to estimate the GAO Report's empirical results. The resources required to duplicate the instrumental variables technique developed by GAO researchers are beyond the scope of the current study.

concentration on branded and unbranded rack RFG gasoline prices.<sup>32</sup> We begin by describing the baseline model on merger effects.

# A. Merger Effects Model

Wholesale gasoline prices net of crude prices are modeled as a function of merger indicators, Inventories Ratio, Utilization Rates, and indicator variables for supply shocks affecting either the Midwest or California. Equation (2a) and equation (2b) are used to estimate the merger effects for RFG and CARB gasoline, respectively.

$$\begin{aligned} \text{(2a) (Rack Price}_{it} - \text{WTI}_t) &= \alpha_0 + \alpha_{1,1} \left( \text{UDS-Total} \right)_{it} + \alpha_{1,2} \left( \text{Marathon-Ashland} \right)_{it} \\ &+ \alpha_{1,3} \left( \text{Shell-Texaco II} \right)_{it} + \alpha_{1,4} \left( \text{Bp-Amoco} \right)_{it} \\ &+ \alpha_{1,5} \left( \text{Exxon-Mobil} \right)_{it} + \alpha_2 \text{Inventories Ratio}_{jt} \\ &+ \alpha_3 \text{Utilization Rates}_t + \alpha_4 \text{MWCrisis}_{it} + u_{it} \end{aligned}$$

(2b) 
$$(\text{Rack Price}_{it} - \text{WTI}_t) = \gamma_0 + \gamma_{1,1} (\text{Shell} - \text{Texaco I})_{it} + \gamma_{1,2} (\text{Tosco} - \text{Unocal})_{it} + \gamma_2 \text{Inventories Ratio}_{jt} + \gamma_3 \text{Utilization Rates}_t + \gamma_4 \text{WCCrisis}_{it} + \upsilon_{it}$$

As noted in the previous section, some of the variables in equation (3) are observed at different levels of geographic aggregation. The rack price of gasoline (Rack Price) is a daily price observed weekly (t) for each rack (i) posting either RFG or CARB gasoline prices, the price of crude oil (WTI) and national refinery utilization rates are observed nationally each week (t), the Inventories Ratio is reported at the PADD level (j=1, 2, 3 for RFG, j=5 for CARB) each week (t), the Midwest Crisis and West Coast indicators correspond to discrete time periods, and the merger indicators (UDS-Total, Marathon-Ashland, Shell-Texaco II, BP-Amoco, and Exxon-Mobil for the RFG study, Tosco-Unocal and Shell-Texaco I for CARB) are equal to one in racks affected by a merger after the merger consummation dates designated in the GAO Report.

<sup>32</sup> See GAO Report at 122-128.

It is important to note how merger effects are identified in this specification. Merger effects are defined as the difference in price post-merger in a city affected by a merger and the price in cities unaffected by a merger (pre- and post-merger) and in cities affected by a merger pre-merger, holding other factors constant (i.e., Inventories Ratio, Utilization Rates, and MW or WC shock variables). For example, other factors held constant, the effect of the UDS-Total merger in equation (3a) is defined as the difference in price in rack locations affected by UDS-Total post-merger relative to prices in rack locations affected by UDS-Total pre-merger and rack locations unaffected by the UDS-Total merger pre- and post-merger. Following GAO researchers, the model used rack location fixed effects, which are implemented by "demeaning the data by rack location (i.e. transforming the data into mean-deviations)".<sup>33</sup>

GAO staff estimated the branded and unbranded RFG and branded CARB merger event studies using the XTGLS procedure in STATA. The XTGLS procedure is used to estimate feasible GLS models using panel data. There are many different types of feasible GLS estimators that can be estimated by XTGLS. The model specified in the GAO Report uses a GLS estimator that accounts for a common (single) autocorrelation coefficient for all racks (Corr(ar1)), a separate error variance for each rack, and a covariance between each set of racks (these last two options are implemented by "Panels(Correlated)." All of these options appear to be consistent with gasoline pricing. The error term in equation (3) is highly autocorrelated. Table 22 of the GAO Report (which shows RFG merger effect results) reports an autocorrelation coefficient of 0.84. Second, it seems reasonable to expect that the error term in equation (3) may be heteroskedastic across cities. Finally, the error term in equation (3) is likely to be correlated across cities at a point in time. Following the GAO Report, this is the approach used in our baseline model.

While we agree that the disturbance in equation (2a) and (2b) is autocorrelated, has a different variance in different racks, and is likely correlated across racks at a point in time, it is unclear how best to use this information in estimating the price effects of mergers. If the basic model being estimated is misspecified, which almost surely is the case since it is a

<sup>&</sup>lt;sup>33</sup> GAO report, page 126, GAO staff and FTC staff meeting.

reduced form rather than structural estimating equation, re-weighting the data using a GLS estimator could exacerbate model misspecification.<sup>34</sup> As discussed in further detail below, we show that the baseline models estimations of RFG and CARB price effects are indeed very sensitive to the GLS modeling assumptions used.<sup>35</sup>

# B. Price Concentration Study

Our baseline specification of the price concentration regressions is essentially the same as those for the merger effects. The only substantive difference is the substitution of an annual PADD-level measure of concentration ( $HHI_{jT}$ ) for the merger indicators as shown in equation (4) below.

(3) (Rack Price<sub>it</sub> - WTI<sub>t</sub>) = 
$$\beta_0 + \beta_1 HHI_{jt} + \beta_2 Inventories Ratio_{jt} + \beta_3 Utilization Ratest +  $\beta_4 MW Crisis_{it} + s_{it}$$$

Geographic, time, and aggregation units differ across variables in equation (4). Rack Price varies by rack location i and week t; WTI is a national crude oil price measured weekly; concentration (HHI) is measured *annually* (T = 1995, 1996, 1997, 1998, 1999, 2000) by PADD (j = 1, 2, 3); Inventories Ratio is measured weekly by PADD (j = 1, 2, 3); Utilization Rates is measured nationally by week; and the MW Crisis indicator is equal to 1 for four weeks in June 2000 for one RFG city, Louisville, Kentucky.

The statistical issues in estimating the price-concentration regression are similar to

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<sup>&</sup>lt;sup>34</sup> See, e.g., Dickens (1990).

The fourth issue that GAO researchers confronted is that a rack location's price, Inventories Ratio and Utilization Rate may be jointly determined: variables meant to control for changes to supply and demand (Inventories Ratio, Utilization Rate) may be determined (in part) by rack prices. We have been unable to determine how the GAO researchers implemented its instrumental variables (IV) estimator. Footnote 37 of the GAO report (at 128, n.37) provides the only reference to the Report's correction for the endogeneity of the Inventories Ratio and Utilization Rate variables while also controlling for autocorrelation, heteroskedasticity across rack cites, and contemporaneous correlations between rack cities. In including all four corrections, GAO researchers rewrote some of the STATA code. Because we do not adequately know what procedure GAO researchers used and because GAO researchers were unable to share with us their modified STATA programs used to estimate their IV models, we have refrained from attempting to construct and test corresponding baseline IV specifications. Because GAO researchers found that the Inventories Ratio and Utilization Rate variables are not endogenous in the branded and unbranded RFG and branded CARB equations, and as a result used models not requiring instruments, we concern ourselves only with constructing and testing baselines for those gasoline types.

the merger-effects regression equation from (3). Based on the GAO report and subsequent discussions with GAO staff, our baseline equation (4) for RFG gasoline uses the STATA XTGLS procedure controlling for (i) heteroskedasticity across groups, (ii) contemporaneous correlation between groups, and (iii) a common autocorrelation correction. Below, we explore the robustness of the baseline specifications (3) and (4) to inclusion of additional control variables and to different specifications of the XTGLS GLS estimator. As noted above, EIA did not report information necessary to calculate the HHI for 1996 and 1998. Following GAO researchers, we deal with this problem by linearly interpolating missing HHI data for 1996 and 1998. The sample period for RFG is 1995 to 2000 and 1996 to 2000 for CARB gasoline.

# IV. Robustness of the Baseline Results - Alternative Estimation Assumptions and Additional Control Variables

#### A. Introduction

In this section of the study we examine the robustness of our baseline models' results for the RFG and CARB merger event studies and the RFG price concentration relationship. This section is structured as follows. We begin by discussing our baseline results and examining the robustness of the RFG merger event study. The next section describes our baseline results and robustness checks for the CARB merger event study. The last section discusses our baseline results and robustness checks on the price-concentration study for RFG gasoline

# B. RFG Merger Effects

All of the tables estimating merger effects (and the relationship between price concentration) share the same format, see, e.g., Table 8. Column 1 produces the estimates from the GAO report relevant to the robustness test being considered (here the GAO merger

event study for branded RFG),<sup>36</sup> column 2 presents our baseline results (which correspond to the GAO estimates), and the additional columns represent various robustness tests of the baseline model (here examining how the results change relative to the baseline when the model is estimated using different feasible GLS estimators). The bottom panel of the table describes the chosen options in STATA's XTGLS for the regression results reported in a given column. For the baseline model, these options include a common autocorrelation coefficient (Correction for autocorrelation=yes) the option "panels: correlated=yes," and the estimation technique does not use iterated GLS (iterated GLS=no).

We begin by estimating the baseline model for branded gasoline (results in Table 8). The results of our baseline (column 2) are quite similar to the GAO Report's estimates (column 1). All of the estimated coefficients from our baseline are of the same sign and order of magnitude as those reported in the GAO report. It is likely that the differences result from subtle differences in how we and the GAO researchers defined variables, dealt with missing data, and combined data measured with different frequency.

The other columns of the table show how the estimates change from the baseline when different forms of the GLS estimator are used. The columns to the right of the baseline column in Table 8 represent different GLS estimators that can be used in the STATA procedure XTGLS. Recall that a GLS estimator is used to generate more efficient estimates than OLS. The idea behind the GLS estimator is that if the form of model heteroskedasticity is known or can be estimated, this information can be used to reweigh the data used in the estimation procedure to obtain better (lower variance) estimates compared to OLS. While the parameter estimates coming from a GLS procedure will somewhat differ from OLS, the estimates should all be similar. That is, under the maintained hypothesis that the baseline model specification estimates are unbiased, all of the GLS estimators (and the OLS estimator) are unbiased. All of the estimates in Table 8 use some version of a GLS estimator (i.e., the correction for autocorrelation is a version of a GLS estimator).

Table 8 shows that the estimated merger effects change dramatically compared to the baseline depending on the GLS estimator used. In particular the regressions of columns 3, 4, and 5 yield much larger price effects (in absolute value) for the Exxon-Mobil,

<sup>&</sup>lt;sup>36</sup> GAO report, page 142, table 22, column 2.

Marathon-Ashland, Shell-Texaco, and Total-UDS mergers than the regressions shown in remaining columns in the table. The difference between columns 3, 4, and 5 and the rest of the table is the use of the "panels=correlated" option. The fact that the parameter estimates change strongly suggests that the different weighting assumptions implicit in the two GLS estimators are empirically important. In essence, this can be viewed as a model specification test. The change in parameter estimates resulting from different weight matrices suggests that the data generating process is different for different observations.

Table 9 presents the corresponding results for unbranded RFG. Our baseline results are again quite similar to those reported in the GAO report. All estimated coefficients have the same sign, are of the same order of magnitude, and (with the exception of the coefficient corresponding to the Exxon-Mobil merger) are quantitatively very similar.

The results for the robustness analysis (examining different GLS estimators) are also qualitatively similar to those in Table 8. The use of the "panels=correlated" (columns 2, 6, 7, and 8) yields much smaller merger effects than models not using this option (columns 3, 4, and 5). The finding that the different types of GLS estimators result in very different parameter estimates again strongly suggests that our baseline econometric specification may be misspecified.

Table 10 (branded RFG) and Table 11 (unbranded RFG) present the results of additional robustness tests. First, we consider if the inclusion of controls for seasonality and supply shocks affect wholesale margins even after controlling for these factors through Inventory Ratio and Capacity Utilization variables.<sup>37</sup> Second, we examine if baseline results are sensitive to the choice of deflator. Following the GAO Report, our baseline regression used the Energy PPI to deflate wholesale margins (rack price less crude oil price). This is a questionable choice of deflator because the price of crude has already been subtracted in defining the dependent variable. The consumer price index (CPI) is a plausible alternative deflator. Deflating by the CPI, allows consumer prices to be comparable over time by controlling for inflation. This may be more relevant since we are ultimately concerned with measuring how refining mergers (or increases in refiner concentration) have affected

<sup>&</sup>lt;sup>37</sup> In response to comments from FTC staff, GAO researchers concluded that additional controls for seasonality were unnecessary because of the inclusion of the inventory ratio, see GAO report at 196-197.

consumers.

Controls for seasonality are likely to be important predictors of the wholesale gasoline margins. Column 3 of both tables 10 and 11 includes month indicators as measures of seasonality (December is the omitted month). Wholesale margins vary throughout the year peaking in the summer. The differences in margins are both statistically and economically significant. Wholesale margins in May are estimated to be 6 cents more per gallon than December for branded gasoline and 6.5 cents more for unbranded gasoline. We also include an indicator variable (MW Crisis 2) which is defined to be one for all RFG racks from May, 2000 through July, 2000 to better control for the supply shock in the summer of 2000 that affected PADDS I, II, and III (not just PADD II in May of 2000 as the baseline assumes). This variable is also economically and statistically significant. All these variables are important predictors of wholesale gasoline margins and are not included in the baseline model. Their inclusion, however, does not significantly alter most of the estimated merger effects (compare merger effects estimates in columns 2 and 3 in Tables 10 and 11).<sup>38</sup>

Using the CPI rather than the baseline's energy PPI appears to have a material impact only on the Marathon-Ashland merger effect, essentially cutting it in half for both branded and unbranded RFG margins.<sup>39</sup> While arguably an important distinction conceptually in the RFG regressions, the use of the PPI or the CPI does not, as a practical matter, appear to affect the size of the estimated merger effects very much in the RFG regressions.

## C. CARB Merger Results.

Table 12 presents our baseline results for the estimated price effects of the Tosco-Unocal and Shell-Texaco I mergers on branded CARB gasoline. Similar to the RFG study, our baseline estimates (column 2) are similar to results in the GAO Report (column 1). Our baseline estimate of the Tosco-Unocal merger effect is smaller (5.2 cents versus almost 7 cents) and is not statistically significant at conventional levels. Our estimate of the Shell-

<sup>&</sup>lt;sup>38</sup>The primary exception is the coefficient on the Shell Texaco merger for branded gasoline, which nearly doubles (in absolute value) when the indicator and additional Midwest crisis indicators are added to the model.

<sup>&</sup>lt;sup>39</sup>The estimated BP-Amoco coefficient in the branded RFG regression also increases when using the CPI rather than the PPI (compare column 2 to 4, Table 10), however, this does not occur in the unbranded RFG regression (compare column 2 to 4, Table 11).

Texaco joint venture is somewhat smaller but is statistically significant. The parameter estimates for the Inventory Ratio and Capacity Utilization variables, however, are quite different.

Paralleling the robustness analysis for RFG, we examined the robustness of the baseline findings to different implementations of the GLS estimator in the STATA XTGLS procedure. As with RFG (see Tables 8 and 9), the results change considerably depending on whether or not the "panels=correlated" option is used or not (specifications in columns 2, 6, 7, and 8 versus 3, 4, and 5). All of the GLS estimators should be unbiased estimates of the merger effects *if the model is correctly specified*. Alternative methods of re-weighting the data (via a GLS estimator) yield very different coefficient estimates, suggesting the data generating process is not the same for all observations and the model is misspecified.

Dramatic changes in the estimated coefficients depending on the GLS estimator used suggests that there is model misspecification, but it does not demonstrate the form of the model misspecification. The primary distinction between models using the "panels=correlated" option and those that do not is that STATA estimates an additional 15 parameters corresponding to the covariances between racks at a point in time. STATA then re-weights the data matrix using these covariances in estimating the coefficient estimates.

One possibility is that the pooling assumption in the baseline model is incorrect; that is, the assumption that the coefficients for each of the explanatory variables in the estimating equation are the same for each rack in GAO's CARB regression is incorrect. Because there are only 6 racks in baseline CARB regression, the appropriateness of this assumption can easily be tested. To test this assumption we interact all of the explanatory variables in the baseline model with indicators for each of the six racks in GAO's CARB study: Colton, Imperial, Los Angeles, Sacramento, San Diego and Stockton. We then conduct a chi-squared test to see if the coefficients on the explanatory variables are the same for all cities. Before showing the results of this test, we deal with one additional detail.

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<sup>&</sup>lt;sup>40</sup> The "panels=correlated" option causes STATA to estimate a weight matrix containing a separate covariance between each pair of racks. The number of covariances estimated increases exponentially with the number of racks included in the analysis (the formula is: n\*(n+1)/2 - n, where n is the number of racks included in the regression). For GAO's CARB models with 6 racks this implies 15 additional covariances. For branded RFG (with 22 racks) this implies 231 covariance, and branded conventional (with 282 racks) 39,621 covariances.

Following the GAO Report's approach, the baseline model assumes that Los Angeles, San Diego, and Stockton were unaffected by the Shell-Texaco merger because Shell did not post branded or unbranded gasoline prices at the Los Angeles or San Diego racks (Texaco posted branded prices at both rack locations) and Texaco did not post at the Stockton rack (Shell posted branded prices at the Stockton rack). As described earlier, Shell was, in fact, one of the market leaders in these regions, but it directly supplied its stations rather than posting at the rack. That is, Texaco and Shell definitely competed in Los Angeles San Diego, and Stockton prior to their merger, although not directly in rack sales to independent distributors.<sup>41</sup> We thus adopt an alternative assumption that Shell and Texaco competed in these locations.

Table 13 presents the test of the misclassification of the Shell-Texaco merger overlaps and the pooling assumption with regard to the cities in California. Column 1 of the table presents the results from the GAO Report while Column 2 shows our baseline results. Column 3 shows the results of modifying the baseline to reflect the premerger competition between Shell and Texaco in Los Angeles, San Diego, or Stockton. Columns 4-9 correspond to a *single regression* that estimates the separate coefficients for each of the six cities in the baseline regressions (the columns are labeled for the city they correspond to). While none of the parameters are precisely estimated, the null hypothesis that the data generating process is the same for all cities (the p-value is .0001). can easily be rejected.<sup>42</sup> This strongly suggests that the model used in the GAO report is misspecified.

What is most notable about the Table 13 results is that the combination of the pooling assumption and the re-weighting of the data (using the STATA's panels="correlated" option) causes the coefficient estimate on the Shell-Texaco merger to change signs compared to the baseline (comparing column 3 to columns 4 through 9). When estimated separately by city, the Shell-Texaco merger coefficient is always negative and economically large (typically 1 to 2 cents), though never statistically significant. In contrast,

<sup>&</sup>lt;sup>41</sup>For example, if Texaco attempted to raise rack prices to its distributors pre-merger, while Shell kept its delivered prices to its retail outlets constant, the resulting change in relative prices at the retail level would tend to result in Shell gaining volume at the expense of Texaco.

<sup>&</sup>lt;sup>42</sup> Using GAO's model (which incorrectly identifies Shell and Texaco as not competing in Los Angeles, San Diego, and Stockton) we also reject the pooling assumption with a p-value of .0022.

coefficient estimate under pooling is *positive* and roughly 1.3 cents (but not statistically significant). We interpret this as evidence that the pooling assumption in the baseline model is problematic and could lead to incorrect inferences. While less dramatic, the results for Tosco-Unocal also appear to be affected by the pooling assumption. The estimated change in the wholesale margin associated with Tosco-Unocal estimated separately by rack-location (columns 4-9) is smaller than the estimate obtained by pooling (column 3). The typical difference is on the order of 1cent.

Table 14 presents results on whether seasonal controls (month indicators), alternative measures of shocks and inflation indices are important determinants of wholesale margins relative to the baseline model for CARB. In column 3, we include 11 month indicators (to control for seasonality) and we break up the baseline's single control (WC) into three separate supply shocks (WC1, WC2, and WC3).<sup>43</sup> As the table shows, inclusion of these seasonal controls and alternative measures of supply shocks are important predictors of wholesale margins. Holding the baseline's Inventories Ratio and Capacity Utilization variables constant, gasoline prices in California appear highly seasonal. The estimates in column 3 show that CARB gasoline prices in the spring and summer are estimated to be 4-10 cents higher than December. While not precisely estimated, the magnitude of the effects of the various supply shocks on CARB wholesale gasoline margins (WC1, WC2, and WC3) appear to be economically different (7.6 cents for WC1 versus 2.6 cents for WC2) although sometimes not statistically different from zero.

The choice of deflator also appears to affect the estimated merger effects. Comparing the baseline results in column 2 (which uses the energy PPI) with those in column 4 (which uses the CPI), we find that the estimated price effect of the Tosco-Unocal merger falls by a little more than 1.5 cpg. When accounting for all of these factors (seasonality, alternative controls for supply shocks, and inflation) the estimated price effect of Tosco-Unocal falls to roughly 50% of its baseline value.

As discussed on page 7, GAO researchers chose to analyze only those rack

<sup>&</sup>lt;sup>43</sup>The GAO creates a single indicator variable to correspond to three different supply shocks that affected California gasoline prices (see GAO Report, page 120). Implicit in this variable definition is the assumption that all three shocks had the same affect on California gasoline pricing. It is possible, however, that the shocks differed in how severely they affected California's gasoline prices. For this reason we create three indicators corresponding to each of the three shocks, WC1 (equal to one between 3/5/99 and 9/10/99, zero otherwise), WC2 (equal to one between 2/12/00-5/6/00, zero otherwise), and WC3 (equal to one between 7/10/00-12/31/00, zero otherwise).

locations selling CARB gasoline that contained an oxygenate (MTBE) throughout the year. This decision rule resulted in the exclusion of seven California racks that sold CARB gasoline, including rack locations in the San Francisco Bay area.<sup>44</sup> This exclusion, which is maintained in our baseline analyses, could diminish the model's ability to detect merger effects where they might be most significant. In particular, the Tosco-Unocal transaction resulted in merger of competing refineries located in the Bay Area.<sup>45</sup> Exclusion of San Francisco area rack locations eliminated those rack locations closest to the Tosco and Unocal's merging refineries.

To examine this sample composition issue, we have estimated variations of the baseline specification using a data set comprised of those CARB cities excluded in the baseline and using a data set consisting of all racks selling branded CARB gasoline in California, including those using an oxygenate for only part of the year.<sup>46</sup> The results of these estimations are shown in Table 15. Column 1 of Table 15 reproduces the results from GAO Report, and Column 2 shows our baseline model results. Column 3 shows results of the baseline model rerun using only data from the excluded rack locations; Column 4 shows the results from the baseline model specification estimated using all CARB rack locations with complete branded CARB price series. The results for the previously excluded rack locations are very different from the baseline. Rather than estimating a 5.2 cent price increase from the Tosco-Unocal merger (Column 2), a regression run on just the excluded racks shows virtually no estimated change (-0.29 cents) in price resulting from the Tosco-Unocal merger (Column 3). When all of the rack locations are included in a single regression, the baseline model yields estimated price effects of the Tosco-Unocal merger of essentially zero (.03 cpg). Sample composition may also be an issue in estimating the price effects of the Shell-Texaco merger: the sign of the estimated price effect changes depending on the rack locations included in the sample.

<sup>&</sup>lt;sup>44</sup> The seven excluded racks locations are Bakersfield, Brisbane, Chico, Eureka, Fresno, San Francisco, and San Jose

<sup>&</sup>lt;sup>45</sup>Prior to their combination, Tosco and Unocal both operated refineries in the Bay Area. Tosco also operated a refinery in Southern California.

<sup>&</sup>lt;sup>46</sup>The Barstow rack is not included in this regression because it does not have a complete data series for branded CARB gasoline.

In sum, the baseline model's estimated merger-related CARB gasoline price effects do not appear robust. Small changes in the form of GLS estimator, the inclusion of seasonal controls, and different price deflators each yield very different estimated price effects. Further, the findings seem to be very sensitive to the racks being studied.

## C. RFG Price-Concentration Relationship.

In this section, we analyze the robustness of our baseline model of price concentration relationship in RFG for both branded and unbranded gasoline. Table 16 summarizes our findings for branded gasoline. As with the previous corresponding tables, column 1 shows the GAO Report findings and column 2 presents our baseline results. The GAO Report results and our baseline results are similar. Using the model used in the GAO report with our data set, we estimate a similar, although somewhat smaller effect of concentration on prices. Comparing the first and second columns, the main difference is that we estimate a larger coefficient for the Inventory Ratio.

The other columns of Table 16 present results from alternative implementations of the GLS estimator. Focusing on the HHI coefficient, the results can change dramatically relative to the baseline specification depending on the GLS estimation procedure used. For instance, the HHI coefficients in Columns 7 and 8 are one third the size of the baseline results and are not significantly different from zero. Consequently, the particular implementation of the GLS estimator affects the significance and magnitude of the HHI coefficient. The coefficients on the Inventories Ratio and Utilization Rate variables also show changes across alternative GLS specifications.

Table 17 summarizes the corresponding results for unbranded RFG. Our baseline model found a positive but not statistically significant relationship between HHI and wholesale price, while the GAO Report found a positive and significant (at the 10 percent level) effect.<sup>47</sup> Similar to the branded results in Table 16, the estimate of HHI coefficient changes in significance and magnitude relative to the baseline depending on how the GLS estimation is implemented. The coefficients on the control variables also fluctuate

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<sup>&</sup>lt;sup>47</sup> The GAO Report incorrectly indicates a 5 percent significance level.

significantly.

Table 18 shows results from incorporating month indicators, and the alternative measure of the Midwest Gasoline Crisis into the baseline specification for branded RFG. Columns 1 and 2 present the GAO Report and our baseline results, respectively. Column 3 presents the results from including additional control variables. As with the merger event studies, these variables are important predictors of the price of gasoline. Moreover, the estimated relationship between price and concentration significantly changes when these control variables are added. The more accurate accounting for the supply shock in 2000 (Midwest 2) and the month indicators are all economically and statistically significant, despite the accompanying inclusion of the Inventories Ratio variable. GAO researchers' conclusion that the Inventories Ratio (and to a lesser extent Utilization Rates variable) sufficiently control for factors (other than concentration or mergers) affecting wholesale margins over time is not supported by this analysis.

Table 18, columns 4 and 5 demonstrate how the results are affected when the CPI is used instead of the PPI energy deflator both without the additional control variables. Most notably, the significant relationship between price and HHI disappears when the CPI deflator is used. Comparing columns 4 and 5 again shows that additional control variables are important predictors of the price of gasoline and that the estimated relationship between price and concentration is smaller when they are included. The results in Table 18 show that either adding additional control variables or switching the deflator eliminates the significant estimated relationship between price and concentration.

Table 19 presents the results for the corresponding analyses for unbranded RFG. Columns 1 and 2 show the GAO Report results and the our baseline results, respectively. Column 3 shows the results with the added controls. Adding these variables lead to changes similar to those observed in branded analyses. Monthly indicators to control for seasonality and a more accurate variable corresponding to the 2000 supply shock are important predictors of gasoline prices even when including the GAO's control variables. Columns 4 and 5 demonstrate the changes in results when CPI is used instead of the PPI energy deflator. Switching to the CPI deflator changes the estimated relationship between price and HHI. Additional control variables are also important predictors of the price of unbranded RFG as

Column Five also shows. None of the FTC estimated relationships between price and concentration shown on Table 19 are statistically different from zero.

Table 20 summarizes our robustness checks using alternate measures of HHI in branded RFG analysis The variable, HHI–GAO Report, is our measure of GAO Report's HHI variable. HHI–Corrected for Ownership adjusts this HHI measure to account for those joint ventures that were not correctly accounted for by GAO researchers. HHI–Operating Capacity is, in our view, a better measure of HHI (conditional on the choice to measure HHI at the PADD level). It measures operating capacity not operable capacity and includes the correction for joint ventures. Operating capacity excludes crude distillation capacity which has not been used to make gasoline in recent years. The difference in operable and operation capacity is crude distillation capacity at asphalt plants.

Columns 1 and 2 of Table 20 respectively present the GAO Report results and our baseline results. Columns 3 and 4 correspond to the baseline model substituting the HHI–Corrected for Ownership and HHI-Operating Capacity measures. Using either of the two alternative measures of HHI, there is no statistically or economically significant relationship between price and concentration.

Table 21 shows the results for the corresponding analyses for unbranded RFG. The results are essentially the same. No regression yields an economically or statistically significant relationship between price and concentration, and alternative concentration measures lead to smaller estimated effects of concentration on price than the baseline estimation.

# B. Robustness II – More Fundamental Identification Issues

While it is relatively straightforward to determine *if* prices changed after a merger or joint venture, it is much more difficult to determine *why* prices changed. Either a merger or unrelated changes in costs or demand can increase prices. The difficulty facing researchers is determining how prices changed relative to the "but-for" world of where there was no transaction or change in concentration. The researcher would like to compare the price of gasoline in a locale or locales where a transaction reduced the number of competitors

<sup>&</sup>lt;sup>48</sup> The corrections to the HHI calculation are described in Section IV of this study.

with the price in the same location and the same time period with the same firms still competing. For example, the researcher ideally would want to compare prices in Houston after Exxon and Mobil merged in the year 2000 with prices in Houston where Exxon and Mobil operated independently in the year 2000. Since this is obviously not possible, the researcher is left with comparing the state of the world that can be observed, Houston after Exxon and Mobil merged in the year 2000, with a proxy for the locale city and time period absent the merger.

The critical question is what is the best proxy for the post-event world assuming that the event did not occur. One possible answer is to compare the prices pre- and post-merger in the same locale. In this type of analysis, the price of the merged firms' product (the market price) is regressed on demand and supply/cost shifters plus a merger indicator. The demand and supply shifters attempt to control for factors that affect price over time but are not related to the merger. This approach has been used in Schumann *et al.* (1992), Schumann *et al.* (1997), and Karikari *et al.* (2002).

The key to this identification strategy is controlling adequately for important supply and demand factors that affect the price of the product over time. Otherwise, the estimated merger effect will erroneously incorporate these factors. Continuing the example from above, this approach would use the 1999 price of gasoline in Houston as a proxy for the 2000 price without the merger, holding other factors constant (e.g., the Inventories Ration and Capacity Utilization).

A second approach to identifying the price effects of a change in market structure is to compare the price of the product pre- and post-merger in an area with a change in market structure to the price in another geographic area without the change in market structure pre- and post-merger. In the case of a merger event study, the difference between the price of the product of the merged firm and the price of the product in another market is regressed on controls for time or seasonality and a merger indicator variable. This is a version of a difference-in-difference estimator. Merger retrospectives studies that use some form of a difference-in-difference estimator include Barton and Sherman (1984), Kim and Singal (1993), and Vita and Sacher (2001).

For either of these options to yield valid results the researcher must control for

factors that cause the price of gasoline to be different, either over time or across the cities. For the first option, comparing the price within one city before and after the transaction, it is crucial to have sufficient control variables with sufficient variation over time to explain the changing price of gasoline. In this case the average unexplained variation of the dependent variable, the wholesale margin, in pre and post merger time periods measures the merger effect. Any factor that causes higher or lower margins post merger will incorrectly be included in the estimated price effect of the event if it is not captured by the control variables. For example, more restrictive gasoline formulation requirements make gasoline more expensive relative to the price of crude. If changes in gasoline formulation are coincident with a merger and not controlled for, this increase of cost and price would be inappropriately included in the estimated merger effect.

The identification of merger effects in the GAO researchers combined elements of both of the two approaches described above. Merger effects are defined as the difference in prices post-merger in a rack locations affected by a merger *and* prices in rack locations affected by a merger pre-merger plus the prices in rack locations unaffected by a merger (both pre <u>and</u> post-merger), holding other control factors constant. For example, other factors held constant, the effect of the UDS-Total merger in equation (2a) is defined as the difference in price at racks affected by UDS-Total post-merger relative to prices at racks affected by UDS-Total pre-merger *and* racks unaffected by the UDS-Total merger pre- and post-merger.

Identification of merger price effects of mergers is difficult in virtually any setting. For this reason, economists typically check the robustness of their findings to reasonable alternative model specifications to ensure they have, in fact, successfully estimated the price effect of a merger. In the remainder of this section we will focus on three identification areas that are particularly relevant to the methodology used in the GAO Report. We describe the key conceptual issue in each case and provide empirical support demonstrating its relevance. In each case, we find reason to doubt the validity of the methodology used in the GAO Report.

We begin with a description of the "event windows" used in the GAO's Report merger analysis. Event windows refer to the time period surrounding the merger. Second,

we examine the decision to explicitly control for factors that change prices rather than using a difference-in-difference estimator to identify merger effects.<sup>49</sup> Finally, we examine more generally, the power of the GAO Report's key control variable, the Inventories Ratio, in explaining changes in wholesale margins that are coincident with mergers.

Understanding how merger effects are identified by the GAO Report's merger event analyses requires careful thought. Because GAO researchers estimated a single regression equation for all rack locations affected by five mergers (in the RFG analyses) and two mergers (in the CARB gasoline analyses), the event windows for the same merger necessarily differ for different rack locations. For example, in the CARB study GAO researchers classified all racks as affected by the Tosco-Unocal merger, which occurred in April 1997, but only four racks as affected by the Shell-Texaco merger, which occurred in February 1998. Thus, for the CARB study all racks have the same "pre-merger" window, May 16, 1996 through April 4, 1997. For those racks also affected by the Shell-Texaco merger, the post-merger window for the Tosco-Unocal merger ends on January 31, 1998. For those markets unaffected by the Shell-Texaco merger (under GAO's classification scheme), the post-merger period for the Tosco-Unocal merger ends when the sample period ends: December 31, 2000. Thus, the post-merger period used to identify the price effect of the Tosco-Unocal merger is roughly ten months long for two-thirds of the sample and three years and nine months for the other third.

The "event-window" issue is more complicated in the RFG regressions because more mergers are involved. According to the GAO researchers' classification, six rack locations are unaffected by mergers, while six, six, two, and two racks are affected by one, two, three, and four mergers, respectively (see Table 1). This means that size of many of the pre- and post-merger windows vary across the RFG rack locations. That is, in some rack locations (affected by few mergers) changes in wholesale margins over relatively long periods of time are used to identify the price effects of a merger. In contrast, rack locations affected by many mergers (e.g., Fairfax and Richmond) the time period over which price effects are

<sup>&</sup>lt;sup>49</sup>While GAO researchers include cities affected and unaffected by mergers in their merger studies, they are not estimating merger effects using a difference-in-difference model. See GAO Report, Comment 36, page 207.

<sup>&</sup>lt;sup>50</sup> GAO researchers misclassified the Shell-Texaco merger as not affecting three of the CARB racks studied, Los Angeles, San Diego, and Stockton.

identified is much shorter.

One specification test typically performed in merger event studies examines the sensitivity of results to alternative choices for pre- and post-merger event windows. For example, it is *a priori* unclear how long it takes a firm either to raise its price (or limit output) in response to an increase in market power or to lower its price (or increase output) in response to efficiencies.<sup>51</sup> The GAO Report's study design makes such a robustness analysis very difficult to undertake. By estimating all merger price effects in a single regression, a modification of one window will affect other windows. If separate regressions each focusing on a merger were estimated separately, it would have been possible to explore the sensitivity of merger effects to the choice of event window.<sup>52</sup> Pooling five mergers into a single estimating equation causes identification of merger specific price changes in the GAO Report's RFG regressions to be very difficult to understand. Similar difficulties arise in the Report's analysis of seven mergers affecting the prices of conventional gasoline.

However, it is easier to explore robustness of results to choice of event windows in the merger regressions for CARB gasoline. In the GAO Report's estimation of merger effects for CARB gasoline, the post-merger window for Tosco-Unocal is 44 weeks long (for those cities also categorized as being affected by the Shell-Texaco merger)<sup>53</sup> and the post-merger window for Shell-Texaco is 152 weeks long. As a result, the Shell-Texaco post-merger window is more than three times longer than that of the Tosco-Unocal merger.<sup>54</sup> To explore the sensitivity of the results from our CARB gasoline baseline model to the length of the merger window, we have estimated three additional regressions. Results are shown in Table 22. The first two columns of Table 22 contain the estimated effects on wholesale margins from the GAO Report and our baseline estimates. Column 3 uses the same variable

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A recent paper examining the price effects and efficiencies associated with banking mergers in Italy found that three years were required for the efficiencies of the mergers to be realized (Focarelli and Panetta, 2003).

<sup>&</sup>lt;sup>52</sup> GAO researchers also could have partially controlled for multiple mergers affecting a single rack by examining racks only affected by a single merger, or racks that are affected by mergers separated by some minimum time period, e.g., at least one year.

<sup>&</sup>lt;sup>53</sup> Because GAO researchers classified Shell and Texaco as not competing in Los Angeles, San Diego, and Stockton, the post-merger time period for the Tosco-Unocal merger for these racks is the entire sample period following the Tosco-Unocal merger (196 weeks).

<sup>&</sup>lt;sup>54</sup>A similar issue arises because the size of the pre-merger window varies across rack locations.

definitions as the baseline, but forces the post-merger windows for both the Shell-Texaco and Tosco-Unocal mergers to be 44 weeks; thus shortening the merger window for Shell-Texaco. All data after December 3, 1998 is dropped. The estimated effect of Shell-Texaco goes from approximately -1 cent per gallon to statistically zero. More striking is the change in the estimates on the Inventories Ratio control variable. It declines to roughly 20% of its original size (from -40 to -9) and is no longer statistically significant (although the standard errors of both estimates are roughly the same.)

This analysis suggests that the baseline model is misspecified, since the coefficient on the Inventories Ratio changed dramatically and the estimated merger effects change.

Because of the misclassification of Los Angeles, San Diego, and Stockton as being unaffected by the Shell-Texaco merger, the estimated merger indicators for Shell-Texaco could be biased for regressions shown in Columns 1, 2 and 3. Column 4 regression estimates when Los Angeles, San Diego, and Stockton are classified as being affected by the Shell-Texaco merger. Column 5 shows regression estimates the model used for the results in Column 4, but forces the post-merger windows for Shell-Texaco and Tosco-Unocal to be of the same length (the analogue of column 3). The estimated price effect of the Shell-Texaco merger changes and the estimated relationship between the inventory ratio and prices changes dramatically. The results suggest that the estimated price effects are sensitive to the size of the merger windows.

As discussed above, the GAO researchers chose to control for the but-for world by explicitly including control variables (indicators corresponding to supply shocks, national capacity utilization, and the PADD level ratio of gasoline inventories to expected demand) rather than through a difference-in-difference estimator. If the GAO's control variable approach is successful in controlling for changes in wholesale gasoline margins unrelated to mergers, then its findings should be similar to those generated by a difference-in-difference estimator. Thus, we estimate two variations on the baseline specification for RFG with difference-in-difference estimators.<sup>55</sup> The first estimator is described in, equation (4a) below:

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<sup>&</sup>lt;sup>55</sup> We do not estimate the equation for CARB gasoline because both the Unocal-Tosco and Shell-Texaco mergers affected all CARB racks studied by GAO( i.e., the equations (5a) and (5b) would not be identified for the CARB study).

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 \begin{aligned} (4a) & \left( \text{Rack Price}_{it} - \text{WTI}_t \right) = \alpha_0 + \alpha_{1,1} (\text{UDS-Total})_{it} + \alpha_{1,2} (\text{Marathon-Ashland})_{it} \\ & + \alpha_{1,3} (\text{Shell-Texaco II})_{it} + \alpha_{1,4} (\text{Bp-Amoco})_{it} \\ & + \alpha_{1,5} (\text{Exxon-Mobil})_{it} \\ & + \pi_{1,1} (\text{Post UDS-Total})_{it} + \pi_{1,2} (\text{Post Marathon-Ashland})_{it} \\ & + \pi_{1,3} (\text{Post Shell-Texaco II})_{it} + \pi_{1,4} (\text{Post Bp-Amoco})_{it} \\ & + \pi_{1,5} (\text{Post Exxon-Mobil})_{it} + \\ & + \alpha_2 \text{Inventories Ratio}_{jt} \\ & + \alpha_3 \text{Utilization Rates}_t + \alpha_4 \text{MWCrisis}_{it} + u_{it} \end{aligned}
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In equation (4a) there are five new indicator variables (e.g., Post UDS-Total), corresponding to each of the five mergers where the indicator variable equals 1 for *all racks* after the merger. The interpretation of the coefficients on the merger effects changes relative to that of the GAO Report's specification (equation (2a)). For example, 1,1 is the change in wholesale (rack) margin of all racks following the UDS-Total merger; i.e., the change in rack margins that is coincident (but not caused by) the UDS-Total merger. 1,1 is the change in the wholesale (rack) margin in racks affected by the UDS-Total margin *relative* to racks unaffected by the UDS-Total merger; that is, 1,1 has the interpretation of being the change in wholesale margins caused by the UDS-Total merger.

The second difference-in-difference estimator is described by the following equation:

$$\begin{aligned} (4b) & \left( \text{Rack Price}_{it} - \text{WTI}_{t} \right) = \alpha_{0} + \alpha_{1,1} \left( \text{UDS-Total} \right)_{it} + \alpha_{1,2} \left( \text{Marathon-Ashland} \right)_{it} \\ & + \alpha_{1,3} \left( \text{Shell-Texaco II} \right)_{it} + \alpha_{1,4} \left( \text{Bp-Amoco} \right)_{it} \\ & + \alpha_{1,5} \left( \text{Exxon-Mobil} \right)_{it} + \sum_{t=1}^{t-300} \psi_{t} \\ & + \alpha_{2} \text{Inventories Ratio}_{jt} \\ & + \alpha_{3} \text{Utilization Rates}_{t} + \alpha_{4} \text{MWCrisis}_{it} + u_{it} \end{aligned}$$

The difference between specifications (4a) and (4b) is how changes in wholesale margins are controlled for that are unrelated to the mergers. In specification (4a), five indicator variables are added to the regression to measure the change in average wholesale margins in all racks during the merger windows assumed in the GAO baseline model. In specification (4b), separate indicator variables are added for each week in the sample to control for the average weekly change in wholesale margins across all rack locations. This is a more general method of controlling for changes to wholesale gasoline margins that are potentially coincident with the merger windows defined by the GAO researchers, but not caused by the mergers being studied. The model using weekly indicators is likely to control better for all common weekly shocks common to rack locations (in PADDS I, II, and III), including seasonality. The weakness of this approach, is that it accounts for much of the variation in wholesale margins with which we can estimate merger effects. The interpretation of the merger effects (1,1,...,1,5) is the same in equations 4a and 4b, but is different than that in (equation 2a and 2b). Results are shown in Tables 23 and 24 for branded and unbranded RFG respectively. Column 1 shows the GAO Report findings and Column 2 shows our baseline results. Column 3 reports the estimates of specification (4a) and Column Four shows the results for specification (4b).

Our baseline model's results for Exxon-Mobil are not robust to either difference-in-difference estimator. By controlling for general changes in wholesale margins (in racks not affected by the merger), we estimate much smaller price effects than in the baseline model. For branded gasoline, the estimated price effect of Exxon-Mobil is about 0.11 cents (*one tenth* of the baseline estimate, 1.34 cents) and for unbranded gasoline (Table 24) the price effect is estimated to be -0.34 and -0.26 cents per gallon (compared to the baseline estimate of baseline estimate of 0.77 cents).

Interestingly, the coefficient on the Post Exxon-Mobil variable (controlling for changes in the wholesale margin for all racks following the Exxon-Mobil merger) is large (roughly 6.8 and 8.9 cents per gallon for branded and unbranded gasoline, respectively) and statistically significant. This suggests that the baseline model specification is measuring a general increase in wholesale margins coincident with the Exxon-Mobil merger rather than a price effect associated with racks where Exxon and Mobil competed prior to their merger.

The difference-in-difference results also strongly suggest that the baseline control variables do not control for the large increase in wholesale margins coincident with the Exxon-Mobil merger because they differ substantively from the baseline results.

The BP-Amoco estimated merger effects for branded RFG decreases when estimated with both difference-in-difference estimators, and is no longer statistically significant when compared to the baseline. The change from using the difference-in-difference estimates for Shell-Texaco II differs for branded and unbranded RFG: the estimated change in margin is essentially zero and insignificant for branded RFG and becomes positive (and statistically significant) for unbranded RFG. With one exception, the other coefficients estimated using our baseline specification and the difference-in-difference estimators appear to be similar. <sup>56</sup>

We conclude this section with additional analysis of the GAO Report's Inventory Ratio variable. GAO researchers correctly conclude that refiners make their production and distribution plans in response to expected gasoline demand. Every year refiners build up large inventories of gasoline in the spring to satisfy demand in the summer when consumption is greater than production. Similarly, in the fall, refiners in the eastern United States switch some production capacity away from gasoline to make heating oil. In addition, refiners in the Gulf region change the proportion of gasoline supplied to PADD I and PADD II in response to changes in expected relative prices. For example, the supply shock that affected refineries in the Midwest in 2000 was felt throughout the eastern half of the U.S. as refiners shipped gasoline to the Midwest from elsewhere in the United States.

Modeling production and product allocation process for gasoline is not straightforward. Almost certainly, any feasible technique will not control for all potentially important factors and will be subject to criticism. For this reason, it is essential that the technique be clearly described and tested for validity. The GAO Report does not explain how its inventory variable controls for changes in wholesale margins and does not test the robustness of its findings to alternative measures of this control variable. It is impossible for any study to conduct all possible robustness checks. However, because the Inventory Ratio variable is the key variable in the identification of the GAO Report's merger effects, it is critical to have confidence in its ability to control for factors affecting wholesale margins that

<sup>&</sup>lt;sup>56</sup> The coefficient on the Inventories Ratio and utilization rates variables is much smaller when using equation (4b) instead of (4a) for branded RFG.

are coincident with mergers. We briefly provide some theoretical concerns below and then describe two empirical robustness tests of the GAO Report's Inventories Ratio variable.

The purpose of the Inventory Ratio variable is to control for changes in supply and demand that may affect wholesale margins. GAO researchers argue that if expected demand is high relative to realized inventories then prices will rise.<sup>57</sup> The variable is defined as the ratio of PADD level lagged gasoline inventories to expected PADD demand. There are many obvious critiques of this measure.

First, as noted above, every year refiners build inventories in the spring to cover demand in the summer to optimize production in response to seasonal demand changes. This implies a pattern between *expected* inventories and expected demand and suggests the need to control separately for predictable changes in supply and demand and surprises resulting from supply or demand shocks. For example, wholesale prices might be a function of expected inventories, expected consumption, shocks to consumption, and shocks to supply.

Second, it is important to remember that gasoline is not the only product produced by refineries. A significant fraction of refining capacity is devoted to home heating oil production during the fall and winter, particularly in PADD I, and to diesel fuel throughout the year. Changes in refinery product slates (and the anticipation of this switch in product slates) will have an effect on expected gasoline inventories, and, by implication the expected inventory ratio. For these reasons, it is not clear that changes in the expected ratio of inventories to demand (the Inventory Ratio) would have much impact on wholesale margins. In contrast, large deviations in the ratio of actual inventories to demand relative to expected inventories to demand would be expected to have large impacts on wholesale margins.

Third, it is unclear why the PADD level is the correct unit of observation for a control variable measuring the amount of gasoline available for sale (the ratio of inventories to sale). If one is interested in controlling for very short-run shocks to demand or supply, e.g., less than a month, data at the PADD level are almost certainly too broad a measure. It takes some time to move gasoline between refinery centers and racks within a PADD or from one rack to another within a PADD. In trying to control for relatively short term shocks to wholesale margins, some measure of gasoline inventories relative to demand at or near a

<sup>&</sup>lt;sup>57</sup> See, e.g., GAO report Table 13, page 117.

terminal (or possibly a state) would be a more appropriate measure.

Similarly, for shocks of medium duration in the Eastern section of the U.S., PADD III provides a significant fraction of the gasoline consumed in PADDS I and II, and is the marginal source of supply. PADD III contains much of the refining capacity in the United States, and refiners in the Gulf change the fraction of product shipped to consumers in PADDS I and II in response to changes in expected relative prices. It is difficult to conceive of a situation where a PADD level measure of the quantity of gasoline available for sale (i.e., the Inventories Ratio) would be a sensible control for a rack in PADD I or II without also controlling for gasoline available in PADD III for shipment. Finally, it is unclear why the GAO Report examines the expected level of demand and the realized value of (lagged) inventory. If demand shocks are autocorrelated, refiners likely change their inventory holding decisions in response to information about the current period's demand shock to updated their forecasts of demand tomorrow. There appears to be an inconsistency in using a forecasted level of demand and a realized level of (lagged) inventory in the creation of the GAO Report's Inventories Ratio variable.

We conduct two empirical analyses to test the validity of the GAO Report's Inventory Ratio variable as a primary control to identify merger effects. First, we explore the effects of the Inventory Ratio for different PADDS on wholesale margins. Second, we explore the impact of any of the GAO Report's control variables on the estimated merger effects.

Tables 25 and 26 show the regression results of two robustness checks of the Inventory Ratio variable for branded and unbranded RFG, respectively. First, we test to see if the effect of gasoline inventories to expected demand on wholesale prices varies by PADD. PADD's that receive sizeable imports from outside, such as PADDS I and II receiving shipments from PADD IIII, the impact of a change in Inventory Ratio may be different than a self-sufficient region such as PADD III. This difference can be seen when comparing Column 2 to Column 3 of the Tables 25 and 26 which interacts the Inventories Ratio with an indicator of the racks PADD location. The relationship between the Inventory Ratio in a PADD and wholesale margin differs across PADDs. The estimated coefficient on the inventory ratio in PADD II is very different than that for PADDs I and III. Further,

PADD III, which is self-sufficient, has the lowest estimated coefficient on the Inventory Ratio.

This second set of regressions (column 4) includes two variables to account for the fact that PADD III exports gasoline to PADDS I and II. Specifically, we enter an interaction between the Inventories Ratio at time t in PADD III and an indicator for whether the rack is located in either PADD I or PADD II. These results appear in Column 4 of Tables 25 and 26. When the interactions are included in the model, the coefficients on the own PADD Inventory Ratio for PADD I and III appear to be different (i.e. -3 for PADD I and -12 for PADD III). The magnitude of the coefficients on the PADD III Inventory Ratio on wholesale margins in PADDS I and II are large and statistically significant at at least the 10% level. Taken together, these findings suggest that the baseline model is misspecified in that the effect of inventories relative to consumption on wholesale margins differs across PADDs, and that the inventories ratio in PADD III affect pricing in PADDS I and II.

Analogous to Tables 25 and 26, Tables 27 (branded RFG) and 28 (unbranded RFG) examine the importance of the Inventories Ratio in the estimated price concentration relationship.

Despite observing very different empirical relationships between the Inventory Ratio and wholesale margins across PADDs, the estimated merger effects do not vary much across Columns 2 (the baseline), 3, and 4 of Tables 27 and 28. In fact, other than the difference-in-difference models *none* of the specific control variables (or their alternatives) appear to have much impact when compared to our baseline results for RFG. It appears that all of the measured controls, while correlated with wholesale margins, do not appear to affect the estimated merger effects. That is, the control variables do not appear to be correlated with the pre-and post-merger windows specified by GAO researchers.

To test this conjecture, we have modified the branded and unbranded RFG merger and the branded CARB baselines specifications by dropping *all* of the control variables other than the merger indicators.<sup>58</sup> These findings appear in Table 29. Table 29 is broken into three parts: RFG branded, RFG unbranded, and CARB gasoline The first two sub-columns corresponding to each column repeat the GAO Reports's findings, our baseline, and the

<sup>&</sup>lt;sup>58</sup>The models are still estimated using fixed-effect; i.e., all variables are measured as deviations from rack-location means.

models estimated without control variables. For both the branded and unbranded RFG merger studies, the controls have no meaningful impact on the estimated merger effects. This is particularly puzzling because we know there are factors which cause gasoline margins both to rise and fall dramatically and persistently over time (e.g., the autocorrelation in virtually every regression presented by us or in GAO Report is greater than .8). This is evidence that the control variables (Inventories Ratio, National Capacity Utilization, and the Midwest supply indicator) do not control for many factors that cause gasoline prices to change over time.

The findings for the CARB study are different. The inclusion of the control variables does have an impact on the estimated price effects of the merger. This can be seen by examining the final panel of Table 29. By dropping all of the control variables the estimated price effect of the Tosco-Unocal merger increases by roughly one-third and the estimated price effect of the Shell-Texaco merger is no longer economically (or statistically) significant (comparing columns 8 and 9). Further, the results presented previously, e.g., the results in Table 14, show that controls for seasonality, supply shocks, and deflating gasoline prices using the CPI (instead of the PPI) lead to sizable changes in the estimated price effects of mergers in California.

The findings in the RFG price concentration regressions are also not that affected by the inclusion of control variables. Table 30 show the GAO Report results, our baseline results and the estimated price concentration relationship without control variables for branded and unbranded gasoline. In both cases, the estimated relationship between price and concentration for branded and unbranded is smaller without the control variables but the changes are relatively small.

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## Appendix 2

# I. RFG Study

#### A. Marathon/Ashland

USX-Marathon and Ashland announced in May of 1997 the planned combination of their downstream operations into a refining and marketing joint venture, owned 62 percent by USX-Marathon and 38 percent by Ashland. Marathon contributed refineries in Garyville, Louisiana; Robinson, Illinois; Texas City, Texas; and Detroit, Michigan. Ashland contributed refineries in Catlettsburg, Kentucky; St. Paul, Minnesota; and Canton, Ohio. Marathon also contributed 51 terminals, and Ashland contributed 33 terminals. Marathon also contributed 3,980 retail outlets in 17 states, while Ashland contributed 1,420 retail outlets in 11 states. The combined firm has a retail presence in 20 states. Marathon also contributed 5,000 miles of pipelines to the joint venture (Platt's Oilgram News, May 16, 1997). Marathon and Ashland signed the definitive joint venture agreement in December 1997, and consummated the joint venture on January 1, 1998.

## B. Shell/Texaco (Motiva)

In 1997, Shell, Texaco and Saudi Aramco agreed to combine most of their downstream assets in two new joint ventures, Equilon and Motiva. Only the Motiva joint venture is relevant for the RFG study, which covered the Gulf Coast and East Coast.<sup>1</sup> Shell contributed refineries in Norco, Louisiana, while Texaco contributed refineries in Convent, Louisiana; Port Arthur, Texas; and Delaware City, Delaware, which were part of its joint venture with Saudi Refining (Star Enterprises). Shell also owned or supplied approximately 8600 branded stations in 40 states, along with terminals and other distribution assets. Texaco (including the joint venture) owned or supplied approximately 13,800 branded stations in 46 states, along with terminals and other distribution assets. In the Motiva area, Shell and Texaco agreed to divest one of the firms interest in a pipeline in the Southeast.

<sup>&</sup>lt;sup>1</sup> The only RFG city that was used in the study that is in the area that became part of the Equilon joint venture is Louisville. Shell supplied RFG in Louisville, but Texaco was not in that market.

### C. BP/Amoco

In 1998, BP and Amoco agreed to merge their entire operations. Most of the value of these firms is from their upstream operations, but both firms had significant downstream assets in the United States as well. BP owned 2 refineries in Belle Chasse, Louisiana, and Toledo, Ohio, while Amoco owned 5 refineries in Texas City, Texas; Whiting, Indiana; Yorktown, Virginia; Mandan, North Dakota; and Salt Lake City, Utah. BP also operated or supplied approximately 7000 BP-branded retail stations in 20 states, while Amoco operated or supplied approximately 9000 Amoco-branded retail stations in 32 states.<sup>2</sup> States where both BP and Amoco had significant branded retail operations included Georgia, North Carolina, South Carolina, Alabama, Mississippi, Tennessee, Florida, Pennsylvania, and Michigan.

As part of a Federal Trade Commission consent decree, BP and Amoco agreed to divest retail assets in Tennessee, Pennsylvania, Georgia, Florida, North Carolina, South Carolina, Alabama, Mississippi and Ohio, as well as nine terminals in Alabama, Mississippi, South Carolina, Ohio, Florida, and Tennessee. None of these divestitures affected RFG areas in this study.

#### D. Exxon/Mobil

In 1998, Exxon and Mobil agreed to merge their entire operations. Most of the value of these firms is from their upstream operations, but both firms had significant downstream assets in the United States as well. Exxon owned 4 refineries in Baytown, Texas; Baton Rouge, Louisiana; Benicia, California; and Billings, Montana. Mobil owned three refineries in Beaumont, Texas, Joliet, Illinois, and Torrance, California (as well as 50 percent of Chalmette Refining, a joint venture with PdVSA, in Chalmette, Louisiana). Exxon also owned or supplied 8500 branded stations in 39 states, while Mobil owned or supplied 7400 branded stations in 29 states. Both firms also owned numerous terminals and other distribution assets. States where Exxon and Mobil both had significant branded retail

<sup>&</sup>lt;sup>2</sup> From EIA website, listing source as *National Petroleum News, Market Facts 1998*, Volume 90, Number 8 (Mid-July 1988), pp. 41-46, and 123.

operations included Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New York, New Jersey, Pennsylvania, Louisiana, Texas, Nevada, and California.

As part of a Federal Trade Commission consent decree, Exxon and Mobil agreed to divest certain competing downstream assets. These assets included Exxon's downstream assets in California including all marketing assets and its refinery in Benicia, Mobil's retail assets in Virginia, Maryland, the District of Columbia, Pennsylvania, Delaware, and New Jersey, Exxon's retail assets in New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont and Maine, and Mobil retail assets in several Texas metropolitan areas including Dallas and Houston. The divestitures on the East Coast also included the wholesale business that supplied the Exxon or Mobil branded dealers and jobbers with gasoline. Therefore, after the merger, wholesale Mobil gasoline sales in Virginia, including branded rack sales, were no longer controlled by Exxon Mobil. These divestitures sold all of one firm or the others marketing assets in all the retail and wholesale RFG overlap markets in this study. Similarly, the California divestiture included all of Exxon's marketing assets in each of the CARB overlap markets.

## E. UDS/Total

In 1997, UDS purchased the North American subsidiary of Total. Prior to the merger, UDS operated three refineries, in McKee, Texas, Three Rivers, Texas, and Wilmington, California. Total operated three small refineries in Ardmore, Oklahoma, Alma, Michigan, and Denver, Colorado. UDS owned or supplied approximately 2900 retail stations under the Ultramar, Diamond Shamrock, and Beacon brand names, while Total owned or supplied approximately 2100 branded stations. The only overlap in an RFG city covered by this study was in Dallas, Texas.

## II. CARB Study

### A. Tosco/Unocal

In 1997, Tosco purchased Unocal's downstream assets on the West Coast, which included refineries in San Francisco, California, Santa Maria, California, and Los Angeles, California. Unocal also owned various terminal and bulk supply assets, and owned 1100 branded stations 250 unbranded sites in 6 Western states including California. Tosco already owned refineries on the West Coast in Avon, California and Ferndale, Washington. Tosco also owned terminal assets and supplied or owned branded stations in Western states including California. This merger closed without any antitrust enforcement actions.

## B. Shell/Texaco (Equilon)

As mentioned above, Shell, Texaco, and Saudi Refining agreed to combine most of their downstream assets in two new joint ventures, Equilon and Motiva. Only the Equilon joint venture between Shell and Texaco is relevant for the CARB study. Shell contributed refineries in Wood River, Illinois and Martinez, California, while Texaco contributed refineries in Anacortes, Washington, Wilmington, California, El Dorado, Kansas, and Bakersfield. Both Shell and Texaco also had large retail operations on the West Coast. As part of a Federal Trade Commission consent decree, Shell divested its refinery in Anacortes, as well as a terminal and retail assets in Hawaii, and retail assets in San Diego. The refinery divestiture and the San Diego retail divestiture were due to concerns in the sale of CARB gasoline in California.

Table 1
GAO Report's Classification of Where Merging Firms Competed:
RFG Study's Rack Locations

City	Exxon-Mobil	BP-Amoco	Marathon-Ashland	Shell-Texaco II	Total-UDS	<b>Total Mergers</b>
Albany	Yes	No	No	Yes	No	2
Baltimore	Yes	No	No	Yes	No	2
Boston	Yes	No	No	No	No	1
Dallas Metro	Yes	No	No	Yes	Yes	3
Dallas/Arlington	No	No	No	No	No	0
Dallas/Fort Worth	Yes	No	No	Yes	No	2
Dallas/Grapevine	No	No	No	No	No	0
Dallas/Southgate	Yes	No	No	Yes	No	2
Fairfax	Yes	Yes	Yes	Yes	No	4
Hartford/Rocky Hill	No	No	No	No	No	0
Houston	Yes	No	No	Yes	No	2
Louisville	No	Yes	Yes	No	No	2
New Haven	Yes	No	No	No	No	1
Newburgh	Yes	No	No	No	No	1
Norfolk	No	Yes	Yes	Yes	No	3
Paulsboro	Yes	No	No	No	No	1
Philadelphia	Yes	No	No	No	No	1
Providence	No	No	No	No	No	0
Richmond	Yes	Yes	Yes	Yes	No	4
Springfield	No	No	No	No	No	0
Trenton	No	No	No	No	No	0
Wilmington	Yes	No	No	No	No	1
Total Overlaps	14	4	4	9	1	

See Appendix 2 for GAO Information.

Table 2: Frequency Distribution of Number of Firms Posting any Unleaded Gasoline at the Branded Rack in a Week For Rack Locations in the GAO Report's RFG Merger Study (Percentage of Weeks in Table)

City/# Firms	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Albany									46.5%	53.5%				
Baltimore								5.0%	23.4%	29.7%	41.6%	0.3%		
Boston								15.8%	83.8%	0.3%				
Dallas Metro											14.5%	31.0%	38.6%	15.8%
Dallas/Arlington	100.0%													
Dallas/Fort Worth					20.5%	54.8%	24.8%							
Dallas/Grapevine		68.7%	31.4%											
Dallas/Southgate					24.1%	6.3%	66.3%	3.3%						
Fairfax							11.2%	4.6%	8.6%	22.4%	53.1%			
Hartford/Rocky Hill			15.5%	84.2%	0.3%									
Houston										10.2%	40.9%	48.8%		
Louisville						6.3%	80.5%	13.2%						
New Haven									49.2%	18.2%	32.7%			
Newburgh								14.2%	85.5%	0.3%				
Norfolk								4.3%	70.6%	17.5%	7.6%			
Paulsboro							30.0%	30.0%	39.9%					
Philadelphia								38.9%	49.5%	11.6%				
Providence								99.7%	0.3%					
Richmond										57.1%	42.9%			
Springfield					99.7%	0.3%								
Trenton	99.7%	0.3%												
Wilmington								14.9%	38.9%	46.2%				

Table 3: Frequency Distribution of Number of Firms Posting any Unleaded Gasoline at the Unbranded Rack in a Week For Rack Locations in the GAO Report's RFG Merger Study (Percentage of Weeks in Table)

City/# Firms	l 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Albany			-			-	14.5%	29.7%	51.8%	4.0%			-			-			
Baltimore							0.7%	5.6%	4.6%	40.6%	26.1%	10.2%	6.6%	5.3%	0.3%				
Boston					17.5%	18.5%	30.7%	33.0%	0.3%										
Dallas Metro							41.6%	15.5%	16.5%	5.9%	20.5%								
Dallas/Arlington	91.1%	8.9%																	
Dallas/Fort Worth		8.9%	77.9%	13.2%															
Dallas/Southgate	30.0%	25.4%	3.0%	0.3%	30.0%	11.2%													
Fairfax									0.7%	9.2%	8.6%	47.5%	32.0%	2.0%					
Hartford/Rocky Hill	6.9%	19.8%	14.5%	58.1%	0.7%														
Houston								29.0%	31.4%	25.1%	4.3%	4.3%	5.9%						
Louisville		3.0%	0.7%	5.3%	38.3%	15.2%	8.9%	16.8%	1.7%	10.2%									
New Haven				11.6%	5.6%	67.7%	15.2%												
Newburgh		13.9%	33.3%	40.9%	11.6%	0.3%													
Norfolk									2.3%	6.6%	10.6%	31.0%	16.5%	18.5%	11.9%	2.6%			
Paulsboro			34.3%	57.8%	7.9%														
Philadelphia		15.5%	12.9%	1.0%	38.6%	32.0%													
Providence				4.0%	8.3%	20.5%	44.9%	21.5%	1.0%										
Richmond													0.7%	8.9%	20.1%	35.0%	29.7%	5.3%	0.3%
Wilmington				21.8%	38.6%	30.0%	7.3%	2.3%											

Table 4a
GAO Report's Classification of Where Merging Firms Competed:
Branded CARB Rack Locations

City	Tosco-Unocal	Shell-Texaco
Colton	Yes	Yes
Imperial	Yes	Yes
Los Angeles	Yes	No
Sacramento	Yes	Yes
San Diego	Yes	No
Stockton	Yes	No

Table 4b
Where Merging Firms Posted at Rack Locations not included in the GAO Report's Branded CARB Event Study

City	Tosco-Unocal	Shell-Texaco
Bakersfield	Yes	Yes
Brisbane	No	No
Chico	Yes	Yes
Eureka	No	Yes
Fresno	Yes	Yes
San Francisco	Yes	Yes
San Jose	No	No

Table 5
GAO Report's RFG Study's Rack Locations:
Where Merging Firms Posted any Specification of Gasoline at the Branded Rack Pre-Merger

City	Exxon	Mobil	BP	Amoco	Marathon	Ashland	Texaco	Shell	Total	UDS
Albany	Yes	Yes	No	No	No	No	Yes	Yes	No	No
Baltimore	Yes	Yes	No	Yes	No	No	Yes	Yes	No	No
Boston	Yes	Yes	No	No	No	No	Yes	No	No	No
Dallas Metro	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Dallas/Arlington	No	No	No	No	No	No	No	No	No	No
Dallas/Fort Worth	Yes	Yes	No	No	No	No	Yes	No	No	No
Dallas/Grapevine	No	No	No	No	No	No	No	No	No	No
Dallas/Southgate	Yes	No	No	No	No	No	No	Yes	No	Yes
Fairfax	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
Hartford/Rocky Hill	No	No	No	No	No	No	Yes	No	No	No
Houston	Yes	Yes	No	No	No	No	Yes	Yes	No	Yes
Louisville	No	No	Yes	Yes	Yes	No	No	Yes	No	No
New Haven	Yes	Yes	No	Yes	No	No	Yes	Yes	No	No
Newburgh	Yes	Yes	No	No	No	No	Yes	No	No	No
Norfolk	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No
Paulsboro	Yes	Yes	No	No	No	No	Yes	No	No	No
Philadelphia	Yes	Yes	No	Yes	No	No	Yes	No	No	No
Providence	No	Yes	No	No	No	No	Yes	No	No	No
Richmond	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
Springfield	No	Yes	No	No	No	No	Yes	No	No	No
Trenton	No	Yes	No	No	No	No	No	No	No	No
Wilmington	Yes	Yes	No	Yes	No	No	Yes	No	No	No
Totals	15	16	4	8	1	0	17	10	1	3

Table 6
GAO Report's RFG Study's Rack Locations:
Where Merging Firms Posted any Specification of Gasoline at the Unbranded Rack Pre-Merger

City	Exxon	Mobil	BP	Amoco	Marathon	Ashland	Texaco	Shell	Total	UDS
Albany	No	No	No	No	No	No	No	No	No	No
Baltimore	Yes	No	No	No	No	Yes	No	No	No	No
Boston	No	No	No	No	No	No	No	No	No	No
Dallas Metro	Yes	No	No	No	No	No	No	No	Yes	Yes
Dallas/Arlington	No	No	No	No	No	No	No	No	No	No
Dallas/Fort Worth	No	No	No	No	No	No	No	No	No	No
Dallas/Southgate	No	No	No	No	No	No	No	No	No	Yes
Fairfax	Yes	No	Yes	No	Yes	Yes	No	No	No	No
Hartford/Rocky Hill	No	No	No	No	No	No	No	No	No	No
Houston	Yes	No	No	No	No	No	No	No	No	Yes
Louisville	No	No	Yes	No	Yes	Yes	No	No	No	No
New Haven	No	No	No	No	No	No	No	No	No	No
Newburgh	No	No	No	No	No	No	No	No	No	No
Norfolk	Yes	No	No	No	Yes	Yes	No	No	No	No
Paulsboro	Yes	No	No	No	No	No	No	No	No	No
Philadelphia	Yes	No	No	No	No	No	No	No	No	No
Providence	No	No	No	No	No	No	No	No	No	No
Richmond	Yes	No	Yes	No	Yes	Yes	No	No	No	No
Wilmington	No	No	No	No	No	No	No	No	No	No
Totals	8	0	3	0	4	5	0	0	1	3

Table 7: HHI Calculations Under Alternate Methodologies by Year

			HHI-Corrected For	HHI-Operating
Year	Geographic Area	HHI-GAO Report	Ownership	Capacity
1995	PADD I	1558	1558	1591
	PADD II	692	683	689
	PADD III	519	554	566
	PADD IV	1128	1128	1128
	PADD V	942	942	957
	PADD I, III	474	499	502
	PADD II, III	417	457	463
	PADD I, II, III	408	442	445
	United States	362	401	403
1997	PADD I	1760	1760	2001
	PADD II	721	711	711
	PADD III	509	574	580
	PADD IV	1129	1129	1129
	PADD V	988	988	1034
	PADD I, III	466	511	514
	PADD II, III	426	486	491
	PADD I, II, III	410	459	464
	United States	359	411	415
1999	PADD I	1827	1827	2148
	PADD II	1004	1004	1004
	PADD III	582	734	739
	PADD IV	1116	1116	1116
	PADD V	1239	1239	1257
	PADD I, III	516	635	640
	PADD II, III	528	675	678
	PADD I, II, III	483	611	616
	United States	422	544	547
2000	PADD I	1819	1819	2007
	PADD II	980	980	980
	PADD III	704	887	889
	PADD IV	1124	1124	1164
	PADD V	1267	1227	1240
	PADD I, III	596	736	742
	PADD II, III	621	764	765
	PADD I, II, III	553	675	680
	United States	484	591	594

Table 8
Reformulated Gasoline Price Effects in Merger Event Study For Branded Gasoline:
Alternative Methods of Implementing STATA's XTGLS Command

	*GAO							
Independent	Report	Baseline						
<u>Variable</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exxon-Mobil	1.6080	1.3352	5.5851	5.6042	5.6044	0.1029	1.8108	0.4880
	(0.3010)	(0.2658)	(0.5020)	(0.4934)	(0.4934)	(0.0767)	(0.2449)	(0.0953)
BP-Amoco	0.5500	0.5374	0.3921	0.2670	0.2664	0.2783	0.6877	0.3067
	(0.2309)	(0.2227)	(0.8845)	(0.9021)	(0.9021)	(0.1890)	(0.2260)	(0.1932)
Marathon Ashland	0.7131	0.6842	2.1872	2.2299	2.2300	0.5155	0.6913	0.4850
	(0.2221)	(0.2146)	(0.8518)	(0.8691)	(0.8690)	(0.1822)	(0.2177)	(0.1862)
Shell-Texaco II	-0.3896	-0.4450	-2.9788	-2.9535	-2.9535	0.1879	-0.5775	0.2174
	(0.1825)	(0.1999)	(0.5305)	(0.5254)	(0.5253)	(0.1247)	(0.1797)	(0.1162)
Total UDS	-0.3875	-0.4346	-1.2335	-1.2485	-1.2485	-0.2653	-0.4863	-0.2785
	(0.0745)	(0.0848)	(1.4302)	(1.3953)	(1.3952)	(0.0682)	(0.0888)	(0.0720)
Inventories Ratio	-3.4529	-3.5979	-11.0737	-10.9220	-10.9211	-2.1708	-4.4407	-2.6333
	(0.8275)	(0.8911)	(1.0131)	(1.0119)	(1.0119)	(0.7299)	(0.8523)	(0.6976)
Utilization Rates	0.1905	0.1731	0.1561	0.1563	0.1563	0.1711	0.2406	0.2423
	(0.0971)	(0.0987)	(0.0241)	(0.0241)	(0.0241)	(0.1018)	(0.0759)	(0.0699)
MW Crisis	2.8199	2.6817	3.3438	3.3611	3.3612	2.7412	3.0070	3.4280
	(1.0261)	(1.0172)	(2.0448)	(2.3160)	(2.3168)	(1.0413)	(1.0574)	(1.0665)
Constant	0.0565	0.0410	0.0080	0.0071	0.0071	0.0594	0.0829	0.0224
	(0.6561)	(0.6845)	(0.1659)	(0.1655)	(0.1655)	(0.7064)	(0.3164)	(0.2729)
AR (1) Coefficient	0.8375	0.8011	0.8011	0.8011	0.8011	0.8011	n/a	n/a
Rack Cities	22	22	22	22	22	22	22	22
Weeks	305	305	305	305	305	305	305	305
Estimated By:	GAO	FTC						
STATA XTGLS Options:								
Correction for Auto								
Correlation	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Estimate Separate Auto								
Correlation by Rack	No	No	No	No	No	No	Yes	Yes
Panels: Heteroskedastic	No	No	No	Yes	Yes	No	No	No
Panels: Correlated	Yes	Yes	No	No	No	Yes	Yes	Yes
Iterated GLS	No	No	No	No	Yes	Yes	No	Yes

<sup>\*</sup> The figures in this column come directly from the GAO report, page 145.

Table 9
Reformulated Gasoline Price Effects in Merger Event Study For Unbranded Gasoline:
Alternative Methods of Implementing STATA's XTGLS Command

	*GAO							
Independent	Report	Baseline						
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exxon-Mobil	1.0118	0.7687	7.1859	7.2364	7.2369	-0.2513	1.1843	0.0403
	(0.4503)	(0.4114)	(0.5402)	(0.5307)	(0.5307)	(0.1550)	(0.3947)	(0.1639)
BP-Amoco	0.3976	0.4034	1.2832	1.0611	1.0596	0.2224	0.6383	0.4109
	(0.3185)	(0.3307)	(0.9471)	(0.9496)	(0.9495)	(0.2785)	(0.3477)	(0.2971)
Marathon Ashland	0.8558	0.8125	1.6479	1.6933	1.6935	0.6753	0.9012	0.7098
	(0.3060)	(0.3181)	(0.9113)	(0.9141)	(0.9141)	(0.2685)	(0.3349)	(0.2867)
Shell-Texaco II	0.0862	0.1205	-2.9384	-2.9199	-2.9200	0.4340	0.2885	0.3754
	(0.3531)	(0.3667)	(0.5663)	(0.5543)	(0.5543)	(0.3176)	(0.3678)	(0.3128)
Total UDS	-0.2237	-0.2785	-0.5550	-0.5720	-0.5720	-0.2386	-0.2414	-0.2269
	(0.1679)	(0.1762)	(1.5219)	(1.4577)	(1.4574)	(0.1696)	(0.1837)	(0.1760)
Inventories Ratio	-3.8524	-3.9998	-11.7352	-11.5526	-11.5504	-2.7357	-4.5561	-3.2085
	(0.9432)	(1.0150)	(1.1853)	(1.1795)	(1.1794)	(0.8607)	(1.0169)	(0.8702)
Utilization Rates	0.0835	0.1590	0.1506	0.1508	0.1508	0.1600	0.1968	0.1573
	(0.1048)	(0.1057)	(0.0282)	(0.0280)	(0.0280)	(0.1110)	(0.0963)	(0.0974)
MW Crisis	5.2124	4.8924	4.8433	4.8706	4.8709	5.0536	6.1679	6.0963
	(1.4006)	(1.3930)	(2.2229)	(2.5549)	(2.5567)	(1.4223)	(1.4383)	(1.4572)
Constant	0.0042	-0.0055	-0.0192	-0.0205	-0.0205	-0.0008	0.0311	0.0075
	(0.6908)	(0.7144)	(0.1886)	(0.1876)	(0.1876)	(0.7499)	(0.5106)	(0.4925)
AR (1) Coefficient	0.8347	0.7953	0.7953	0.7953	0.7953	0.7953	n/a	n/a
Rack Cities	19	19	19	19	19	19	19	19
Weeks	305	305	305	305	305	305	305	305
Estimated By:	GAO	FTC						
STATA XTGLS Options:								
Correction for Auto								
Correlation	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Estimate Separate Auto								
Correlation by Rack	No	No	No	No	No	No	Yes	Yes
Panels: Heteroskedastic	No	No	No	Yes	Yes	No	No	No
Panels: Correlated	Yes	Yes	No	No	No	Yes	Yes	Yes
Iterated GLS	No	No	No	No	Yes	Yes	No	Yes

<sup>\*</sup> The figures in this column come directly from the GAO report, page 145.

Table 10
Reformulated Gasoline Price Effects - Merger Event Study - Branded: Additional
Control Variables and Alternative Price Deflator

	*GAO				
Independent		Dogalina			
•	Report	Baseline	(2)	(4)	(5)
Variable	(1)	(2)	(3)	(4)	(5)
Exxon-Mobil	1.6080	1.3352	1.6090	1.4396	1.8535
DD 4	(0.3010)	(0.2658)	(0.2081)	(0.3085)	(0.2532)
BP-Amoco	0.5500	0.5374	0.4542	0.7506	0.9523
	(0.2309)	(0.2227)	(0.1771)	(0.2009)	(0.1591)
Marathon Ashland	0.7131	0.6842	0.8240	0.3273	0.1646
	(0.2221)	(0.2146)	(0.1691)	(0.1939)	(0.1520)
Shell-Texaco II	-0.3896	-0.4450	-0.7708	-0.3358	-0.8087
-	(0.1825)	(0.1999)	(0.1492)	(0.2000)	(0.1566)
Total UDS	-0.3875	-0.4346	-0.3844	-0.4539	-0.5267
-	(0.0745)	(0.0848)	(0.0526)	(0.1087)	(0.0634)
Inventories Ratio	-3.4529	-3.5979	-4.5148	-3.0428	-4.4431
	(0.8275)	(0.8911)	(0.8929)	(0.8204)	(0.8767)
Utilization Rates	0.1905	0.1731	0.1247	0.1372	0.0939
	(0.0971)	(0.0987)	(0.0983)	(0.0915)	(0.0906)
MW Crisis	2.8199	2.6817	3.8098	2.3601	3.4414
	(1.0261)	(1.0172)	(1.0469)	(0.9488)	(0.9775)
MW Crisis 2	n/a	n/a	3.6709	n/a	3.9565
	n/a	n/a	(1.6012)	n/a	(1.4876)
Constant	0.0565	0.0410	0.0536	0.0564	0.0581
	(0.6561)	(0.6845)	(0.4493)	(0.6945)	(0.4262)
Month 1	n/a	n/a	0.0816	n/a	0.4183
	n/a	n/a	(0.9964)	n/a	(0.9180)
Month 2	n/a	n/a	1.9278	n/a	1.9097
	n/a	n/a	(1.2062)	n/a	(1.1148)
Month 3	n/a	n/a	3.0669	n/a	2.9678
	n/a	n/a	(1.2322)	n/a	(1.1436)
Month 4	n/a	n/a	3.6921	n/a	3.4039
	n/a	n/a	(1.2585)	n/a	(1.1702)
Month 5	n/a	n/a	6.0593	n/a	5.5686
	n/a	n/a	(1.3037)	n/a	(1.2126)
Month 6	n/a	n/a	6.0025	n/a	5.5050
	n/a	n/a	(1.3174)	n/a	(1.2249)
Month 7	n/a	n/a	4.4303	n/a	4.0935
	n/a	n/a	(1.3043)	n/a	(1.2125)
Month 8	n/a	n/a	4.5878	n/a	4.2594
	n/a	n/a	(1.2650)	n/a	(1.1747)
Month 9	n/a	n/a	3.0144	n/a	2.7917
111011111	n/a	n/a	(1.2348)	n/a	(1.1442)
Month 10	n/a	n/a	2.2938	n/a	1.9595
	n/a	n/a	(1.1190)	n/a	(1.0344)
Month 11	n/a	n/a	2.0111	n/a	1.8185
	n/a	n/a	(0.9188)	n/a	(0.8455)
AR (1) Coefficient	0.8375	0.8011	0.7064	0.8199	0.7159
Rack Cities	22	22	22	22	22
Weeks	305	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC	FTC
Deflator	PPI	PPI	PPI	CPI	CPI
STATA XTGLS Options:	111	111	111	Ç1 1	Ç1 1
Correction for Auto					
Correlation	Yes	Yes	Yes	Yes	Yes
Correlation	1 05	103	105	1 03	105
Estimata Carrier A					
Estimate Separate Auto	N	NT.	NT.	NT.	NT
Correlation by Rack	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No

 $<sup>\</sup>boldsymbol{*}$  The figures in this column come directly from the GAO report, page 145.

Table 11
Reformulated Gasoline Price Effects- Merger Event Study - Unbranded:
Additional Control Variables and Alternative Price Deflator

	*0.40				
	*GAO				
Independent	Report	Baseline	(2)		( <del>-</del> )
Variable	(1)	(2)	(3)	(4)	(5)
Exxon-Mobil	1.0118	0.7687	0.9450	0.9770	1.3651
DD 4	(0.4503)	(0.4114)	(0.2983)	(0.4524)	(0.3394)
BP-Amoco	0.3976	0.4034	0.5030	0.5089	0.6712
Marathon Ashland	(0.3185) 0.8558	(0.3307) 0.8125	(0.2512) 0.8154	(0.3233) 0.4796	(0.2542) 0.4164
Marathon Ashland	(0.3060)	(0.3181)	(0.2404)	(0.3115)	(0.2432)
Shell-Texaco II	0.0862	0.1205	-0.0234	0.1509	-0.0569
Shell-Texaco II	(0.3531)	(0.3667)	(0.2574)	(0.3724)	(0.2617)
Total UDS	-0.2237	-0.2785	-0.1778	-0.3088	-0.3088
Total ODS	(0.1679)	(0.1762)	(0.1198)	(0.1846)	(0.1171)
Inventories Ratio	-3.8524	-3.9998	-5.0290	-3.6898	-5.2023
mventories Ratio	(0.9432)	(1.0150)	(0.9931)	(0.9483)	(0.9738)
Utilization Rates	0.0835	0.1590	0.0841	0.1250	0.0557
Offization Rates	(0.1048)	(0.1057)	(0.1045)	(0.0981)	(0.0962)
MW Crisis	5.2124	4.8924	7.1233	4.6199	6.8645
11111 011515	(1.4006)	(1.3930)	(1.4206)	(1.3162)	(1.3413)
MW Crisis 2	n/a	n/a	5.6103	n/a	5.8780
	n/a	n/a	(1.6851)	n/a	(1.5685)
Constant	0.0042	-0.0055	0.0179	0.0076	0.0233
	(0.6908)	(0.7144)	(0.4533)	(0.7184)	(0.4318)
Month 1	n/a	n/a	0.0050	n/a	0.4439
	n/a	n/a	(1.0609)	n/a	(0.9766)
Month 2	n/a	n/a	1.8576	n/a	2.0923
	n/a	n/a	(1.2778)	n/a	(1.1807)
Month 3	n/a	n/a	3.4103	n/a	3.4587
	n/a	n/a	(1.2940)	n/a	(1.2017)
Month 4	n/a	n/a	4.2496	n/a	4.0127
	n/a	n/a	(1.3174)	n/a	(1.2261)
Month 5	n/a	n/a	6.4793	n/a	6.0241
	n/a	n/a	(1.3636)	n/a	(1.2696)
Month 6	n/a	n/a	4.5792	n/a	4.2853
	n/a	n/a	(1.3784)	n/a	(1.2828)
Month 7	n/a	n/a	3.2794	n/a	3.1357
	n/a	n/a	(1.3639)	n/a	(1.2689)
Month 8	n/a	n/a	5.2538	n/a	5.0256
	n/a	n/a	(1.3252)	n/a	(1.2315)
Month 9	n/a	n/a	4.2883	n/a	4.0900
N. d. 10	n/a	n/a	(1.2981)	n/a	(1.2034)
Month 10	n/a	n/a	2.5854	n/a	2.3632
Md. 11	n/a	n/a	(1.1814)	n/a	(1.0922)
Month 11	n/a	n/a	1.7294	n/a	(0.8000)
AD (1) Confficient	n/a 0.8347	n/a 0.7953	(0.9780)	n/a 0.8129	(0.8990)
AR (1) Coefficient Rack Cities	19	19	0.6887 19	19	0.7006 19
Weeks	305	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC	FTC
Deflator	PPI	PPI	PPI	CPI	CPI
STATA XTGLS Options:	111	111	111	CII	CII
Correction for Auto					
Correlation	Yes	Yes	Yes	Yes	Yes
Estimate Separate Auto	1 05	1 03	103	103	1 05
Correlation by Rack	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No
Tieranda GEO	110	110	110	110	110

 $<sup>\</sup>boldsymbol{*}$  The figures in this column come directly from the GAO report, page 145.

Table 12
Gasoline Price Effects in Merger Event Study For Branded CARB Gasoline:
Alternative Methods of Implementing STATA's XTGLS Command

	*GAO							
Independent	Report	Baseline						
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tosco-Unocal	6.8685	5.1733	1.8416	1.8416	1.8770	5.4419	5.5602	5.6573
	(3.3136)	(3.2909)	(1.5144)	(1.5144)	(1.5141)	(3.2743)	(2.7640)	(2.7388)
Shell-Texaco I	-0.6933	-0.9910	-1.5720	-1.5720	-1.5646	-0.9326	-0.9739	-0.9272
	(0.3167)	(0.2948)	(1.8861)	(1.8861)	(1.8593)	(0.2922)	(0.2968)	(0.2953)
Inventories Ratio	-20.9206	-41.8458	-40.2218	-40.2218	-40.2349	-41.8569	-34.6150	-34.4319
	(5.9529)	(9.2852)	(4.1499)	(4.1499)	(4.1451)	(9.2369)	(8.6909)	(8.6477)
Utilization Rates	0.3625	0.1632	0.2907	0.2907	0.2889	0.1516	0.2095	0.2067
	(0.2186)	(0.2178)	(0.0969)	(0.0969)	(0.0967)	(0.2167)	(0.2072)	(0.2064)
WC Crisis	4.8834	3.9464	4.8916	4.8916	4.8836	3.8090	5.5766	5.5587
	(2.0148)	(2.0033)	(0.8935)	(0.8935)	(0.8924)	(1.9928)	(1.8533)	(1.8431)
Constant	0.3891	0.3470	0.3372	0.3372	0.3374	0.3440	0.3204	0.3159
	(1.6817)	(1.6157)	(0.7167)	(0.7167)	(0.7157)	(1.6072)	(1.1885)	(1.1718)
AR (1) Coefficient	0.8647	0.8146	0.8146	0.8146	0.8146	0.8146	n/a	n/a
Rack Cities	6	6	6	6	6	6	6	6
Weeks	242	242	242	242	242	242	242	242
Estimated By:	GAO	FTC						
STATA XTGLS Options:								
Correction for Auto								
Correlation	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Estimate Separate Auto								
Correlation by Rack	No	No	No	No	No	No	Yes	Yes
Panels: Heteroskedastic	No	No	No	Yes	Yes	No	No	No
Panels: Correlated	Yes	Yes	No	No	No	Yes	Yes	Yes
Iterated GLS	No	No	No	No	Yes	Yes	No	Yes

<sup>\*</sup> The figures in this column come directly from the GAO report, page 146.

Table 13 California Air Resources Board Gasoline Price Effects - Branded: Individual Cities

	*GAO								
Independent	Report	Baseline							
Variable	(1)	(2)	(3)	Colton	Imperial	Los Angeles	Sacramento	San Diego	Stockton
City	n/a	n/a	n/a	0.1006	-0.0895	0.0878	0.0078	0.0051	Omitted value
	n/a	n/a	n/a	(0.4796)	(0.4852)	(0.5010)	(0.2042)	(0.5133)	Omitted value
Tosco-Unocal	6.8685	5.1733	3.7802	1.7887	3.1726	2.8760	1.5247	1.4443	2.8170
	(3.3136)	(3.2909)	(3.5523)	(3.7365)	(3.7890)	(3.8983)	(3.8521)	(4.0507)	(3.7879)
Shell-Texaco I	-0.6933	-0.9910	1.3312	-0.7445	-1.4909	-2.0375	-2.8773	-2.6113	-1.4631
	(0.3167)	(0.2948)	(3.2184)	(3.3834)	(3.4310)	(3.5300)	(3.4881)	(3.6680)	(3.4300)
Inventories Ratio	-20.9206	-41.8458	-40.1516	-41.6789	-39.4069	-42.0951	-40.0249	-41.5957	-41.2506
	(5.9529)	(9.2852)	(9.4224)	(9.9327)	(10.0724)	(10.3628)	(10.2401)	(10.7680)	(10.0693)
Utilization Rates	0.3625	0.1632	0.1807	0.3133	0.2408	0.2899	0.2529	0.3684	0.2550
	(0.2186)	(0.2178)	(0.2186)	(0.2306)	(0.2338)	(0.2406)	(0.2377)	(0.2500)	(0.2337)
WC Crisis	4.8834	3.9464	3.5870	4.6808	4.1279	4.9001	5.5756	5.5797	5.7033
	(2.0148)	(2.0033)	(2.0226)	(2.1317)	(2.1617)	(2.2240)	(2.1977)	(2.3110)	(2.1610)
Constant	0.3891	0.3470	0.3410			0.30	095		
	(1.6817)	(1.6157)	(1.5919)			(1.68	896)		
Test Statistic	n/a	n/a	n/a			Chi2 (30)	) = 67.77		
	n/a	n/a	n/a			P-value	= 0.0001		
AR (1) Coefficient	0.8647	0.8146	0.8120			0.8	105		
Rack Cities	6	6	6			(			
Weeks	242	242	242			24			
Estimated By:	GAO	FTC	FTC			FI	TC		
Reclassify San Diego, LA									
and Stockton as affected by									
Shell-Texaco I	No	No	Yes			Y	es		
STATA XTGLS Options:									
Correction for Auto									
Correlation	Yes	Yes	Yes			Y	es		
Estimate Separate									
Auto Correlation by									
Rack	No	No	No			N	0		
Panels: Heteroskedastic	No	No	No			N	0		
Panels: Correlated	Yes	Yes	Yes			Y	es		
Iterated GLS	No	No	No			N	0		

<sup>\*</sup> The figures in this column come directly from the GAO report, page 146.

Table 14
California Air Resources Board Price Effects - Merger Event Study - Branded:
Additional Control Variables and Alternative Price Deflator

	#G + O				
	*GAO				
Independent	Report	Baseline			
Variable	(1)	(2)	(3)	(4)	(5)
Tosco-Unocal	6.8685	5.1733	4.1191	3.7938	2.5207
	(3.3136)	(3.2909)	(2.8989)	(2.9303)	(2.6471)
Shell-Texaco I	-0.6933	-0.9910	-1.3047	-1.1416	-1.4337
	(0.3167)	(0.2948)	(0.2464)	(0.2739)	(0.2443)
Inventories Ratio	-20.9206	-41.8458	-46.6269	-39.1099	-45.7514
	(5.9529)	(9.2852)	(11.0115)	(8.5148)	(10.1474)
Utilization Rates	0.3625	0.1632	0.1089	0.1291	0.0629
	(0.2186)	(0.2178)	(0.2234)	(0.2005)	(0.2061)
WC Crisis	4.8834	3.9464	n/a	4.2447	n/a
	(2.0148)	(2.0033)	n/a	(1.8311)	n/a
WC Crisis 1	n/a	n/a	7.6006	n/a	5.6286
	n/a	n/a	(2.7887)	n/a	(2.5607)
WC Crisis 2	n/a	n/a	2.5956	n/a	3.5658
	n/a	n/a	(3.1783)	n/a	(2.9272)
WC Crisis 3	n/a	n/a	3.7000	n/a	5.6156
	n/a	n/a	(3.2471)	n/a	(2.9727)
Constant	0.3891	0.3470	0.2215	0.3371	0.2166
	(1.6817)	(1.6157)	(1.2100)	(1.3907)	(1.0987)
Month 1	n/a	n/a	3.8129	n/a	4.3504
	n/a	n/a	(2.4675)	n/a	(2.2781)
Month 2	n/a	n/a	4.4104	n/a	4.4991
	n/a	n/a	(2.8777)	n/a	(2.6519)
Month 3	n/a	n/a	5.7323	n/a	5.6760
	n/a	n/a	(3.0738)	n/a	(2.8280)
Month 4	n/a	n/a	8.4798	n/a	8.0826
	n/a	n/a	(3.1721)	n/a	(2.9158)
Month 5	n/a	n/a	10.5028	n/a	10.0501
	n/a	n/a	(3.1118)	n/a	(2.8583)
Month 6	n/a	n/a	6.7937	n/a	6.5009
	n/a	n/a	(3.1571)	n/a	(2.8999)
Month 7	n/a	n/a	4.2260	n/a	3.9988
	n/a	n/a	(3.2041)	n/a	(2.9442)
Month 8	n/a	n/a	5.8692	n/a	5.2662
	n/a	n/a	(3.1896)	n/a	(2.9331)
Month 9	n/a	n/a	3.5350	n/a	3.3388
	n/a	n/a	(2.9610)	n/a	(2.7249)
Month 10	n/a	n/a	1.5877	n/a	1.1392
	n/a	n/a	(2.6195)	n/a	(2.4125)
Month 11	n/a	n/a	0.6110	n/a	0.4793
	n/a	n/a	(2.0658)	n/a	(1.9064)
AR (1) Coefficient	0.8647	0.8146	0.7552	0.8002	0.7509
Rack Cities	6	6	6	6	6
Weeks	242	242	242	242	242
Estimated By:	GAO	FTC	FTC	FTC	FTC
Deflator	PPI	PPI	PPI	CPI	CPI
STATA XTGLS Options:					
Correction for Auto					
Correlation	Yes	Yes	Yes	Yes	Yes
Estimate Separate					
Auto Correlation by					
Rack	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No

 $<sup>\</sup>boldsymbol{*}$  The figures in this column come directly from the GAO report, page 146.

Table 15 California Air Resources Board Price Effects - Merger Event Study -Branded: Including Additional Cities

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
Tosco-Unocal	6.8685	5.1733	-0.2935	0.0274
	(3.3136)	(3.2909)	(0.3857)	(0.3311)
Shell-Texaco I	-0.6933	-0.9910	0.8128	-0.0826
	(0.3167)	(0.2948)	(0.3878)	(0.2356)
Inventories Ratio	-20.9206	-41.8458	-34.9800	-37.7153
	(5.9529)	(9.2852)	(9.0933)	(8.5766)
Utilization Rates	0.3625	0.1632	0.3116	0.1765
	(0.2186)	(0.2178)	(0.2148)	(0.2032)
WC Crisis	4.8834	3.9464	4.7076	4.2788
	(2.0148)	(2.0033)	(1.9836)	(1.8698)
Constant	0.3891	0.3470	0.3438	0.2948
	(1.6817)	(1.6157)	(1.7379)	(1.5854)
AR (1) Coefficient	0.8647	0.8146	0.8315	0.8246
Rack Cities	6	6	7	13
Weeks	242	242	242	242
Estimated By:	GAO	FTC	FTC	FTC
GAO CARB Cities	Yes	Yes	No	No
Additional CARB Cities	No	No	Yes	No
All CARB Cities	No	No	No	Yes
STATA XTGLS Options:				
Correction for Auto Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto				
Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 146.

Table 16
Reformulated Gasoline Price HHI - Branded Gasoline:
Different Methods of Implementing STATA's XTGLS Command

	*GAO							
Independent	Report	Baseline						
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HHI-GAO Report	0.0041	0.0034	0.0022	0.0020	0.0020	0.0041	0.0014	0.0018
	(0.0016)	(0.0017)	(0.0018)	(0.0018)	(0.0018)	(0.0014)	(0.0017)	(0.0014)
Inventories Ratio	-3.4990	-4.1328	-13.0113	-12.9686	-12.9686	-2.3745	-4.5566	-2.4516
	(0.8147)	(0.9085)	(0.9995)	(0.9975)	(0.9975)	(0.7248)	(0.8913)	(0.7015)
Utilization Rates	0.1830	0.1727	0.1504	0.1507	0.1507	0.1658	0.1319	0.1437
	(0.1005)	(0.1013)	(0.0244)	(0.0244)	(0.0244)	(0.1023)	(0.0811)	(0.0817)
MW Crisis	2.6429	2.6986	3.0833	3.0886	3.0886	2.6645	3.2588	3.2382
	(1.0268)	(1.0314)	(2.0628)	(2.3139)	(2.3142)	(1.0355)	(1.0759)	(1.0882)
Constant	0.0790	0.0442	0.0349	0.0355	0.0355	0.0480	0.0861	0.0937
	(0.7432)	(0.7376)	(0.1768)	(0.1764)	(0.1764)	(0.7451)	(0.3580)	(0.3608)
AR (1) Coefficient	0.8447	0.8116	0.8116	0.8116	0.8116	0.8116	n/a	n/a
Rack Cities	22	22	22	22	22	22	22	22
Weeks	305	305	305	305	305	305	305	305
Estimated By:	GAO	FTC						
STATA XTGLS Options:								
Correction for Auto								
Correlation	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Estimate Separate Auto								
Correlation by Rack	No	No	No	No	No	No	Yes	Yes
Panels: Heteroskedastic	No	No	No	Yes	Yes	No	No	No
Panels: Correlated	Yes	Yes	No	No	No	Yes	Yes	Yes
Iterated GLS	No	No	No	No	Yes	Yes	No	Yes

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 17
Reformulated Gasoline Price HHI - Unbranded Gasoline:
Different Methods of Implementing STATA's XTGLS Command

	*GAO							
Independent	Report	Baseline						
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HHI-GAO Report	0.0037	0.0034	0.0035	0.0031	0.0031	0.0030	0.0048	0.0042
	(0.0019)	(0.0020)	(0.0021)	(0.0021)	(0.0021)	(0.0016)	(0.0021)	(0.0017)
Inventories Ratio	-3.7742	-4.7114	-15.1555	-15.1106	-15.1110	-3.0427	-5.2069	-3.3133
	(0.9543)	(1.0857)	(1.1695)	(1.1633)	(1.1633)	(0.8726)	(1.0973)	(0.8863)
Utilization Rates	0.0797	0.1465	0.1389	0.1398	0.1399	0.1457	0.2150	0.2233
	(0.1096)	(0.1093)	(0.0287)	(0.0285)	(0.0285)	(0.1110)	(0.1003)	(0.1017)
MW Crisis	4.8318	4.6688	4.3547	4.3624	4.3625	4.8434	6.0692	6.2162
	(1.3905)	(1.3925)	(2.2550)	(2.5473)	(2.5480)	(1.4120)	(1.4508)	(1.4753)
Constant	0.0088	-0.0184	0.0182	0.0193	0.0193	-0.0143	0.0176	0.0183
	(0.7980)	(0.7809)	(0.2037)	(0.2029)	(0.2029)	(0.7935)	(0.5761)	(0.5873)
AR (1) Coefficient	0.8401	0.8077	0.8077	0.8077	0.8077	0.8077	n/a	n/a
Rack Cities	19	19	19	19	19	19	19	19
Weeks	305	305	305	305	305	305	305	305
Estimated By:	GAO	FTC						
STATA XTGLS Options:								
Correction for Auto								
Correlation	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Estimate Separate Auto								
Correlation by Rack	No	No	No	No	No	No	Yes	Yes
Panels: Heteroskedastic	No	No	No	Yes	Yes	No	No	No
Panels: Correlated	Yes	Yes	No	No	No	Yes	Yes	Yes
Iterated GLS	No	No	No	No	Yes	Yes	No	Yes

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 18
Reformulated Gasoline Price HHI - Branded:
Additional Controls and Alternative Price Deflator

	*CAO				_
T 1 1 4	*GAO	D 1'			
Independent	Report	Baseline	(2)	(4)	(5)
Variable	(1)	(2)	(3)	(4)	(5)
HHI-GAO Report	0.0041	0.0034	0.0025	0.0022	0.0007
	(0.0016)	(0.0017)	(0.0014)	(0.0017)	(0.0015)
Inventories Ratio	-3.4990	-4.1328	-6.3133	-3.4715	-6.9013
	(0.8147)	(0.9085)	(1.0023)	(0.8449)	(1.0741)
Utilization Rates	0.1830	0.1727	0.1273	0.1304	0.0862
	(0.1005)	(0.1013)	(0.1000)	(0.0948)	(0.0931)
MW Crisis	2.6429	2.6986	3.9694	2.4851	3.9535
	(1.0268)	(1.0314)	(1.0792)	(0.9635)	(1.0319)
MW Crisis 2	n/a	n/a	3.3087	n/a	3.8477
	n/a	n/a	(1.6219)	n/a	(1.5117)
Constant	0.0790	0.0442	0.0505	0.0765	0.0639
	(0.7432)	(0.7376)	(0.4504)	(0.7827)	(0.4204)
Month 1	n/a	n/a	0.1047	n/a	0.5763
	n/a	n/a	(1.0159)	n/a	(0.9485)
Month 2	n/a	n/a	1.7759	n/a	1.9483
	n/a	n/a	(1.2263)	n/a	(1.1433)
Month 3	n/a	n/a	3.0466	n/a	3.2171
	n/a	n/a	(1.2496)	n/a	(1.1649)
Month 4	n/a	n/a	3.6915	n/a	3.6834
	n/a	n/a	(1.2748)	n/a	(1.1882)
Month 5	n/a	n/a	6.0715	n/a	5.7552
	n/a	n/a	(1.3199)	n/a	(1.2301)
Month 6	n/a	n/a	6.1163	n/a	5.7422
	n/a	n/a	(1.3338)	n/a	(1.2428)
Month 7	n/a	n/a	4.3503	n/a	4.1221
	n/a	n/a	(1.3209)	n/a	(1.2307)
Month 8	n/a	n/a	4.1921	n/a	3.9248
	n/a	n/a	(1.2818)	n/a	(1.1943)
Month 9	n/a	n/a	2.8054	n/a	2.6076
	n/a	n/a	(1.2524)	n/a	(1.1665)
Month 10	n/a	n/a	2.0425	n/a	1.7322
	n/a	n/a	(1.1364)	n/a	(1.0583)
Month 11	n/a	n/a	1.8937	n/a	1.7064
	n/a	n/a	(0.9352)	n/a	(0.8705)
AR (1) Coefficient	0.8447	0.8116	0.7014	0.8356	0.7024
Rack Cities	22	22	22	22	22
Weeks	305	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC	FTC
Deflator	PPI	PPI	PPI	CPI	CPI
STATA XTGLS Options:					
Correction for Auto					
Correlation	Yes	Yes	Yes	Yes	Yes
Estimate Separate Auto					
Correlation by Rack	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 19
Reformulated Gasoline Price HHI - Unbranded:
Additional Controls and Alternative Price Deflator

	*0.40				
	*GAO	- ·			
Independent	Report	Baseline			
Variable	(1)	(2)	(3)	(4)	(5)
HHI-GAO Report	0.0037	0.0034	0.0034	0.0018	0.0019
	(0.0019)	(0.0020)	(0.0016)	(0.0020)	(0.0016)
Inventories Ratio	-3.7742	-4.7114	-7.1783	-4.1112	-7.8070
	(0.9543)	(1.0857)	(1.1779)	(1.0251)	(1.2392)
Utilization Rates	0.0797	0.1465	0.0700	0.1059	0.0328
	(0.1096)	(0.1093)	(0.1064)	(0.1022)	(0.0991)
MW Crisis	4.8318	4.6688	6.9008	4.3174	6.7614
	(1.3905)	(1.3925)	(1.4625)	(1.3139)	(1.3977)
MW Crisis 2	n/a	n/a	5.7832	n/a	6.4945
	n/a	n/a	(1.6963)	n/a	(1.5855)
Constant	0.0088	-0.0184	0.0031	0.0020	0.0135
	(0.7980)	(0.7809)	(0.4485)	(0.8194)	(0.4221)
Month 1	n/a	n/a	0.1806	n/a	0.7016
	n/a	n/a	(1.0865)	n/a	(1.0147)
Month 2	n/a	n/a	2.0475	n/a	2.4131
	n/a	n/a	(1.3002)	n/a	(1.2138)
Month 3	n/a	n/a	3.7578	n/a	4.0221
	n/a	n/a	(1.3099)	n/a	(1.2241)
Month 4	n/a	n/a	4.6366	n/a	4.6710
	n/a	n/a	(1.3307)	n/a	(1.2442)
Month 5	n/a	n/a	6.8666	n/a	6.5543
	n/a	n/a	(1.3761)	n/a	(1.2866)
Month 6	n/a	n/a	4.9714	n/a	4.8232
	n/a	n/a	(1.3916)	n/a	(1.3007)
Month 7	n/a	n/a	3.4529	n/a	3.3610
	n/a	n/a	(1.3776)	n/a	(1.2873)
Month 8	n/a	n/a	5.3364	n/a	5.1543
	n/a	n/a	(1.3400)	n/a	(1.2517)
Month 9	n/a	n/a	4.3069	n/a	4.1187
	n/a	n/a	(1.3151)	n/a	(1.2275)
Month 10	n/a	n/a	2.4948	n/a	2.2589
	n/a	n/a	(1.2004)	n/a	(1.1194)
Month 11	n/a	n/a	1.6568	n/a	1.5073
	n/a	n/a	(0.9988)	n/a	(0.9296)
AR (1) Coefficient	0.8401	0.8077	0.6777	0.8304	0.6816
Rack Cities	19	19	19	19	19
Weeks	305	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC	FTC
Deflator	PPI	PPI	PPI	CPI	CPI
STATA XTGLS Options:					
Correction for Auto					
Correlation	Yes	Yes	Yes	Yes	Yes
Estimate Separate Auto					
Correlation by Rack	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 20
Reformulated Gasoline Price HHI - Branded:
Alternative Measures of Concentration

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
HHI-GAO Report	0.0041	0.0034	n/a	n/a
	(0.0016)	(0.0017)	n/a	n/a
HHI-Corrected For	n/a	n/a	0.0030	n/a
Ownership	n/a	n/a	(0.0016)	n/a
HHI-Operating Capacity	n/a	n/a	n/a	0.0011
	n/a	n/a	n/a	(0.0009)
Inventories Ratio	-3.4990	-4.1328	-4.1799	-4.2504
	(0.8147)	(0.9085)	(0.9091)	(0.9216)
Utilization Rates	0.1830	0.1727	0.1730	0.1725
	(0.1005)	(0.1013)	(0.1013)	(0.1011)
MW Crisis	2.6429	2.6986	2.7080	2.7562
	(1.0268)	(1.0314)	(1.0317)	(1.0353)
Constant	0.0790	0.0442	0.0431	0.0490
	(0.7432)	(0.7376)	(0.7386)	(0.7254)
AR (1) Coefficient	0.8447	0.8116	0.8119	0.8084
Rack Cities	22	22	22	22
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
STATA XTGLS Options:				
Correction for Auto				
Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto				
Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 21
Reformulated Gasoline Price HHI - Unbranded:
Alternative Measures of Concentration

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
HHI-GAO Report	0.0037	0.0034	n/a	n/a
_	(0.0019)	(0.0020)	n/a	n/a
HHI-Corrected For	n/a	n/a	0.0022	n/a
Ownership	n/a	n/a	(0.0019)	n/a
HHI-Operating Capacity	n/a	n/a	n/a	0.0012
	n/a	n/a	n/a	(0.0010)
Inventories Ratio	-3.7742	-4.7114	-4.7173	-4.7968
	(0.9543)	(1.0857)	(1.0888)	(1.0955)
Utilization Rates	0.0797	0.1465	0.1461	0.1493
	(0.1096)	(0.1093)	(0.1092)	(0.1092)
MW Crisis	4.8318	4.6688	4.6573	4.7375
	(1.3905)	(1.3925)	(1.3929)	(1.3976)
Constant	0.0088	-0.0184	-0.0149	-0.0140
	(0.7980)	(0.7809)	(0.7827)	(0.7675)
AR (1) Coefficient	0.8401	0.8077	0.8082	0.8041
Rack Cities	19	19	19	19
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
STATA XTGLS Options:				
Correction for Auto				
Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto				
Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 22 California Air Resource Board Gasoline Event Study: Robustness of Event Window

	*GAO				
Independent	Report	Baseline			
Variable	(1)	(2)	(3)	(4)	(5)
Tosco-Unocal	6.8685	5.1733	3.9148	3.7802	3.8327
	(3.3136)	(3.2909)	(2.7202)	(3.5523)	(2.7450)
Shell-Texaco I	-0.6933	-0.9910	-0.1175	1.3312	0.2803
	(0.3167)	(0.2948)	(0.3836)	(3.2184)	(2.7773)
Inventories Ratio	-20.9206	-41.8458	-9.6191	-40.1516	-9.4379
	(5.9529)	(9.2852)	(8.2893)	(9.4224)	(8.3982)
Utilization Rates	0.3625	0.1632	-0.3068	0.1807	-0.3073
	(0.2186)	(0.2178)	(0.1797)	(0.2186)	(0.1799)
WC Crisis	4.8834	3.9464	n/a	3.5870	n/a
	(2.0148)	(2.0033)	n/a	(2.0226)	n/a
Constant	0.3891	0.3470	-0.7416	0.3410	-0.6644
	(1.6817)	(1.6157)	(2.4781)	(1.5919)	(2.5362)
AR (1) Coefficient	0.8647	0.8146	0.8970	0.8120	0.8957
Rack Cities	6	6	6	6	6
Weeks	242	242	134	242	134
Reclassify San Diego, LA and					
Stockton as affected by					
Shell-Texaco	No	No	No	Yes	Yes
Equivalent post-merger window					
(Final Date: Dec. 3, 1998)	No	No	Yes	No	Yes
Estimated By:	GAO	FTC	FTC	FTC	FTC
STATA XTGLS Options:					
Correction for Auto					
Correlation	Yes	Yes	Yes	Yes	Yes
Estimate Separate					
Auto Correlation by					
Rack	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 146.

Table 23
Reformulated Gasoline Merger Event Study Price Effects - Branded:
Difference in Difference Estimates

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
Exxon-Mobil	1.6080	1.3352	0.1092	0.1860
	(0.3010)	(0.2658)	(0.0699)	(0.0998)
BP-Amoco	0.5500	0.5374	0.3052	0.2068
	(0.2309)	(0.2227)	(0.1903)	(0.2319)
Marathon Ashland	0.7131	0.6842	0.6637	0.5217
	(0.2221)	(0.2146)	(0.1829)	(0.2259)
Shell-Texaco II	-0.3896	-0.4450	0.0552	0.0530
	(0.1825)	(0.1999)	(0.1150)	(0.1679)
Total UDS	-0.3875	-0.4346	-0.2332	-0.2044
	(0.0745)	(0.0848)	(0.0629)	(0.0912)
C-Exxon-Mobil	n/a	n/a	6.7857	n/a
	n/a	n/a	(1.5946)	n/a
C-BP-Amoco	n/a	n/a	-0.3339	n/a
	n/a	n/a	(1.6848)	n/a
C-Marathon Ashland	n/a	n/a	3.1005	n/a
	n/a	n/a	(1.9081)	n/a
C-Shell-Texaco	n/a	n/a	-2.5439	n/a
	n/a	n/a	(1.8091)	n/a
C-Total UDS	n/a	n/a	-3.7557	n/a
	n/a	n/a	(1.7712)	n/a
Inventories Ratio	-3.4529	-3.5979	-4.0679	-1.8116
	(0.8275)	(0.8911)	(0.8854)	(0.7440)
Utilization Rates	0.1905	0.1731	0.1852	0.0569
	(0.0971)	(0.0987)	(0.0979)	(0.0032)
MW Crisis	2.8199	2.6817	3.0926	2.1488
	(1.0261)	(1.0172)	(1.0369)	(1.0050)
Constant	0.0565	0.0410	-0.0093	n/a
	(0.6561)	(0.6845)	(0.5892)	n/a
AR (1) Coefficient	0.8375	0.8011	0.7700	0.8767
Rack Cities	22	22	22	22
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
Week Dummies	No	No	No	Yes
STATA XTGLS Options:				
Correction for Auto Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto				
Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 145.

Table 24
Reformulated Gasoline Merger Event Study Price Effects - Unbranded:
Difference in Difference Estimates

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
Exxon-Mobil	1.0118	0.7687	-0.3391	-0.2553
Exam Moon	(0.4503)	(0.4114)	(0.1387)	(0.1497)
BP-Amoco	0.3976	0.4034	0.3380	0.3643
Bi imioco	(0.3185)	(0.3307)	(0.2827)	(0.2754)
Marathon Ashland	0.8558	0.8125	0.6948	0.7438
171414411011 7 ISINGING	(0.3060)	(0.3181)	(0.2719)	(0.2647)
Shell-Texaco II	0.0862	0.1205	0.5440	0.4651
21111 1411140 11	(0.3531)	(0.3667)	(0.2839)	(0.2830)
Total UDS	-0.2237	-0.2785	-0.1694	-0.1615
10001 022	(0.1679)	(0.1762)	(0.1494)	(0.1453)
C-Exxon-Mobil	n/a	n/a	8.9276	n/a
C 2.11.011 112.011	n/a	n/a	(1.6601)	n/a
C-BP-Amoco	n/a	n/a	0.8776	n/a
	n/a	n/a	(1.7594)	n/a
C-Marathon Ashland	n/a	n/a	3.4498	n/a
	n/a	n/a	(2.0209)	n/a
C-Shell-Texaco	n/a	n/a	-3.8924	n/a
	n/a	n/a	(1.9331)	n/a
C-Total UDS	n/a	n/a	-2.4009	n/a
	n/a	n/a	(1.8659)	n/a
Inventories Ratio	-3.8524	-3.9998	-4.1230	-3.2906
	(0.9432)	(1.0150)	(0.9916)	(0.9843)
Utilization Rates	0.0835	0.1590	0.1786	-0.0590
	(0.1048)	(0.1057)	(0.1045)	(0.0044)
MW Crisis	5.2124	4.8924	5.5964	5.5643
	(1.4006)	(1.3930)	(1.4213)	(1.4340)
Constant	0.0042	-0.0055	-0.0577	n/a
	(0.6908)	(0.7144)	(0.5906)	n/a
AR (1) Coefficient	0.8347	0.7953	0.7529	0.7449
Rack Cities	19	19	19	19
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
Week Dummies	No	No	No	Yes
STATA XTGLS Options:				
Correction for Auto Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto				
Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 145.

Table 25
Reformulated Gasoline Merger Event Study Price Effects - Branded:
Robustness of Inventory Ratio

	*CAO			
In doman dom4	*GAO	Baseline		
Independent Variable	Report		(2)	(4)
	(1)	(2)	(3) 1.3939	(4)
Exxon-Mobil	1.6080	1.3352		1.4021
DD 4	(0.3010)	(0.2658)	(0.2632)	(0.2578)
BP-Amoco	0.5500	0.5374	0.4819	0.4555
	(0.2309)	(0.2227)	(0.2195)	(0.2150)
Marathon Ashland	0.7131	0.6842	0.6906	0.7223
	(0.2221)	(0.2146)	(0.2112)	(0.2066)
Shell-Texaco II	-0.3896	-0.4450	-0.4082	-0.4709
	(0.1825)	(0.1999)	(0.1981)	(0.1962)
Total UDS	-0.3875	-0.4346	-0.4288	-0.4300
	(0.0745)	(0.0848)	(0.0835)	(0.0794)
Inventories Ratio	-3.4529	-3.5979	n/a	n/a
	(0.8275)	(0.8911)	n/a	n/a
Padd I)*(Inventory Ratio Padd I)	n/a	n/a	-3.3929	-2.9747
	n/a	n/a	(0.9859)	(0.9604)
Padd II)*(Inventory Ratio Padd II)	n/a	n/a	-9.6695	-9.3784
	n/a	n/a	(2.3518)	(2.6414)
Padd III)*(Inventory Ratio Padd III)	n/a	n/a	-2.5211	-12.2147
	n/a	n/a	(1.1264)	(4.3845)
Padd I)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-10.3705
	n/a	n/a	n/a	(4.4101)
Padd II)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-10.9556
	n/a	n/a	n/a	(5.3023)
Utilization Rates	0.1905	0.1731	0.1754	0.1688
	(0.0971)	(0.0987)	(0.0988)	(0.0985)
MW Crisis	2.8199	2.6817	2.2307	2.3183
	(1.0261)	(1.0172)	(1.0280)	(1.0308)
Constant	0.0565	0.0410	0.0396	0.0450
	(0.6561)	(0.6845)	(0.6830)	(0.6586)
AR (1) Coefficient	0.8375	0.8011	0.8004	0.7931
Rack Cities	22	22	22	22
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
·	0110	110	110	
Correction for Auto Correlation	Yes	Yes	Yes	Yes
ite Separate Auto Correlation by Rack	No	No	No	No
				No
				Yes No
STATA XTGLS Options:				

<sup>\*</sup> The figures in this column come directly from the GAO report, page 145.

Table 26
Reformulated Gasoline Merger Event Study Price Effects - Unbranded:
Robustness of Inventory Ratio

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
Exxon-Mobil	1.0118	0.7687	0.8328	0.8152
	(0.4503)	(0.4114)	(0.4080)	(0.4046)
BP-Amoco	0.3976	0.4034	0.3381	0.3427
	(0.3185)	(0.3307)	(0.3222)	(0.3178)
Marathon Ashland	0.8558	0.8125	0.8462	0.8529
	(0.3060)	(0.3181)	(0.3082)	(0.3035)
Shell-Texaco II	0.0862	0.1205	0.1804	0.1274
	(0.3531)	(0.3667)	(0.3633)	(0.3561)
Total UDS	-0.2237	-0.2785	-0.2684	-0.2726
	(0.1679)	(0.1762)	(0.1742)	(0.1691)
Inventories Ratio	-3.8524	-3.9998	n/a	n/a
	(0.9432)	(1.0150)	n/a	n/a
(If Padd I)*(Inventory Ratio Padd I)	n/a	n/a	-4.4401	-4.1805
	n/a	n/a	(1.0858)	(1.1101)
(If Padd II)*(Inventory Ratio Padd II)	n/a	n/a	-13.3191	-13.4842
	n/a	n/a	(3.1821)	(3.6058)
(If Padd III)*(Inventory Ratio Padd III)	n/a	n/a	-1.7318	-12.1305
	n/a	n/a	(1.2769)	(4.7875)
(If Padd I)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-10.4875
	n/a	n/a	n/a	(4.7032)
(If Padd II)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-10.5799
	n/a	n/a	n/a	(6.1779)
Utilization Rates	0.0835	0.1590	0.1613	0.1538
	(0.1048)	(0.1057)	(0.1057)	(0.1055)
MW Crisis	5.2124	4.8924	4.2273	4.3444
	(1.4006)	(1.3930)	(1.4110)	(1.4158)
Constant	0.0042	-0.0055	-0.0068	-0.0005
	(0.6908)	(0.7144)	(0.7093)	(0.6846)
AR (1) Coefficient	0.8347	0.7953	0.7937	0.7860
Rack Cities	19	19	19	19
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
STATA XTGLS Options:		<u> </u>		
Correction for Auto Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 145.

Table 27
Reformulated Gasoline Price HHI - Branded:
Robustness of Inventory Ratio

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
HHI-GAO Report	0.0041	0.0034	0.0040	0.0042
	(0.0016)	(0.0017)	(0.0017)	(0.0016)
Inventories Ratio	-3.4990	-4.1328	n/a	n/a
	(0.8147)	(0.9085)	n/a	n/a
(If Padd I)*(Inventory Ratio Padd I)	n/a	n/a	-4.2929	-3.9492
	n/a	n/a	(1.0240)	(0.9998)
(If Padd II)*(Inventory Ratio Padd II)	n/a	n/a	-9.8817	-9.7724
	n/a	n/a	(2.4086)	(2.6955)
(If Padd III)*(Inventory Ratio Padd III)	n/a	n/a	-2.7316	-11.9582
	n/a	n/a	(1.1536)	(4.5282)
(If Padd I)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-9.7729
	n/a	n/a	n/a	(4.5174)
(If Padd II)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-9.9042
	n/a	n/a	n/a	(5.3457)
Utilization Rates	0.1830	0.1727	0.1735	0.1683
	(0.1005)	(0.1013)	(0.1013)	(0.1010)
MW Crisis	2.6429	2.6986	2.2796	2.3634
	(1.0268)	(1.0314)	(1.0427)	(1.0464)
Constant	0.0790	0.0442	0.0418	0.0449
	(0.7432)	(0.7376)	(0.7377)	(0.7094)
AR (1) Coefficient	0.8447	0.8116	0.8115	0.8041
Rack Cities	22	22	22	22
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
STATA XTGLS Options:				
Correction for Auto Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 28
Reformulated Gasoline Price HHI - Unbranded:
Robustness of Inventory Ratio

	*GAO			
Independent	Report	Baseline		
Variable	(1)	(2)	(3)	(4)
HHI-GAO Report	0.0037 (0.0019)	0.0034 (0.0020)	0.0038 (0.0020)	0.0037 (0.0019)
Inventories Ratio	-3.7742	-4.7114	n/a	n/a
	(0.9543)	(1.0857)	n/a	n/a
(If Padd I)*(Inventory Ratio Padd I)	n/a	n/a	-5.5524	-5.2754
	n/a	n/a	(1.1981)	(1.2186)
(If Padd II)*(Inventory Ratio Padd II)	n/a	n/a	-12.9205	-13.4461
	n/a	n/a	(3.2254)	(3.6282)
(If Padd III)*(Inventory Ratio Padd III)	n/a	n/a	-2.2516	-11.8342
	n/a	n/a	(1.3812)	(4.9424)
(If Padd I)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-9.8171
	n/a	n/a	n/a	(4.8720)
(If Padd II)*(Inventory Ratio Padd III)	n/a	n/a	n/a	-8.9820
	n/a	n/a	n/a	(6.2946)
Utilization Rates	0.0797	0.1465	0.1472	0.1416
	(0.1096)	(0.1093)	(0.1093)	(0.1091)
MW Crisis	4.8318	4.6688	4.1530	4.2473
	(1.3905)	(1.3925)	(1.4091)	(1.4136)
Constant	0.0088	-0.0184	-0.0216	-0.0154
	(0.7980)	(0.7809)	(0.7783)	(0.7484)
AR (1) Coefficient	0.8401	0.8077	0.8070	0.7990
Rack Cities	19	19	19	19
Weeks	305	305	305	305
Estimated By:	GAO	FTC	FTC	FTC
STATA XTGLS Options:				
Correction for Auto Correlation	Yes	Yes	Yes	Yes
Estimate Separate Auto Correlation by Rack	No	No	No	No
Panels: Heteroskedastic	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

Table 29
Merger Event Studies - Importance of Control Variables

	R	FG - Brand	ed	RF	G - Unbran	ded	$\mathbf{C}$	ARB - Brand	led
	*GAO		No	*GAO		No	*GAO		No
Independent	Report	Baseline	Controls	Report	Baseline	Controls	Report	Baseline	Controls
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exxon-Mobil	1.6080	1.3352	1.4681	1.0118	0.7687	0.8367	n/a	n/a	n/a
	(0.3010)	(0.2658)	(0.3311)	(0.4503)	(0.4114)	(0.4991)	n/a	n/a	n/a
BP-Amoco	0.5500	0.5374	0.3474	0.3976	0.4034	0.2705	n/a	n/a	n/a
	(0.2309)	(0.2227)	(0.2318)	(0.3185)	(0.3307)	(0.3198)	n/a	n/a	n/a
Marathon Ashland	0.7131	0.6842	0.6674	0.8558	0.8125	0.8432	n/a	n/a	n/a
	(0.2221)	(0.2146)	(0.2241)	(0.3060)	(0.3181)	(0.3086)	n/a	n/a	n/a
Shell-Texaco II	-0.3896	-0.4450	-0.1952	0.0862	0.1205	0.1964	n/a	n/a	n/a
	(0.1825)	(0.1999)	(0.2047)	(0.3531)	(0.3667)	(0.4032)	n/a	n/a	n/a
Total UDS	-0.3875	-0.4346	-0.4135	-0.2237	-0.2785	-0.2787	n/a	n/a	n/a
	(0.0745)	(0.0848)	(0.1060)	(0.1679)	(0.1762)	(0.2011)	n/a	n/a	n/a
Inventories Ratio	-3.4529	-3.5979	n/a	-3.8524	-3.9998	n/a	-20.9206	-41.8458	n/a
	(0.8275)	(0.8911)	n/a	(0.9432)	(1.0150)	n/a	(5.9529)	(9.2852)	n/a
Utilization Rates	0.1905	0.1731	n/a	0.0835	0.1590	n/a	0.3625	0.1632	n/a
	(0.0971)	(0.0987)	n/a	(0.1048)	(0.1057)	n/a	(0.2186)	(0.2178)	n/a
MW Crisis	2.8199	2.6817	n/a	5.2124	4.8924	n/a	n/a	n/a	n/a
	(1.0261)	(1.0172)	n/a	(1.4006)	(1.3930)	n/a	n/a	n/a	n/a
Constant	0.0565	0.0410	0.0488	0.0042	-0.0055	-0.0104	0.3891	0.3470	0.6687
	(0.6561)	(0.6845)	(0.8286)	(0.6908)	(0.7144)	(0.8441)	(1.6817)	(1.6157)	(3.0358)
Tosco-Unocal	n/a	n/a	n/a	n/a	n/a	n/a	6.8685	5.1733	7.3030
	n/a	n/a	n/a	n/a	n/a	n/a	(3.3136)	(3.2909)	(4.2168)
Shell-Texaco I	n/a	n/a	n/a	n/a	n/a	n/a	-0.6933	-0.9910	-0.0303
	n/a	n/a	n/a	n/a	n/a	n/a	(0.3167)	(0.2948)	(0.4208)
WC Crisis	n/a	n/a	n/a	n/a	n/a	n/a	4.8834	3.9464	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	(2.0148)	(2.0033)	n/a
AR (1) Coefficient	0.8375	0.8011	0.8342	0.8347	0.7953	0.8245	0.8647	0.8146	0.9008
Rack Cities	22	22	22	19	19	19	6	6	6
Weeks	305	305	305	305	305	305	242	242	242
Estimated By:	GAO	FTC	FTC	GAO	FTC	FTC	GAO	FTC	FTC
Drop Controls:	No	No	Yes	No	No	Yes	No	No	Yes
STATA XTGLS Options:									
Correction for Auto						<u></u>			- <del></del>
Correlation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estimate Separate Auto									
Correlation by Rack	No	No	No	No	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, pages 145 and 146.

Table 30 Reformulated Gasoline Price HHI: Importance of Control Variables

		Branded		τ	<b>Inbranded</b>	
	*GAO		No	*GAO		No
Independent	Report	Baseline	Controls	Report	Baseline	Controls
Variable	(1)	(2)	(3)	(1)	(2)	(3)
HHI-GAO Report	0.0041	0.0034	0.0030	0.0037	0.0034	0.0025
-	(0.0016)	(0.0017)	(0.0016)	(0.0019)	(0.0020)	(0.0019)
Inventories Ratio	-3.4990	-4.1328	n/a	-3.7742	-4.7114	n/a
	(0.8147)	(0.9085)	n/a	(0.9543)	(1.0857)	n/a
Utilization Rates	0.1830	0.1727	n/a	0.0797	0.1465	n/a
	(0.1005)	(0.1013)	n/a	(0.1096)	(0.1093)	n/a
MW Crisis	2.6429	2.6986	n/a	4.8318	4.6688	n/a
	(1.0268)	(1.0314)	n/a	(1.3905)	(1.3925)	n/a
Constant	0.0790	0.0442	0.0705	0.0088	-0.0184	-0.0189
	(0.7432)	(0.7376)	(0.9834)	(0.7980)	(0.7809)	(1.0174)
AR (1) Coefficient	0.8447	0.8116	0.8568	0.8401	0.8077	0.8501
Rack Cities	22	22	22	19	19	19
Weeks	305	305	305	305	305	305
Estimated By:	GAO	FTC	FTC	GAO	FTC	FTC
Drop Controls	No	No	Yes	No	No	Yes
STATA XTGLS Options:						
Correction for Auto Correlation	Yes	Yes	Yes	Yes	Yes	Yes
Estimate Separate Auto Correlation						
by Rack	No	No	No	No	No	No
Panels: Heteroskedastic	No	No	No	No	No	No
Panels: Correlated	Yes	Yes	Yes	Yes	Yes	Yes
Iterated GLS	No	No	No	No	No	No

<sup>\*</sup> The figures in this column come directly from the GAO report, page 150.

## Appendix I

# Document I FTC Staff Questions to GAO Staff with FTC Summary of Answers

- 1. Which rack cities are included in each analysis: the branded and unbranded rack, for each of Conventional/RFG/CARB gasoline?
  - GAO gave FTC staff a printout listing all racks included in GAO's Conventional, RFG, and CARB regressions. The document was labeled Appendix I.
- 2. For each merger analyzed in the GAO report (e.g., see tables 21, 22, and 23), which rack cities are in the control group and which are in the affected group? In other words, which rack cities were affected by which mergers?
  - GAO gave FTC staff a list of all racks affected by each merger. There is a separate list for each formulation of gasoline examined by GAO: Conventional, RFG, and CARB. The document is called Appendix II.
- A comment on page 125 of the GAO report states, "the specific merger dummies (MERGER<sub>ki</sub>) were applicable only in the rack cities where the merging companies operated." We assume that this statement defines GAO's decision rule of how it identified refiners competing in a rack city. The statement, however, does not define what GAO means by "operating." How is operating defined? Does GAO define operations separately by fuel type (RFG/Conventional/CARB) or for the branded and unbranded rack? Is a firm defined as "operating" at a rack if it posts a price during at least one week of the GAO study's time period (1994-2000), or is there a requirement placed on the minimum number of weeks the firm participated at the rack? Please explicitly state the definition of "operating" and provide parameters for how GAO used the concept.

GAO's decision rule was as follows: two firms are defined as operating at a rack if both firms posted a price for a formulation(Conventional/RFG/CARB) of gasoline (either branded or unbranded) in at least one week in the 52 weeks prior to the merger. GAO stated that the program that generated overlaps was estimated separately for the different specifications of gasoline (Conventional, RFG, CARB). Overlaps were the same for both branded and unbranded. GAO explained that

requiring a firm to post at least once in the 52 weeks proceeding the merger (as opposed to posting at any time pre-merger) did not affect the definition of overlaps for CARB or RFG. However, this requirement did change the definition of overlaps for a number of conventional racks: Hammond, Kankee, Chicago, Madison were no longer overlaps for Marathon/Ashland.

- 4. Different parts of the GAO report suggest different definitions of the merger dummies (see below). How, exactly, are the merger dummies defined?
  - a. In Table 14 (page 119) the merger dummies are defined as being equal to zero in all time periods prior to the effective merger date, and one in all subsequent periods.
  - b. Table 15 (pages 132-133) reports discrete time periods in which merger effects are estimated, e.g., Marathon/Ashland's merger "estimates are obtained using data for" the pre-merger period of 3/2/95-1/4/98 and the post-merger period 1/5/98-6/30/98. This appears to be inconsistent with the description in table 14.

GAO explained that a (above) explains how variables are defined while b explains the identification of the merger effects.

- 5. A comment on page 125 suggests that the panel used in the estimation of each model is balanced; that is, the number of time periods for each rack is identical. Did this require you to drop some racks? If so, which racks were dropped from your analysis because of incomplete panels? Please state separately by fuel specification (CARB, RFG-MTBE, and Conventional) and for the branded and unbranded rack.
  - GAO restricted its analysis to balanced panels. Their rule for CARB and RFG was to only include cities that had a complete panel on CARB/RFG with MTBE. If one week is missing from a series, GAO interpolated the missing value. If more than one consecutive week is missing, GAO dropped the city.
- 6. There appears to be an inconsistency about whether data was used from PADD II for the

RFG analysis. Are data from PADD II used in the GAO analysis of RFG gasoline?

- a. Comment 7d on page198 states that GAO did not "focus on" RFG in PADD II.
- b. Table 16 on page 133 states that data from one PADD II rack city was used in estimating merger effects for RFG. Which rack city?

The only city in PADD II in GAO's analysis of RFG gasoline is Louisville.

- 7. Which deflator from the Economic Report of the President was used to deflate the price series? Would GAO give FTC staff this deflator series?
  - a. If a monthly deflator was used, how was this monthly variable matched with the weekly price data?
    - i. Were weekly deflators interpolated from monthly deflators?
    - ii. Was the same monthly level used for each week in a given month?

GAO used the annual finished goods PPI for energy. (Economic Report of the President, Table B-66, 3<sup>rd</sup> column) GAO used the same value of the index for each price level in a year.

- 8. The description of the construction of the "Inventories Ratio" variable is incomplete; i.e., FTC staff are unclear as to how this variable was constructed. GAO staff could greatly facilitate FTC staff's understanding of this variable if GAO provided FTC with the data and STATA program(s) used to construct this variable (the data used in the creation of this variable comes from the U.S. government.) If the programs are unavailable, FTC staff request a detailed step-by-step description of the method used to construct the variable.
  - a. The inventory data is PADD level for all gasoline

    ('http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/psw10vwgt.xls') and

    consumption data is state level prime supplier sales data for all gasoline

    (Table 48 of the Petroleum Marketing Annual).
    - i. Inventories and Consumption are scaled by the mean level over the entire time period. Inventory is scaled by the mean PADD level,

- consumption by the mean state level.
- ii. Predicted consumption is generated by the equation in the footnote to table on page 121.
- iii. The PADD level consumption averages are the average of the states.
- iv. DC, Alaska, and Hawaii were not used in the analysis.
- v. GAO matched the weekly and monthly data. They did not interpolate. They used the same monthly data for each week.
- 9. There are a number of options in the XTGLS estimation procedure in correcting for autocorrelation and heteroskedacticity. Exactly which options in XTGLS were used?

  The options are panels=c=correlated, they estimate a common autocorrelation, and did not use the iteration function.
- 10. It is unclear to FTC staff how GAO implemented its instrumental variables (IV) estimation procedure. The footnote describing the modification of STATA's procedures is not sufficiently detailed. Below is a partial list of questions to clarify FTC staff's understanding of GAO staff's methodology.
  - a. When using STATA's IVREG2 procedure, what specific options did GAO staff use?
    - i. To understand GAO staff's estimation procedure, it is important either to see GAO's STATA programs or receive a detailed explanation of exactly what econometric estimation was done.
  - b. The GAO report states that the residuals from IVREG2 are used as inputs for XTGLS. XTGLS is not an IV estimator; that is, XTGLS is not designed to correct for endogeneity. Did GAO staff modify XTGLS to perform an IV estimation? If so, what modifications were made? (See also part c below)
  - c. In footnote 37, the report states that a "two-stage XTGLS" procedure was used.
    - i. What is meant by "two-stage"? What are the two stages? Please be very

- explicit.
- ii. Does footnote 37 imply that XTGLS is the second stage of a two step method (the two steps being (1) IVREG2 and (2) modified XTGLS)?
- iii. Or does footnote 37 imply that GAO staff modified the XTGLS procedure to do some form of a 3SLS calculation?
  - 1. GAO gave FTC staff a handout.
  - 2. Run IVREG2 (2SLS) to get residuals.
  - 3. Get fitted values for use in XTGLS:
    - 1. Regress (straight OLS) each explanatory variable on the instruments (including exogenous explanatory variables),
    - 2. Obtain predicted values from each regression (the predicted values of the exogenous explanatory variables are themselves).
  - 4. Run XTGLS using as explanatory variables the fitted values from OLS (step 3b) and the residuals from IVREG2 (step 2).
- 11. It is unclear how some of the concentration measures (HHIs) were calculated. The data for the yearly PADD level HHIs used in the various price concentration analyses are necessary to replicate the GAO's price concentration analysis. We need the underlying calculations of the HHI from the EIA capacity data to understand how GAO treated joint ventures. In addition, we need a description of how the multiple PADD level HHIs (for example the HHI for PADDS I-III in Table 18) were calculated.
  - A. EIA sent GAO the refinery capacity data. The data they received contained company codes. GAO calculated HHI's using the company codes as the firm identifiers.
  - B. In generating the estimated price effects in table 19 on page 137 of the GAO report, the change in HHI for RFG is a weighted average of PADD level HHI where the weight is the number of racks in each PADD.

# C. Related Point: In calculating PADD HHI for PADD V, Alaska and Hawaii are included.

12. The GAO report uses rack city fixed-effects in all of its econometric analyses of the effect of mergers and concentration on gasoline prices. How does GAO implement its fixed-effect estimator? For example, did GAO transform its data into deviations from rack-city means, or did GAO add rack-city dummies to its estimating equations?

GAO demeaned the data.

# Document II GAO response to FTC Summary of Answers

- 1. Note that there is a separate list for each formulation of gasoline—conventional, RFG, and CARB.
- 2. OK.
- 3. A merger was assumed to affect a rack city if at the time of the merger both merging companies had posted gasoline prices for any formulation (conventional, RFG, or CARB) at the rack for at least 52 weeks immediately prior to the merger. The merger-affected rack city for each gasoline formulation was then identified, based on data availability. Then, for each gasoline formulation, the gasoline type (branded or unbranded) was also identified, based on data availability.

A few modifications were made that affected only conventional gasoline.

- (i) For two of the mergers affecting conventional gasoline we included a few rack cities where, while both merging companies had substantial presence since 1994, one of the companies was not present in the immediate 52 weeks prior to the merger. This is because, initially, we planned to run the results for each merger using all the available data before the merger and after the merger; however, the premerger and postmerger periods for some mergers were shortened due to the overlapping nature of the mergers. This affected the following mergers and rack cities: Marathon/Ashland (Chicago, IL; Kankakee, IL; Hammond, IN; and Madison, WI), and UDS-Total (Wynnewood, OK).
- (ii) Harrisburg was mistakenly included in the Shell-Texaco I (Equilon) merger instead of the Shell-Texaco II (Motiva).
- (iii) For the market concentration model, the Four Corners Ref. rack city, which was assigned to New Mexico based on the nearest rack city was mistakenly classified PADD IV instead of PADD III.
- 4. OK.
- 5. OK.
- 6. OK.
- 7. Yes.

The deflator series used was Producer Price Indexes (PPI) by Stage of Processing, Finished Goods, Energy, annual, published in the 2002 Economic Report of the President (see pp. 119-120 of the GAO Report), Table B-66, 3<sup>rd</sup> column.

8. The Inventories Ratio is a ratio of Inventories to Demand, by PADD, and weekly. The Inventories data are one-period lagged levels of gasoline stocks obtained from

EIA (see Table 14, 120 of the GAO Report). The inventory data are in the EIA database, Excel file PSW04VWALL.xls, available by PADD, and weekly. The data were normalized by the mean of each PADD over the sample period (1994-2000). The data for Demand are based on prime suppliers' sales of regular gasoline in each state, available monthly. The data were normalized by each state mean over the sample period and estimated (see p. 121 of the GAO Report). The data were then averaged by PADD, using all the states in each PADD, because the Inventories are at the PADD level. The prime suppliers' data were obtained from EIA (Tammy Heppner, 202-586-4748). As stated in the GAO Report, the expected demand was obtained from the regression equation specified on p. 121. The states that were used in the analysis are listed in dataset Appendix I.

9. The commands used in the XTGLS estimation procedure are the common autocorrelation correction (corr =ar1), and the correction for heteroscedasticity (panels=c). The default for the iterations is 100, and there was no problem with convergence—the default was used since we did not use the iteration option to indicate a specific number of iterations.

#### 10. Yes.

In general, here are the steps we used for the two-stage estimation process. In the first stage, we run an OLS to generate fitted values for the potential endogenous regressors. In the second stage, we used XTGLS to estimate our IV models, where the residuals of XTGLS were replaced with ("clean") residuals from the IVREG2 estimation. The handout outlines how the IVREG2 and XTGLS procedures were integrated.

#### 11. Yes.

The HHI data, based on refinery capacity was obtained from EIA. See table 14, p. 119. The data, titled "Atmospheric Distillation Capacity in Barrels Per Calender Day, were sorted by PADD and corporate code, and the refinery capacities summed across the corporate codes by PADD. The HHI was then calculated. The data provided by EIA reflected changes in the market conditions, including joint ventures. The HHIs for the multiple PADDs are based on the average of the HHIs for the associated PADDs. (See also 8 above for EIA contact).

We used all available data for the HHI analysis, which included the states of Alaska and Hawaii.

#### 12. Yes.

The fixed effects were estimated by demeaning the data (transforming the data into mean-deviations).

## Document III Email information from GAO Staff

Email sent from FTC staff to GAO Staff on 11/15/2004

Thanks for the document. Two follow up questions

1) On answer 8 - you mentioned that the states to be included in the inventory ratio calculation are given in Appendix I. Just to make sure I understand, the states that would be dropped for those included in the EIA data are - Alaska, Hawaii, New Hampshire and the District of Columbia.

2) On answer 9 - you mention that the default iteration is 100 and there was no problem with convergence. Did you use iterated GLS (igls)?

Email from GAO staff to FTC staff on 12/1/2004

Here is an update.

Q8. For the inventory-demand variable, the data used for the gasoline consumption included all the available data, which includes Alaska, DC, and Hawaii.

Q9. We did not use the iteration option for XTGLS (or the modified XTGLS), which has a default of 100. The same results were obtained when the iteration option of 100 or 1000 was used.

Email from FTC staff to GAO staff on November 5th 2004

There is an outstanding issue with respect to the overlaps in the merger cases. We have the list of overlaps that you gave us and the overlap rule that you described. When we apply the rule to the data we do not get the same overlaps. Some examples, we can find no overlap for Total-UDS in reformulated gasoline or for Exxon-Mobil in Albany or Shell-Texaco in Albany in RFG. If you want a complete list I can send that along. If you want to talk about this please give me a call.

Email from GAO staff to FTC staff on November 10th, 2004

This is how the overlaps work out for the mergers and rack cites that you identified, consistent with the rule defined in our response to Q3.

Both companies post prices for the same formulation (in this case conventional), but only one of the companies posts prices for the other formulation that you referred to (RFG). Specifically, this is the outcome for the overlaps.

Exxon-Mobil @ Albany, NY Conventional: Exxon, Mobil

RFG: Mobil

Shell-Texaco @ Albany, NY Conventional: Shell, Texaco

RFG: Texaco

UDS-Total @ Dallas Metro, TX Conventional: UDS, Total

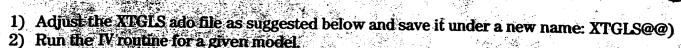
RFG: UDS

#### Email from GAO staff to FTC staff on October 13, 2004

Regarding the treatment of the demand variable used in constructing the "Inventory to Demand" variable (Q8), we did the following. The estimated normalized demand values, which are at the state level, were averaged using all the states in each PADD.

# Document IV Description of GAO Instrumental Variables Estimation

### Steps to Combine IV and XTGLS:



3) Generate double precision IV residuals via predict double.... command and name them

4) Generate the first-stage predicted values for the endogenous regressors in the given model:

5) Perform XTGES@@ on the dependent variable, exogenous variables, and these predicted variables.

6) Drop IVRES

7) Go to step 2 and repeat (2) through (6) for another model.

Added Codes to Adjust XTGLS.ado File (see XTGLSDK.ado in Attachment A):
replace \$X\_ee=IVRES //IVRES (IV residuals) must be computed in double
precision. (place it after the first "predict double..." line in mc0)

Aut

replace \$X\_ee=IVRES //IVRES (IV residuals) must be computed in double precision. , (place it after the first "predict double..." line in mc1)

replace \$X\_ee=IVRES //IVRES (IV residuals) must be computed in double precision.

(place it after the first "predict double..." line in mc2)



## Document V Appendix I - Description of Cities used in GAO Analysis

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Statistics/Data Analysis

log: Drilyy Documents/STATA/GRC\grc\_rcity\_mktcon.smcl
log type: smcl
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1 . 2 . set more off conventional gasoline
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7 . sysort padd state r\_city: sum rp\_brn rp\_unb

,	103.14	41.14695 37.71804	11.98998 12.4922	70.4437 68.82952	361 361	rp_brn rp_unb
<i>ج</i>	Max	Min	Std. Dev.	Mean	Obs	Variable
			CITY	FL, r_city = PANAMA CITY	state = FL, r_c	padd = 1, st
, ,	104.64	42.65233 39.55795	11.873 12.59601	72.60421 71.17735	361 361	rp_brn rp_brn
<i>ا</i>	Мах	Min	Std. Dev.	Mean	Obs	Variable
TO A CONTRACT OF THE PARTY OF T			ŏ	city = ORLANI	state = FL, r_city = ORLANDO	-> padd = 1, st
-	103.25	40.81242 38.23178	12.22654	70.5185 68.78026	361 361	rp_brn rp_unb
حر	Max	Min	Std. Dev.	Mean	Obs	Variable
		Appendix and the second	TUE	FL, r_city = NICEVILLE	ate = FL, r_	-> padd = 1, state =
-	103.415	41.79211 38.74552	12.05125 12.64036	71.2558 69.70525	361 361	rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
				city = MIAMI	-> padd = 1, state = FL, r_city = MIAMI	dd = 1, st
	104	42.36559 38.24373	11.78923 12.69027	72.09482 69.89292	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			ONVILLE	city = JACKS	-> padd = 1, state = FL, r_city = JACKSONVILLE	add = 1, st

-> padd = 1, state = FL, r\_city = PENSACOLA

Variable rp\_brn rp\_unb

Obs 361 361

Mean Std. Dev.

Min

Max 103.17 104.55

7,5

70.34976 12.29978 40.48985 69.06821 12.7813 38.72163

-> padd = 1, state = FL, r\_city = ST. MARKS

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	103	37.27599	12.41632	68.42514	361	rp_unb
,	3	19 7491	12.00763	70.37931	361	rp brn
2,2	Max	Min	Std. Dev.	Mean	Obs	Variable
				GA, r_city = MACON		-> padd = 1, state
	108.43	40.0239 37.57467	12.63409	70.73105 68.85334	361 361	rp_unb
2,2	Max	Min	Std. Dev.	Mean	Obs	Variable
			Z	ity = GRIFFIN	te = GA, r_city	-> padd = 1, state
•	103.04	40.07169 37.51493	11.99942 12.42833	70.66818 68.61484	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			US_GA	r_city = COLUMBUS_GA	# 9.	-> padd = 1, state
,	103.25	40.28674 37.71804	12.00167 12.44477	70.73727 68.69339	361	rp_brn p_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
	The state of the s		IDGE	r_city = BAINBRIDGE	# ₽,	-> padd = 1, state
2	105.965	39.53405 37.29988	12.30367 13.30392	70.35902 69.20237	361 361	rp_brn rp_unb
2	Мах	Min	Std. Dev.	Mean	Obs	Variable
			7	GA, r_city = ATLANTA		-> padd = 1, state
•	105.195 108.79	39.76105 37.28793	12.3587 12.87639	70.36293 68.63322	361 361	rp_brn rp_unb
2,2	Max	Min	Std. Dev.	Mean	Obs	Variable
CHARLES OF THE PROPERTY OF THE				r_city = ATHENS	9	-> padd = 1, state
	103.06	39,9761	12.06214 12.53208	70.58567 68.57509	361 361	rp_brn rp_unb
8,4	Max	#in	Std. Dev.	Mean	Obs	Variable
The state of the s			(_GA	city = ALBANY_GA	ite = GA, r_city	-> padd = 1, state
2	102.065	40.14337 37.64635	12.0092 12.60504	70.41576 69.1942	361 361	rp_brn rp_unb
2	Мах	Min	Std. Dev.	Mean	Obs	Variable
The state of the s	A THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO THE PERSON NAM			city = TAMPA	te = FL, r_city =	-> padd = 1, state
7.	104.25	41.95938 39.34289	12.08121 13.12352	71.32775 69.99082	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			Page 2	30:30 2004	/ June 24 16	360103 Thursday June 24 16:30:30 2004

	103.295	39.80884	12.15993	70.42659 68.76332	361 361	rp_brn
2	Мах	Min	Std. Dev.	Meen	Obs	Variable
•			SBORO	city = GREENSBORO	= NC, r	padd = 1, state
	103.29 103.415	40.13142 37.33572	12.09948 12.46363	70.37685 68.63935	361 361	rp_brn rp_unb
B, 4	Max	Min	Std. Dev.	Mean	Obs	Variable
•			OTTE	NC, r_city = CHARLOTTE	8	-> padd = 1, state
	105.635 110.11	41.93548 40.17921	12.94379 13.1849	73.71972 73.00485	361 361	rp_brn rp_unb
ري ح ح	Max	Min	Std. Dev.	Mean	Obs	Variable
,			AND_ME	city = PORTLAND_ME	# 350 . r	padd = 1, state
	107.55	43.73955	12.91062	76.07266	361 0	rp_brn rp_unb
G	Max	Min	Std. Dev.	Mean	Obs	Variable
•				city = BANGOR	e = ME, r_city	-> padd = 1, state
	100.88	40.23895	12.2725	72.47457	361	rp_brn rp_unb
B	Мах	Min	Std. Dev.	Mean	Obs	Variable
			JURY	ofty = SALISBURY	e = MD, r_city	-> padd = 1, state
	103.26	40.38232 38.45878	12.17893 12.64906	71.93723 70.28919	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			ORE	ty = BALTIMORE	e = MD, r_city	padd = 1, state
	104.38	42.06691 39.56989	11.95345 12.70314	73.02511 70.69299	361 361	rp_brn rp_unb
<i>2</i> ,	Max	Min	Std. Dev.	Mean	Obs	Variable
A COMMISSION OF THE PROPERTY O			AH	GA, r_city = SAVANNAH	я	padd = 1, state
-	103.51	40.0239 37.69415	12.1578 12.55526	70.26813 68.51279	361 361	rp_brn rp_unb
2,2	Max	Min	Std. Dev.	Mean	Obs	Variable

\$ 2						_
	Max	Min	Std. Dev.	Mean	Obs	Variable
13				NY, r_city = UTICA	state = NY, r	-> padd = 1, sta
	105.18 110.18	42.99881 41.78017	12.74832 12.79363	73.73256 73.64847	361 361	rp_brn rp_unb
3,2	Мах	Min	Std. Dev.	Mean	Obs	Variable
			USE	NY, r_city = SYRACUSE	state = NY, r	-> padd = 1, st
	104.85 109.73	42.44922 41.27837	12.71161 12.75287	73.94303 73.45169	361 361	rp_brn rp_unb
8,4	Max	Min	Std. Dev.	Mean	Oba	Variable
THE STATE OF THE S		***************************************	STER_NY	NY, r_city = ROCHESTER_NY	state = NY, r_	-> padd = 1, str
	107.82 107.38	44.06213 39.66547	13.33462 13.20417	74.55678 71.82399	361 361	rp_brn rp_brn
8,2	Max	Min	Std. Dev.	Mean	Obs	Variable
•			RGH	NY, r_city = NEWBURGH	state = NY, r_	-> padd = 1, sta
. 18	105.18	43.65591	12,51863	75.13013	361 0	rp_brn rp_unb
C C	Max	Min	Std. Dev.	Mean	Obs	Variable
٥			б	NY, r_city = BUFFALO		-> padd = 1, state
.562 6	105.62 111.56	43.53644 41.3859	12.73226 12.93288	73.99585 73.16176	361 361	rp_brn rp_unb
ر ارم	Max	Min	Std. Dev.	Mean	Obs	Variable
1		100000000000000000000000000000000000000	MTON/VESTAL	NY, r_city = BINGHAMTON/VESTAL	H	-> padd = 1, state
US IS	104.52 108.15	40.63321 39.67742	12.94653 12.86085	72.78182 71.75308	361 361	rp_brn rp_unb
B, 4	Мах	E E	Std. Dev.	Mean	Obs	Variable
			YN	NY, r_city = ALBANY_NY	4	-> padd = 1, state
	104.55	41.8638 39.21147	11.98253 12.48298	72.50661 70.13934	361 361	rp_brn rp_unb
2,2	Мах	Mín	Std. Dev.	Mean	Obs	variable
			GTON_NC	NC, r_city = MILMINGTON_NC	п	-> padd = 1, state
UI O	103.8 104.905	40.29869 37.74194	12.17016 12.64717	70.76116 69.08201	361 361	rp_brn rp_unb
8,4	Max	Min	Std. Dev.	Mean	Obs	Variable



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#_City = HARRISBURG #_City = HARRISBURG Hean Std. Dev. Min Max 71.7536 13.9765 39.36679 106.29 171.7536 13.9235 39.36679 106.29 171.77536 12.97055 39.36679 106.29 172.11375 12.74398 39.24731 102.98 1 72.11375 12.74398 39.24731 102.98 1 72.2999 12.84228 39.366 104.1 1 72.2999 12.84228 39.366 104.1 1 72.99597 12.74721 40.657711 104.29 1 71.65215 12.98483 39.72521 106.33 1 71.65215 12.98483 39.72521 106.33 1 72.4738 13.9895 38.47073 109.83 1 72.4738 13.9895 38.47073 109.83 1 72.63728 12.91558 40.82437 103.87 1 72.63728 13.9895 38.47073 109.83 1 72.63728 12.98717 41.03942 107.16  *_City = NARREN Hean Std. Dev. Min Max  *_City = NARREN	ر کر کر		41 09733	13.11376	73.58402	361	rp brn
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#_city = HARRISBURG  #_catty = LANCASTER  #_ean Std. Dev. Min Max  Mean Std. Dev. Min Max  #_city = MACUNGIE  #_city = MACUNGIE  #_city = NORTHUMBERLAND  Mean Std. Dev. Min Max  #_city = NORTHUMBERLAND  #_city = NORTHUMBE	<b>.</b>			LON	city = SCRANT	state = PA, r_	padd = 1, st
#_city = HARRISBURG  #_city = HARRISBURG  #_catty = LANCASTER  #_mean		107.22 109.83	38.94863 38.47073	12.98363 13.38595	72.4738 71.65158	361 361	rp_brn rp_unb
#_city = HARRISBURG  #_city = HARRISBURG  Hean Std. Dev. Min Max  #_city = LANCASTER  #_coty = LANCASTER  #_coty = LANCASTER  #_coty = MACUNGIE  #	ت ع	Max	Min	Std. Dev.	Mean	Ohs	Variable
# 1 72.85674 12.72174 41.36643 104.56 1 71.83069 12.91763 39.773 108.22  # city = HARRISBURG  # Hean Std. Dev. Min Max  1 71.75536 12.82235 39.02031 103.49 171.27363 12.97055 39.56679 106.29  # r_city = LANCASTER  # Hean Std. Dev. Min Max  # 72.11375 12.74398 39.24731 102.98  # 72.11375 12.74398 39.24731 102.98  # 72.11375 12.74398 39.24731 102.98  # Nean Std. Dev. Min Max  # r_city = MACUNGIE  # Hean Std. Dev. Min Max  # 1 72.2999 12.84228 39.546 104.1  # 72.2999 12.84228 39.546 104.1  # 72.5215 12.94483 39.725211 104.29  # 72.5215 12.94483 39.725211 104.29	D .			JURGH	tty = PITTS	state = PA, r_o	padd = 1, st
## 12.85674 12.72174 41.2643 104.56 1 71.83069 12.91763 39.773 108.22  ### ### ### ### ### ### ### ### ###		104.29 106.33	40.65711 39.72521	12.74721 12.98483	72.59587 71.65215	361 361	rp_brn rp_unb
r_city = HARRISBURG r_city = HARRISBURG Hean Std. Dev. Min Max r_city = LANCASTER Hean Std. Dev. Min Max r_city = LANCASTER Hean Std. Dev. Min Max Hean Std. Dev. Min Max r_city = MACUNGIE Hean Std. Dev. Min Max r_city = MACUNGIE Hean Std. Dev. Min Max r_city = MACUNGIE Nean Std. Dev. Min Max 172.13375 12.74398 39.24731 102.98 173.1375 12.74398 39.24731 102.98 173.2999 12.84228 39.546 104.1	2	Max	Min	Std. Dev.	Mean	Obs	Variable
x_city = HARRISBURG  x_city = HARRISBURG  Hean Std. Dev. Min Max  71.7536 13.8223 39.02031 103.49  71.7536 13.8223 39.02031 103.49  71.27363 12.97055 39.36679 106.29  x_city = LANCASTER  Hean Std. Dev. Min Max  72.11375 12.74398 39.24731 102.98  1 72.11375 12.74398 39.24731 102.98  Rean Std. Dev. Min Max  1 72.1299 12.84228 39.546 104.1	0			MBERLAND		state = PA, r_c	padd ≈ 1, st
x_city = HARRISBURG x_city = HARRISBURG Hean Std. Dev. Min Max 71.7536 13.8225 39.02031 103.49 171.7536 13.8225 39.02031 103.49 171.77363 12.97055 39.36679 106.29  F_city = LANCASTER Hean Std. Dev. Min Max T_city = MACUNGIE Hean Std. Dev. Min Max Hean Std. Dev. Min Max		104.1	39.546	12.84228	72.2999	361 0	rp_brn rp_unb
r_city = HARRISBURG r_city = HARRISBURG Hean Std. Dev. Min Max r_city = LANCASTER Hean Std. Dev. Min Max r_city = LANCASTER Hean Std. Dev. Min Max Hean Std. Dev. Min Max r_city = LANCASTER Hean Std. Dev. Min Max 172.11375 12.74398 39.24731 102.98	c	Max	Min	Std. Dev.	Mean	Obs	Variable
r_city = HARRISBURG  1.71.83069 12.91763 39.773 108.22  x_city = HARRISBURG  Hean Std. Dev. Min Max  1.71.75536 12.9235 39.02031 103.49  1.71.27363 12.97055 39.36679 106.29  r_city = LANCASTER  Hean Std. Dev. Min Max  1.72.11375 12.74398 39.24731 102.98	Č			3E	ity = MACUNO	state = PA, r_c	padd = 1, st
r_city = HARRISBURG  1.71.536 12.91763 39.773 108.22  r_city = HARRISBURG  Hean Std. Dev. Min Max  1.71.75536 12.92235 39.02031 103.49  1.71.75536 12.97055 39.56679 106.29  r_city = LANCASTER  Hean Std. Dev. Min Max		102.98	39.24731	12.74398	72.11375	361 0	rp_brn rp_brn
r_city = HARRISBURG  11.83689 12.91763 39.773 108.22  r_city = HARRISBURG  Mean Std. Dev. Min Max  11.75536 12.82235 39.02031 103.49  171.75536 12.97055 39.36679 106.29  r_city = LANCASTER	Œ	Мах	Min	Std. Dev.	Mean	Obs	Variable
.72174 41.26643 104.56 .91763 39.773 108.22 .91763 Hax . Dev. Min Max .92225 39.02031 103.49 .97055 39.36679 106.29	<b>S</b>			TER	ity = LANCAS	state = PA, r_c	padd = 1, st
.72174 41.26643 104.56 .91763 39.773 108.22 . Dev. Hin Hax		103.49	39.02031 39.36679	12.82235 12.97055	71.75536 71.27363	361 361	rp_brn rp_unb
.72174 41.26643 104.56 .91763 39.773 108.22	B, 4	Max	Min	Std. Dev.	Mean	Obs	Variable
72.85674 12.72174 41.26643 104.56 71.83069 12.91763 39.773 108.22				BURG	ity = HARRIS		padd = 1, state
		104.56	41.26643 39.773	12.72174 12.91763	72.85674 71.83069	361 361	rp_brn rp_unb
Mean Std. Dev. Min Max	2,2	Max	Min	Std. Dev.	Mean	Obs	Variable

-> padd = 1, state = PA, r\_city = WILLIAMSPORT

BELTON  BELTON		800	at rapte
EV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  278 41.4099 104.33  1132 38.83305 104.65  279 41.4099 104.65  102.6  279 41.4099 104.33  103.6  EV. Hin Hax  102.6  103.7716 103.12  EV. Hin Hax  103.07  EV. Hin Hax  103.13  1212 38.18399 103.6  EV. Hin Hax  107.6  10	VA, r_city * ROAMOKE	state = VA, r	padd = 1, st
EV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  278 41.4099 104.33  1132 38.83305 104.65  1132 39.83305 104.65  102.6  103.132 103.6  103.133 103.13  103.133 103.13  103.1339 103.6  103.1339 103.6  103.1339 103.6  103.1339 103.6  103.1339 103.6  103.1339 103.6  103.1339 103.6  103.1339 103.6	71.03955 69.10936	361 361	rp_brn rp_unb
PV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  PV. Hin Hax  1278 41.4099 104.33  1132 38.83305 104.65  1132 39.92831 102.6  1559 37.75583 103.12  PV. Hin Hax  1569 39.7715 102.89  1559 37.76404 103.07  PV. Hin Hax  1505 41.17085 102.33  1212 38.18399 103.6  PV. Hin Hax  1505 41.17085 102.33  1212 38.18399 103.6	Mean	Obs	Variable
PV. Hin Hax 102.93 104.40.13142 102.93 104.40.33 1132 104.40.83 1132 104.40.83 1132 104.40.83 1132 104.40.83 1132 104.40.83 1132 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 104.40.83 105.93 105.93 106.93 107.86	VA, r_city = RICHMOND	state = VA, r	padd = 1, st
PV. Hin Hax  102.93  104.4093  102.78  103.2  PV. Hin Hax  104.65  104.65  104.65  105.9  104.65  105.9  105.9  105.9  106.8  107.76583  107.76583  107.8  1	71.07999 69.16794	361 361	rp_brn nrd_dr
PV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  PV. Hin Hax  1278 41.4098 104.33  1132 38.83305 104.65  1132 39.72881 102.6  1559 37.76583 103.12  PV. Hin Hax  102.89  103.07  103.18399 103.33  1212 38.18399 103.6	Mean	оря	Variable
PV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  PV. Hin Hax  278 41.4099 104.33  1132 38.83305 104.65  1132 39.83305 104.65  1132 39.73716 Hax  102.6  103.07  104.07  105.07	VA, r_city = NORF	state = VA, r	padd = 1, st
PV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  PV. Hin Hax  1278 41.4098 104.33  1132 38.83305 104.65  1132 39.22831 102.6  1559 37.76583 103.12  PV. Hin Hax  1569 39.72716 Hax  1594 39.73716 Hax  15949 39.73716 Hax  15949 39.73716 Hax	71.75279 69.74862	361 361	rp_brn rp_unb
EV. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  278 41.4098 104.33  1132 38.83305 104.65  1132 39.83305 104.65  1132 102.66  1559 37.76583 103.12  1559 37.76583 103.12	Mean	Obs	Variable
vv. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  ev. Hin Hax  1278 41.4098 104.33  1132 38.85305 104.65  1132 39.85305 104.65  1132 39.75583 103.12  1559 37.75583 103.12  1559 37.75583 103.12	VA, r_city = PAIRFAX	state = VA, r	padd → 1, st
vv. Hin Hax  1067 40.13142 102.93  1564 37.06093 102.78  ev. Hin Hax  1278 41.4099 104.33  1132 39.85305 104.65  1132 19.2531 102.6  1559 37.75583 103.12	70.3668 68.53473	361 361	rp_brn rp_unb
vv. Hin Max  1067 40.13142 102.93  1564 37.06093 102.78  ev. Hin Max  1278 41.4098 104.33  1132 38.83305 104.65  1132 39.85305 104.65  1132 102.6  1132 103.12	Mean	Obe	Variable
vv. Min Max  102.78  1047 40.13142 102.93  10564 37.06093 102.78  278 41.4088 104.33  1132 38.85305 104.65  1132 38.85305 104.65  1059 39.92831 102.6  1559 37.75583 103.12	SC, r_city = SPARTANBURG	state = SC, r	padd = 1, st
v. Min Max  102.93 1564 37.06093 102.78  v. Min Max  278 41.4088 104.33 1132 38.85305 104.65	70.56964 68.66424	361 361	rp_brn rp_unb
vv. Hin Hax  102.93  1564 37.06093 102.78  27. Hin Hax  1278 41.4099 104.33  1332 38.83305 104.65	Mean	Obe	Variable
9V. Hin Hax 1067 40.13142 102.93 1564 37.06093 102.78 2V. Hin Hax 1279 41.4099 104.33 133 38.83305 104.65	SC, r_city = NORTH AUGUSTA	state = SC, r	-> padd = 1, st
99. Hin Hax 1067 40.13142 102.93 1564 37.06093 102.78	71.69434 69.69428	361 361	rp_brn rp_unb
VV. HIN HAX 1067 40.13142 102.93 1564 37.06993 102.78	Mean	Obs	Variable
Std. Dev. Min Max 11.00067 40.13142 102.93 12.45564 37.06093 102.78	SC, r_city = CHARLESTON_SC	state * SC, r	-> padd = 1, st
Std. Dev. Min Max	70.62048 68.33914	361 361	rp_brn rp_unb
	Mean	Obs	Variable
	SC, r_city = BELTON	state = SC, r	padd = 1, st
12,80512 40.63321 104.68 13,00479 40.91995 109.05	72.79163 73.49114	361 361	rp_brn rp_unb
Std. Dev. Min Max 8, 2	Mean	Obs	Variable



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•	132.11	44.98208	12.69135	75,15657	361	rp brn
B, u	Max	Min	Std. Dev.	Mean	Obs	Variable
			MADISON	· PT.	te = IA, r_city	-> padd = 2, state
	132.8 134.35	45.33834 42.75986	12.64961 12.97366	74.96946 73.88843	361 361	rp_unb
ري م	Max	Min	Std. Dev.	Mean	0bs	Variable
•			DODGE	IA, r_city = FT. DO	a	-> padd = 2, state
•	133.01 136.05	44.6595 43.46476	12.84712 12.97108	74.77544 74.05914	361 361	rp_brn rp_unb
B, u	Max	Min	Std. Dev.	Mean	Obs	Variable
•			ЭВС	IA, r_city = DUBUQUE	11	-> padd = 2, state
,	132.35	44.56141 43.03465	12.80505 13.20647	74.39152 73.68668	361 361	rp_brn rp_unb
<i>ه</i> , د	Max	Min	Std. Dev.	Mean	Obs	Variable
•			DINES	IA, r_city = DES MOINES	и	-> padd = 2, state
	131.88	43.52131 42.43108	12.95608 12.8395	74.05164 73.15294	361 361	rp_brn rp_unb
B, U	Max	Min	Std. Dev.	Mean	Obe	Variable
	***************************************		* COUNCIL BLUFFS		te = IA, r_city	-> padd = 2, state
•	132.34 144.02	42.61649 40.05974	12.91302 13.57775	74.60097 73.89585	361 361	rp_brn rp_unb
7	Max	Min	Std. Dev.	Mean	Obs	Variable
			TOORF	IA, r_city = BETTENDORF	6	-> padd = 2, state
-	112.39	43,75149	12.01029	74.23267 73.47021	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			STON_WV	WV, r_city = CHARLESTON_WV	я	-> padd ≈ 1, state
	108.24	45.61529	12.608	77.19327	361 0	rp_brn rp_unb
℧	Max	Min	Std. Dev.	Mean	Obs	Variable

-> padd = 2, state = IA, r\_city = IOWA CITY

rp_brn 361 73.37816 13.77631 rp_unb 361 72.62394 14.14782	Variable Obs Mean Std. Dev.	-> padd = 2, state = IL, r_city = AMBOY	rp_brn 361 75.25899 12.83025 rp_unb 361 74.10305 13.04099	Variable Obs Mean Std. Dev.	-> padd = 2, state = IA, r_city = WATERLOO	rp_brn 361 74.59831 12.94551 rp_unb 361 73.76493 13.1982	Variable Obs Mean Std. Dev.	-> padd = 2, state = IA, r_city = SIOUX CITY	rp_brn 361 75.10462 12.86252 rp_unb 361 73.64404 12.85159	Variable Obs Mean Std. Dev	-> padd = 2, state = IA, r_city = ROCK RAPIDS	rp_brn 361 75.52962 12.83436 rp_unb 361 74.90112 13.42527	Variable Obs Mean Std. Dev.	-> padd = 2, state = IA, r_city = OTTUMWA	rp_brn 361 74.43792 13.04115 rp_unb 361 73.22862 13.15474	Variable Obs Mean Std. Dev.	padd = 2, state = IA, r_city = MILFORD	rp_brn 361 75.0747 12.86518 rp_unb 361 74.29644 12.95643	Variable Obs Mean Std. Dev.	padd = 2, state = $IA$ , $r_city = MASON CTY/CLR.LK$	rp_brn 361 74.98417 12.99757 rp_unb 361 73.77502 12.97788	Variable Obs Mean Std. Dev.	padd = 2, state = IA, r_city = LEMARS	rp_unb 361 74.0065 13.01189
1 37.03704 2 36.32019	Min		9 43.17802	Min	The state of the s	1 44.81203	Min	The second secon	2 44.51128 9 42.88221	Min		6 45.61529 7 41.47869	Min		5 44.07268 4 42.43727	Min		8 44.8865 3 43.87218	Min	с.	7 44.44862 8 43.15789	Min		9 42.97491
141.25	Max		132.48 136.29	Мах		132.83 138.51	Мах		133.19 135.34	Max		132.52 139.7	Max		133.09 136.85	Max		132.7 136.34	Max	A STATE OF THE PERSON NAMED OF THE PERSON NAME	133.08	Max		136.35
•	2	A STATE OF THE PROPERTY AND ADDRESS AND ADDRESS.		z S			s, u		2	<i>&amp;</i> 2		•	z,	The state of the s		رم بر	THE PROPERTY AND ADDRESS OF THE PARTY OF THE	·	20,00			B, u		



33.37634 132.14  Min Max 8, 4  37.76583 131.79  34.94624 134.75	13.6938 14.56978 14.56978 14.56978 14.56978 14.56978 13.84686 13.84686	Obs Rean State of Targets 361 72.14483  IL. r_city = ROBINSON Obs Mean State of Targets 361 72.64959 361 70.56897  IL. r_city = ROCKFORD Obs Mean State of Targets Obs Mean St	361 state = IL, r_c obs	Variable
155.14 Max 131.79	Std. Dev. 13.69918 14.56978 14.56978 13.18193 13.84686	72.75985 72.14883 72.14883 1ty = ROBINS Hean 72.04959 70.56897	361 ate = IL, r_c	
155.14 Nox 111.79 131.75	Std. Dev. 13.69918 14.56978 14.56978 13.18133	72.75985 72.14483 1ty = ROBINS Hean 72.04959 70.56897	361	-> padd = 2, st
152.14 Max	Std. Dev. 13.69918 14.56978 ON Std. Dev.	72.75985 72.14483 1ty = ROBINS	361	rp_brn rp_unb
	Std. Dev. 13.69918 14.56978	72.75985 72.1483 1ty = ROBINS	Obs	Variable
	Std. Dev. 13.69918 14.56978	72.75985 72.14483	state = IL, r_c	padd = 2, sta
120 00	Std. Dev.	mean	361 361	rp_brn rp_unb
Min Max B, U		:	Obs	Variable
		IL, r_city = PEORIA	state = IL, r_c	-> padd = 2, sta
37.84946 134.8 34.76702 145.37	13.34215	72.82522 70.95843	361 361	rp_brn rp_unb
Min Max B, U	Std. Dev.	Mean	Obs	Variable
	84	IL, r_city = KANKAKEE	state = IL, r_c	-> padd = 2, sta
42.5687 134.23	12.9619	74.02154	361	rp_brn rp_unb
Min Max	Std. Dev.	Mean	Obs	Variable
	zí	IL, r_city = HEYWORTH	state = IL, r_c	-> padd = 2, sta
38.1123 133.12 D <sub>1</sub> N <sub>2</sub> 34.8865 145.25	13.45041 14.3299	72.56763 72.21295	361 361	rp_brn rp_unb
Min Max	Std. Dev.	Mean	Obs	Variable

7, 5	131.03	42.10526	12.78983	73.12457	361	rp_brn
	Max	Min	Std. Dev.			Variable
			RDIA	city = CONCORDIA	state = KS, r_city	-> padd = 2, sta
	130.62	40.93985 39.97494	13.12226 13.29255	71.84144	361 361	rp_brn rp_unb
	Мвх	Min	Std. Dev.	Mean	Obs	Variable
2			MILLE	city = COFFEYVILLE	state = KS, r_city	-> padd = 2, sta
	113.38 115.07	38.58578	12.54759 13.30476	71.22999 70.85965	361 361	rp_brn rp_unb
a, Z	Max	Min	Std. Dev.	Mean	Obs	Variable
			NOTE	IN, r_city = PRINCETON	state = IN, r_c	-> padd = 2, sta
,	128.1 130.2	36.9534 34.46834	13.3125 13.65219	71.92789 70.25551	361 361	rp_brn rp_brn
	Max	Min	Std. Dev.	Mean	Obs	Variable
				IN, r_city = MUNCIE	H	-> padd = 2, state
	127.57 135.06	36.55914 35.97372	13.2172 13.75848	71.46488 70.38855	361 361	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	variable
			APOLIS	IN, r_city = INDIANAPOLIS	15	-> padd = 2, state
	131.61 141.37	38.41099 37.49104	13.32124 14.01358	72.56877 72.28019	361 361	rp_brn rp_brn
	Max	Min	Std. Dev.	Mean	Obs	Variable
			GTON	IN, r_city * HUNTINGTON	#	-> padd = 2, state
	132.97 149.05	37.15651 34.54002	13.47054 14.52656	71.69159 70.61638	361 361	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
			D	IN, r_city = HAMMOND	a	-> padd = 2, state
	114.53	39.48526 38.08841	12.54502 12.71558	71.82962 70.34095	361 361	rp_brn rp_unb
	Мах	Win	Std. Dev.	Mean	Obs	Variable
			ILLE	ity = EVANSV	te = IN, r_c	-> padd = 2, state = IN, r_city = EVANSVILLE
	132.63	38.1601 35.74672	13,86073	72.52206 70.65692	361 361	rp_brn rp_unb
	Max	315	Std. Dev.	Mean	Obs	Variable

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-> padd = 2, state = IL, r\_city = CHAMPAIGN

Variable

rp\_brn

Obs Nean Std. Dev. Min 361 71.83171 13.51791 36.76225 361 70.6973 14.01744 34.80287

Max 133.29 136.68

*ع*ر

-> padd = 2, state = IL, r\_city = CHICAGO

Variable

Mean Std. Dev.

Min

rp\_brn rp\_brn

71.0552 14.72545 35.42413

Max

ζ.

-> padd = 2, state = KS, r_city = OLATHE	rp_unb 361 72.96533 13.00389 42.72401 132.32 rp_unb 361 71.83515 13.31356 40.59737 134.3	Ohs Mean Std. Dev. Min	rp_unb   361 72,77531 13,14549 41,37395	:	-> padd = 2, state = KS, r_city = KC/MPL	rp_hrn 361 74.32698 12.81779 43.10777 129.35	Obs Mean Std. Dev. Min	-> padd = 2, state = KS, r_city = KC/SUGAR CREEK	rp_brn 361 73.43994 22.95161 42.36842 131.805 rp_unb 361 72.48138 13.10755 41.00251 133.26	Variable Obs Mean Std. Dev. Min Max	-> padd = 2, state = KS, r_city = KC/SINCLAIR	rp_brn 361 73.54659 12.94204 42.58892 131.505 rp_unb 361 72.62964 13.13531 41.35338 134.555	1	state = KS, r city = KANSAS CITY	rp_brn 361 72.38324 12.96287 40.61404 131.61 rp_unb 361 71.34288 13.15045 39.97494 134.2		-> padd = 2, state = KS, r_city = HUTCHINSON	rp_brn 361 74.18986 13.0488 43.05764 123.61 rp_unb 361 73.26484 13.16895 41.90476 134.34	Obs Mean Std. Dev. Min	-> padd = 2, state = KS, r_city = GREAT BEND	rp_hrn 361 73.7611 12.6463 43.32138 130.33 rp_unb 361 72.99365 13.32128 41.66401 135.83	Std. Dev. Min	-> padd = 2, state = KS, r_city = EL DORADO_KS	360103 Thursdey June 24 16:30:30 2004 Page 11
		B, 4		25,4			S			B, 4	ALIALAKAN AKAMAMA KAJONINAN KIDANAN KOMONININININININININININININININININININ		,B			, c			.B			2	<i>b</i>	
rp_bzn	-> padd = 2. Variable	rp_brn rp_unb	-> padd = 2, Variable	tp_unb_qı	Variable	-> padd = 2,	rp_unb	Variable	-> padd = 2,	tp_unb rp_brn	Variable	-> padd = 2,	rp_unb	Variable	-> padd = 2,	לק_טרח מק_טרח	Variable	-> padd = 2, sta	rp_unb	variable	-> padd = 2,	qun_dz	- Variable	360103 Thursday
361	state = KS.	361 361	2, state = XS, r_city = Wichita/CONOCO	361	Obs	2, state = KS, r_city	361	Obs	state = KS,	361	0bs	2, state * KS, r_city * TOPEKA	361	-	state =	361	Obs	te = KS,	361	361	state * 1	361	161	irsday June 24 16:30:30 2004
72.88716 72.00011	/ = WICH	72.90916 72.7304	Mean Mean	72.21627	Mean	/ = WICHITA	73.51694	70	r_city = WATHENA	73.59911	100	- TOPEKA	75.8889 74.83816	Mean	KS, r_city = SCOTT CITY	72.65414	53	r_city = SALINA	74.18456 1		= PHITTIE	72.74997	١,	
1	HITA/WILLIAM Std. Dev		Std. Dev	13.347	Std. Dev		12.998	td. Dev		13.1542	td. Dev	O TOTAL CONTRACTOR OF THE PARTY	12.983; 13.2367	Std. Dev.	7	13.15	d. Dev		2.8206	12.8095	JURG	3.0304	12.9681	Page 12
13.00005 41.6792 13.45045 40.77658	r_city = wICHITA/WILLIAMS  Mean Std. Dev. Min	12.97682 41.64161 13.58377 41.16541	Std. Dev. Min	13,34798 40,73935	- 1		12.85076 43.03258 12.99863 41.58901			13.15426 41.6129			12.98325 44.98747 13.23677 43.08271	Std. Dev. Min	TY	13.155 41.39098			12.82065 43.10777	12.80954 44.51128		13.03049 41.30227 133.075	9 43.04511	ge 12

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		41 69684	14 58330	3065	361	היה לידה
م 2	мах	Min	Std. Dev.	Mean	Obs	Variable
			(GAN	sity = CHEBOYGAN	e = MI, r_city	padd = 2, state
•	144.01 150.68	39,49821 38,19594	14.33488 14.72347	74.73056 74.2808	361 361	rp_brn rp_unb
z S	Мах	Min	Std. Dev.	Mean	Obs	variable
•			LLA MI	MI, r_city = BAY CITY_MI	q	-> padd = 2, state
	107.93	39.85663 37.80167	12.42085 12.84827	71.67495 70.17416	361 361	rp_brn rp_unb
ري 2	Max	Min	Std. Dev.	Mean	Obs	Variable
٥.			¥	city = PADUCAH	e = KY, r_city	-> padd = 2, state
	111.32 110.53	40.20311	12.57472 12.83596	72.28487 70.74161	361 361	rp_brn rp_unb
<i>ت</i> 2	мах	Min	Std. Dev.	Mean	Obs	Variable
	115.16	39.02031	13.20611	72.9564	361 361	rp_unb
z 2	Max	Min	Std. Dev.	Mean	Obs	Variable
			/ILLE	KY, r_city = LOUISVILLE	п	-> padd = 2, state
	117.57 115.47	40.13142 39.94026	12.84896 12.8476	73.87516 72.91488	361 361	rp_brn rp_unb
8,4	Max	Min	Std. Dev.	Mean	Obs	Variable
•			TON	KY, r_city = LEXINGTON	a	-> padd = 2, state
	115.5	39.21147 39.22342	12.94944	72.6399 71.84485	361 361	rp_brn rp_unb
z, z	мах	Min	Std. Dev.	Mean	Obs	Variable
			HOM	KY, r_city = COVINGTON	at .	-> padd = 2, state
	112.68 112.58	42.43727 39.78495	12.00384 12.54447	74.00226 73.02665	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
<u> </u>			ŧ	Tol " Someone	e s vi, t_cicy	bana - e' arara

-> padd = 2, state = MI, r\_city = DETROIT

Hax	rp_brn 361 76.2284 12.93642 44.56141 rp_unb 361 75.08856 12.8791 43.18296	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MN, r_city = ALEXANDRIA	rp_unb 361 76.57094 14.64793 41.13501 rp_unb 361 75.97374 14.52642 39.78495	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = TRAVERSE CITY	rp_unb 361 72.27804 13.85346 37.18846 rp_unb 361 71.11786 14.3833 35.05376	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = NILES	rp_unb 361 73.50571 14.07963 38.33931 rp_unb 361 71.93469 14.30962 36.33214	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = MUSKEGON	rp_brn 361 73.31514 14.07594 38.66189 rp_unb 361 72.19327 14.69999 36.64277	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = LANSING	rp_unb 361 73.19395 14.05362 38.3871 1 rp_unb 361 71.64791 14.33512 36.12903	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = JACKSON	rp_unb 361 74.24209 14.09737 38.23178 rp_unb 361 73.29891 14.6938 36.73835	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = FLINT	rp_unb 361 73.26065 14.12813 37.81362 rp_unb 361 72.37082 14.45744 36.58303	Variable Obs Mean Std. Dev. Min	-> padd = 2, state = MI, r_city = FERRYSBURG	rp_unb 361 72.2191 14.73559 35.93787 1	361 72,80241 14,06496 37,15651
	132.37 133.06	Max		147.28	Max		139.19	Мах		144.3 145.75	Max		142.4 149.7	Max		142.055 148.99	Max	**************************************	141.99 152.07	Max		144.17	Max		144.095	

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-> padd = 2, state = MN, r\_city = SAUK CENTRE

	X <sub>a</sub>					
ر الا		M.	Std. Dev.	Mean	Obs	Variable
ය ු	The second of the second	and the second s	VERNON	- MT.	state = MO, r_city	-> padd = 2, sta
ය <sub>-</sub> ල	131.8	41.73238	13.08721	73.09523	361 0	rp_brn rp_unb
۵	Max	Min	Std. Dev.	Mean	Obs	variable
ূজ				r_city = MEXICO	state = MO, r_	-> padd = 2, st
	132.32 138.86	44.17293 42.55675	12.9827 13.35349	74.35249 73.65296	361 361	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
			VIE	MO, r_city = COLUMBIA	4	-> padd = 2, state
֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֓֞ ֪׆	131.91 137.49	43.35839 41.12306	12.88309 13.36759	73.65939 72.35429	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			\GE	= MO, r_city = CARTHAGE	ste = MO, r_c	-> padd = 2, state
_0	131.62 132.65	41.81704 41.66667	12.77855 12.81269	73.01346 73.36785	361 361	rp_brn
, 20 E	Мах	Min	Std. Dev.	Mean	Obs	Variable
			LTON	MO, r_city = CARROLLTON	ut I	-> padd = 2, state
	107.11	40,227 38,53046	12.31728 12.84547	71.67726 70.16745	361 361	rp_brn rp_brn
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			GIRARDEAU	ity = CAPE (	state = MO, r_city = CAPE	-> padd = 2, sta
	134.13 135.48	43,48371 42,5188	13.14526 13.43479	74.30723 73.40134	361 361	rp_brn rp_unb
a a	Max	Min	Std. Dev.	Mean	Obs	Variable
				MO, r_city = BELLE		-> padd = 2, state
	130.53 130.98	44.3609 43.35839	12.61231 12.72124	75.08028 74.09334	361	rp_brn rp_unb
, ,	Max	Min	Std. Dev.	Mean	obs	Variable
			PAUL/MAPLLC	ST .	te = MN, r_city =	~> padd = 2, state
	132.65	45.07519	12.94979	76.48222	361 0	rp_unb
C	Max	#in	Std. Dev.	Mean	Obs	Variable

		-	s, Z		-	2		•	ري 2			R		•	2			Z			u			2		
rp_brn rp_unb	Variable	-> padd = 2, state	rp_brn rp_brn	Variable	-> padd = 2, s	rp_unb	Variable	-> padd = 2, s	rp_brn rp_unb	Variable	-> padd = 2, state	rp_brn rp_unb	Variable	-> padd = 2, st	rp_brn rp_unb	Variable	-> padd = 2, state = NE, r_city = GENEVA	rp_brn rp_unb	Variable	-> padd = 2, st	rp_unb	Variable	-> padd = 2, st	rp_brn rp_unb	Variable	360103 Thursday June 24 16:30:30 2004
361	Oba	18	361	Obs	padd = 2, state = NE, r_city = ONAHA	361	Obe	padd = 2, state = NE, $r_{\rm c}$ city = NORTH PLATTE	361 361	Obs	H	361 361	0bs	padd = 2, state = NE, r_city = LINCOLN	361 361	0b#	ate = NE, r_c	361 361	Obs	padd = 2, state = NE, r_city = DONIPHAN	361 361	Obs	state = NE, r_ci	361 0	Obs	y June 24 16:3
73.68642 73.00262	Mean	NE, r_city = OSCEOLA	74.01448 73.14804	Mean	ity = OMAHA	75.62631 74.07978	Mean	ty = NORTH	74.98355 73.5365	Mean	NE, r_city = NORPOLK_NE	74.26038 73.34849	Rean	ity = LINCOL	74.04569 72.57993	Mean	ity = GENEVA	74.17388 73.27534	Mean	ity = DONIPH	74.66418 73.18872	Mean	NE, r_city * COLUMBUS_NE	77.9696	Mean	
12.93284	Std. Dev.	E .	12,98851 13,03359	Std. Dev.		12.78517 12.95487	Std. Dev.	PLATTE	12.71126 12.91602	Std. Dev.	X NE	12.93502 13.24918	Std. Dev.	Ż	12.81922 12.93908	Std. Dev.	-	12.8911 13.18158	Std. Dev.	AN	12.79725 12.87899	Std. Dev.	S.N.S.	12,56293	Std. Dev.	Page 18
\$ \$	X.		43.47118	Min		43.97243 43.28321	Min		44.12281 42.85714	Min		43.58396 42.53286	Min		42.89474 41.74186	Min		43.19549 42.31829	Min		43,33333	Min		47.68171	Min	
132.4 133.93	Ma X		132.72	Мах		133.02 133.93	Max		132.54 134.81	Max		132.82 137.94	Max		131.39 132.19	Max		132.32	Max		132.08	Max		126.68	Max	
<i>y</i> , <i>y</i>	•		ال كم	3			2			8 1		9	~ -		ن 2	8		, Z	80		ر 2	R		•	æ	

-	133.78	45.61404	12.88409	76.67585	361	rp_brn
s Z	Мах	Min	Std. Dev.	Mean	Obs	Variable
			NWO	r_city = JAMESTOWN	= ND,	padd = 2, state
,	134.18	46.19048 44.89975	12.73111 13.03037	76.78706 76.0914	361 361	rp_brn
a ع	Max	Min	Std. Dev.	Mean	Obs	Variable
			FORKS	r_city = GRAND	= ND,	padd = 2, state
_	132.69	46.55389 44.87469	12.66926 12.93657	76.91358 76.01962	361 361	rp_brn rp_unb
ت 2	Max	Min	Std. Dev.	Mean	Obs	Variable
				ND, r_city = FARGO	н	padd = 2, state
	130.32	48.52131	12.30938	78.28012	361 0	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
AND THE RESIDENCE OF THE PARTY	The section of the se		* BISMARCK/MANDAN		e = ND, r_city	padd = 2, state
ئـ م	129.83 140.41	38.1601 36.76225	13.76126 14.13546	72.51978 71.19231	361 361	rp_brn rp_unb
حر 2	Max	Min	Std. Dev.	Mean	obs	Variable
			SID	rity = ST. LOUIS	e = MO, r_city	padd = 2, state
, , ,	131.27 135.65	43.58396 41.51732	12.92729	73.65269 72.29282	361 361	rp_brn rp_unb
<b>3</b> 3	мах	Min	Std. Dev.	Mean	Obs	Variable
			FIELD_MO	r_city = SPRINGFIELD_MO	* *	padd = 2, state
-	132.04 136.31	42.2807 41.1828	13.96444	73.65281 72.82189	361 361	rp_brn rp_unb
B	Мах	Min	Std. Dev.	Mean	Obs	Variable
A THE RESERVE THE PROPERTY OF			IDE	MO, r_city = RIVERSIDE	н	padd = 2, state
	130.93	43.89486 42.50896	12.94665 13.20479	74,69587 73,55827	361 361	rp_brn rp_unb
, CZ	Мах	Min	Std. Dev.	Mean	0bs	Variable
>			_	ity = PALMYRA	e = MO, r_city	padd = 2, state

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Obs Mean Std. Dev. Min Max  361 72.97655 13.36789 37.50399 117  OH, r_city = CINCINNATI  Obs Mean Std. Dev. Min Max  361 72.97856 13.78471 37.04898 141.44  OH, r_city = CLEVELAND  Obs Mean Std. Dev. Min Max  361 71.98588 13.23112 37.72999 113.75  OH, r_city = CLEVELAND  Obs Mean Std. Dev. Min Max  361 73.15826 13.55837 36.61868 145.94  OH, r_city = DAYTON  Obs Mean Std. Dev. Min Max  361 72.93686 13.59619 38.636667 143.69  OH, r_city = LIPANON  Oh, r_city = LEBANON  Oh, r_city = LEBANON  Oh, r_city = LEBANON  Oh, r_city = LIPAN	State	ole orn unb ble ble ble ble ble ble ble ble ble bl
Dev. Hin Max  1006 38.9847 117.97  13112 37.72999 113.75  1312 37.72999 113.75  1312 37.72999 113.75  1313 38.52605 137.9  Dev. Hin Max  141  141  141  141  141  141  141  1	state = state =	ole on unb ole
Dev. Min Max  1000 113.75  1000	state state	ole or unb ble ble ble ble ble brn unb ble ble ble ble ble ble ble ble
Dev. Min Max  137  137  137  137  137  137  137  13	state a	2, 2, 2, ble ble ble ble ble ble ble ble
Dev. Min Max  137  137  137  137  137  137  137  13	State a	1 3 - 1 - 1 0 - 1 - 1
Dev. Hin Max  137,04898 141.44  139,150299 137,04898 141.44  15086 38.98447 117.97  13112 37,72999 113.75  13112 37,72999 113.75  15837 36.61888 145.94  15837 36.61888 145.94  15837 36.61888 145.94  15837 36.61888 145.94  15837 36.61888 145.94	State = OH, Obs 36	2, ole on unb unb brn unb brn unb brn unb brn unb brn unb brn unb
Dev. Min Max  Dev. Min Max  Dev. Min Max  Dev. Min Max  137  13112 37.72999 113.75  13112 37.72999 113.75  15837 36.61888 145.94  Dev. Min Max  15837 36.61888 145.94  Dev. Min Max  15837 36.61888 145.94	aqo H, ≃	2, on one of the original orig
Dev. Min Max  137  137  137  137  137  137  137  13	= OH,	2, on the second
Dev. Min Max  137,04998 141.44  15086 38,98447 117.97  23112 37,72999 113.75  23112 37,72999 113.75  2312 37,7299 113.75  2312 37,7299 113.75  2312 37,7299 113.75  2312 37,7299 113.75		2, on the ble ble ble ble ble ble ble ble ble
Dev. Min Max  137,04998 141.44  15086 38,98447 117.97  23112 37,72999 113.75  Dev. Min Max  15088 137,7299 113.75  15837 36,61888 145.94	361	2, orn umb
Dev. Min Max  5, 137, 04998 141.44  Book 38,98447 117.97  33112 37,72999 113.75  Book Min Max  5, 137,72999 113.75  6, 137,72999 113.75	Obs	ole umb
Bev. Min Max  Bev. Min Max  Bev. Min Max  Boov. Min Max	state = OH, r_c	ole orn umb
Dev. Min Max  Dev. Min Max  Dev. Min Max  Dev. Min Max  Day, Min Max  Day, Min Max	361 361	2, ole
Dev. Min Max 137 18471 37.04898 141.44  Dev. Min Max 15086 38.98447 117.97 13112 37.72899 113.75	Obs	2,
Pev. Min Max 1879 37.50299 117 18471 37.04898 141.44 Dev. Min Max 185086 38.98447 117.97 131.12 37.72899 113.75	state = OH, r_c	
Dev. Min Mex 18789 37.50299 137 78471 37.04898 141.44	361 361	rp_brn rp_unb
Dev. Min Max 1679 37.50399 137 18471 37.04898 141.44	Оъя	Variable
Dev. Hin Hox 16789 37.50299 137 18471 37.04898 141.44	state = OH, r_city	padd = 2, st
Dev. Min Max	361 361	rp_brn rp_brn
r_city = AKRON/CANTON	Obs	Variable
	state = OH, r_c	padd = 2, st
76.20576 12.88202 45.58897 124.51 75.53381 12.97786 44.38596 127.42	361 361	rp_brn rp_unb
s Mean Std. Dev. Min Max	Obs	

-> padd = 2, state = OH, r\_city = LORAIN

8, 1	Max	Min	Std. Dev.	Mean	Obs	Variable
,œ,				OK, r_city = ARDMORE	4	padd = 2, state
<b>3</b> 5	137.73 141.8	38.8172 36.43967	13.57438 13.72831	72.9109 72.54688	361 361	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
			STOWN	OH, r_city = YOUNGSTOWN		padd = 2, state
ر 2,	141.65 143.9	37.71804 35.96177	13.71781 14.06231	72.4492 71.42858	361 361	rp_brn rp_unb
8	Xax	Min	Std. Dev.	Mean	Obs	Variable
			)/SUN	OH, r_city = TOLEDO/SUN	a	padd = 2, state
, c	137.2 147.05	39.42653 36.43967	13.63992 14.14882	73.81225 72.17767	361 361	rp_brn rp_unb
0	Max	Min	Std. Dev.	Mean	Obs	Variable
			)/BP	OH, r_city = TOLEDO/BP	4	-> padd = 2, state
, G	139.75	38.06452 35.84229	13.76155 14.30195	72.86073 71.83431	361 361	rp_brn p_brn
<b>Š</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
				OH, r_city = TOLEDO	4	-> padd = 2, state
z	147.65	36.32019	14.55033	72.84105	361 0	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
en e				OH, r_city = TIFFIN	18	padd = 2, state
۶, 4	114.98 114.43	41.67264 40.83632	12.55255 13.3748	74.2606 74.44445	361 361	rp_brn rp_unb
•	Max	Min	Std. Dev.	Mean	Obs	Variable
			VILLE	OH, r_city = SCIOTOVILLE	u I	padd = 2, state
ø, u	121.31	40.08363	12.8282 13.14152	74.58024 73.56749	361 361	rp_unb
•	Max	Min	Std. Dev.	Mean	obs	Variable
			TA	OH, r_city = MARIETTA	10	padď = 2, state
د	146.9	36.37993	13.98213	72.79099	361	rp_brn rp_unb
,	Мах	Min	Std. Dev.	Mean	Obs	Variable

rp_brn	Variable	-> padd = 2, st	rp_brn rp_unb	Variable	-> padd = 2, st	rp_brn rp_brn	Variable	-> padd = 2, st	rp_brn rp_unb	Variable	-> paidd = 2, st	rp_brn rp_unb	Variable	-> padd = 2, st	rp_brn rp_unb	Variable	-> padd = 2, sta	rp_brn rp_unb	Variable	-> padd = 2, state	rp_brn rp_unb	variable	-> padd = 2, state	rp_brn rp_drn	Variable
361	0bs	state = SD, r	361 361	Obs	state = SD, r	361 361	Obs	state = SD, r	361 361	Obe	state = SD, r	361 361	Obs	state = OK, r	361 361	Obs	state = OK, r_	361 361	Obs	#	361	Obs		361 361	Obs
74 67487	Mean	SD, r_city = SIOUX FALLS	79.5631 77.94323	Mean	SD, r_city = RAPID CITY	75.78426 74.38929	Mean	SD, r_city = MITCHELL	76.59357 75.47801	Mean	r_city = ABERDEEN	73.06142 71.81376	Mean	OK, r_city = WYNNEWOOD	77.07944 76.23408	Mean	= OK, r_city = TURPIN	72.31991 71.30853	Mean	OK, r_city = TULSA/WPL	71.98918 71.05804	Mean	OK, r_city = TULSA/SINCLAIR	72.21088 70.88157	Mean
12 64451	Std. Dev.	K FALLS	13.06217 13.3458	Std. Dev.	CITY	12.74082 12.93554	Std. Dev.	TITE	12.72741 12.90265	Std. Dev.	EEN	12.96892 13.11468	Std. Dev.	моор	13.54975 13.63061	Std. Dev.	×	12.82614 13.25261	Std. Dev.	/WPL	12.83416 13.12097	Std. Dev.	SINCLAIR	12.84852 13.17051	Std. Dev.
44.21053	Min	-	48,21983 46,11708	Min		45.26316 43.49624	Min		45.45113 44.64912	Min		44.22306 41.19048	Min		45.72682 44.17293	Min	COMMON PART THE OPTIMIST PRINCIPLE OF T	41.94236 39.57394	Min		41.02757 39.52381	Min		41.71679 39.26065	Min
132.3	Max	And a second	126.23 126.25	Max		133.14	Max		133.67 134.82	Max		128.1 132.7	Max		131.06 135.5	Max		129.095 133.475	Max		132.235	Max		129.095 132.35	Max
ج ج	۵	AND MARKAGEN COMMERCIAL COMMERCIA	<u>.</u> ,	2		<u>_</u> 0	\$ 5		-	<i>ج</i> ع		3	s z		<u>ي</u> د	5		<u>ر</u> د	<b>S</b>		, ,	a L			ح ص

	10000	41 42857	12.86474	71 60024	2	
<i>چ</i> ر 2	мах	Min	Std. Dev.	Mean	Obs	Variable
			EE	OK. r_city = SHAWNEE	4	padd = 2, state
	127.9 133.43	41.41604 39.81203	12.82206 13.13871	72.32505 71.16167	361 361	rp_brn rp_unb
ς 2	Max	Min	Std. Dev.	Mean	Obe	Variable
			CITY	city = PONCA CITY	te = OK, r_city	padd = 2, state
<u>.</u> 0	128.07 133.25	41.02757 39.93734	12.83489 13.14128	72.15657 71.04764	361 361	rp_brn rp_unb
<b>S</b>	Мах	Min	Std. Dev.	Mean	Obs	Variable
			MA CITY	OK, r_city = OKLAHOMA CITY	n	padd = 2, state
2	127.86 133.58	41.19048 39.94987	12.8242 13.15205	72.28365 71,12556	361 361	rp_brn rp_unb
æ Z	Мах	Min	Std. Dev.	Mean	Obs	Variable
MATERIAL PROPERTY AND A STATE OF THE STATE O		And the Colon of t	148	r_city = OKLA/WPL	* OK.	padd = 2, state
•	126.65 131.5	40.88972 40.03759	12.88018 13.13907	72.25263 71.42821	361 361	rp_brn rp_unb
بر م	Max	Min	Std. Dev.	Mean	Obs	Variable
•			ND	OK, r_city = OKLA/SUN		padd = 2, state
<u>.</u>	129.08 131.17	41,10276 39,87469	12.88346	72.28031 71.18198	361	rp_brn rp_unb
R 2	Max	Min	Std. Dev.	Mean	Obs	Variable
			ONOCO	OK, r_city = OKLA/CONOCO	8	-> padd = 2, state
•	129 128.75	42.29323 37.90727	12.79903	72.5972 69.61697	361 361	rp_unb rp_unb
رۍ ح	Max	Min	Std. Dev.	Mean	940	Variable
			≈ OKL/GROUP 3 REF.	ity = OKL/GR	e = OK, r_city	padd = 2, state
	128.5 133.57	41.21554 40.10025	12.873	72.58831 71.35125	361 361	rp_brn rp_unb
ري ح	Max	Min	Std. Dev.	Mean	940	Variable
•				r_city = ENID	= 0X,	padd = 2, state

-> padd = 2, state = OK, r\_city = TULSA

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Astiable   Obs   Mean   Std. Dev.   Min   Mex   Max   Max   Mex   Mex		132.78	41.02748	13.11131	75,47861	361 361	rp_brn
Obs   Hean   Std. Dev.   Min   Max	رت 2	Max	Min	Std. Dev.	Xean	Obs	Variable
State = SD, r_city = WOLSEY   Min   Max				EWA FALLS	B	= WI.	
State = SD, r_city = WOLSEY   Min Max		102.705 104.58	40.05974 37.92115	12.24013 12.72192	70.78 <b>4</b> 96 69.17196	361 361	rp_brn rp_unb
Obs   Hean   Std. Dev.   Min   Max	s S	Max	Min	Std. Dev.	Mean	Ohs	Variable
Obs   Hean   Std. Dev.   Min   Max			to the time enterest administration of the second	ILLE	ity = NASHV	4	- 1
Obs   Hean   Std. Dev.   Min   Max	<u>.</u> .	103.805	40.04779 37.57467	12.26387 13.03399	71.27468 69.40792	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.27565 133.64  361 75.14668 12.95911 43.45864 135.16  8tate = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  361 75.26692 13.55081 46.10276 133.93  361 75.22693 12.82007 44.71178 135.98  8tate = SD, r_city = VANKTON  Obs Mean Std. Dev. Min Max  361 75.1984 12.8220 43.65915 132.19  361 75.1984 12.8239 43.65915 132.19  361 75.1984 12.9423 42.83208 135.98  8tate = TN, r_city = KNOXVILLE  Obs Mean Std. Dev. Min Max  361 70.4842 12.0855 39.94026 103.61  361 70.56453 12.2261 40.19116 103.09  361 89.03804 12.71043 37.75388 104.49	<b>5</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs   Mean   Std. Dev.   Min   Max				8	ity = MEMPHI	8	
Obs   Mean Std. Dev.   Min   Max	, to	103.09	40.19116 37.75388	12.2261 12.71043	70,56453 69,03804	361 361	rp_brn rp_unb
Obs   Mean Std. Dev.   Min   Max	2	Max	Min		Mean	obs.	Variable
Obs Mean Std. Dev. Min Max  361 75.14668 12.95911 43.45864 135.16  8tate = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  361 75.26692 12.5591 45.10276 133.53  361 75.26692 12.5591 46.10276 133.53  361 75.22633 12.82007 44.71178 135.98  8tate = SD, r_city = YANKTON  Obs Mean Std. Dev. Min Max  361 73.1984 12.8329 43.65915 132.19  361 73.1984 12.8329 43.65915 132.19  361 70.4842 12.9433 42.83208 132.65  361 70.4842 12.9855 39.94026 132.61  361 70.4842 12.9855 39.94026 132.61		A TOTAL CONTRACTOR OF THE PARTY		LLE		н	
Obs Mean Std. Dev. Min Max  361 75.14668 12.99714 45.27565 133.64  361 75.14668 12.95911 43.45864 135.16  8tate = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  361 76.66822 13.65081 46.10276 133.93  361 75.22693 12.82007 44.71178 135.98  8tate = SD, r_city = YANKTON  Obs Mean Std. Dev. Min Max  361 73.1984 12.8328 43.65915 132.19  361 73.1984 12.8328 43.65915 132.89  State = TN, r_city = CHATTANOOGA  Mean Std. Dev. Min Max  Obs Mean Std. Dev. Min Max	ئر 2	102.61 103.17	39.94026 37.75388	12.0855 12.47562	70.4842 68.7205	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.27565 133.64  361 75.14668 12.95911 43.45864 135.16  State = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  361 75.26682 12.95091 45.10276 133.93  361 75.22693 12.82007 44.71178 135.98  State = SD, r_city = YANKTON  Obs Mean Std. Dev. Min Max  361 75.19884 12.8320 43.65915 132.19  361 75.19884 12.8323 43.65915 132.19  361 75.19884 12.8323 43.65915 132.86	<b>2</b> 5	Мах	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.27569 133.64  361 75.34668 12.55911 43.45864 135.16  State = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  361 75.22693 12.82007 44.71178 135.98  State = SD, r_city = YANKTON  Obs Hean Std. Dev. Min Max  361 75.19884 12.8528 43.65515 132.89  361 73.7984 12.8528 43.65515 132.86				NOOGA	ity = CHATTA	4	padd = 2, stat
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.27569 133.64 361 75.34668 12.55911 43.45864 135.16  State = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  8tate = SD, r_city = YANKTON  Obs Mean Std. Dev. Min Max	ا ر	132.19 132.86	43.65915 42.83208	12.85298 12.9423	75.19884 73.7954	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.77569 133.64  361 75.34668 12.55971 43.45864 135.16  State = SD, r_city = WOLSEY  Obs Mean Std. Dev. Min Max  361 76.66822 12.65081 46.10276 133.93  361 75.22683 12.83007 44.71178 135.98	20 [	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.27569 133.64  361 75.34668 12.95911 43.45864 135.16  State = SD, r_city = NOLSEY  Obs Mean Std. Dev. Min Max  361 76.66822 12.55081 46.10276 133.93  361 75.22693 12.82007 44.71178 135.98				2	ity = YANKTO		padd = 2, stat
Obs Mean Std. Dev. Min Max  361 76.16163 12.90714 45.27569 133.64  361 75.34668 12.95911 43.45864 135.16  State = SD, r_city = MOLSEY  Obs Mean Std. Dev. Min Max	<u>9</u>	133,93 135,98	46.10276 44.71178	12.65081 12.82007	76.66822 75.22693	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max 8 361 76.16163 12.90714 45.27569 133.64 361 75.34668 12.95911 43.45864 135.16 state = SD, r_city = MOLSEY	α -	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Max 81 361 76.16163 12.99714 45.27569 133.64 361 75.34668 12.95911 43.45864 135.16				THE RESERVE THE PERSON NAMED IN COLUMN TWO	ity = WOLSEY	н	padd = 2, stat
Obs Mean Std. Dev. Min Max	-	133.64 135.16	45.27569 43.45864	12.90714 12.95911	76.16163 75.34668	361 361	rp_unb
	ح	Мах	Min	Std. Dev.		Obe	Variable

-> padd = 2, state = WI, r\_city = GREEN BAY

Min 39, 09226 39, 25568 39, 25568 39, 25568 39, 25568 39, 25568 39, 25568 41, 25568 41, 25568 41, 27395 40, 9319 41, 27395 40, 9319 41, 27395 40, 9319 41, 27395 40, 9319 41, 27395 40, 9319 41, 27395 40, 9319 41, 27395 40, 9319
Hax 131.18 135.18

# _city = EL DORADO_AR    Mean	le Obs	AB1 105.1
Dev. Min Max  Dev. Min Max  105.79  92207 37.39546 110.01  Dev. Min Max  106.62  107.19  107.19  107.19  107.19  107.19  107.19  107.15  107.45  107.45  107.45		Variable
Dev. Min Max	state =	padd = 3,
Dev. Min Max  Dev. Min Max  105.79  92207 37.39546 110.01  Dev. Min Max  106.62  107.37  107.39547 106.62  571.97 37.59687 106.65  571.97 37.59687 106.65  58 43.2574 131.27  1883 42.04261 136.12  Dev. Min Max  104.16  106.85  Dev. Min Max  106.85	rn 361 nb 361	rp_brn rp_unb
Dev. Min Max  105.79  106.79  107.37.39546  107.37  107.39546  107.37  107.39546  107.37  107.39546	Le Obs	Variable
Dev. Min Max  105.79  110.01  Dev. Min Max  106.62  571.97  37.39887  Dev. Min Max  106.62  571.97  106.85  Dev. Min Max  106.62  571.97  106.85  Dev. Min Max  106.62  571.97  106.85	state =	padd = 3,
Dev. Min Max  105.79  110.01  Dev. Min Max  106.62  57197 37.39887 106.62  57197 37.59887 106.62  57197 37.59887 106.62  57197 37.59887 106.85  Dev. Min Max  106.62  57197 37.59887 106.85	rn 361	rp_brn rp_unb
R Dev. Min Max  100.62  100.62  57197 37.59857 106.62  57197 37.59857 106.85  Dev. Min Max  Dev. Min Max  100.62  100.62  100.62	Obs	Variable
P Dev. Min Max  100.00	state =	padd = 3,
R Dev. Min Max 57824 39.35484 105.79 92207 37.39546 110.01 Dev. Min Max 88613 42.23058 1129.9 12023 40.56591 133.18 Dev. Min Max 1008.62 157197 37.59857 106.62	nb 361	tp_brn rad_qı
Dev. Min Max  Dev. Min Max  105.79  92207 37.39546 110.01  Dev. Min Max  129.9  12023 40.55391 133.18  Dev. Min Max  106.62  106.62	e Obs	Variable
Dev. Min Max  Dev. Min Max  105.79  92207 37.39546 110.01  Dev. Min Max  129.9  12023 40.55391 133.18  Dev. Min Max		rp_brn rp_umb
R Dev. Min Max 105.79 92207 37.39546 110.01 92207 92207 37.39546 120.01 92207 92207 92207 92207 923080	e Obs	Variable
= EL DORADO_AR  Mean Std. Dev. Min Max  1.04557 12.97874 39.3584 110.01  - FT. SMITH  Mean Std. Dev. Min Max  Mean Std. Dev. Min Max  1.05547 12.89613 42.23058 129.9  1.06541 13.13023 40.56391 133.18	state =	padd = 3,
EL DORADO_AR  Mean Std. Dev. Min Max  1.64517 12.57834 39.35484 105.79  1.10425 12.92207 37.39546 110.01  = FT. SMITH  Mean Std. Dev. Min Max	n 361	rp_brn rp_unb
EL DORADO_AR  Mean Std. Dev. Min Max  1.64517 12.57824 39.35484 105.79  1.10425 12.92207 37.39546 110.01	ac	Variable
EL DORADO_AR  ** EL DORADO_AR  ** Mean Std. Dev. Min Max  ** No.6657 12.57824 19.35884 105.79  ** 1.0425 12.92207 37.39586 110.01		
= EL DORADO_AR  Hean Std. Dev. Min Max	n 361	rp_brn
EL DORADO_AR	e Obs	Variable
00.00/00 14.44/00 0/.00000	state =	padd = 3,
70.59059 12.08735 40.05974 103.21	n 361	rp_brn rp_brn
Obs Mean Std. Dev. Win Max S. U		Variable

-> padd = 3, state = LA, r\_city = BATON ROUGE

		The state of the s				
	Max	X is	Std. Dev.	Mean	Obs	Variable
				tty = BILOXI	e = MS, r_city	-> padd = 3, state
<i>ت.</i> ع	103.84	40.62127 36.85783	12.21184 12.4839	71.20183 68.21704	361 361	rp_brn rp_unb
<b>Š</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			PORT	city = SHREVEPORT	e = LA, r_city	-> padd = 3, state
Ç	103.5	39.28315	12.43763	69.95275	361 0	rp_brn rp_unb
స	Max	Min	Std. Dev.	Mean	Obe	variable
			SAS	ity = OPELOUSAS	e = LA, r_city	-> padd = 3, state
ر ک	103.08	39.37873 35.72282	12.1914 12.56265	69.6861 66.90779	361 361	rp_brn rp_brn
<u>ئ</u> ة	X.B.X	3	Std. Dev.	Mean	Obs	Variable
			LEANS	LA, r_city = NEW ORLEANS	u	-> padd = 3, state
ت. عر	103.74	41.07527 37.81362	12.25654 12.48202	71.44707 68.73782	361 361	rp_brn rp_unb
	Мах	Min	Std. Dev.	Mean	Obs	Variable
	A STATE OF THE STA			LA, r_city = MONROE	а	-> padd = 3, state
ن م	102.62 101.275	38.20789 35.44803	12.39367 12.57632	68.61264 66.86523	361 361	rp_brn rp_unb
<i>-</i>	Max	Min	Std. Dev.	Mean	Obs	Variable
			CHARLES	r_city = LAKE C	ī.	-> padd = 3, state
ح م	102.385	38.5902 35.48387	12.20411 12.37667	69.33254 66.99148	361 361	rp_brn rp_unb
<b>Š</b>	Max	E I	Std. Dev.	Mean	Obs	Variable
	***************************************		CONVENT/GARYVILLE	48	e = LA, r_city	padd = 3, state
بر م	103.25	39.47431 35.83035	12.28155 12.727	69.35089 67.3611	361 361	rp_brn rp_unb
6	Max	Min	Std. Dev.	Mean	Obs	Variable
	THE PROPERTY OF THE PROPERTY O		TE	LA, r_city = CHALMETTE	16	padd = 3, state
<u>ح</u> م	103.16 111.155	38,94863 35,55556	12.20535 13.29745	69.5422 67.42334	361 361	rp_unb
<b>&gt;</b> >	Max	Min	Std. Dev.	Mean	Obs	Variable



State = MS, r_city = MERIDIAN   Std. Dev.   Min   Max   Ma			2010	10 99798	97 00917	361	יין היין
Obs   Mean   Std. Dev.   Min   Max	<del>.</del> 2	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs   Mean   Std. Dev.   Min   Max				FIELD		N.M.	
Obs   Mean   Std. Dev.   Min   Max   Max	ت - ع	109.08 112	45.30075 42.9198	12.22998 12.73281	77.911 76.51621	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.25  state = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96  361 68.57024 12.90916 37.16846 105.67  state = MS, r_city = MERIDIAN  Obs Mean Std. Dev. Min Max  361 69.54327 12.12631 39.2353 102.69  state = MS, r_city = PASCADOULA  Mean Std. Dev. Min Max  361 70.27955 11.99975 40.32258 102.29  state = MS, r_city = VICKSBURG  Ohe Mean Std. Dev. Min Max  361 70.63912 12.19358 40.22598 102.29  ohe Mean Std. Dev. Min Max  361 70.63912 12.19358 40.22598 103.37  State = NM, r_city = ALBUQUERQUE	e e	Max	M.	Std. Dev.	Mean	Ohs	Variable
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.07  361 67.57741 12.43428 36.2963 102.07  361 70.55555 12.10633 39.68997 102.96  361 68.57024 12.90916 37.16846 105.67  GEATE = MS, T_CITY = MERIDIAN  Obs Mean Std. Dev. Min Max  361 67.83983 12.46778 36.77419 102.69  State = MS, T_CITY = PASCAGOULA  Obs Mean Std. Dev. Min Max  361 70.27955 11.99975 40.33258 102.69  State = MM, T_CITY = VICKSBURG  Obs Mean Std. Dev. Min Max  361 70.62912 12.19258 40.23258 103.37  361 68.72786 12.30892 37.69415 103.4  BEATE = NM, T_CITY = ALBUQUERQUE  Obs Mean Std. Dev. Min Max  361 77.80363 12.46058 49.05615 103.37  361 77.80363 12.46058 49.05615 106.91  361 77.80363 12.26264 49.05615 106.91				IA	city = ARTES	11	Ψ.
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.07  361 67.57741 12.43428 36.2963 102.07  361 70.55515 12.10633 39.68997 102.96  361 68.57024 12.90916 37.16846 105.67  Obs Mean Std. Dev. Min Max  361 69.54327 12.12651 39.2358 102.99  State = MS, r_city = PASCAGOULA  Obs Mean Std. Dev. Min Max  361 67.83983 12.46778 36.77419 102.69  State = MS, r_city = PASCAGOULA  Obs Mean Std. Dev. Min Max  361 70.27955 11.99975 40.33258 102.29  State = NM, r_city = VICKSBURG  Obs Mean Std. Dev. Min Max  361 70.62912 12.19258 40.21255 103.37  361 70.62912 12.19258 40.21505 103.37  Obs Mean Std. Dev. Min Max  Max  State = NM, r_city = ALBUQUERQUE  Obs Mean Std. Dev. Min Max  ABABAN Std. Dev. Min Max  Max  Obs Mean Std. Dev. Min Max	ر د د	106.91 112.45	49.05615	12.46058 12.62624	77.80363 77.83481	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2983 102.25  state = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  Obs Mean Std. Dev. Min Max  361 68.57024 12.90916 37.16846 105.67  361 67.83983 12.46778 37.16846 105.67  state = MS, r_city = PASCAGOULA  Obs Mean Std. Dev. Min Max  361 67.83983 12.46778 36.77419 102.69  state = MS, r_city = PASCAGOULA  Obs Mean Std. Dev. Min Max  361 70.27955 11.99975 40.32258 102.29  State = MS, r_city = VICKSBURG  Obs Mean Std. Dev. Min Max  361 68.72786 12.19358 40.21258 103.37  361 68.72786 12.19358 40.21505 103.37  361 68.72786 12.50892 37.59415 103.4	<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Max  361 69.66872 11.05444 39.00336 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 68.57024 12.10633 39.68937 102.96  361 68.57024 12.90916 37.18846 105.67  State = MS, r_city = MERIDIAN  Obs Mean Std. Dev. Min Max  361 69.54327 12.13051 39.3356 102  361 67.83983 12.46778 36.77419 102.69  State = MS, r_city = PASCACOULA  Obs Mean Std. Dev. Min Max  361 70.27955 11.9975 40.32258 102.29  State = MS, r_city = VICKSBURG  Ohe Mean Std. Dev. Min Max  361 70.6912 12.19258 40.2255 103.37  361 70.6912 12.19258 40.2255 103.37  361 68.72786 12.50892 37.69415 103.4	TO THE REPORT OF THE PROPERTY			UERQUE	city = ALBUQ	N.	
Obs Mean Std. Dev. Min Max  361 69.66872 11.05444 39.00336 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE Obs Mean Std. Dev. Min Max  361 68.57024 12.10633 39.68937 102.96  361 68.57024 12.90916 37.18846 105.67  State = MS, r_city = MERIDIAN Obs Mean Std. Dev. Min Max  361 69.54327 12.13051 39.3336 102  361 67.83983 12.46778 36.77419 102.69  State = MS, r_city = PASCACOULA Obs Mean Std. Dev. Min Max  361 70.27955 11.9975 40.32258 102.29  State = MS, r_city = VICKSBURG Obs Mean Std. Dev. Min Max  MS Toty = VICKSBURG Obs Mean Std. Dev. Min Max	_	103.37 103.4	40.21505 37.69415	12.19258 12.50892	70.62912 68.72786	361 361	rp_unb
Obs Mean Std. Dev. Min Max  361 69.66872 11.05444 39.0035 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96  361 68.57024 12.90916 37.18846 105.67  State = MS, r_city = MERIDIAN Obs Mean Std. Dev. Min Max  361 69.54327 12.13051 39.3356 102  361 67.83983 12.46778 36.77419 102.69  State = MS, r_city = PASCACOULA Obs Mean Std. Dev. Min Max  361 70.27955 11.99775 40.32258 102.29	3	Max	Min		Mean	Obe	Variable
Obs   Mean   Std. Dev.   Min   Max   361   69.66872   12.05444   39.00336   102.07   361   67.57741   12.43428   36.2963   102.25    State = MS, r_city = GREENVILLE   Obs   Mean   Std. Dev.   Min   Max   361   70.59535   12.10633   39.68937   102.96   361   68.57024   12.90916   37.16846   105.67    State = MS, r_city = MERIDIAN   Obs   Mean   Std. Dev.   Min   Max   361   69.54327   12.10631   39.23536   361   69.54327   12.10631   39.23536   361   69.54327   12.10631   39.23536   361   69.54327   12.106378   36.77419   102.69    State = MS, r_city = PASCAGOULA   Obs   Mean   Std. Dev.   Min   Max   361   Obs   Mean   Obs   Mean   Obs   Max   361   Obs   Mean   Obs   Mean   Obs   Obs   Obs   Obs   361   Obs   Mean   Obs   Obs   Obs   Obs   Obs				BURG	city = VICKS	4	Ü
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00336 102.07  361 67.57741 12.43428 36.2963 102.25  state = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96  361 68.57024 12.90916 37.16846 105.67  state = MS, r_city = MERIDIAN  Obs Mean Std. Dev. Min Max  361 69.54327 12.12631 39.23536 102.69  state = MS, r_city = PASCACOULIA  Obs Mean Std. Dev. Min Max  Obs Mean Std. Dev. Min Max		102.29	40,32258	11.99975	70.27955	361 0	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00336 102.07  361 67.57741 12.43428 36.2963 102.25  state = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96  361 68.57024 12.09316 37.16846 105.67  state = MS, r_city = NERIDIAN  Obs Mean Std. Dev. Min Max  361 69.54327 12.12631 39.23536 102.69  361 69.54327 12.12631 39.23536 102.69	خ	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.16633 39.68937 102.96  361 68.57024 12.90916 37.16846 105.67  Grate = MS, r_city = MERIDIAN  Obs Mean Std. Dev. Min Max  361 69.63327 12.10633 39.38937 102.96  361 69.63327 12.1063 37.16846 105.67	ней на при			SOULA	ty = PASCA	9	3,
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07 361 67.57741 12.43428 36.2963 102.25  State = MS. r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96 361 68.57024 12.90916 37.18846 105.67  Grate = MS. r_city = MERIDIAN  Obs Mean Std. Dev. Min Max	ر ک	102	39.23536 36.77419	12.12051 12.46778	69.54327 67,83983	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96  361 68.57024 12.90916 37.18846 105.67	<u>ح</u>	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Max  361 69.66872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max  361 70.59535 12.10633 39.68937 102.96  361 70.59535 12.10633 39.68937 102.96		-		IAN	ty = MERID		padd = 3, sta
Obs Hean Std. Dev. Min Max  361 69.68872 12.05444 39.00836 102.07  361 67.57741 12.43428 36.2963 102.25  State = MS, r_city = GREENVILLE  Obs Mean Std. Dev. Min Max	<u>ئ</u> كر	102.96	39.68937 37.16846	12.10633 12.90916	70.59535 68.57024	361 361	rp_brn rp_unb
Obe Mean Std. Dev. Min Max 361 69.66872 12.05444 39.00836 102.07 361 67.57741 12.43428 36.2963 102.25 state = MS, r_city = GREENVILLE	<i>z</i>	мах	Min		Mean	Obs	Variable
Obs Mean Std. Dev. Min Max 361 69.66872 12.05444 39.00836 102.07 361 67.57741 12.43428 36.2963 102.25				ULLE	ity = GREEN	0	padd ≈ 3, sta
Obs Mean Std. Dev. Min Max	<u>ن</u> کم	102.07 102.25	39.00836 36.2963	12.05444 12.43428	69.66872 67.57741	361 361	rp_brn rp_unb
	8	Max	Min	Std. Dev.	Mean	Obs	Variable

-> padd = 3, state = NM, r\_city = CINIZA

Max 3 103.03 3 103.03 B, 4	39.41458 36.92198	Std. Dev.	MODIL		
ی هی	Min 39.41458 36.82198			Obs	Variable
ه هي	Min 39.41458 36.82198	20	TX, r_city = CENTER	state = TX, r_	-> padd = 3, st
s a	Min	12.53219	70.71173 68.97287	361 361	rp_brn rp_unb
a		Std. Dev.	Mean	Ohs	Variable
a		MILLS	TX, r_city = CADDO MILLS	state = TX, r_	-> padd = 3, st
a   i	38.08841	12.52603	69.0926	361 0	rp_brn rp_unb
. 52	Min	Std. Dev.	Mean	Obs	Variable
.62			TX, r_city = BRYAN	state = TX, r	-> padd = 3, st
	43.78446	13.00587	75.7343	361 0	rp_brn p_unb
	Min	Std. Dev.	Mean	Obs	Variable
	A COMMISSION OF THE COMMISSION	PRING	TX, r_city = BIG SPRING	state = TX, r_	-> padd = 3, st
102.555 B U	37.26404 35.19713	12.29084 12.6563	68.34438 66.69292	361 361	rp_brn rp_unb
Xax	Min	Std. Dev.	Mean	Obe	variable
		TWC	city = BEAUMONT	state = TX, r_city	-> padd = 3, st
104.03 D, K	39.89247 38.98447	12.38811 12.68975	70.05898 68.49413	361 361	rp_brn rp_unb
Max	Min	Std. Dev.	Mean	Obs	Variable
		7	ity = AUSTIN	state = TX, r_city	-> padd = 3, sta
116.41 D <sub>1</sub> Z	40.02506 40.05013	13.41934 13.62107	73.86752 73.29171	361 361	rp_brn
Max O .	Min	Std. Dev.			
American and the state of the s		To	ity = AMARILLO	ste = TX, r city	-> padd = 3, state
108.24 B <sub>1</sub> Q	43.77539 42.7718	12.372 12.49279	74.16676 73.1019	361	rp_brn rp_brn
Max	Min	Std. Dev.	Mean	Оъв	Variable
**************************************		es :	TX, r_city = ABILENE	18	-> padd = 3, state
118.35 D <sub>1</sub> K	54.69534 52.5687	13,06988 13,28929	83.2237 82.19413	361 361	rp_brn rp_brn
Max D	Mîn	Std. Dev.	Mean	Obs	Variable

-> padd = 3, state = TX, r_city = MIDLAND/ODESSA	rp_unb 361 73.95835 13.55839 39.78657 116.52 rp_unb 361 73.95835 13.56796 39.13534 119.52	Mean Std. Dev. Min	state = TX, r_city = LUBBOCK	rp_brn 361 70.91166 12.43542 40.38847 103.92 rp_unb 361 70.06273 12.76591 40.10025 104.75	Std. Dev. Min	-> padd = 3, state = TX, r_city = LAREDO	rp_brn 361 69.85186 12.48443 38.37515 103.76 rp_unb 0	Variable Obs Mean Std. Dev. Min Max	-> padd = 3, state = TX, r_city = HIDALGO	rp_brn 361 70.29524 12.35975 39.13979 103.29 rp_unb 361 67.94121 12.58216 36.78614 102.42	Variable Ohe Mean Std. Dev. Min Max	-> padd = 3, state = TX, r_city = HEARNE	rp_brn 361 70.50008 12.50898 40.11947 105 rp_unb 361 69.46762 12.64768 38.85305 105.62	Variable Obs Mean Std. Dev. Min Max	-> padd = 3, state = TX, r_city = HARLINGEN	rp_brn 361 78.02413 11.22761 48.1123 103.02 rp_unb 361 77.7795 11.66408 46.94146 111.37	Variable Obs Mean SCG, Dev. Min Max
		2 2			8 2			≫ —		- S	<b>₹</b>	constitution of the second section of the	20.2	گ 		0, 4	<b>.</b>
rp_brn rp_brn	-> padd = 3, s	rp_unb	rp_brn	-> padd = 3, s	rp_unb	variable	-> padd = 3, s	dun"dı uıq"dı	Variable	-> padd = 3, s	rp_unb rp_brn	Variable	-> padd = 3, s	rp_unb	ra hra	-> padd = 3, 8i	7
	-> padd = 3, state = TX, r_ Variable Obs			state =	rp_unb   361		- sta	rp_unb 361		sta.	rp_brn 361 rp_unb 361		-> padd = 3, state = TX, r_o	rp_unb 361		state =	-
361 77 361 72	-> padd = 3, state = TX, r_city = WICHI  Variable Obs Mean	361	361 70. 361 68	e .		361	-> padd = 3, state = TX, r_city = VICTO		Obs	te = TX, r_city :		Obs.	e e	361	361 68	-> padd = 3, state = TX, r_city = SAN AN	-
361 72.9918 361 72.13088	state = TX, r_city obs	361 68.59535 1	361 70.23223 361 68.59535	te =	361 67.75856	361	te = TX, r_city = VICTOR	361	Obs Mean S	te = TX, r_city = TYLER	361	Obs Mean S	-> padd = 3, state = TX, r_city = SHERRIN	361 67.5067 1	361 68.98312	TX, r_city	\$6. Care

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Max

	_	٠ - ا يو د	36010
rp_brn	Variable	dd = 3,	3 Thurs
36	ohs	state = TX,	day June 24
361 67.94358	s Mean	-> padd = 3, state = TX, r_city = CORPUS CHRISTI	360103 Thursday June 24 16:30:31 2004
12.67906 36.98925	Std. Dev.	S CHRISTI	Page 29
36.98925	Min		
102.795	Max		-
א,יג	0		

-> padd = 3, state = TX, r\_city = DALLAS METRO

rp\_brn

361 361

67.94358 12.67906 36.98925 66.49141 13.03871 35.78256

102.795 103.11

-> padd \* 3, state = TX, r\_city = MT. PLEASANT

Variable rp\_brn rp\_brn

Obe 361 361

Mean Std. Dev.

u į M

Max

71.93685 12.5345 40.83632 70.0735 12.68871 39.0681

105.83

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Variable

Obs

Mean Std. Dev.

Min

rp\_brn rp\_unb

71.1303 70.0145

12.45722 39.05615 12.63396 37.55078

104.29

s Z

-> padd = 3, state = TX, r\_city = SAN ANGELO

rp_brn rp_unb	Variable	360103 Thurada
361 361	Obs	Thuraday June 24 16:30:31 2004
76.01105 74.71607	Mean	0:31 2004
12.98983 13.03026	Std. Dev.	Page 30
44.24134 43.85965	Min	
112.62 111.17	Max	
7	Z Z	



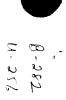
Min Max 47.10872 119.58 47.46714 119.58 47.46714 119.55 48.12425 121.21 48.12425 121.21 113.18 46.42857 113.74 53.16607 114.5 50.99164 114.68 50.99164 114.68 50.99164 114.68 50.99164 114.68
Hax

361 75.3393 13.02212 42.04261 114.02 361 74.65744 13.26119 40.15038 122.57  CO, r_city = FOUNTAIN Obs	, Z, Y	119.43 116.5	46.51135 45.10155	12.52385	85.12683 82.60654	361 361	rp_brn rp_unb
361 75.3393 13.0222 42.04261 114.02 361 74.56744 13.26119 40.15038 122.57  CO, r_city = FOUNTAIN  Obs	2	Max	Min	Std. Dev.	Mean	Obs	Variable
361 75.3393 13.02212 42.04261 114.02 361 74.56744 13.26119 40.15038 122.57  CO, r_city = FOUNTAIN  Obs				N	ity = BOZEMI	15	padd = 4, state
361 75.3393 13.02212 42.04261 114.02 361 74.56744 13.26119 40.15038 122.57  CO, r_city = FOUNTAIN  Obs	_	118.16	46.24851	12.47256	84.47507	0 1961	rp_brn
361 75.3393 13.02212 42.04261 114.02 361 74.56744 13.26119 40.15038 122.57  CO, r_city = FOUNTAIN  Obs		Kax	Min	Std. Dev.	Mean	Obs	Variable
1 75.3393 13.02212 42.04261 114.02 1 74.95744 13.26119 40.15038 122.57 1 77.38784 12.8479 45.26316 115.07 1 77.38784 12.8479 45.26316 115.07 1 76.86201 13.13196 43.19549 119.98 1 Mean Std. Dev. Min Max 1 81.78292 12.62443 49.82456 118.59 0 Mean Std. Dev. Min Max 1 84.87268 14.13841 52.66428 118.19 1 84.56278 14.13789 52.12664 116.6 1 84.56278 14.13789 52.12664 116.6 1 84.46145 13.89139 50.36466 117.66 1 84.16145 13.89139 50.36466 117.66 1 84.16145 13.89139 50.35442 119.11 1 84.46145 13.89139 50.35442 119.16 1 84.16145 13.89139 50.35442 119.16 1 84.16145 13.89139 50.35442 119.16				rgs	ity = BILLI	ж	padd = 4, state
1 75.3393 13.02212 42.04261 114.02 1 74.95744 13.26119 40.15038 122.57  ***_city = FOUNTAIN**  Mean Std. Dev. Min Max  1 77.38784 12.8479 45.26316 115.07  1 76.86201 13.13196 43.19549 119.98  ***_city = GRAND JUNCTION**  Mean Std. Dev. Min Max  1 81.78292 12.62443 49.82456 118.59  0 Mean Std. Dev. Min Max  1 84.87268 14.15841 52.66428 118.11  1 84.56278 14.13789 52.12664 116.6  ***_city = BURLEY**  Mean Std. Dev. Min Max  1 84.46145 13.89139 50.86466 117.06  1 84.15814 13.89139 50.35462 118.6  ***_city = POCATELLO  ***_city = POCATELO  **_city = POCATELO  ***_city = POCATELO  ***_c	5	117.16 114.93	51.19474 50.53764	14.12221 13.90221	84.53221 84.03766	361 361	rp_brn rp_unb
1 75.3393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57 1 77.38794 12.8479 45.26316 115.07 1 77.38794 12.8479 45.26316 115.07 1 76.86201 13.13196 43.19549 119.99 1 81.78292 13.62443 49.82456 119.99 0	6	Мах	Min	Std. Dev.	Mean	Ohs	Variable
1 74.96744 13.26119 40.15038 122.57  1 74.96744 13.26119 40.15038 122.57  1 74.96744 13.26119 40.15038 122.57  1 Mean Std. Dev. Min Max  1 77.38784 12.8479 45.26316 115.07  1 76.86201 13.13196 43.19549 119.98  1 76.86201 13.13196 43.19549 119.98  1 81.78292 12.62443 49.82456 118.59  1 81.78292 12.62443 49.82456 118.59  1 84.87268 14.13789 52.12664 116.6  1 84.5278 14.13789 52.12664 116.6  1 84.5278 14.13789 52.12664 116.6  1 84.5218 14.13789 52.12664 116.6				\$PTO	ity = POCATI	.,	padd = 4, state
1 74.95744 13.26119 40.15038 122.57  1 74.95744 13.26119 40.15038 122.57    Year   Frank   Fra	_0	117.06 116	50.86466 50.35842	13.89159 13.83073	84.46145 84.15814	361 361	rp_brn rp_unb
1 74.95744 13.25119 40.15038 122.57  1 74.95744 13.25119 40.15038 122.57    Y_city = FOUNTAIN   Mean Std. Dev. Min Max	5	Max	Min	Std. Dev.	Mean	Obs	Variable
1 73.53993 13.02212 42.04261 114.02 1 74.95744 13.26119 40.15038 122.57    Y_City = FOUNTAIN					ity = BURLE	a	padd = 4, state
1 75.3393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57  ***Ecity = FOUNTAIN***  Mean Std. Dev. Min Max  1 77.38784 12.8479 45.26316 115.07  1 76.86201 13.13196 43.19549 119.98  ***Ecity = GRAND JUNCTION**  ***Mean Std. Dev. Min Max  1 81.78292 12.62443 49.82456 118.59  ***Mean Std. Dev. Min Max  ***Ecity = BOISE**  ***Mean Std. Dev. Min Max	G	118.11 116.6	52.66428 52.12664	14.15841 14.13789	84.87268 84.56278	361 361	rp_brn rp_unh
1 75.3393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57  ***Ecity = FOUNTAIN***  Mean Std. Dev. Min Max  1 77.38784 12.8479 45.26516 115.07  1 76.86201 13.13196 43.19549 119.98  ***Ecity = GRAND JUNCTION**  Mean Std. Dev. Min Max  1 81.78292 12.62443 49.82456 118.59	0	Max	Min	Std. Dev.	Mean	Ohe	Variable
1 75.33393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57 1 74.96744 13.26119 40.15038 122.57 1 Mean Std. Dev. Min Max 1 77.38784 12.8479 45.26316 115.07 1 76.86201 13.13196 43.19949 119.98 1 r_city = GRAND JUNCTION  Mean Std. Dev. Min Max 1 81.78292 12.62443 49.82456 118.59					ity = BOISE	я	-> padd = 4, state
1 75.33393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57    r_city = FOUNTAIN	47	118.59	49.82456	12.62443	81.78292	361	rp_unb
1 75.33393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57 r_city = FOUNTAIN  Mean Std. Dev. Min Max  1 77.38794 12.8479 45.26316 115.07 1 76.86201 13.13126 43.19549 119.98  r_city = GRAND JUNCTION	2	Max	Min	Std. Dev.	Mean	Obs	Variable
1 75.33393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57 r_city = FOUNTAIN  Mean Std. Dev. Min Max  1 77.38784 12.8479 45.26316 115.07 1 76.86201 13.13196 43.19549 119.98				JUNCTION	ity = GRAND		padď = 4, state
75.33393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.15038 122.57 E_City = FOUNTAIN  Mean Std. Dev. Min Max	c	115.07 119.98	45.26316 43.19549	12.8479 13.13196	77.38784 76.86201	361 361	rp_brn
1 75.33393 13.02212 42.04261 114.02 1 74.96744 13.26119 40.18038 122.57 r_ctty = FOUNTAIN	۵	Max	Min	Std. Dev.	Mean	Obs	Variable
75.33393 13.02212 42.04361 114.02 74.96744 13.26119 40.15038 122.57				IN		30,	padd = 4, state
	G	114.02 122.57	42.04261 40.15038	13.02212 13.26119	75.33393 74.96744	361 361	rp_unb
Obs Mean Std. Dev. Min Max	0	Max	Win	Std. Dev.	Mean	Obs	Variable

2	124.07	50.94385 41.78017	14.55275 15.27511	82.97424 80.05424	361 361	rp_brn
•	Мах	Min	Std. Dev.	Mean	Obe	Variable
			99	city = EUGENE	te = OR, r_city	padd = 5, state
,35, S	132.78 152.09	53.71565 52.48507	16,45975 17.57641	83.91098 83.29409	361 361	rp_brn rp_unb
•	Max	Min	Std. Dev.	Mean	obs.	Variable
			3/RENO	NV, r_city = SPARKS/RENO	18	padd ≈ 5, state
_G _K	134.65 156.3	55.75866 53.94265	15.15547 16.30046	85.60754 82.55314	361 361	rp_brn rp_unb
	Мах	Min	Std. Dev.	Mean	Obs	Variable
			3GAS	NV, r_city = LAS VEGAS	- 11	padd = 5, state
ر کر	121.3 128.73	52.0908 49.36679	13.45544 14.71233	83.21122 81.32274	361 361	rp_brn rp_unb
>	Max	Min	Std. Dev.	Mean	Obs	Variable
			7	AZ, r_city = TUCSON	п	padd = 5, state
, G	123.33 134.88	52.29391 49.56989	14.35127 15.17315	83.72382 81.04684	361 361	rp_brn rp_unb
>	Мах	Min	Std. Dev.	Mean	0bs	Variable
			×	city = PHOENIX	te = AZ, r_city =	padd = 5, state
U	115.72	49.46236	12.81005	82.75633	361 0	rp_brn rp_unb
c	Max	Min	Std. Dev.	Mean	obs.	Variable
			.IR	tty = SINCLAIR	te = WY, r_city =	padd = 4, state
U	115.49	49.02031	12.55712	83.52702	361 0	rp_brn rp_unb
>			00000			

Ø

4 'E	Max	Min	and, pev.		000	
			Day.	Mean	3	Uariable
				city = WILMA	ate = WA, r_	-> padd = 5, state = WA, r_city = WILMA
5	122.65 124.75	49.51015 41.57706	14.12018 15.40051	81,21952 78,20121	361 361	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
	WATER THE PROPERTY OF THE PERSON			= WA, r_city = TACOMA	state = WA, r_	-> padd = 5, st
. S	114.75 121	53.59618 51.97132	13.53777 14.04402	82.7379 82.95341	361 361	rp_brn rp_unb
<b>S</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			76	tty = SPOKA	ate = WA, r_	-> padd = 5, state = WA, r_city = SPOKANE
7. 2	121.88 125.58	49.773 41.76822	13.955 15.96882	81.55276 78.48583	361 361	rp_brn rp_unb
•	Mex	M.Lo	Std. Dev.	Mean	Obs	Variable
			'n	WA, r_city = SEATTLE	state = WA, r_c	-> padd = 5, st
<sup>13</sup> , 4	117.92 123.49	48.53046 46.12903	14.36687 15.17315	81.76547 81.20213	361 361	rp_brn rp_unb
	Max	Win	Std. Dev.	Mean	Obs	Variable
				WA, r_city = PASCO	state = WA, r_c	-> padd = 5, st
۲	117.02	50,9558	13.7219	81.66832	361 0	rp_brn rp_unb
5	мах	Min	Std. Dev.	Mean	Obs	Variable
			LAKE	ity = MOSES	ste = WA, r_c	-> padd = 5, state = wA, r_city = MOSES LAKE
3, 4	122.06 122.75	49.48626	13.88362 14.60272	81.30803 78.3476	361 361	rp_brn
•	Max	Min	Std. Dev.	Mean	Obs	Variable
			TES	WA, r_city = ANACORTES		-> padd = 5, state
2ر.	122.04 123.88	48.8172 39.7491	14.37156 15,29288	81.1691 77.63008	361 361	rp_brn rp_unb
	Max	MIN	Std. Dev.	Mean	Obs	Variable



	Ĩ				· ·	. (		
variable rp_brn rp_unb	variable  rp_brn  rp_unb	-> padd = 1, s Variable rp_brn rp_unb	variable rp_brn rp_unb	variable rp_brn rp_unb	variable rp_brn rp_unb	variable rp_brn rp_unb	variable rp_brn rp_unb	rp_brn rp_unb
obs 305	0bs 305 305	padd = 1, state = VA, r_city = NORFOLK_VA           Variable         Obs         Mean         Std           rp_brn         305         75.96594         13           rp_unb         305         74.05724         14	Obs Hean 305 76.25432 305 74.78455	9tate = RI, r_c Obs 305	state = PA, I_C Obs 305 305	state = NY, x_c Obs 305 305	State = NY, r_city = ALBANY_NY Obs Hean St. 305 78.82641 1 305 77.05792	305
Obs Nean Std	VA, r_city = RICHMOND Obs Mean St 305 75.75745 . 305 74.27152	11ty = NORFOL Mean 75.96594 74.05724	PAIREA HEAR 76.25432 74.78455	= RI, r_city = PROVIDENCE Obs	PA, r_city = PHILADELPHIA Obs	NY, x_city = NEWBURGH Obs Mean S 305 77.92385 305 75.76115	ity = ALBANY Mean 78.82641 77.05792	76.48421
TILLE Std. Dev. 15.0178 16.32716	Std. Dev. 13.63152 14.08181	X_VA Std. Dev. 13.61531 14.18869	Std. Dev. 13.46843 14.33531	. Dev. .52976	ELPHIA Std. Dev. 14.12462 14.59013	GH Std. Dev. 13.77593 14.32943	_NY Std. Dev. 14.29557 15.504	14.04543
Min 41.24253 40.14337	Min 42.2222 39.59379	Min 42.71207 V 38.82915 V	Min 44.33692 40.05974	43.64397 41.1589	Min 42.87933 ~ 39.12784 ~	Min 44.6595 40.51374	Min 45.53166 42.0908	44.50418
Max 133.09	Max 111.08 114.09	мах 111.6 < 114.34 <	Max 109.2 116.29	Max 113.4 114.18	Max 110.51 112.52	Max 109.65 113.68	Max 112.79	111.55
ε, 2	З ч	8,4	В, и	& 2, 4	3, 4	8,4	B, 4	ß
	1	1						

Trp_brn   305	α, ν	110.99	42.73596 / 39.05615 /	14.25076 14.72492	75.14949 74.72118	305 305	rp_brn rp_brn	
variable         Obs         Mean         Std. Dev.         Min         Max           FP_brn         305         76.55483         14.28639         42.29391         111.23         4,           padd = 1.         state = CT, r_city = NEW HAVEN         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           padd = 1.         state = DE, r_city = NILMINGTON_DE         Mean         Std. Dev.         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         Jos         77.94644         14.31628         43.07049         113.85         A           padd = 1.	)	Max	Min	Std. Dev.	Mean		Variable	,
variable         Obs         Mean         Std. Dev.         Min         Max           IP_brn         305         76.55403         14.28639         42.29391         111.23         4,           padd = 1.         state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Max           padd = 1.         state = DE, r_city = NILMINGTON_DE         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         305         75.06763         14.06539         43.23775         145-38         R           padd = 1.         state = MA, r_city = BOSTON         Mean         Std. Dev.         Min         Max           rp_unb         305         77.90559         14.33655         43.03765         112.06         R           rp_unb         305         77.90559         14.33655         43.07049         113.85         A           rp_unb         305         77.94644         14.33625         43.07049         113.85         A           rp_unb <td< td=""><td></td><td></td><td></td><td>BOBO</td><td>nite - pains</td><td></td><td></td><td>1</td></td<>				BOBO	nite - pains			1
Variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brn         305         76.55403         14.28639         42.23391         111.23         4           padd = 1.         state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Mex           padd = 1.         state = DE, r_city = MILMINGTON_DE         Wean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           vari	, O		43.52449 39.60574	13,42521	76.28026 74.78593	305 305	rp_brn rp_brn	(
variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brm         305         76.55403         14.28639         42.23391         111.23         2,           IP_brm         305         75.88818         14.38663         41.4098         114.52         2,           padd = 1.         state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Mex           padd = 1.         state = DE, r_city = NILMINGTON_DE         Wean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex </td <td><b>&gt;</b></td> <td>Max</td> <td>Min</td> <td></td> <td>Mean</td> <td>Ohe</td> <td>Variable</td> <td>· .</td>	<b>&gt;</b>	Max	Min		Mean	Ohe	Variable	· .
variable         Obs         Mean         Std. Dev.         Min         Mex           FP_brn         305         76.55483         14.28639         42.29391         111.23         4.           padd = 1.         state = CT, r_city = NEW HAVEN         Nean         Std. Dev.         Min         Max           vp brn         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         76.5732         14.38687         42.18638         110.56           rp_unb         305         76.5732         14.38687         42.18638         110.56           rp_brn         305         76.5732         14.38687         42.18638         110.56         A           rp_brn         305         76.5732         14.38687         42.18638         110.56         A           rp_brn         305         76.5763         14.06539         40.11947         112.64         A           rp_brn         305         74.13397         14.13387         41.22775         340-38         A           rp_brn         305         77.96570         14.33625         43.07049         113.12         A           rp_unb         305         77.90538         14.3362	1			MORE		14	padd = 1,	. 1
variable         Obs         Mean         Std. Dev.         Min         Mex           fp_brn         305         76.55483         14.28639         42.29391         111.23         4           padd = 1.         state = CT, r_city = NEW HAVEN         Nean         Std. Dev.         Min         Max           vp brn         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         76.5732         14.38687         42.18638         110.56           rp_unb         305         76.5732         14.38687         42.18638         110.56           rp_unb         305         74.85535         14.39369         40.11947         112.64         A           rp_unb         305         74.85535         14.35399         40.11947         112.64         A           rp_unb         305         74.13397         14.17303         39.30705         112.66         A           rp_unb         305         74.13397         14.17303         39.30705         112.06         A           rp_unb         305         74.13397         14.17303         39.30705         112.06         A           rp_unb         305         74.13397         14.31	۴	111.92	43.58423	14.31828	77.94644	305 0	rp_brn rp_unb	1
variable         Obs         Mean         Std. Dev.         Min         Mex           FP_brn         305         76.55483         14.28639         42.29391         111.23         4           padd = 1.         state = CT, r_city = NEW HAVEN         Nean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         76.5732         14.39369         40.11947         112.64         A)           padd = 1.         state = DE, r_city = NILMINGTON_DE         Min         Max         A         A           rp_brn         305         76.5733         14.06539         40.11947         112.64         A)           rp_unb         305         74.13397         14.17303         39.30705         112.66         A)           rp_unb         305         74.13397         14.17303         39.30705         112.06         A)           rp_unb         305         74.13397         14.17303         39.30705         Min         Max           rp_unb         305         74.13397 <td< td=""><td>Ö</td><td>Max</td><td>Min</td><td>Std. Dev.</td><td>Mean</td><td>Obs</td><td>Variable</td><td>1</td></td<>	Ö	Max	Min	Std. Dev.	Mean	Obs	Variable	1
variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         305         76.55403         14.28639         42.29391         111.23         4           padd = 1.         state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         74.85535         14.39389         40.11947         112.64         A)           variable         Obs         Mean         Std. Dev.         Min         Mex         Mex           rp_brn         305         74.18397         14.19839         43.23775         112.64         A)           padd = 1.         state = DE, r_city = NILMINGTON_DE         Min         Mex         Mex         Mex           rp_brn         305         74.18397         14.19683         43.23775         112.64         A)           rp_brn         305         74.18397         14.17303         39.30705         112.06         A)           rp_brn         305         74.18397         14.13655         43.0775         113.06 <t< th=""><th></th><th>алін құлан шеналадаруулдарды алдандардырды тере</th><th></th><th>WW_GTBIAS</th><th>ity = SPRIN</th><th></th><th>padd = 1,</th><th>S. 1</th></t<>		алін құлан шеналадаруулдарды алдандардырды тере		WW_GTBIAS	ity = SPRIN		padd = 1,	S. 1
variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brn         305         76.55403         14.28639         42.29391         111.23         47.29391           padd = 1.         state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Meax           rp_brn         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         74.85535         14.39369         40.11947         112.64         A)           padd = 1.         state = DE, r_city = NILMINGTON_DE         Min         Meax         Punb         305         75.06763         14.08539         43.23775         140-38         A)           padd = 1.         state = MA, r_city = NGSTON         14.17303         39.30705         112.06         A)	تا <sub>_</sub> د	113.12	43.07049	14.38655 14.83189	77.90598 74.93969	305 305	tb_nup u1g_d1	
Variable         Obs         Mean         Std. Dev.         Min         Max           TP_brn         305         76.55483         14.28639         42.29391         111.23           rp_unb         305         75.88818         14.36633         41.4098         114.62           padd = 1, state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         305         76.5732         14.18687         43.18688         110.56           rp_unb         305         74.85535         14.39369         40.11947         112.64           padd = 1, state = DE, r_city = WILMINGTON_DE         Win         Max         Max         Max           rp_brn         305         74.15397         14.06339         43.23775         140.38           rp_brn         305         74.15397         14.17303         39.30705         112.06           padd = 1, state = MA, r_city = BOSTON         43.23775         140.208         112.06	>	Max	Min	Std. Dev.	Mean	Obs	Variable	\
Variable         Obs         Mean         Std. Dev.         Min         Max           IP_brn         305         76.55483         14.28639         42.29391         111.23           rp_unb         305         75.88818         14.3663         41.4098         114.62           padd = 1.         state = CT, r_city = NEW HAVEN         Hin         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         305         74.85535         14.18687         42.18638         110.56           rp_unb         305         74.85535         14.39369         40.11947         112.64           variable         Db. r_city = WILMINGTON_DE         Max         Max         Max           variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         75.06763         14.106399         43.23775         14.12				2,	ity = BOSTO	e=MA, r_c	padd = 1,	: 1
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         305         76.55483         14.28639         42.29391         111.23           rp_unb         305         75.88818         14.36663         41.4098         114.62           padd = 1.         state = CT. r_city = NEW HAVEN         Ween         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         74.85535         14.39369         40.11947         112.64           padd = 1.         state = DE, r_city = NILMINGTON_DE         Win         Max	3 <sub>,</sub> 4	110,38	43.23775 39.30705	14.06539 14.17303	75.06763 74.15397	305 305	rp_brn rp_unb	
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         305         76.55483         14.28639         42.29391         111.23           rp_unb         305         75.88818         14.36663         41.4098         114.62           padd = 1, state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         305         74.85535         14.18687         43.18638         110.56           rp_unb         305         74.85535         14.39369         40.11947         112.64           padd = 1, state = DE, r_city = NILWINGTON_DE         Padd = 1, state = DE, r_city = NILWINGTON_DE	•	Max	Min	Std. Dev.	Mean	Obs	Variable	
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         305         76.55483         14.28639         42.29391         111.23           rp_unb         305         75.88818         14.36663         41.4098         114.62           padd = 1, state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         305         76.5732         14.18687         42.18638         110.56           rp_unb         305         74.85335         14.39369         40.11947         112.64		A THE PROPERTY OF THE PERSON NAMED IN COLUMN N		4GTON_DE	ity = WILMII	0	padd = 1,	4.1
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         305         76.55483         14.28639         42.29391         111.23           rp_unb         305         75.88818         14.36663         41.4098         114.62           padd = 1, state = CT, r_city = NEW HAVEN         Variable         Obs         Mean         Std. Dev.         Min         Max	۵, ۷	110.56 112.64	42.18638 40.11947	14.18687 14.39369	76.5732 74.85535	305 305	rp_brn rp_unb	(
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         305         76.55483         14.26639         43.29391         111.23           rp_unb         305         75.88818         14.36663         41.4098         114.62           padd = 1, state = CT, r_city = NEW HAVEN	•	Max	X in	Std. Dev.	Mean	Obs	Variable	
Obs Mean Std. Dev. Min Max 305 76.55403 14.28639 42.29391 111.23 305 75.88818 14.36663 41.4098 114.62				VEN	ity = NEW HJ	19	padd = 1,	. (
Obs Mean Std. Dev. Min Max	2 'د	111.23 114.62	42.29391 41.4098	14.28639 14.36663	76.55483 75.88818	305 305	rp_brn rp_unb	$\hat{\ }$
	<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable	

14 .
15 . bysort padd state r\_city: sum rp\_brh rp\_unb

10 (reformlated)
11 (reformlated)
12 (see "D:\My Documenta\STATA\GRC\R\_DATAl\_fe.dta", clear

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Variable Obs

Mean Std. Dev.

Min

Max

-	Max 168.33	Min 50.99164	P_unb  N  Std. Dev.  19.87704	sum rp_brn rp_unb city = BARSTOW Mean Std. 88.28473 19.	e r_city: = CA, r_ Obs	22 · bysort padd state -> padd = 5, state  Variable  rp_brn rp_unb
ھ ب	Max 111.06 112.16	Min 40.34647 37.24014	Std. Dev. 13.64036 13.99014	72.87419 71.6197 71.6197	0bs 0bs 72 305 72 305 7 7 305 7 7 7 305 7 7 7 305 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1
B, U	Max 111.3 115	Min 41.21864 40.29869	= DALLAS/SOUTHLAKE Mean Std. Dev33926 13.83895 .76679 14.15033		te = TX, r_city Ohs 305 71	variable rp_unb
BO	Max 110.53	Min 10.97969	S/GRAPEVINE Std. Dev. 13.68521	TX, r_ctty = DALLAS/GRAPEVINE Obs Mesn Std. Dev. 305 74.15147 13.6852		variable rp_brn rp_unb
<i>S</i> , <i>L</i>	Max 110.28	Min 41, 23059 37, 84946	S/FT. WORTH Std. Dev. 13.20752 14.12415	city = DALLAS/FT.  Mean Std  74.85686 13  72.86522 14	te = TX, r_city Obs 305 71	-> padd = 3, state  Variable  rp_brn  rp_unb
8, 4	Max 110.77	Min 41.51732 38.53046	= DALLAS/ARLINGTON Mean Std. Dev39681 13.69932 .47022 14.40736	City = DALLA:	te = TX, r_city Obs 305 74 305 73	variable rp_brn rp_unb
. W	Max 110.71 112.43	Min 41.39785 38.47073	Std. Dev. 13.73544 14.09219	Mean Std.   74.42464 13.7 73.11005 14.0	Obs 305 74	Variable  rp_unb

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Z)	150.77	62.48507 56.57109	17.27469 19.3823	95.9858 91.38626	242	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
		AND A STATE OF THE	AL	ity = IMPERI	e = CA, r_c	-> padd = 5, state = CA, r_city = IMPERIAL
<u>ت</u>	148.05 166.38	60.81242 49.67742	17.75075 19.8106	91.98409 86.78553	242	rp_brn rp_unb
<b>.</b>	Max	Min	Std. Dev.	Mean	Ohs	Variable
			Page 38		June 24 16:	360103 Thursday June 24 16:30:31 2004

## Document VI Appendix II - Description of Merger Overlaps by City and Fuel Type

Statistics/Data Analysis

log: Dilwy Documenta\STATA\GRC\grc\_reity\_mergers.smollog type: smcl 24 Jun 2004, 16:13:37 User: john a karikari Project: Rack Cities: mergers

B= Branded

u = unbanded

1 . 2 . set more off \*conventional gasoline

\*tosco-unocal: not available

\*uds-total
use D:\My Documents\STATA\GRC\G\_DATA2\_fe.dta", clear

12 . bysort padd state r\_city: sum rp\_brn rp\_unb

11 . keep if udstotal==1
(96387 observations deleted)

B-19

81 - m

	lable	2
-	_	state
	Obs	* 2, state = KS, r_city = SCOTT C
	Mean	y = SCOTT
	Std.	CITY
	Std. Dev.	
	Min	
	Мвх	a equi ministra de la compansión de la comp
	$\alpha$	

ن ک	128.5 133.57	41.21554	12.873 13.13837	72.58831 71.35125	361 361	rp_brn rp_unb
9	Max	Min	Std. Dev.	Mean	Ohs	Variable
				c_city = ENID	ate = OK, 1	-> padd = 2, state = OK, r_city = ENID
, c	128.79 132.9	41.31579 39.24812	12.93565 13.0939	72.26383 71.00507	361 361	rp_unb
R	Max	Min	Std. Dev.	Mean	Obs	Variable
			æ	city = ARDMOR	ate = OK, r	-> padd = 2, state = OK, r_city = ARDMORE
- / - 1	132,51 135,08	44.98747 43.08271	12.98325 13.23677	75.8889 74.83816	361 361	rp_brn rp_unb
σ c	Мах	Min	Std. Dev.	Mean	Obs	Variable
			CITY	_city = SCOTT	ate = KS, r	-> padd = 2, state = KS, r_city = SCOTT CITY

-> padd = 2, state = OK, r\_city = PONCA CITY

72.15657 12.83489 71.04764 13.14128 Mean Std. Dev.

41.02757 39.93734

Min

چ ر

-> padd = 2, state = OK, r\_city = OKLAHOMA CITY

361 72.28365 12.8242 361 71.12556 13.15205

41.19048 39.94987

Max 127.86 133.58

*ع* 2

Mean Std. Dev.

a Ta

Variable

-> padd = 2, state = OK, r\_city = OKLA/WPL

Variable rp\_brn

Padd = 2, state = OK, E_City = THEAN   Std. Dev.   Hin   Max   M	State = OK, r_city = TURENOOD   12.79.5   12.2825   13.1827   13	, 5 2	114.41 125.95	40.02506 40.05013	13.41934 13.62107	73.86752 73.29171	361 361	rp_brn rp_unb
Variable         Obs         Hean         Std. Dev.         Hin         Max         R.           tp_bmb         361         72.3266         31.13270         41.41604         127.9 <td< td=""><td>Page 2  Std. Dev. Min Max  11.9226 41.1164 127.9  12.94852 41.71879 129.095  13.17051 39.26065 129.095  13.17051 39.26065 129.095  13.17051 39.26065 129.095  13.12097 39.52381 132.82  Std. Dev. Min Max  12.9682 44.22306 129.095  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  13.18063 42.23058 139.19  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  11.19048 132.7  11.19048 132.7  11.19048 133.19  Std. Dev. Min Max  Std. Dev. Min Max  4.11.9933 39.84488 139.19  Std. Dev. Min Max  Std. Dev. Min Max  4.11.9933 39.84488 1306.82  4.11.9933 39.84488 1306.82  RILLO</td><td>ω</td><td>Max</td><td>Min</td><td></td><td>Mean</td><td>Obs</td><td>Variable</td></td<>	Page 2  Std. Dev. Min Max  11.9226 41.1164 127.9  12.94852 41.71879 129.095  13.17051 39.26065 129.095  13.17051 39.26065 129.095  13.17051 39.26065 129.095  13.12097 39.52381 132.82  Std. Dev. Min Max  12.9682 44.22306 129.095  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  13.18063 42.23058 139.19  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  11.19048 132.7  11.19048 132.7  11.19048 133.19  Std. Dev. Min Max  Std. Dev. Min Max  4.11.9933 39.84488 139.19  Std. Dev. Min Max  Std. Dev. Min Max  4.11.9933 39.84488 1306.82  4.11.9933 39.84488 1306.82  RILLO	ω	Max	Min		Mean	Obs	Variable
Variable         Obs         Hean         Std. Dev.         Hin         Max         Page	Std. Dev. Min Max  12.84852 41.71679 129.095  12.84852 41.71679 129.095  13.17051 39.26065 133.35  8td. Dev. Min Max  8td. Dev. Min Max  8td. Dev. Min Max  11.82416 41.02757 128.235  13.12897 39.52381 133.45  13.25261 39.57394 133.475  8td. Dev. Min Max  11.9669 113.1366 1139.9  11.129613 12.9639 133.18  12.9669 113.1366 1139.9  13.13981 139.8466 106.62  4 12.40931 39.8466 106.62				000	city = AMARII	4	padd = 3,
Variable         Obs         Hean         Std. Dev.         Hin         Mex           IP_bbm         351         72.3555         12.2206         41.4164         127.9           padd = 2, state = OK, r_city = TULSA         Variable         Obs         Hean         Std. Dev.         Min         Heax           pbm         351         72.22081         13.14852         41.71679         139.095         139.095           rp_bm         351         72.22081         13.14852         41.71679         139.095         179.095           rp_bm         351         72.22081         13.14852         41.71679         139.095         179.095           rp_bm         361         71.98187         13.17951         13.17951         139.2055         132.335         8, U           rp_bm         361         71.9818         13.13416         41.02757         139.335         8, U           rp_bm         361         72.1981         13.13416         41.02757         139.335         8, U           rp_bm         361         77.07244         13.2361         93.73581         133.475         8, U           rp_bm         361         77.23619         13.54975         41.72623         133.475 <td< td=""><td>Page 2  Std. Dev. Min Max  11. 82266 41.41664 127.9  12. 84852 41.71679 129.095  12. 84852 41.71679 129.095  13. 17051 39.26065 133.35  85d. Dev. Min Max  12. 84852 41.71679 129.095  13. 13. 13097 39.52381 132.25  Std. Dev. Min Max  Std. Dev. Min Max</td><td></td><td>106.62</td><td>39.84468 37.59857</td><td>12.40933 12.57197</td><td>71.01734 69.28986</td><td>361 361</td><td>rp_brn rp_unb</td></td<>	Page 2  Std. Dev. Min Max  11. 82266 41.41664 127.9  12. 84852 41.71679 129.095  12. 84852 41.71679 129.095  13. 17051 39.26065 133.35  85d. Dev. Min Max  12. 84852 41.71679 129.095  13. 13. 13097 39.52381 132.25  Std. Dev. Min Max		106.62	39.84468 37.59857	12.40933 12.57197	71.01734 69.28986	361 361	rp_brn rp_unb
variable         Obs         Hean         Std. Dev.         Min         Max         Pax	Page 2  Std. Dev. Hin Max  12.8206 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.41604 127.9  12.82852 41.71679 129.095  13.17051 39.82665 132.35  Std. Dev. Hin Max		Max	Min	Std. Dev.	Mean	Obs	Variable
variable         Obs         Hean         Std. Dev.         Hin         Mex         Pex           tp_brn         361         72.33505         12.32505         41.4564         127.9         127.9         PA           padd = 2.         state = OK, r_city = TULSA         Nean         Std. Dev.         Min         Heax         Page         12.9485         41.71679         129.095         Page         129.095         Page         Page         41.71679         129.095         Page         Page         Page         41.71679         129.095         Page	Page 2  Std. Dev. Hin Max  12.8206 41.41604 127.9 13.13871 39.81203 133.43  A  Std. Dev. Hin Max  12.84852 41.71679 129.095 13.17051 39.26065 133.35  A/SINCLAIR  Std. Dev. Hin Max	expended a particular of the expense			ROCK	stry = LITTLE	4	padd = 3,
variable         Obs         Mean         Std. Dev.         Min         Max         Ry           rP_brn         361         72.32505         12.82206         41.41604         127.9 <t< td=""><td>Page 2  Std. Dev. Hin Max  12.8206 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.71679 129.095  12.8282 41.71679 129.095  13.17051 39.86665 132.35  8td. Dev. Min Max  Std. Dev. Min Max</td><td></td><td>129.9 133.18</td><td>42.23058 40.56391</td><td>12.89613 13.12023</td><td>73.19547 71.86541</td><td>361 361</td><td>rp_brn rp_brn</td></t<>	Page 2  Std. Dev. Hin Max  12.8206 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.41604 127.9  12.8226 41.71679 129.095  12.8282 41.71679 129.095  13.17051 39.86665 132.35  8td. Dev. Min Max  Std. Dev. Min Max		129.9 133.18	42.23058 40.56391	12.89613 13.12023	73.19547 71.86541	361 361	rp_brn rp_brn
variable         Obs         Mean         Std. Dev.         Min         Max         Pax           rp_brn         361         72.32505         12.82206         41.41604         127.9         PX           rp_brn         361         72.32505         12.82206         41.41604         127.9         PX           padd = 2.         state = OK, r_city = TULSA         Numbers         41.71679         139.095         139.095           rp_unb         361         73.21088         12.84852         41.71679         139.095         139.095           rp_unb         361         73.21088         12.84852         41.71679         139.095         139.095           rp_unb         361         73.210817         13.17051         39.26065         132.35         \$\lambda_c           variable         Obs         Mean         Std. Dev.         Min         Max         \$\lambda_c           variable         Obs         Mean         Std. Dev.         Min         Max         \$\lambda_c           variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           variable	Page 2  Std. Dev. Min Max  12.8226 41.41604 127.9  13.13871 39.61203 133.43  A  Std. Dev. Min Max  12.84852 41.71679 139.095  13.17051 39.62665 132.35  AN/SINCLAIR  Std. Dev. Min Max		Max	Min	Std. Dev.	Mean	Obs	Variable
variable         Obs         Mean         Std. Dev.         Min         Max         Rear         Page         Act         Dev.         Min         Max         Act         Page         <	Page 2  Std. Dev. Min Max  12.82266 41.41604 127.9  13.13871 39.81203 133.43  A  Std. Dev. Min Max  12.84852 41.71679 139.095  13.17051 39.26065 132.35  AA/SINCLAIR  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  12.8316 41.94236 129.095  13.12581 39.57391 132.82  BA/WPL  Std. Dev. Min Max				HTI	FT.	= AR,	padd = 3,
Variable         Obs         Mean         Std. Dev.         Min         Max         Ag.           FP_brn         361         72.32505         12.82206         41.41604         127.9         127.9         P.           Ppdd         2.         state = OK, r_city = TULSA         Variable         Obs         Mean         Std. Dev.         Min         Max         Max         P.         L           Ppdr         351         72.21088         12.84852         41.71679         139.095         139.095         P.         L           Ppdr         351         72.21088         13.17051         39.26065         132.35         Ag.         L           Ppdd         2.         state = OK, r_city = TULSA/SINCLAIR         Min         Max         Max         P.         Max         Min         Max         Max         Ag.         L         L         P.         L         L         P.         L         L         L         P.         L	Page 2  Std. Dev. Hin Max  12.82266 41.41604 127.9  13.13871 39.81283 133.43  A  Std. Dev. Hin Max  12.84852 41.71679 139.095  13.17051 39.26065 132.35  AA/SINCLAIR  Std. Dev. Min Max  Std. Dev. Min Max  12.8316 41.0757 138.335  13.12097 39.5391 132.82  Std. Dev. Min Max	1	128.1 132.7	44.22306 41.19048	12.96892 13.11468	73.06142 71.81376	361 361	rp_brn rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max         Pax	Page 2  Std. Dev. Min Max  12.82266 41.41604 127.9  13.13871 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.36065 132.35  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  12.82614 41.07757 128.235  13.12897 39.53381 132.82  Std. Dev. Min Max		Max	Min	Std. Dev.	Mean	Obs	Variable
variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.32505         12.82206         41.41604         127.9         R           padd = 2.         state = OK, r_city = TULSA         Veriable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.21088         12.84852         41.71679         129.095         R           rp_brn         361         70.88157         13.17051         39.28065         132.35         R           variable         Obs         Mean         Std. Dev.         Min         Max         Max           variable         Obs         Mean         Std. Dev.         Min         Max         B           rp_unb         361         71.98918         13.28316         41.02757         128.235         B           rp_ubh         361         71.98918         13.12097         39.53911         132.823         B           rp_ubh         361         71.38918         13.12261         41.97236         139.295         B           rp_ubh         361         71.30853         13.28261         39.57391         133.475         B <t< td=""><td>Page 2  Std. Dev. Min Max  11.9226 41.41664 127.9  13.13971 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095 13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.25065 132.35  13.18316 41.02757 128.335  13.18316 41.02757 128.335  13.18316 41.02757 138.335  13.18316 41.02757 138.335  13.18316 41.94236 129.095  13.18316 41.94236 129.095  13.18316 41.94236 129.095  13.18316 41.94236 133.475  PIN  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  41.17293 133.475</td><td></td><td></td><td></td><td>000</td><td>ty * WYNNEW</td><td>8</td><td>padd = 2,</td></t<>	Page 2  Std. Dev. Min Max  11.9226 41.41664 127.9  13.13971 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095 13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.25065 132.35  13.18316 41.02757 128.335  13.18316 41.02757 128.335  13.18316 41.02757 138.335  13.18316 41.02757 138.335  13.18316 41.94236 129.095  13.18316 41.94236 129.095  13.18316 41.94236 129.095  13.18316 41.94236 133.475  PIN  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  41.17293 133.475				000	ty * WYNNEW	8	padd = 2,
Variable         Obs         Mean         Std. Dev.         Min         Max         Pax           rp_brn         361         72.32505         12.82206         41.41604         127.9         127.9           rp_brn         361         71.16167         13.13871         39.81203         133.43         8)           padd = 2.         state = OK, r_city = TULSA         Mean         Std. Dev.         Min         Max         B           rp_unb         361         72.21088         12.84852         41.71679         129.095         B           rp_unb         361         70.88157         13.17051         39.28065         132.35         B           rp_brn         361         70.88157         13.17051         39.28065         132.35         B           rp_brn         361         71.9818         12.83416         41.0757         128.235         B           rp_unb         361         71.98918         13.28316         41.0757         128.235         B           rp_unb         361         71.98918         13.28316         41.0757         128.235         B           rp_unb         361         71.98918         13.28316         41.92236         132.085         B </td <td>Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.1871 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095 13.17051 39.28065 132.35  A/SINCLAIR  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  112.82614 41.92236 123.095  31.25261 39.57394 133.475  Std. Dev. Min Max  Std. Dev. Min Max</td> <td></td> <td>131.06 135.5</td> <td>45.72682 44.17293</td> <td>13,54975 13,63061</td> <td>77.07944 76.23408</td> <td>361 361</td> <td>rp_brn rp_unb</td>	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.1871 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095 13.17051 39.28065 132.35  A/SINCLAIR  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  112.82614 41.92236 123.095  31.25261 39.57394 133.475  Std. Dev. Min Max		131.06 135.5	45.72682 44.17293	13,54975 13,63061	77.07944 76.23408	361 361	rp_brn rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max         Pax           rp_brn         361         72.32505         12.82206         41.41604         127.9         127.9         Pax           padd = 2.         state = OK, r_city = TULSA         Name         Std. Dev.         Min         Max         Min         Max         Max         Min         Min         Max         Min         Min         Min         Max         Min         Min         Max         Min         Min         Max         Min         Max         Min         Min         Max         Min         Min         Max         Min         Max         Min         Min<	Page 2  Std. Dev. Min Max  11.9226 41.4164 127.9  13.13971 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.26065 132.35  A/SINCLAIR  Std. Dev. Min Max  12.8316 41.02757 128.335  13.12973 39.53381 132.82  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  11.83216 41.02757 129.035  Std. Dev. Min Max		Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max         Ag.           rp_brn         361         72.32505         12.82266         41.41664         127.9         127.9           rp_brn         361         72.32505         12.82266         41.41664         127.9         127.9           padd = 2.         state = OK, r_city = TULSA         Win         Max         Max         Min         Max           rp_unb         361         72.21088         12.84852         41.71679         129.095         129.095           rp_unb         361         70.88157         13.17051         39.26065         132.35         Ag.           Variable         Obs         Mean         Std. Dev.         Min         Max         Max         Ag.           variable         Obs         Mean         Std. Dev.         Min         Max         Ag.         Unit           variable         Obs         Mean         Std. Dev.         Min         Max         Ag.           variable         Obs         Mean         Std. Dev.         Min         Max         Ag.           variable         Obs         Mean         Std. Dev.         Min         Max         Ag	Page 2  Std. Dev. Min Max  11.8226 41.41604 127.9  13.13871 39.81283 133.43  A Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.26065 132.35  13.17051 39.26065 132.35  Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.26065 132.35  A/SINCIAIR  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  13.8261 41.02757 128.235  13.12897 39.52381 133.82  A/MPL  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max  Std. Dev. Min Max					ity = TURPIN		padd = 2,
variable         Obs         Mean         Std. Dev.         Min         Max         April 127.9	Page 2  Std. Dev. Min Max  11.82266 41.41604 127.9  13.13871 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.26065 132.35  A/SINCIAIR  Std. Dev. Min Max		129.095 133.475	41.94236 39.57394	12.82614 13.25261	72.31991 71.30853	361 361	rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.32505         12.82206         41.41604         127.9           rp_unb         361         72.32505         12.82206         41.41604         127.9           pedd = 2.         state = OK, r_city = TULSA         Variable         Vaniable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         361         72.21088         12.88852         41.71679         129.095           rp_unb         361         70.88157         13.17051         39.36065         132.35           padd = 2, state = OK, r_city = TULSA/SINCIAIR         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         361         71.98918         12.8316         41.02757         128.235           rp_unb         361         71.98918         12.8326         41.02757         128.235           rp_unb         361         71.98918         13.12097         39.53381         132.322	Page 2  Std. Dev. Min Max  12.8226 41.41664 127.9  13.13871 39.81283 133.43  A Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.26065 132.35  13.17051 39.26065 132.35		Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.32505         12.82206         41.41604         127.9           rp_unb         361         71.16167         13.13871         39.81203         133.43           padd = 2.         state = OK, r_city = TULSA         Veriable         Obs         Mean         Std. Dev.         Min         Hax           rp_brn         361         72.21088         12.84852         41.71679         129.095           rp_unb         361         70.88157         13.17051         39.28065         132.35           padd = 2.         state = OK, r_city = TULSA/SINCIAIR         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.98918         12.8316         41.02757         128.235           rp_brn         361	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.1871 39.81283 133.43  A Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.28065 132.35  A/SINCLAIR  Std. Dev. Min Max  12.8316 41.03757 128.335  13.12097 39.53381 132.83				MPL	ity = TULSA/	4	padd = 2,
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.32505         12.82206         41.41604         127.9           rp_unb         361         71.16167         13.1871         39.81203         13.43           padd = 2.         state = OK, r_city = TULSA         Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.21088         12.84852         41.71679         129.095           rp_unb         361         70.88157         13.17651         39.28065         132.35           padd = 2, state = OK, r_city = TULSA/SINCIAIR         Variable         Obs         Mean         Std. Dev.         Min         Max	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.1871 39.81283 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095  13.17051 39.26065 132.35  A/SINCLAIR  Std. Dev. Min Max	<i>3</i> , <i>3</i> ,	128, 235 132, 82	41.02757 39.52381	12.83416 13.12097	71.98918 71.05804	361 361	rp_brn
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.35505         12.82206         41.41604         127.9           rp_unb         361         71.16167         13.13871         39.81203         133.43           padd = 2, state = OK, r_city = TULSA         Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.21088         12.84852         41.71679         129.095           rp_unb         361         70.88157         13.17051         39.26065         132.35	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.13871 39.81203 133.43  A Std. Dev. Min Max  Std. Dev. Min Max  13.14052 41.71679 129.095  13.17051 39.26065 133.35	æ	Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.33505         12.82206         41.41604         127.9           rp_unb         361         71.16167         13.13871         39.81203         133.43           pedd = 2.         8tate = OK, r_city = TULSA         TULSA         Variable         Mean         Std. Dev.         Min         Max           rp_brn         361         72.21088         12.84852         41.71679         129.095           rp_unb         361         70.88157         13.17051         39.26065         132.35	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9 13.13871 39.81203 133.43  A  Std. Dev. Min Max  12.84852 41.71679 129.095 13.17051 39.26065 132.35	edining dan er dan e			SINCLAIR	ity = TULSA/		padd * 2,
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         72.32505         12.82206         41.41604         127.9           rp_unb         361         71.16167         13.13871         39.81203         133.43           padd = 2, state = OK, r_city = TULSA         Nean         Std. Dev.         Min         Max	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.13871 39.81203 133.43  A  Std. Dev. Min Max	<sup>ن</sup> ک	132.35	41.71679		72.21088 70.88157	361 361	rp_brn rp_unb
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_brn         361         72.32505         12.82206         41.41604         127.9           rp_unb         361         71.16167         13.13871         39.81203         133.43           padd = 2, state = OK, r_city = TULSA	Page 2  Std. Dev. Min Max  12.82206 41.41604 127.9  13.13871 39.81203 133.43	R 7	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Hean Std. Dev. Min Max 361 72.32505 12.82206 41.41604 127.9 361 71.16167 13.13871 39.81203 133.43	Page 2 Std. Dev. Min Max 11.82206 41.41604 127.9 13.13871 39.81203 133.43						14	pedd * 2,
Obs Mean Std. Dev. Min Max	Page 2 Std. Dev. Min Max	) <b>S</b>	127.9 133.43	41.41604 39.81203		72.32505 71.16167	361 361	rp_brn rp_unb
		2 .	Max	Mín	Std. Dev.		Obs	Variable

•	105.195	39.76105	12.3587 12.87639	70.36293 68.63322	361 361	rp_brn rp_trn
ري ح	Max	Min	Std. Dev.	Mean	Obs	Variable
<b>5</b>			u.	ity = ATHENS	e = GA, r_c	-> padd = 1, state = GA, r_city = ATHENS
-	103.06 103.3	39.9761 37.32378	12.06214 12.53208	70.58567 68.57509	361 361	rp_brn rp_unb
z z	Max	Min	Std. Dev.	Mean	Obs	Variable
•			r_GA	state = GA, r_city = ALBANY_GA	e = GA, r_c	-> padd = 1, stat
	2		dun_d	sum rp_brn z	te r_city:	. bysort padd state r_city: sum rp_brn rp_unb
	244 - 11				ns deleted)	. keep if map==1 (87362 observations deleted)
	B-43	iù H	_fe.dta", cle	\GRC\G_DATA2	nents\STATA	"marathon-ashland use "D: (my Documents\STATA\GRC\G_DATA2_fe.dta", clear
					/	
~	114.02 122.57	42.04261 40.15038	13.02212 13.26119	75.33393 74.96744	361 361	rp_brn rp_unb
ري در	Max	Min	Std. Dev.	Mean	Obs	Variable
•			100000000000000000000000000000000000000	ity = DENVER	= CO, r_c	-> padd = 4, state = CO, r_city = DENVER
~'	111.85 116.11	41.46616 40.35842	12.31412 12.69925	72.9918 72.13088	361 361	rp_brn rp_unb
<i>چ</i> د	Max	Min	Std. Dev.	Mean	Obs	Variable
			A FALLS	<ol> <li>state = TX, r_city = WICHITA FALLS</li> </ol>	- TX, r_c	-> padd = 3, state
	119.52	39.13534	13.56796	73.95835	361	rp_unb
-	116.52	39.78697	13.51839	74.48205	361	ro brn

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rp_brn rp_unb	Variable	-> padd = 2, state = IL, r_city = CHAMPAIGN	rp_brn	Variable	-> padd = 1, state = VA, r_city = ROANOKE	rp_unb	Variable	-> padd = 1, state = SC, r_city = BELTON	rp_brn rp_brn	Variable	-> padd = 1, state = PA, r_city = PITTSBURGH	rp_brn rp_unb	Variable	-> padd = 1, state = NC, r_city = SRLMA	rp_brn rp_unb	Variable	-> padd = 1, state = NC, r_city = GREENSBORO	rp_brn rp_unb	Variable	-> padd * 1, state * NC, r_city * CHARLOTTE	rp_brn rp_unb	Variable	-> padd = 1, state = GA, r_city = BAINBRIDGE	rp_brn rp_unb	Variable
361 361	Obs	ate = IL, r	361 361	Obs	ate = VA, r	361 361	Obs	ate = SC, r	361 361	Obs	ate = PA, r_	361 361	Obs	ate = NC, r_	361 361	Obs	te = NC, r_	361 361	Obs	te = NC, r_c	361 361	Obs	te = GA, r_c	361 361	Obs
71.83171 70.6973	Mean	city = CHAM	70.44141 69.01244	Mean	city = ROAM	70.62048 68.33914	Mean	city = BELT	72.4738 71.65158	Mean	city = PITT	70.76116 69.08201	Mean	city = SELM	70.42659 68.76332	Mean	city = GREEN	70.37685 68.63935	Mean	city = CHARL	70.73727 68.69339	Mean	ity = BAINB	70.35902 69.20237	Mean
13.51791 14.01744	Std. Dev.	PAIGN	11.96346 12.4522	Std. Dev.	OKE	12.00067 12.45564	Std. Dev.	ON	12,98363 13,38595	Std. Dev.	SBURGH	12.17016 12.64717	Std. Dev.		12.15993 12.51421	Std. Dev.	ISBORO	12.09948 12.46363	Std. Dev.	OTTE	12.00167 13.44477	Std. Dev.	RIDGE	12.30367 13.30392	Std. Dev.
34.80287	Min		39.71326	Min		40.13142 37.06093	Min		38.94863 38.47073	Min		40.29869 37.74194	Min		39.80884 37.39546	Min		40.13142 37.33572	Min		40.28674 37.71894	Z.12		39.53405 37.29988	Min
133.29 136.68	Max		101.78 103.74	Max		102.93	мах		107.22 109.83	Max		103.8 104.905	Max		103.295 103.66	Max		103.29 103.415	Max		103.25 103.58	Max		105.965 114.22	Max
ر ح	S			D		- د ع	కు		ن 2 2	S			æ	A PARTY WATER CONTRACTOR OF THE PART	, o 2			,o 2	, ,		א יכי	S		2.5	<b>7</b> 2

-> padd = 3, state = TX, r\_city = BIG SPRING 360103 Thursday June 24 17:06:38 2004 Page 3

Variable

rp\_brn rp\_unb

361 75,7343 13.00587 43.78446 112.62

Mean Std. Dev.

Min

Max

အ

-> padd = 3, state = TX, r\_city = DALLAS METRO

Variable

Obs

Mean Std. Dev.

M.

Max

rp\_brn rp\_unb

361 361

71.1303 12.45722 39.05615 70.0145 12.63396 37.55078

104.29

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2

-> padd = 3, state = TX, r\_city = LUBBOCK

Variable

Obs

Mean Std. Dev.

Max 116.52 119.52

<u>,</u>

2

Obs   Mean   Std. Dev.   Min   Max	ت 2	and the second second second		11 05353	13 10105		
Variable         Obs         Mean         Std. Dev.         Min         Max           Tp.bnr         361         74.02265         12.00344         42.43727         113.68           Tp.bnr         361         72.02265         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = LEXINGTON         Han         Std. Dev.         Hin         Max           tp.bnr         361         72.6399         12.9441         39.21147         115.5           tp.bnr         361         72.6399         12.9411         39.21147         115.5           tp.bnr         361         72.6199         LEXINGTON         Hin         Max           tp.bnr         361         71.74457         12.9476         39.94026         115.47           tp.bnr         361         71.76457	•	Max	Min	Std. Dev.	Mean	Орв	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max           rp.bnr rp.unb         351         74.02265         12.50344         42.43727         113.68           padd = 2, state = KY, r_city = COVINGTON         Wariable         Obs         Mean         Std. Dev.         Min         Max           padd = 2, state = KY, r_city = LEXINGTON         Wariable         Obs         Mean         Std. Dev.         Min         Max           tp_brm variable         361         73.87516         12.8496         40.13142         117.57           tp_brm variable         361         73.87516         12.8496         40.13142         117.57           padd = 2, state = KY, r_city = LEXINGTON         Min         Max         Min         Max           tp_brm padd = 2, state = KY, r_city = LEXINGTON         Min         Max         117.57           tp_brm padd = 2, state = KY, r_city = LOUISVILLE         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           tp_unb         361         71.79457         13.20611         38.59436         117.41           variable         Obs         Mean         Std. Dev.         Min         Max           <				NC .	city = JACKS	ate = MI, r_o	padd = 2,
variable         Obs         Mean         Std. Dev.         Hin         Mex           TP_bmn         361         74.00226         12.00344         42.43727         112.68           padd = 2, state = KY, r_city = COVINGTON         Variable         Obs         Mean         Std. Dev.         Min         Max           Pp_brn         361         72.6399         12.9444         39.21147         115.5         115.5           TP_brn         361         72.6399         12.9444         39.21147         115.5         115.5           TP_brn         361         72.6399         12.9444         39.21147         115.5         115.5           TP_brn         361         72.6399         12.9444         39.21147         115.5         115.5           TP_unb         361         73.87916         12.94489         40.13142         117.57         113.68           TP_unb         361         73.87916         12.84896         40.13142         117.57         113.68           TP_unb         361         73.87916         12.84896         40.13142         117.57         117.57           TP_unb         361         71.9386         11.9476         39.4926         113.47         117.57      <	-	144.17 145.23	37.81362 36.58303	14.12813	73.26065 72.37082	361 361	rp_brn
variable         Obs         Mean         Std. Dev.         Hin         Hox           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_brn         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         Nan         Hean         Std. Dev.         Min         Max           rp_brn         361         71.8488         12.9494         39.31117         115.5         115.5           rp_unb         361         71.8488         12.9494         39.31117         115.5         115.5           rp_unb         361         73.87816         12.9484         39.31117         115.5         115.5           rp_unb         361         73.87816         12.94896         40.13142         113.68           padd = 2, state = KY, r_city = LEXINGTON         Min         Max         Max           rp_unb         361         73.97816         12.84896         40.13142         113.68           padd = 2, state = KY, r_city = DDDUCMH         Man         Max         Min         Max           rp_unb         361         71.67495         12.40895         39.30361         117.14	۵	мах	Min	Std. Dev.	Mean	Obs	Variable
Veriable         Obs         Mean         Std. Dev.         Min         Mex           IP_unb         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         73.02665         12.54447         39.78495         112.88           padd = 2, state = KY, r_city = COVINGTON         Variable         Obs         Mean         Std. Dev.         Min         Max           padd = 2, state = KY, r_city = LEXINGTON         Variable         Obs         Mean         Std. Dev.         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           Pp_unb         361         73.987816         12.94446         39.21177         113.68           Variable         Obs         Mean         Std. Dev.         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           IP_bmn         361         71.57495         13.20511         38.55436         117.24           Variable         Obs         Mean         Std. Dev.         Min         Max <tr< td=""><td></td><td></td><td></td><td>BURG</td><td>city = FERRY</td><td>я</td><td>padd = 2,</td></tr<>				BURG	city = FERRY	я	padd = 2,
veriable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_brn         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_clty = COVINGTON         Werlable         Obs         Mean         Std. Dev.         Min         Meax           rp_unb         361         71.84485         12.9444         39.2117         115.5         115.5           padd = 2, state = KY, r_clty = LEXINGTON         Werlable         Obs         Mean         Std. Dev.         Min         Mex           Variable         Obs         Mean         Std. Dev.         Min         Mex           Padd = 2, state = KY, r_clty = LOUISVILLE         Win         Mex         Mex           Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         72.9544         12.9796         39.94026         115.47           rp_brn         361         71.78457         13.2061         39.94026         115.47           rp_brn         361         71.78457         13.2061         39.94026         115.47	۰	140.545 144.095	37.15651 35.93787	14.06496 14.73559	72.80241 72.2191	361 361	rp_brn rp_unb
Veriable         Obs         Mean         Std. Dev.         Min         Mex           IP_unb         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         73.02865         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         Variable         Obs         Hean         Std. Dev.         Min         Max           IP_brn         361         72.51488         12.9444         39.2117         115.5           IP_brn         361         73.97516         12.94441         39.22342         113.68           Variable         Obs         Hean         Std. Dev.         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           IP_brn         361         71.78457         13.20611         39.94026         115.47           Padd = 2, state = KY, r_city = PADUCAH         Wariable         Obs         Mean         Std. Dev.         Min         Max           IP_brn         361         71.67495         <	<i>ح</i>	Max	Min	Std. Dev.	Mean	Obs	Variable
Veriable         Obs         Mean         Std. Dev.         Min         Mex           rp_brm         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         74.00226         12.00384         42.43727         112.68           padd = 2.         state = KY, r_city = COVINGTON         Fp_brn         361         72.6339         12.94344         39.2117         115.5           rp_unb         361         71.84485         12.9431         39.23342         113.68           padd = 2.         state = KY, r_city = LEXINGTON         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         73.87516         12.84396         40.11142         117.57           rp_unb         361         73.87516         12.84396         40.11142         117.57           rp_brn         361         71.78457         13.20476         39.94026         115.47           rp_brn         361         71.78457         13.20411         39.94026         115.47           variable         Obs         Mean         Std. Dev.         Min         Max				TT	ity = DETRO	н	padd = 2, str
Veriable         Obs         Mean         Std. Dev.         Min         Mex           IP_brn         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         74.00226         12.00384         42.43727         112.68           padd = 2, state = KY, r_city = COVINGTON         Variable         Obs         Mean         Std. Dev.         Min         Mex           padd = 2, state = KY, r_city = LEXINGTON           Variable         Obs         Mean         Std. Dev.         Min         Mex           Variable         Obs         Mean         St	-	144.01	39.49821 38.19594	14.33488 14.72347	74.73056 74.2808	361 361	rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brm         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KV, r_city = COVINGTON         Kean         Std. Dev.         Min         Mex           padd = 2, state = KV, r_city = LEXINGTON         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         73.8736         12.8496         40.13142         117.57           rp_unb         361         73.8736         12.8496         40.13142         117.57           rp_unb         361         72.91488         12.8476         39.4026         115.47           variable         Obs         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.	B	Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brn         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         Mean         Std. Dev.         Min         Mex           tP_unb         361         72.6339         12.94944         39.21147         115.5           tP_unb         361         72.6339         12.94944         39.21147         115.5           tP_unb         361         72.6339         12.94944         39.21147         115.5           tP_unb         361         73.87316         12.94944         39.21147         115.5           tP_unb         361         73.87316         12.94946         40.13147         117.57           tP_unb         361         73.87316         12.84836         40.13142         117.57           tP_unb         361         73.87316         12.84836         40.13142         117.57           tP_unb         361         72.95448         12.9476         39.94026         115.47           tP_unb         361         7				TY_MI	city = BAY C		padd = 2, sta
Variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brn         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2. state = KY, r_city = COVINGTON         Mean         Std. Dev.         Min         Mex           tP_unb         361         72.6399         12.94944         39.21147         115.5           tP_unb         361         72.6399         12.94944         39.21147         115.5           tP_unb         0bs         Mean         Std. Dev.         Min         Mex           variable         0bs         Mean         Std. Dev.         Min         Mex           tP_unb         361         73.87516         12.84896         40.13142         117.57           tP_unb         361         72.91488         12.8476         39.94036         115.47           tP_unb         361         72.95448         12.8776         39.94036         115.47           tP_unb         361         72.9564         12.97796         39.94036         115.47           tP_unb         361         71.78457		107.93 108.75	39.85663 37.80167	12.42085 12.84827	71.67495 70.17416	361 361	rp_brn rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2. state = KY. r_city = COVINGTON         Mean         Std. Dev.         Min         Mex           rp_unb         361         72.6399         12.94944         39.21147         115.5           rp_unb         361         72.6399         12.94944         39.21147         115.5           rp_unb         361         72.6399         12.94944         39.22147         115.5           rp_brn         0bs         Mean         Std. Dev.         Min         Mex           variable         0bs         Mean         Std. Dev.         Min         Mex           rp_brn         361         73.87936         12.84896         40.13142         117.57           rp_brn         361         72.97936         12.8476         39.94026         115.47           padd = 2, state = KY, r_city = LOUISVILLE         Min         Mex           Variable         0bs         Mean         Std. Dev.         Min		Max	Min	Std. Dev.	Mean	Obs	Variable
variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KV, r_city = COVINGTON         Nean         Std. Dev.         Min         Mex           rp_brn         361         72.6399         12.94944         39.2117         115.5           rp_unb         361         71.84485         12.96411         39.22342         113.68           variable         Obs         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         73.9755         12.8496         40.13142         117.57           rp_brn         361         72.91488         12.8476         39.94026         115.47           variable         Obs         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           variable         Obs         Mean         Std. Dev. </td <td></td> <td>***</td> <td>***************************************</td> <td>£</td> <td>ity = PADUCA</td> <td></td> <td>padd = 2,</td>		***	***************************************	£	ity = PADUCA		padd = 2,
variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           padd = 2, state = KY, r_city = COVINGTON         Veriable         Obs         Mean         Std. Dev.         Min         Meax           rp_brn         361         72.6399         12.94944         39.21147         115.5           rp_unb         361         71.84485         12.96411         39.22342         113.68           padd = 2, state = KY, r_city = LEXINGTON         Veriable         Obs         Mean         Std. Dev.         Min         Mex           variable         351         73.97836         13.8486         40.13142         117.57           rp_unb         361         73.91488         12.8476         39.94036         115.47           padd = 2, state = KY, r_city = LOUISVILLE         Mean         Std. Dev.         Min         Mex	, ,	115.16 117.24	39.02031 38.55436	12.97796 13.20611	72.9564 71.78457	361 361	rp_brn rp_brn
variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.34447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         std. Dev.         Min         Mex           rp_brn         361         72.6399         12.94944         39.21147         115.5           rp_unb         361         71.84485         12.94411         39.22342         113.68           padd = 2, state = KY, r_city = LEXINGTON         Min         Mex           Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         73.8735         12.8496         40.13142         117.57           rp_brn         361         73.8735         12.8496         40.13142         117.57           rp_brn         361         73.8735         12.8476         39.94026         115.47	<b>a</b>	X ax	Win	Std. Dev.	Mean	Obs	Variable
variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         Wan         Std. Dev.         Min         Max           rp_brn         361         72.6399         12.94944         39.21147         115.5           rp_unb         361         72.6399         12.94944         39.22342         113.68           padd = 2, state = KY, r_city = Lexington         Lexington         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         73.87516         12.84896         40.13142         117.57           rp_unb         361         73.87516         12.84896         40.13142         117.57           rp_unb         361         73.87516         12.84896         40.13142         117.57	de promotion de la constitución de			ILLE	ity = LOUISV	ate = KY, r_c	padd = 2,
Variable         Obs         Mean         Std. Dev.         Min         Mex           IP_brn         361         74.00226         12.00384         42.43727         112.68           IP_unb         361         73.02665         12.54447         39.78495         112.58           Padd = 2, state = KY, r_city = COVINGTON         Fed. Dev.         Min         Mex           Padd = 2, state = KY, r_city = LEXINGTON         12.94944         39.22147         115.5           Padd = 2, state = KY, r_city = LEXINGTON         Min         Max		117.57 115.47	40.13142 39.94026	12.84896 12.8476	73.87516 72.91488	361 361	rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         351         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         Tean         Std. Dev.         Min         Mex           rp_brn         361         72.6399         12.94944         39.21147         115.5           rp_brn         361         72.6399         12.94943         39.21247         115.5           rp_brn         361         72.6399         12.94943         39.21247         115.5           rp_brn         361         72.6399         12.94943         39.21247         115.5		Wax	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON         Variable         Nean         Std. Dev.         Min         Mex           rp_brn         361         72.6399         12.94944         39.21147         115.5           rp_unb         361         71.84485         12.96411         39.22342         113.68	A second		***************************************	TON	ity = LEXING	ste = KY, r_c	padd = 2,
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KV, r_city = COVINGTON         Tovington         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max	ر کر کر	115,5 113,68	39.21147 39.22342	12.94944	72.6399 71.84485	361 361	rp_brn rp_brn
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         74.00226         12.00384         42.43727         112.68           rp_unb         361         73.02665         12.54447         39.78495         112.58           padd = 2, state = KY, r_city = COVINGTON	> `	Xax	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Hin Max 361 74.00226 12.00384 42.43727 112.68 361 73.02665 12.54447 39.78495 112.58				NOT	ity = COVING	te = KY, r_c	padd = 2, sta
Obs Mean Std. Dev. Min Max	-	112.68 112.58	42.43727 39.78495		74.00226 73.02665	361 361	rp_brn rp_unb
	ري ح ب	Max	Min	Std. Dev.	Mean	Obs	Variable

rp_brn	361	71.0552	14.72545	35.42413	145.56		2
-> padd = 2, state	= IL,	r_city = KANKAKEE	88				
Variable	Obs	Mean	Std. Dev.	Min	Max	>	•
rp_brn rp_unb	361 361	72.82522 70.95843	13.34215	37.84946 34.76702	134.8 145.37	<u>_</u> \\	2
-> padd = 2, state	= IL, 1	city = ROCKFORD	)RD				
Variable	Obs	Mean	Std. Dev.	Min	Мах	0	•
rp_brn rp_unb	361 361	72.43101 71.2053	13.53901 13.91698	37.59857 35.8184	134.27	٦	ع
-> padd = 2, state	= IN,	r_city = EVANSVILLE	/ILLE			Manager Pally Support Control of	
Variable	Obs	Mean	Std. Dev.	Min	Мах	Ø	-
rp_brn rp_unb	361	71.82962 70.34095	12.54502 12.71558	39.48626 38.08841	114.53 113.26	وء	عر
-> padd = 2, sta	state = IN, r	r_city = HAMMOND	ð	The state of the s			
Variable	Obs	Mean	Std. Dev.	Kin	Max	۵	-
rp_brn rp_unb	361 361	71.69159 70.61638	13.47054 14.52656	37.15651 34.54002	132.97 149.05	-	ع
-> padd = 2, st.	state = IN, r_	r_city = HUNTINGTON	NGTON				
Variable	Ohs	Mean	Std. Dev.	#in	Max	ઠ	
rp_brn rp_brn	361 361	72.56877 72.28019	13.32124 14.01358	38.41099 37.49104	131.61	رَ	عر
-> padd = 2, st.	state = IN, r_city	city = INDIANAPOLIS	NAPOLIS	AND AND A SECRETARY OF A SECRETARY O	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM		
Variable	Ohe	Меап	Std. Dev.	Min	Kax	Ŕ	
rp_brn rp_unb	361 361	71.46488 70.38855	13.2172 13.75848	36.55914 35.97372	127.57 135.06	_7	۶
-> padd = 2, st	state = IN, r	r_city = MUNCIE					
	obs	Mean	Std. Dev.	Min	Max	>	2
Variable	361 361	71.92789 70.25551	13.3125 13.65219	36.9534 34.46834	128.1	ي	٤

B, W			α 2		٠	B. 6		•	s, z		کہ کہ	Σ -	- Annual Control of the Control of t	7	<u> </u>		, Y , L	B	And distribution of the state o		2	
rp_unb	Variable	-> padd = 3, state	rp_unb	variable	-> padd = 2, state =	rp_unb	variable	-> padd = 2, state	rp_brn rp_unb	Variable	-> padd = 2, st	du dı dıq-dı	Variable	-> padd = 2, state = TN, r_city = NASHVILLE	rp_unb rp_brn	Variable	-> padd = 2, state =	rp_unb rp_brn	Variable	-> padd = 2, sta	rp_brn rp_unb	Variable
361 361	Obs	11	361	Obs	tate = WI, r	361 361	obs	16	361 361	Obe	state = WI, r_city = GREEN BAY	361 361	Obs	ate = TN, r_c	361 361	Obs	te = TN, r_c	361 361	Obs	state = OH, r_city = YOUNGSTOWN	361 361	Obs
70.15885 68.30567	Mean	AL, r_city = BIRMINGHAM	72.19903 70.9025	Mean	WI, r_city = MILWAUKEE	72.75553 71.99144	Mean	WI, r_city = MADISON	72.7696 71.64529	Mean	ity = GREEN	70.78496 69.17196	Mean	ity = NASHV	70.56453 69.03804	Mean	TN, r_city = KNOXVILLE	72.9109 72.54688	Mean	LEY * YOUNGS	72.86073	Mean
12.26195 12.84886	Std. Dev.	INGHAM	13.50817	Std. Dev.	UKEE	13.49133 13.87902	Std. Dev.	O <sub>M</sub>	13.56311 13.75455	Std. Dev.	ВАУ	12.24013	Std. Dev.	ILLE	12.2261 12.71043	Std. Dev.	TLE	13,57438	Std. Dev.	NAOL	13.76155 14.30195	Std. Dev.
39.5221 36.81004	Min	expended - date -	38.5902 35.66308	Min		38.25568 36.21267	Min		37.64635 35.94982	Min		40.05974 37.92115	Min		40.19116 37.75388	Min		38.8172 36.43967	Min		38.06452 35.84229	Min
105.27 107.58	Max		134.43	Max		135.18	Max		135,23 140.65	Max		102.705 104.58	Max		103.09	Max		137.73	Max		139.75	Мах
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TOLEDO

•	121.31	40.08363	12.8282	74.58024	361	rp brn
<u>ت</u> 2 -	Max	Min	Std. Dev.	Mean	Obs	Variable
<b>5</b>			TTA	city = MARIETTA	te = OH, r_city	-> padd = 2, state
	135,28 141,61	38.08841 35.8184	13.71441 13.93818	72.88167 71.47633	361 361	rp_unb
z z	мах	Min	Std. Dev.	Меап	Obs	Variable
				city = LIMA	e = OH, r	-> padd = 2, state = OH, r_city = LIMA
	127.13	38.76941 38.62605	13,2384 13,31565	72.38438 71.04952	361 361	rp_brn rp_unb
B. 6	Max	Min	Std. Dev.	Mean	Ohs	Variable
•			N	r_city = LEBANON	- 0H,	-> padd = 2, state
	136.33	38.63799 36.66667	13.57619 13.9961	72.92686 71.91255	361	rp_brn rp_unb
s, z	Max	Min	Std. Dev.	Mean	Ohs	Variable
				= OH, r_city = DAYTON		-> padd = 2, state
 	136.31 141	38.18399 36.39188	13.4883 13.90224	73.00154 72.23221	361 361	rp_brn rp_unb
<u>-</u>	Max	Min	Std. Dev.	Mean	Obs	variable
			ns_oh	OH, r_city = COLUMBUS_OH	9	padd ≈ 2, state
3	137.9 145.94	38.62605 36.61888	13.55981 14.15837	73.15826 72.73148	361 361	rp_brn rp_unb
2	Max	W.L.D	Std. Dev.	Mean	0bs	Variable
			UND	OH, r_city = CLEVELAND	и	padd = 2, state
	139.19 148.54	37.16846 35.05376	13.85346 14.3833	72.27804 71.11786	361 361	rp_brn rp_unb
~ 2	мах	X in	Std. Dev.	Mean	Ohs	Variable
			The state of the s	ity = NILES	= MI, r_city	padd = 2, state
	144.3 145.75	36,33931	14.07963	73.50571 71.93469	361 361	rp_hrn rp_hrn
٥	The same of the sa		October States	mega.	ODS	Variable

,	106.91	49.05615	12.46058 12.62624	77.80363 77.83481	361 361	rp_brn
که د ح	Max	Min	Std. Dev.	Mean	9d0	Variable
The state of the s			UERQUE	r_city = ALBUQUERQUE	N. N.	-> padd = 3, state
	106.62 106.85	39.84468 37.59857	12.40933 12.57197	71.01734 69.28886	361 361	rp_brn rp_unb
نت 2	Max	Min	Std. Dev.	Mean	Obs	Variable
			ROCK	r_city = LITTLE ROCK	= AR,	-> padd = 3, state
7 2	129,83	38.1601 36.76225	13.76126 14.13546	72.51978 71.19231	361 361	rp_brn rp_unb
ر د د	Max	Min	Std. Dev.	Mean	Obs	variable
	The state of the s		SIDC	r_city = ST. LOUIS	Mo.	-> padd = 2, state
ر 2	131.33	44.04762 42.5188	12.90386 12.98224	73.98563 72.69768	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Ohs	Variable
			RNON	state = MO, r_city = MT. VERNON	e = MO, r_c	-> padd = 2, stat
, ° 2	107.11 110.79	40.227 38.53046	12.31728 12.84547	71.67726 70.16745	361 361	rp_brn rp_unb
	Max	XI.	Std. Dev.	Mean	Ohs	Variable
			IRARDEAU	Hty = CAPE GIRARDEAU	e = MO, r_city	-> padd = 2, state
ر - ع	132.34	42.61649 40.05974	12.91302 13.57775	74.60097 73.89585	361	rp_brn rp_unb
ر. د	Max	Z is	Std. Dev.	Mean	Obs	Variable
			DORF	IA, r_city = BETTENDORF	u j	padd = 2, state
ا 2	103.49 106.29	39.02031 39.36679	12.82235	71.75536 71.27363	361 361	rp_brn rp_unb
~ ~			0000	110011	000	- artabat

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20 (use "D:\My Documents\STATA\GRC\G\_DATA2\_fe.dta", clear
21 keep if shelltexaco=1
(95304 observations deleted)

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360103 Thursday June 24 17:06:38 2004 Page 9

22 . bysort padd state r\_city: sum rp\_brn rp\_unb

361   83.05346   12.39839   33.18807   143.5	<i>:</i>			The state of the s	THE RESIDENCE AND PERSONS ASSESSED.		
REALE = NM, r_city = CINIZAN  Obs		XBX	Min	Std. Dev.	Mean	Obs	Variable
State = NM, r_city = CINIZA   13.05946   13.0598   53.15007   118.5				(S/RENO	city = SPARI	8	-> padd = 5, st
State = NM, r_city = CINIZA  Obs		134.65 156.3	55.75866 53.94265	15.15547 16.30046	85.60754 82.55314	361 361	rp_brn rp_unb
State = NM, r_city = CINIZA  Obs		Max	Min	Std. Dev.	Mean	Орв	variable
State = NM, r_city = CINIZA  Obs Mean Std. Dev. Hin Hax  361 83.2337 13.06998 54.65534 118.55 8.  State = CO, r_city = GRAND JUNCTION  Obs Mean Std. Dev. Hin Hax  361 81.78292 12.62443 49.82456 118.59 8.  State = NM, r_city = FOUR CORNERS REF.  Obs Mean Std. Dev. Hin Hax  Obs Mean Std. Dev. Hin Hax  Obs Mean Std. Dev. Hin Hax  State = UT, r_city = SALT LAKE CITY  Obs Mean Std. Dev. Hin Hax  State = AZ, r_city = PHOENIX  Obs Mean Std. Dev. Hin Hax  State = AZ, r_city = PHOENIX  State = AZ, r_city = PHOENIX  Obs Mean Std. Dev. Hin Hax  State = AZ, r_city = PHOENIX  State = AZ, r_city = TUCSON  Mean Std. Dev. Hin Max  Std. Bay AZ, r_city = TUCSON  Mean Std. Dev. Hin Max  Std. Bay AZ, r_city = TUCSON  Mean Std. Dev. Hin Max  Std. Bay AZ, r_city = TUCSON  Mean Std. Dev. Hin Max  Std. Bay AZ, r_city = TUCSON  Mean Std. De				ÆGAS	city = LAS	н	-> padd = 5, st
	~	121.3 128.73	52.0908 49.36679	13.45544 14.71233	83.21122 81.32274	361 361	rp_brn rp_unb
State = NM, r_city = CINIZA  Obs		Max	315	Std. Dev.	Mean	Obs	Variable
State = NM, r_city = CINIZA  Obs		***************************************	CO. ALABOTE MEDICAL CO. C.	Z	city * TUCSO	4	-> padd = 5, state
State = NM, r_city = CINIZA  Obs Mean Std. Dev. Hin Max  Obs Mean Std. Dev. Hin Max  Obs Mean Std. Dev. Hin Max  State = NM, r_city = GRAND JUNCTION  state = NM, r_city = FOUR CORNERS REF.  Obs Mean Std. Dev. Min Max  Obs Mean Std. Dev. Min Max  State = UT, r_city = SALT LAKE CITY  State = UT, r_city = SALT LAKE CITY  Obs Mean Std. Dev. Min Max		123,33 134,88	52,29391 49,56989	14.35127 15.17315	83.72382 81.04684	361 361	rp_unb
State = NM, r_city = CINIZA  Obs Mean Std. Dev. Hin Max  361 83.2237 13.06988 54.69534 118.5  State = CO, r_city = GRAND JUNCTION  Obs Mean Std. Dev. Hin Max  Obs Mean Std. Dev. Hin Max  State = NM, r_city = FOUR CORNERS REF.  Obs Mean Std. Dev. Min Max  361 82.99725 12.9713 55.69893 113.74  Obs Mean Std. Dev. Min Max  State = UT, r_city = SALT LAKE CITY  Obs Mean Std. Dev. Hin Max  State = AZ, r_city = PHOENIX		Max	Min	Std. Dev.	Mean	0be	Variable
State = NM, r_city = CINIZA  Obs			AND THE PROPERTY OF THE PROPER	IX	city = PHOEN	ti	-> padd = 5, sta
361   83.05346   12.70897   35.18807   118.5		113.18 115.28	46.42857 46.17682	13.42786 13.7507	82.24833 82.21225	361 361	rp_brn rp_unb
State = NM, r_city = CINIZA  Obs		Мах	Min	Std. Dev.	Mean	Obs	Variable
State = NM, r_city = CINIZA  Obs				LAKE CITY	ity = SALT	ate = UT, r_c	-> padd = 4, sta
361 83.05946 12.9089 33.18897 118.5   Obs   Mean Std. Dev.   Min   Max	ر م	113.74 114.5	55.69893 53.16607	12.9713 12.91753	82.99725 83.0521	361 361	rp_brn rp_unb
State = NM, r_city = CINIZA  Obs	<b>5</b>	Max	Min	Std. Dev.	Mean	Obe	Variable
State = NM, r_city = CINIZA  Obs				CORNERS REF.	ty = FOUR	4	-> padd = 4, sta
State = NM, r_city = CINIZA  Obs	c	118.59	49.82456	12.62443	81.78292	361 0	rp_brn rp_unb
State = NM, r_city = CINIZA  Obs	Ó	Max	Min	Std. Dev.	Meen	Obs	Variable
State = NW, r_city = CINI2A  Obs				JUNCTION	ity = GRAND	n	-> padd = 4, sta
State = NW, r_city = CINIZA  Obs Mean Std. Dev. Hin Max	ر ح	118.35	54.69534 52.5687	13.06988 13.28929	83.2237 82.19413	361 361	rp_unb
state = NM, r_city = CINIZA	<i>b</i>	Max	Min	Std. Dev.	Mean	Obs	Variable
361 83.05946 12.30699 55.16607 114.5					ity - CINIZI	я	-> padd = 3, sta
361 82,99812 12,98298 55,8396 1	ر ام	113.83 114.5	55.8396 53.16607	12.98298 12.90699	82.99812 83.05946	361 361	rp_brn rp_orn
Obs Mean Std. Dev. Min Max	<i>.</i>	Max	Min	Std. Dev.	Mean	Obs	Variable

> -		42 36559	11.78923	72.09482	361	ייי לייי
`	мах	Min	Std. Dev.	Mean	0bs	Variable
•			BTTIANC	r_city = JACKSONVILLE	= FL,	-> padd = 1, state
A Language of the control of the con	3100		cp_unb	sum rp_brn	ate r_city:	27 . bysort padd state r_city: sum rp_brn rp_unb
	2 (				if texacoshell==1 observations deleted	26 keep if texacoshell==1 (84835 observations dele
	R-51	ear /	2_fe.dta*, clear	ell-texaco II (Motiva) "D:\My Documents\STATA\GRC\G_DATA2_fe.dta",	II (Motiva) uments\STAT)	23 24 *shell-texaco II (Motiva) 25 use *D:\My Documents\STAT
<u>.</u>	121	51.97132	13.53777 14.04402	82.7379 82.95341	361 361	rp_unb
جر ح	Max	Min	Std. Dev.	Mean	940	Variable
			18	WA, r_city = SPOKANE	state = WA, r_c	-> padd = 5, sta
]  -   S	121,88 125.58	49.773	13.955 15.96882	81.55276 78.48583	361 361	rp_brn rp_unb
D	Мах	Min	Std. Dev.	Mean	Obs	variable
			ī	" WA, r_city = SEATTLE	ce = WA, r_c	-> padd = 5, state
, S	117.92 123.49	48.53046 46.12903	14.36687 15.17315	81.76547 81.20213	361 361	rp_brn rp_brn
<b>.</b>	Max	Min	Std. Dev.	Mean	068	Variable
				WA, r_city = PASCO		-> padd = 5, state
2	122.06	49.48626 42.3178	13.88362	81.30803 78.3476	361 361	rp_brn dı
	Max	Min	Std. Dev.	Mean	Obs	variable
			TES	WA, r_city = ANACORTES	я	-> padd = 5, state
ن 2	122.04 123.88	48.8172 39.7491	14.37156 15.29288	81.1691 77.63008	361 361	rp_brn rp_unb
R	Max	Min	Std. Dev.	Mean	Obs	Variable

-> padd = 1, state = FL, r\_city = MIAMI

Obs Mean Std. Dev. Min 361 82,97424 14,55275 50,94385 361 80,05424 15,27511 41,78017

Мах 124.07 125.61

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	÷	1		-> D			· • •			٠- ا			-> pd ->		_	-> pa			÷		4	-> pa	ALE STATE OF THE S	V.
Variable	padd = 1, sta	rp_brn rp_unb	Variable	padd = 1, state	rp_brn rp_unb	Variable	padd = 1, state	rp_brn rp_unb	Variable	padd = 1, sta	rp_brn rp_unb	Variable	padd = 1, state	rp_brn rp_brn	Variable	padd = 1, state	rp_brn rp_unb	Variable	padd = 1, state	rp_brn rp_unb	Variable	padd = 1, state	rp_brn rp_unb	Variable Obs Mean
Obe	state = GA, r	361 361	Obs	4	361 361	Obs	11	361 361	Obs	state = GA, r_city = BAINBRIDGE	361 361	Obs	4	361	Obs	×	361 361	Obs		361 361	Obs	e = FL, r_c	361 361	Obs
Mean	GA, r_city = SAVANNAH	70.37931 68.42514	Mean	GA, r_city = MACON	70.66818 68.61484	Mean	GA, r_city = COLUMBUS_GA	70.73727 68.69339	Mean	city = BAINE	70.35902 69.20237	Mean	GA, r_city = ATLANTA	70.41576 69.1942	Mean	FL, r_city = TAMPA	70.34976 69.06821	Mean	FL, r_city = PENSACOLA	72.60421 71.17735	Mean	= FL, r_city = ORLANDO	71.2558 69.70525	Mean
Std. Dev.	HANN	12.00763 12.41632	Std. Dev.	2	11.99942 12.42833	Std. Dev.	MBUS_GA	12.00167 12.44477	Std. Dev.	RIDGE	12.30367 13.30392	Std. Dev.	TA	12.0092 12.60504	Std. Dev.		12.29978 12.7813	Std. Dev.	COLA	11.873 12.59601	Std. Dev.	8	12.05125 12.64036	Std. Dev.
Min		39.7491 37.27599	Min	77, 1, 11, 11, 11, 11, 11, 11, 11, 11, 1	40.07169 37.51493	Min		40.28674 37.71804	Min		39.53405 37.29988	Min		40.14337 37.64635	Min		40.48985 38.72163	Min		42.65233 39.55795	Min		41.79211 38.74552	Min
Max		102.82 103	Max		103.04 103.16	Мах		103.25 103.58	Max	And the second s	105.965 114.22	Max x		102.065 103.5	Max		103.17	Max		104.64 105.15	Max		103.415 104.865	Max
B. 14		2	s T		نی	<b>2</b>		2	<i>&amp;</i>		Š	<i>~</i>		<u> </u>	۵ -	THE PERSON NAMED IN THE PE	0, 4	0 1.		2	2		در د	0

2	102.6	39.92831 37.76583	12.05609 12.4559	70.56964 68.66424	361 361	rp_brn
<b>A</b>	Max	Win	Std. Dev.	Mean	Obs	Variable
			AUGUSTA	SC, r_city = NORTH AUGUSTA	4	padd = 1, state
65, W	104.33 104.65	41,4098 38.85305	11.99278 12.54132	71.69434 69.69428	361 361	rp_brn rp_unb
<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
ACCULAR AND CONTRACTOR OF THE SECOND			STON_SC	SC, r_city = CHARLESTON_SC	4	padd = 1, state
ن ح	104.52	40.63321 39.67742	12.94653	72.78182 71.75308	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Меап	Obs	Variable
			AN.	NY, r_city = ALBANY_NY	e = NY, r_c	padd = 1, state =
ر ح	104.55 104.95	41.8638 39.21147	11,98253 12,48298	72.50661 70.13934	361 361	rp_unb rp_unb
φ :	Max	Min	Std. Dev.	Mean	ОЬя	Variable
CONTRACTOR OF THE PROPERTY OF	104.905	37.74194	12.17016	70.76116 69.08201	361 361	rp_brn
ت 2	103.8 104.905	40.29869 37.74194	12.17016 12.64717	70.76116 69.08201	361 361	rp_brn rp_brn
<b>A</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
				NC, r_city = SELMA	я	padd = 1, state
2	103.295 103.66	39.80884 37.39546	12.15993 12.51421	70.42659 68.76332	361 361	rp_brn rp_brn
<b>.</b>	мах	Min	Std. Dev.	Mean	Obs	Variable
			BORO	NC, r_city = GREENSBORO	н	padd = 1, state
ر 2	103,29	40.13142 37.33572	12.09948 12.46363	70.37685 68.63935	361 361	rp_brn
Þ	Max	Min	Std. Dev.	Mean	Obs	Variable
			TTE	r_city = CHARLOTTE	NC.	padd = 1, state
۵, ۷	103.26	40.38232 38.45878	12.17893 12.64906	71.93723	361 361	rp_brn rp_unb
•	Max	Min	Std. Dev.	Mean	Obs	Variable

12.06949 39.73716 1 12.50605 37.26404 1 12.50605 37.26404 1 12.0505 41.17085 1 12.0505 41.17085 1 12.0505 41.17085 1 12.19721 38.18399 1 12.19736 37.61052 1 12.19736 37.61052 1 12.19736 37.61052 1 12.19736 37.61052 1 12.19736 39.47431 1 12.19736 39.47431 1 12.19736 39.47431 1 12.19736 39.77336 1 12.4522 37.81362 1 12.4522 37.81362 1 12.4522 37.81362 1 12.4522 37.75388 1 12.4523 37.75388 1 12.4523 37.75388 1 12.2261 40.19116 1 12.2367 40.04779 1 12.2387 40.04779 1 13.2303 37.57467 1 13.2303 37.57467 1 13.2303 37.57467 1 13.2303 37.57467 1 13.2303 37.57467 1	rp_brn 361 70 rp_unb 361 69	Variable Obs	-> padd = 2, state = TN, r_city	rp_unb 361 71 rp_unb 361 69	Variable Obs	-> padd = 2, state = TN, r_city = MEMPHIS	rp_unb 361 70	Variable Obs	-> padd = 2, state = TN, r_city = KNOXVILLE	rp_brn 361 70	Variable Obs	-> padd = 2, state = TN, r_city	rp_brn 361 70. rp_unb 361 69.	Variable Obs	-> padd = 1, state = VA, r_city = ROANOKE	rp_brn 361 71.	Variable Obs	-> padd = 1, state = VA, r_city = RICHMOND	rp_brn 361 71. rp_unb 361 69.	Variable Obs	-> padd = 1, state = VA, r_city = NORFOLK_VA	rp_brn 361 71.	Variable Obs	-> padd = 1, state = VA, r_city = FAIRFAX	rp_brn 361 70 rp_unb 361 68.	
	70.78496 12.24013	Std.	TN, r_city = NASHVILLE	71.27468 12.26387 69.40792 13.03399	Std.	= MEMPHIS	70.56453 12.2261 69.03804 12.71043		" KNOXVILLE	70.4842 12.0855 68.7205 12.47562		TN, r_city = CHATTANOOGA	70.44141 11.96346 69.01244 12.4522		* ROANOKE	71.03955 12.10756 69.10936 12.51542	Mean Std. Dev.	# RICHMOND	71.07999 12.19071 69.16794 12.37736	Mean Std. Dev.	" NORFOLK_VA	71.75279 12.0505 69.74862 12.41212	Mean Std. Dev.	FAIRFAX		
Max 102.89 103.07  Max 103.54 103.54 103.74 103.77 103.77  Max 103.77  Max 103.77  103.61 103.77  103.77  Max 103.805 103.805 103.805 104.49	40.05974	Min	THE STATE OF THE S	40.04779 37.57467	Min		40.19116 37.75388	Min		39.94026 37.75388	Min		39.71326 37.87336	Min		39.47431 37.81362	Min		39.53405 37.61052	Min		41.17085 38.18399	Min		39.73716 37.26404	
	102.705	Max		106.77	Max		103.09	Max		102.61 103.17	Max		101.78	Max		101.92 103.77	X		101.54 103.1	Max		102.33 103.6	Mex	-	102.89	

361 70.15885 12.26199 39.5221 105.27 361 68.30567 12.4888 36.81004 107.58  AL, r_city = MOBILE  Obs		102.07	39.00836	12.05444	69.66872	361 361	rp_brn
361 70.15885 12.26199 39.5221 105.27 361 68.30567 12.4888 36.81004 107.58  AL, r_city = MOBILE  Obs	•	Max	Min	Std. Dev.	Mean	Obs	Variable
361 70.15885 12.26199 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs				SN	ity = COLLI	н	padd = 3, state
361 70.15885 12.26199 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs	<u>ئ</u> 2	103.84	40.62127 36.85783	12.31184 12.4839	71.20183 68.21704	361 361	rp_brn
361 70.15885 12.26199 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs	<i>P</i>	Max	Min	Std. Dev.	Mean	Obs	Variable
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs				EPORT	ity = SHREVI	н	padd = 3, state
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  Obs	۶ ۲	103.08 101.42	39.37873 35.72282	12.1914 12.56265	69.6861 66.90779	361 361	rp_brn nr_dr
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs	<b>.</b>	Мах	Min	Std. Dev.	Mean	Obs	Variable
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs		ADALAS ANTIRES		REANS	ity = NEW OF	8	padd = 3, state
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs	7, 4	103.74	41.07527 37.81362	12.25654 12.48202	71.44707 68.73782	361 361	rp_brn rp_unb
361 70.5885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE Obs	<i>م</i>	Max	Min	Std. Dev.	Mean	Obs	Variable
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs					ity = MONROE	18	padd = 3, state
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs	20,14	103.16 111.155	38.94863	12.20535	69.5422 67.42334	361 361	rp_unh
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE Obs	6	Max	Min	Std. Dev.	Mean	Obs	Variable
361 70.1885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs Heam Std. Dev. Min Max 361 70.59738 12.1965 37.75388 103.85  AL, r_city = MONTGOMERY  Obs Mean Std. Dev. Min Max 361 70.59059 12.08735 40.05974 103.21 361 70.59059 12.08735 40.05974 103.21 361 68.55735 12.42786 37.53883 102.83				ROUGE	ity = BATON		padd = 3, state =
361 70.1885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs	ن د	103.21 102.83	40.05974	12.08735 12.42786	70.59059 68.55735	361 361	rp_brn rp_unb
361 70.1885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_city = MOBILE  Obs Heam Std. Dev. Min Max 361 70.59738 12.1969 40.83632 103.13 361 68.70141 12.77965 37.75388 103.85  AL, r_city = MONTGOMERY	A.	Max	Min	Std. Dev.	Mean	Obs	Variable
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58  AL, r_clty = MOBILE  Obs Hean Std. Dev. Min Max 361 70.59738 12.14969 40.83632 103.13 361 68.70141 12.77965 37.75388 103.85				MERY	ity = MONTGO		padd = 3, stat
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.84886 36.81004 107.58 AL, r_clty = MOBILE Obs Mean Std. Dev. Min Max	7	103.13 103.85	40.83632 37.75388	12.14969 12.77965	70.59738 68.70141	361 361	rp_brn rp_unb
361 70.15885 12.26195 39.5221 105.27 361 68.30567 12.86886 36.81004 107.58	> -	Max	Min	Std. Dev.	Mean	Obs	Variable
70.15985 12.26195 39.5221 105.27 68.30567 12.84886 36.81004 107.58					ity = MOBILE		padd = 3, state
Annual Control of the		105,27	39.5221 36.81004	12.26195	70.15885 68.30567	361 361	rp_brn rp_unb
Obs Mean Std. Dev. Min Max	ح س	Max	Min	Std. Dev.	Mean	Ohs	Variable

Σ 2	The delicated by the second state of the secon					
•	Max	Min	Std. Dev.	Mean	Ohs	Variable
				:ity = WACO	e = TX, r_city	-> padd = 3, state
ت. عد	104.35	39.67742 37.64635	12.34186 12.4712	71.2218 69.35968	361 361	rp_brn rp_unb
<b>S</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
				TX, r_city = TYLER	я	-> padd = 3, state
	102.44	38.44683 36.69056	12.4992 12.77091	68.98312 67.5067	361 361	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
			TONIO	etry = SAN ANTONIO	* TX, r_city *	-> padd = 3, state
ر د د	113.55 109.53	44.55197 43.30944	12.71986 12.37369	75.66567 75.04236	361 361	rp_brn rp_unb
<i>p</i>	Max	Min	Std. Dev.	Mean	obs	Variable
			MELO	TX, r_city = SAN ANGELO	19	-> padd = 3, state
ن ح	112.62 111.17	44.24134 43.85965	12.98983 13.03026	76.01105 74.71607	361 361	rp_brn rp_unb
<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			D/ODESSA	TX, r_city = MIDLAND/ODESSA	22	-> padd = 3, state
ر د د	116.52 119.52	39.78697 39.13534	13.51839 13.56796	74.48205 73.95835	361 361	rp_brn rp_unb
Þ	Max	Min	Std. Dev.	Mean	Obs	Variable
		TO THE REAL PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN	X	іту = поввоск	= TX, r_city	-> padd = 3, state
۲, ۲	103.29 102.42	39.13979 36.78614	12.35975 12.58216	70.29524 67.94121	361 361	rp_brn rp_unb
<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable

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\*bp-amoco
use "D:\My Documents\STATA\GRC\G\_DATA2\_fe.dta", clear

94 - h 94-8

31 . keep if bpamoco==1 (86640 observations deleted)

32 . bysort padd state r\_city: sum rp\_brn rp\_unb

-> padd = 1, state = FL, r\_city = TAMPA -> padd = 1, state = FL, r\_city = PANAMA CITY -> padd = 1, state = FL, r\_city = ORLANDO -> padd = 1, state = FL, r\_city = MIAMI -> padd = 1, state = FL, r\_city = JACKSONVILLE -> padd = 1, state = GA, r\_city = ALBANY\_GA -> padd = 1, state = GA, r\_city = BAINBRIDGE -> padd = 1, state = GA, r\_city = ATLANTA Variable Variable Variable Variable Variable Variable rp\_brn rp\_unb rp\_brn rp\_brn rp\_unb rp\_brn rp\_brn rp\_brn rp\_brn 361 361 361 71.2558 12.05125 41.79211 361 69.70525 12.64036 38.74552 361 72.09482 11.78923 42.36559 361 69.89292 12.69027 38.24373 361 70.58567 12.06214 361 68.57509 12.53208 361 72.60421 11.873 42.65233 361 71.17735 12.59601 39.55795 70.41576 69.1942 70.35902 12.30367 39.53405 69.20237 13.30392 37.29988 70.4437 11.98998 68.82952 12.4922 Mean Stď. Dev. Mean Std. Dev. 12.0092 12.60504 39.9761 37.32378 40.14337 37.64635 41.14695 37.71804 Min Z, Min Min. M in Max 102.065 103.5 105.965 103.415 104 105.03 Max 104.64 105.15 Max 103.06 103.3 Max 103.14 102.86 Max Xax 3,4 3,4 B, 4 3,4 B, h 5. β,

<b>o</b>	Max	34.0				
		5	Std Dev	Mean	068	Variable
	AND STREET, AND ADDRESS OF THE PARTY OF THE	THE PARTY COLUMN TO SERVE SERVED SERV	JURGH	PA, r_city = PITTSBURGH	11	padd ≈ 1, state
ر 2	104.56 108.22	41.26643 39.773	12.72174 12.91763	72.85674 71.83069	361 361	rp_brn rp_unb
>> -	Max	Min	Std. Dev.	Mean	Obs	Variable
	***************************************		¥ .	= PA, r_city = ALTOONA	state = PA, r_c	padd ≈ 1, st
.S	104.55	41.8638 39.21147	11.98253 12.48298	72.50661 70.13934	361 361	rp_brn rp_unb
20	Max	Min	Std. Dev.	Mean	Ohs	Variable
			NGTON_NC	= NC, r_city = WILMINGTON_NC	state = NC, r_c	padd = 1, st
<u>.</u> 5	103.8	40.29869 37.74194	12.17016 12.64717	70.76116 69.08201	361 361	rp_brn rp_brn
ρ	Мах	Min.	Std. Dev.	Mean	Obe	Variable
PATRICULAR STATE OF THE STATE O				NC, r_city = SELMA	state * NC, r_c	padd = 1, st
.s	103.295 103.66	39.80884 37.39546	12.15993 12.51421	70.42659 68.76332	361 361	rp_brn rp_umb
»	Max	Min	Std. Dev.	Mean	Oha	Variable
			SBORO	NC, r_city * GREENSBORO	state = NC, r_c	padd = 1, st
S	103.29	40.13142 37.33572	12.09948	70.37685 68.63935	361 361	rp_unb rp_brn
<b>S</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			OTTE	= NC, r_city = CHARLOTTE	state = NC, r_c	padd = 1, st
2	104.38	42.06691 39.56989	11.95245 12.70314	73.02511 70.69299	361 361	rp_brn rp_unb
<i>a</i>	Max	Min	Std. Dev.	Mean	Obe	Variable
			VAH	ty = SAVAN	padd = 1, state = GA, r_city = SAVANNAH	edd = 1, st
7	102.82	39.7491 37.27599	12.00763 12.41632	70.37931 68.42514	361 361	rp_brn rp_unb
S S	Max	Min	Std. Dev.	Mean	Obs	Variable
				GA. r_city = MACON	state = GA, r_c	padd = 1, st
	103.25 103.58	40.28674 37.71804	12.00167 12.44477	70.73727 68.69339	361 361	rp_brn rp_unb
ح	Max	Min	Std. Dev.	Mean	Obs	Variable

Variable         Obs         Hean         Std. Dev.         Min         Hex           IP_unb         361         71.69434         11.99278         41.4098         104.53           IP_unb         361         71.69434         11.99278         41.4098         104.53           padd = 1.         state = 8C.         rcity = NORTH AUGUSTA         Hin         Hex           Variable         Obs         Mean         Std. Dev.         Hin         Hex           P_unb         361         70.5686         12.08693         39.92831         103.12           Pp_unb         361         70.5686         12.08939         39.75788         103.12           Pp_unb         361         70.3668         12.08939         39.73716         102.89           Pp_unb         361         70.3668         12.08939         39.73716         102.89           Pp_unb         361         71.78791         12.5865         37.7660         103.07           Pp_unb         361         71.78399         12.0805         37.7660         103.07           Pp_unb         361         71.79399         12.19071         39.38305         101.54           Pp_unb         361         71.07999 <td< th=""><th>2, 2</th><th>114.53 113.26</th><th>39.48626 38.08841</th><th>12.54502 12.71558</th><th>71.82962 70.34095</th><th>361 361</th><th>rp_brn rp_unb</th></td<>	2, 2	114.53 113.26	39.48626 38.08841	12.54502 12.71558	71.82962 70.34095	361 361	rp_brn rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max           FP_brn         361         71.69334         11.99378         41.4098         104.33           FP_brn         361         79.69428         12.9432         38.85305         104.65           Padd = 1.         state = 8C.         Fc_ity = NORTH MUGUSTA         Min         Max           Pp_brn         361         70.5564         12.0509         39.9231         102.6           Pp_brn         361         70.5664         12.0509         39.72736         103.12           Variable         Obs         Mean         8td. Dev.         Min         Max           FP_brn         361         70.3668         12.06949         39.73736         102.89           FP_brn         361         70.3668         12.06949         39.73736         102.89           FP_brn         361         71.7579         12.06949         39.73736         102.89           FP_brn         361         71.7579         12.0505         37.26044         103.07           Padd = 1.         8tate = VA.         F. City = NORFOLK_VA         Min         Max           Pp_brn         361         69.16794         12.37736 <th><b>,</b></th> <th>Мах</th> <th>Min</th> <th>Std. Dev.</th> <th>Mean</th> <th>Obs</th> <th>Variable</th>	<b>,</b>	Мах	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_bbm         361         71.69434         11.99778         41.4098         104.33           rp_bbm         361         71.69438         12.9432         38.88305         104.65           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Min         Hax           rp_bbm         361         70.56964         12.05609         39.92831         103.25           rp_bbm         361         70.56984         12.05609         39.72831         103.25           variable         Obs         Mean         Std. Dev.         Min         Max           rp_bmb         361         68.54473         12.05699         39.73716         102.89           variable         Obs         Mean         Std. Dev.         Min         Max           rp_bmb         361         71.75279         12.05695         37.7583         103.12           variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min				71LLE	ity = EVANS	11	
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         71.69434         11.99778         41.4098         104.33           rp_brn         361         71.69434         11.99778         41.4098         104.53           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Mean         Std. Dev.         Min         Mex           rp_unb         361         70.58844         12.0509         39.92831         102.6           rp_unb         361         68.66244         12.4559         37.75883         103.12           padd = 1.         state = SC. r_city = SPARTANBURG         Wariable         Wariable         Obs         Mean         Std. Dev.         Min         Mex           Variable         Obs         Mean         Std. Dev.         Min         Mex	, 5 2	101.78 103.74	39,71326 37.87336	11.96346 12.4522	70,44141 69,01244	361 361	rp_brn rp_unb
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99778         41.4098         104.33           rp_brn         361         71.69434         11.99778         41.4098         104.65           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Win         Max         Hean         Std. Dev.         Min         Max           rp_brn         361         70.58946         12.05609         39.92831         102.6         102.6           rp_brn         361         70.58946         12.4859         37.76883         103.12           padd = 1.         state = SC. r_city = SPARTANBURG         Wariable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         68.5473         12.0649         39.73716         102.99         103.07           padd = 1.         state = VA, r_city = FAIRFAX         Wariable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.75279         12.0505         37.24044         103.07           padd = 1.         state = VA, r_city = NORFOLK_VA         Min         Max <t< td=""><td><b>.</b></td><td>Max</td><td>Min</td><td>Std. Dev.</td><td>Mean</td><td>Obs</td><td>Variable</td></t<>	<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99778         41.0098         104.33           rp_unb         361         71.69434         11.99778         41.0098         104.33           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Min         Max           rp_brn         361         70.58964         12.68699         39.92891         102.6           rp_brn         361         70.58964         12.4859         37.76883         103.12           padd = 1.         state = SC. r_city = SPARTANBURG         Max         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.0649         39.73716         103.07           padd = 1.         state = VA, r_city = FAIRFAX         Variable         Mean         Std. Dev.         Min         Max           rp_brn         361         71.75379         12.0505         37.26404         103.07           padd = 1.         state = VA, r_city = NORFOLK_VA         Min         Max           Variable         Obs         Mean         Std. D		The state of the s	TOTAL CONTRACTOR OF THE PARTY O	8	ty = ROANO		padd = 1,
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99778         41.4098         104.33           rp_unb         361         71.69434         11.99778         41.4098         104.53           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Mean         Std. Dev.         Min         Hax           rp_brn         361         70.56964         12.05609         39.92831         102.6           rp_brn         361         68.6624         12.4859         37.76583         103.12           padd = 1.         state = SC. r_city = SPARTANBURG         Min         Hax           Variable         Obs         Mean         Std. Dev.         Min         Hax           rp_brn         361         68.53473         12.06649         39.73716         102.89           rp_brn         361         68.53473         12.50605         37.26404         103.07           padd = 1.         state = VA. r_city = FAIRFAX         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.75279         12.0905         41.1	χ, γ	101.92	39,47431 37,81362	12.10756 12.51542	71.03955 69.10936	361 361	rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_bbn         361         71.69434         11.99778         41.4098         104.33           rp_unb         361         71.69434         11.99778         41.4098         104.53           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Mean         Std. Dev.         Min         Max           rp_brn         361         70.58964         12.05609         39.92891         102.6           rp_brn         361         70.58964         12.4859         37.76883         103.12           padd = 1.         state = SC. r_city = SPARTANBURG         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.0549         39.72716         102.89           rp_brn         361         70.3668         12.0549         39.72716         102.89           rp_brn         361         68.53473         12.50605         37.76404         103.07           padd = 1.         state = VA. r_city = FAIRFAX         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_unb         361	<b>.</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         71.69434         11.99778         41.0098         104.33           rp_brn         361         71.69434         12.94132         38.88305         104.65           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Min         Max           rp_brn         361         70.58364         12.05609         39.92831         102.6           rp_brn         361         70.58364         12.05609         39.92831         103.12           padd = 1.         state = SC. r_city = SPARTANBURG         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.06949         39.73716         102.89           rp_brn         361         70.3668         12.06949         39.73716         102.89           rp_brn         361         71.75279         12.0605         37.26004         103.07           padd = 1.         state = VA. r_city = FAIRFAX         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         69.74663         12.41213				DMC	ity = RICHM	16	padd = 1,
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99778         41.0098         104.33           rp_brn         361         71.69434         12.9478         41.0098         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA         Mean         Std. Dev.         Min         Max           rp_brn         361         70.56864         12.05609         39.92831         102.6           rp_brn         361         68.66424         12.4859         37.76583         103.12           padd = 1.         state = SC, r_city = SPARTANBURG         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.06949         39.73716         102.89           rp_brn         361         70.3668         12.06949         39.73716         102.89           rp_brn         361         68.53473         12.30605         37.72604         103.07           padd = 1.         state = VA, r_city = FAIRFAX         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_ubh         361         69.74662	ڻ <sub>,</sub>	101.54 103.1	39.53405 37.61052	12.19071 12.37736	71.07999 69.16794	361 361	rp_brn rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99778         41.0098         104.33           rp_brn         361         69.69428         12.54132         38.88305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA         Mean         Std. Dev.         Min         Max           rp_brn         361         70.56864         12.0569         39.92831         102.6           rp_brn         361         68.66424         12.4559         37.76583         103.12           padd = 1. state = SC, r_city = SPARTANBURG         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.06949         39.73716         102.89           rp_unb         361         70.3668         12.06949         39.73716         102.89           rp_unb         361         88.53473         12.50605         37.26404         103.07           padd = 1. state = VA. r_city = FRIFFAX         Mean         Std. Dev.         Min         Max           rp_brn         361         71.75279         12.0505         37.26404         103.61           rp_brn         361	o	Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_brn         361         69.69428         12.54132         38.88305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA         Min         Max           rp_brn         361         70.56864         12.05699         39.92831         102.6           rp_unb         361         70.56864         12.05699         39.92831         103.12           padd = 1, state = SC, r_city = SPARTANBURG         Wariable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.06949         39.73716         102.89           rp_unb         361         68.53473         12.50605         37.26404         103.07           padd = 1, state = VA, r_city = FAIRFAX         Variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.7579         12.0695         37.26404         103.07 <td< td=""><td>And the second s</td><td></td><td></td><td>,K_VA</td><td>tity = NORFOL</td><td>16</td><td>padd = 1,</td></td<>	And the second s			,K_VA	tity = NORFOL	16	padd = 1,
Variable         Obs         Mean         Std. Dev.         Min         Mex           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         71.69438         12.54132         38.88305         104.65           padd = 1.         state = SC. r_city = NORTH AUGUSTA         Min         Mea           variable         Obs         Mean         Std. Dev.         Min         Mex           rp_unb         361         70.55964         12.05509         39.98831         102.6           rp_unb         361         68.66424         12.4559         37.76583         103.13           padd = 1.         state = SC. r_city = SPARTANBURG         Min         Mex           variable         Obs         Mean         Std. Dev.         Min         Mex           rp_unb         361         68.53473         12.50605         37.76583         103.13           padd = 1.         std. Dev.         Min         Mex           ppadd = 1.         std. 68.53473         12.50605         37.76404         103.07	,5 2	102.33 103.6	41.17085 38.18399	12.0505 12.41212	71.75279 69.74862	361 361	rp_brn rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         71.69428         12.54132         38.85305         104.65           padd = 1.         state = SC, r_city = NORTH AUGUSTA         Min         Hax           rp_brn         351         70.55944         12.05609         39.92831         102.6           rp_unb         361         68.66424         12.4559         37.75583         103.12           padd = 1.         state = SC, r_city = SPARTANBURG         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         68.53473         12.5669         39.73716         102.89           rp_brn         361         68.53473         12.5669         39.73716         103.07	<b>S</b>	Мах	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         69.69428         12.54132         38.85305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA         Min         Max           variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         70.55964         12.05609         39.92831         103.12           padd = 1.         state = SC, r_city = SPARTANBURG           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         70.3668         12.05949         39.73716         102.89           rp_brn         361         70.3668         12.05949         39.73716         102.89           rp_brn         361         68.53473         12.50605         37.26404         103.07				×	ity - FAIRF		padd = 1,
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69438         11.99278         41.4098         104.33           rp_unb         361         69.69428         12.54132         38.85305         104.65           padd = 1.         state = SC, r_city = NORTH AUGUSTA         Min         Max           Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         70.58964         12.05609         39.93831         103.12           padd = 1.         state = SC, r_city = SPARTANBURG           Variable         Obs         Mean         Std. Dev.         Min         Max	ر م	102.89	39.73716 37.26404	12.06949 12.50605	70.3668 68.53473	361 361	rp_unb
Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         69.69428         12.54132         38.85305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA         Variable         Obs         Mean         Std. Dev.         Min         Max           rp_brn         361         70.58964         12.0509         39.92831         103.6           rp_unb         361         68.66424         12.4559         37.76583         103.12           padd = 1. state = SC, r_city = SPARTANBURG	•	Max	Min	Std. Dev.	Mean	Obs	Variable
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         69.69428         12.54132         38.85305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA           Variable         Obs         Hean         Std. Dev.         Min         Hax           rp_brn         361         70.55964         12.05609         39.92831         102.6           rp_unb         361         68.66424         12.4559         37.75583         103.12				NBURG	4	a	padd = 1,
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         69.69428         12.54132         38.85305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA           Variable         Obs         Hean         Std. Dev.         Min         Hax	2,2	102.6 103.12	39.92831 37.76583	12.05609 12.4559	70.56964 68.66424	361 361	rp_brn
Variable         Obs         Hean         Std. Dev.         Min         Max           rp_brn         361         71.69434         11.99278         41.4098         104.33           rp_unb         361         69.69428         12.54132         38.85305         104.65           padd = 1, state = SC, r_city = NORTH AUGUSTA	<b>5</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
Obs Mean Std. Dev. Min Mex 361 71.69434 11.99278 41.4098 104.33 361 69.69428 12.54132 38.88305 104.65			The state of the s	AUGUSTA	ity = NORTH	4	padd = 1,
Obs Mean Std. Dev. Min Max	ر د د	104.33	41.4098 38.85305	11.99278 12.54132	71.69434 69.69428	361 361	rp_unb rp_brn
	2	Мах	Min	Std. Dev.	Mean	Obs	Variable

		The state of the s		The second secon		
	Max	Min	Std. Dev.	Mean	Obs	Variable
			SE CITY	ty = TRAVERSE CITY	e = MI, r_city	padd = 2, state
ور 8	139.19 148.54	37.16846 35.05376	13.85346 14.3833	72.27804 71.11786	361 361	rp_brn
	Max	Min.	Std. Dev.	Mean	Obs	Variable
				r_city = NILES	a MI,	padd = 2, state
ر 2	144.3 145.75	38.33931 36.33214	14.07963 14.30962	73.50571 71.93469	361 361	rp_brn rp_unb
<b>o</b>	Мах	Min	Std. Dev.	Mean	Ohe	Variable
			NO	r_city = MUSKEGON	= MI,	padd = 2, state
5, W	142.4	38.66189 36.64277	14.07594 14.69999	73.31514 72.19327	361 361	rp_unb
•	Max	Min	Std. Dev.	Mean	Ohe	Variable
	Adal Astronomics and conservationing they be properly to contain and		<i>t</i> a	r_city = LANSING	я Ж	-> padd = 2, state
7 7	142.055	38.3871 36.12903	14.05362 14.53512	73.19395 71.64791	361 361	rp_brn rp_unb
٠,	Мах	Min	Std. Dev,	Mean	Obs	Variable
			N	MI, r_city = JACKSON	*	-> padd = 2, state
ر در	140.545 144.095	37.15651 35.93787	14.06496 14.73559	72.80241 72.2191	361 361	rp_brn rp_unb
<b>&gt;</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
		000000000000000000000000000000000000000	17	MI, r_city = DETROIT	11	-> padd = 2, state
β, <b>4</b>	115.16	39.02031 38.55436	12.97796 13.20611	72.9564 71.78457	361 361	rp_brn rp_unb
•	Max	Min	Std. Dev.	Mean	Obs	Variable
			VILLE	KY, r_city = LOUISVILLE		-> padd = 2, state
ر 2	131.61 141.37	38.41099 37.49104	13.32124 14.01358	72.56877 72.28019	361 361	rp_brn rp_unb
<b>5</b>	Max	win	Std. Dev.	Mean	Obs	Variable
- Annual Control of the Control of t			NGTON	city = HUNTINGTON	te = IN, r_city	-> padd = 2, state
<u> </u>	132.97	37.15651 34.54002	13.47054 14.52656	71.69159 70.61638	361 361	rp_brn rp_unb
æ ~	XBM	315	SEG. Dev.	Mean	ODS	variable

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Min Max  40.05574 102.705 37.92115 104.58  Min Max  39.82079 102.11  Min Max  Min Max	2.24013 2.73192 2.73192 XFORD XFORD 1.05831 1.44225	TH, r_city = NASHVILLE  Obs Mean Std. Dev  361 70.79496 12.740  361 69.17196 12.7731  AL, r_city = ANNISTON/OXFORD  Obs Mean Std. Dev  361 70.19236 12.0583  361 68.15857 12.4422  AL, r_city = BIRMINGHAM  Obs Hean Std. Dev	4 4	rp_brn rp_unb  rp_brn rp_brn rp_unb  rp_unb  padd = 3, state  variable variable rp_unb  rp_unb  rp_unb  rp_unb  rp_unb
Max 103.705 104.58 102.81 102.1	XFORD Dev.	Mean 70.78496 69.17196 e9.17196 Nean 70.78496 69.17196 69.17196	0 0	3-1-   6-1-   6-1
Max 102.705 104.58 104.58	35	Mean 70.78496 69.17196 69.17196 Mean 70.19216	4 4	brn unb brn unb brn unb brn unb brn unb brn unb
102.705 104.58	25	city = NASHV.  Mean  70.78496 69.17196 city = ANNIST		brn unb ble ble ble ble
Nax 102.705 104.58	85	City = NASHV Mean 70.78496 69.17196	a a	brn unb
Max 102,705 104,58	3. Dev. 2.24013 2.72192	City = NASHV Mean 70.78496 69.17196	4	unb ole 2, unb unb
Max	ILLE Std. Dev.	city = NASHV Mean		unborn
	ILLE	city = NASHV	4	unb orn
			;	rp_brn rp_unb
40.04779 103.805 D <sub>1</sub> 4 37.57467 106.77	12.26387 40 13.03399 37	71.27468 69.40792	361 361	
Min Max	Std. Dev.	Mean	Obs	Variable
	IS	TN, r_city * MEMPHIS	4	padd = 2, state
40.19116 103.09 B W	12.3261 40 12.71043 37	70.56453 69.03804	361 361	rp_brn rp_unb
Min Max	Std. Dev.	Mean	Obs	Variable
	ILLE	TN, r_city = KNOXVILLE	a	padd = 2, state
39.94026 102.61 B 4	12.0855 39 12.47562 37	70.4842 68.7205	361 361	rp_brn
Min Max	Std. Dev.	Mean	Орв	Variable
	ANDOGA	r_city = CHATTANOOGA	TN,	padd = 2, state
38.06452 139.75 B, 4	13.76155 38 14.30195 35	72.86073 71.83431	361	rp_unb
Min Max	Std. Dev.	Mean	Obs	Variable
	0	* OH, r_city * TOLEDO		padd = 2, state
40.227 107.11 B, 4	12.31728 12.84547 38	71.67726 70.16745	361 361	rp_brn rp_unb
Min Max	Std. Dev.	Mean	Obs	Variable

ز 2	104.38	42.06691 39.56989	11.95245 12.70314	73.02511 70.69299	361 361	rp_brn rp_umb
<i>α</i>	Max	Min	Std. Dev.	Mean	Орв	Variable
	Warrent Control of the State of		IAH	GA, r_city = SAVANNAH	н	padd ≈ 1, state
B, u	104 105.03	42.36559 38.24373	11.78923 12.69027	72.09482 69.89292	361 361	rp_brn rp_unb
<b>&gt;</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			JACKSONVILLE	r_city = JACKSC	= FL,	padd = 1, state
-			dun_q	sum rp_brn z	ite r_city:	. bysort padd state r_city: sum rp_brn rp_unb
	4-27				obil==1 ons deleted	. keep if exxonmobil==1 {93860 observations deleted}
	B-26	U/	fe.dta", clear	\\GRC\G_DATA2	ments\STAT	<pre>*exxon-mobil use *D:\My_Documents\STATA\GRC\G_DATA2_fe.dta*,</pre>
	102.69	39.23536 36.77419	12.12051	69.54327	361	rp_unb
<u></u>	30X	atu	sed. pev.	mean	008	Agridbia
			AN	MS, r_city = MERIDIAN	18	padd = 3, state
<u>ح</u> 2	102.96	39.68937 37.16846	12.10633 12.90916	70.59535 68.57024	361 361	rp_brn rp_unb
<i>&gt;</i> >	Max	Min	Std. Dev.	Мевл	0bs	Variable
			71LLE	ty - GREENVILLE	e = MS, r_city	padd = 3, state
ح د ک	102.07	39.00836 36.2963	12.05444 12.43428	69.66872 67.57741	361 361	rp_brn rp_unb
<b>5</b>	Max	Min.	Std. Dev.	Меап	0bs	Variable
			8	ity = COLLINS	e = MS, r_city	padd = 3, state
ت د ع	103.21	40.05974 37.53883	12.08735 12.42786	70.59059 68.55735	361	rp_brn rp_unb
<b>S</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			MERY	ity = MONTGOMERY	e = AL, r_city	padd = 3, state
٥, ٧	103.85	40.83632 37.75388	12.14969 12.77965	70.59738 68.70141	361 361	rp_brn rp_unb
• •		The second district of				

76.07266 12.91062 43.73955  76.07266 12.91062 43.73955  76.07266 12.91062 43.73955  12.0726	Padd = 1, state = PA, r_c
91062 43.73955 107.55  91062 43.73955 107.55  Dev. Min Max  1593 39.80884 103.25  51421 37.39546 103.66  51421 37.74194 104.905  54717 37.74194 104.905  Dev. Min Max  94653 40.63321 104.52  86085 39.67742 108.15  Dev. Min Max  133462 44.06213 107.82  20417 39.66547 107.38  Dev. Min Max  Dev. Min Max  13462 44.06213 107.82  20417 39.66547 107.38	state state
91062 43.73955 107.55  91062 43.73955 107.55  Dev. Min Max  105.655  11849 40.79921 110.11  Dev. Min Max  11993 39.80844 103.25  51421 37.39546 103.66  51421 37.39546 103.66  51421 37.39546 103.66  Dev. Min Max  104.55  105.653 40.63321 104.52  106085 39.67742 108.15  Dev. Min Max  107.82  104.53 107.82  104.54  105.55  107.	state s
91062 43.73955 107.55  Dev. Min Hax 94379 41.93548 105.635 .1849 40.17921 110.11  Dev. Min Hax 11593 39.60844 103.295 51421 37.39546 103.66  S1421 37.39546 103.66  S4717 37.74194 104.905  Dev. Min Hax 10685 39.67742 108.15  Dev. Min Hax 107.82 20417 39.68547 107.82 20417 39.68547 107.82 20417 39.68547 107.82	state s
91062 43.73955 107.55  91062 43.73955 107.55  94379 41.93548 105.635  94479 40.79921 110.11  Dev. Min Max  11993 39.80844 103.29  11995 103.26  51421 37.39546 103.26  51421 37.39546 103.26  64717 37.74194 104.905  64717 37.74194 104.905  Dev. Min Max  10685 39.67742 108.15  Dev. Min Max  106885 39.67742 108.15	state =
91062 43.73955 107.55  91062 43.73955 107.55  94379 41.93548 105.635  94479 40.77921 110.11  Dev. Min Max  15993 39.80844 103.66  51421 37.39546 103.66  51421 37.39546 103.66  64717 37.74194 104.905  Dev. Min Max  104.52  94653 40.63321 104.52  94653 39.67742 108.15  Dev. Min Max  104.52  107.52	-
91062 43.73955 107.55  91062 43.73955 107.55  94379 41.93548 105.635  94479 40.77921 110.11  Dev. Min Max  15993 39.80884 103.295  51421 37.39546 103.26  51421 37.39546 103.26  51421 37.74194 104.905  Dev. Min Max  1094.52  1094.53  1094.52  1094.53  1094.53  1094.53  1094.53  1094.53  1094.53  1094.53	rp_brn 361
91062 43.73955 107.55  91062 43.73955 107.55  Dev. Min Hax  94379 41.93548 105.635  1100.11  Dev. Min Max  15993 39.80884 103.25  51421 37.39546 103.66  51421 37.74194 104.905  544717 37.74194 104.905  Dev. Min Hax  100.8  64717 37.74194 104.905	Variable Obs
91062 43.73995 107.55  91062 43.73995 107.55  Dev. Min Max  105.93  106.93  106.93  106.93  106.93  106.93  106.93  106.93	padd = 1, state = NY, r_c
91062 43.73995 107.55  91062 43.73995 107.55  Dev. Min Max  105.635  110.11  Dev. Min Max  15993 39.80884 103.25  51421 37.39546 103.66  51421 37.39546 103.66  Dev. Min Max  17016 40.29869 103.8  17016 40.29869 104.905	rp_brn   361 rp_unb   361
91062 43.73995 107.55  91062 43.73995 107.55  Dev. Min Max  1593 39.80884 103.295  51421 37.39546 103.66  51421 37.39546 103.66  Dev. Min Max  1593 107.55  107.55  107.55  107.55	Variable Obs
91062 43.73995 107.55  91062 43.73995 107.55  94379 41.9358 105.635  94379 41.9358 105.635  108.9  94379 41.9358 105.635  109.9  109.9  109.9  109.9  109.9  109.9  109.9  109.9  109.9  109.9	padd = 1, state = NY, r_c
91062 43.73995 107.55  Dev. Min Max 94379 41.9358 105.635 1.1849 40.17921 110.11  Dev. Min Max 15993 39.80884 103.295 151421 37.39546 103.66	rp_unb 361
91062 43.73995 107.55  Dev. Min Max 94379 41.9358 105.635 .1849 40.17921 110.11  Dev. Min Max 15993 39.80884 103.295 51421 37.39586 103.66	Variable Obs
91062 43.73995 107.55  Dev. Min Hax  94379 41.93548 105.635  1.849 40.77921 110.11  Dev. Min Max  15993 39.80844 103.295  51421 37.39546 103.66	padd = 1, state = NC, r_c
91062 43.73985 107.55  Dev. Min Hax 94379 41.93548 105.635 ,1849 40.17921 110.11  Dev. Min Max	rp_brn 361 rp_unb 361
91062 43.73955 107.55  Dev. Min Max 94379 41.93548 105.635	Variable Obs
91062 43.73995 107.55  Dev. Min Max 94379 41.93548 105.635 1.1849 40.17921 110.11	padd = 1, state = NC, r_c
91062 43.73995 107.55	rp_brn 361 rp_unb 361
91062 43.73985 107.55	Variable Obs
76,07266 12.91062 43.73955 107.55	padd = 1, state = ME, r_c
	rp_brn 361 rp_unb 0
Mean Std. Dev. Min Max	Variable Obs
ME, r_city = BANGOR	padd = 1, state = ME, r_c
71.93723 12.17893 40.38232 103.26 Dt 4	rp_unb 361
Mean Std. Dev. Min Max	Variable Obs

5,8	104.03	39.89247	12.38811	70.05898 68.49413	361	rp_brn rp_unb
ζ -	Max	Min	Std. Dev.	Mean	Obs	Variable
	The second secon			TX, r_city = AUSTIN	я	padd = 3, state
ي د	103.08	39.37873 35.72282	12.1914 12.56265	69.6861 66.90779	361 361	rp_unb rp_brn
>> -	Max	Min	Std. Dev.	Mean	0bs	Variable
WAREHAM TO THE WAY THE PROPERTY OF THE PROPERTY AND A PROPERTY AND			LEANS	LA, r_city = NEW ORLEANS	н	padd = 3, state
2	103.25	39.47431 35.83035	12.28155 12.727	69.35089 67.3611	361 361	rp_brn rp_unb
3	Max	Min	Std. Dev.	Mean	Obs	Variable
			TTE	LA, r_city = CHALMETTE	я	padd = 3, state
Ş	103.16 111.155	38.94863	12.20535 13.29745	69.5422 67.42334	361 361	rp_brn rp_brn
ZS -	Мах	Min	Std. Dev.	Mean	Obs.	Variable
NOTION AND AN ALL AND AND AND AND ALL AND AND ALL AND AND ALL AND AND ALL	101.78	39.71326 37.87336	11.96346 12.4522 ROUGE	361 70.44141 11. 361 69.01244 12 LA, r city = BATON ROUGE	п	rp_unb rp_unb padd = 3, state
ح ري	Max	Min	Std. Dev.	Mean	Obs	Variable
			ësi	VA, r_city = ROANOKE	a	padd = 1, state
ر د	101.92 103.77	39.47431 37.81362	12.10756 12.51542	71.03955 69.10936	361 361	rp_brn rp_unb
70 -	Max	Min	Std. Dev.	Mean	Obs	Variable
The state of the s			D	city = RICHMOND	e = VA, r_city	padd = 1, state
ن <u>۔</u> کر	102.33	41,17085 38,18399	12.0505 12.41212	71.75279 69.74862	361 361	rp_brn rp_brn
P -	Max	Min	Std. Dev.	Mean	Ohe	Variable
	THE REPORT OF THE PROPERTY OF		×	VA, r_city = FAIRFAX	4	-> padd = 1, state
2	103.87	40.82437 41.03942	12.71558 12.98717	72.53371 72.63728	361 361	rp_unb
Ş		7411	ord: bc.		950	1011010

		<b>1</b> 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		1	·		٠,١			J			·			·			٠		1	360
		<pre>*map-uds use *D:\Wy Documents\STATA\GRC\G_DATA2_fs.dta*, clear</pre>	rp_unb	Variable	rp_unb rp_unb padd = 3, state	Variable	-> padd = 3, state = TX, r city = SAN ANTONIO	rp_brn rp_unb	Variable	padd = 3, state =	rp_brn rp_unb	Variable	padd = 3, state	rp_brn rp_unb	Variable	padd = 3, state = TX, r_city = CORPUS CHRISTI	rp_brn	Variable	padd = 3, state =	rp_unb	Variable	360103 Thursday June 24 17:06:38 2004
		ments\STAT#	361 361		H	Obs	e = TX, r	361 361	Obs	e = TX, r_c	361 361	Obe	я	361 361	Obs	e = TX, r_c	361 361	Obs		361	Obs	June 24 17:
		\\GRC\G_DATA	70.23223 68.59535	Mean	361 68.98312 361 67.5067	Mean	ity = SAN A	70.29524 67.94121	Mean	$TX$ , $r_city = HEARNE$	71.1303 70.0145	Mean	TX, r_city = DALLAS METRO	67.94358 66.49141	Mean	ity = CORPU	71.03356 69.39441	Mean	TX, r_city * CENTER	68.34438 66.69292	Mean	06:38 2004
		2_fe.dta", c]	12.6487 12.88675	Std. Dev.	12.4992 12.77091	Std. Dev.	NTONIO	12.35975 12.58216	Std. Dev.	ē	12.45722 12.63396	Std. Dev.	S METRO	12.67906 13.03871	Std. Dev.	S CHRISTI	12.30096 12.71277	Std. Dev.	20	12.29084 12.6563	Std. Dev.	Page 26
7	0-	Sar T	39.092 37.02509	Min	38.44683 36.69056	Min	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	39.13979 36.78614	Min		39.05615 37.55078	Min		36.98925 35.78256	Min		39.82079 38.29152	Min		37.26404 35.19713	Min	
10	10		103.68 103.34	Max	102.44	M.		103.29	Max		104.29	Max	The second secon	102.795 103.11	Max		104.11 105.165	Max		102.035 102.555	Мах	
			2,5	•	20, 35	75 -		,5 2	ò		:	2	ACTIVITY OF CONTRACTOR OF COMMENT OF COMMENT OF CONTRACTOR	-	2			2		Š	2	

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41 . keep if mapuds==1
[99636 observations deleted]

, T		38.33931	14.07963	33 50534	361	rp_brn
<b>.</b>	Мах	Min	Std. Dev.	Mean	Obs	Variable
	The state of the s		Ö	ity = MUSKEGON	e = MI, r_city	padd = 2, state
2	142.4	38.66189 36.64277	14.07594 14.69999	73.31514 72.19327	361 361	rp_brn rp_unb
a T	Мах	Min	Std. Dev.	Mean	Obs	Variable
A THE RESERVE OF THE PARTY OF T	The state of the s		ā	MI, r_city = LANSING		padd = 2, state
- - -	142.055 148.99	38.3871 36.12903	14.05362 14.53512	73.19395 71.64791	361 361	rp_brn rp_unb
3	Max	Min	Std. Dev.	Mean	Obs	Variable
			W	r_city = JACKSON	# MI,	padd = 2, state
5	141.99 152.07	38.23178 36.73835	14.09737 14.6938	74.24209 73.29891	361 361	rp_brn rp_unb
A (	Мах	Min	Std. Dev.	Mean	Ohs	Variable
				city = FLINT	to = MI, r_city	padd = 2, state
9, 8	144.17	37.81362 36.58303	14.12813 14.45744	73.26065 72.37082	361 361	rp_brn rp_unb
<b>a</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			BURG	city = FERRYSBURG	te = MI, r_city	padd = 2, state
<u>ت</u> عر	140.545	37.15651 35.93787	14.06496 14.73559	72.80241 72.2191	361 361	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable
			TT .	MI, r_city = DETROIT	a	-> padd = 2, state
2, s	150.84	41.69654	14.58339 14.63881	77.57306 76.34662	361 361	rp_brn rp_unb
<i>a</i>	Max	Mín	Std. Dev.	Mean	Obs	Variable
			YGAN	c_city = CHEBOYGAN	= MI,	-> padd = 2, state
	144.01	39.49821 38.19594	14.33488	74.73056 74.2808	361 361	rp_brn
B. 4	Max	Min	Std. Dev.	Mean	Obs	Variable
			ITY_MI	city = BAY CITY_MI	te = MI, r_city	-> padd = 2, state

	Mark K	Z Z	Std. Dev.	Mean	оря	Variable
THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM			K_VA	ity = NORFOLK_VA	e = VA, r_city	-> padd = 1, state
0, 4	109.2 116.29	44.33692	13.46843 14.33531	76.25432 74.78455	305 305	rp_brn rp_unb
<i>&gt;</i>	Мах	Min	Std. Dev.	Mean	Obs	Variable
			×	r_city = FAIRPAX	* VA.	-> padd = 1, state
	`		P_unb	anm rb_prn r	ite r_city:	. bysort padd state r_city: sum rp_brn rp_unb
	4-11	-			ns deleted)	, keep if map==1 (5490 observations deleted)
	8-4	U	_fe.dta", clear	"D:\My Documents\STATA\GRC\R_DATA1_fe.dta",	and ments\STATi	*marathon-ashland use *D:\My Docume
Ş	110,71 112.43	41.39785 38,47073	13.73544 14.09219	74.42464 73.11005	305	rp_brn rp_unb
3	Max	Min	Std. Dev.	Mean	obs	Variable
			METRO	TX, r_city = DALLAS METRO	e = TX, r_	-> padd = 3, state = TX, r_city = DALLAS METR
	9		,		ns deleted)	(6405 observations deleted)
	6-1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	_fe.dta", ch	A\GRC\R_DATAI	Jments\STAT	<pre>"uds-total use "D:\My Documents\STATA\GRC\R_DATAI_fe.dta", clear Vean (f idential)</pre>
			ile	not available I (Equilon): not available available	not available I (Equilon): no available	*tosco-unocal: *shell-texaco   *map-uds: not a
					V	*reformulated
4	147.28	41.13501 39.78495	14.54793 14.52642	76.57094 75.97374	361 361	rp_brn rp_unb
ح	Мах	Min	Std. Dev.	Mean	0bs	Variable
A PROPERTY OF THE PARTY OF THE			SE CITY	MI, r_city = TRAVERSE CITY	4	-> padd = 2, state
۲ <u>.</u> د	139.19	37.16846 35.05376	13.85346 14.3833	72.27804 71.11786	361 361	rp_brn rp_unb
	Мах	M T T	Std. Dev.	Mean	Obs	Variable
				city = NILES	te = MI, r_city	-> pagg = 2, state

Dev. Min  1.0178 41.24253 32716 40.14337  Dev. Min  25045 39.60574  25045 39.60574  25045 39.60574  25045 39.60574  25045 39.60574  Dev. Min	CDS	
Dev. Min Max  1.0176 41.24253 133.09 32716 40.14337 144.02  12716 40.14337 144.02  128045 39.60574 113.7  Dev. Min Max  128045 39.60574 113.7  Dev. Min Max  129357 43.53166 112.79  15.504 42.0908 1221  15.504 42.0908 1221  Dev. Min Max  61531 40.05974 116.29  Dev. Min Max  18869 38.82915 114.34		Variable
Dev. Min Max  1.0176 41.24253 133.09 32716 40.14337 144.02  12716 40.14337 144.02  12807 41.32449 110 25045 39.60574 113.7  Dev. Min Max 128057 45.33166 112.79 15.504 42.0908 121  Dev. Min Max 46843 44.33692 116.29  Dev. Min Max 65531 42.71207 111.6  Dev. Min Max 65531 42.71207 111.6	ate = VA, r_city = RICHMOND	padd = 1, state
Dev. Min Max  1.0176 41.24253 133.09 32716 40.14337 144.02  12716 40.14337 144.02  Dev. Min Max  25045 39.60574 113.7  Dev. Min Max  25045 42.0908 112.79 15.504 42.0908 112.79 15.504 12.0908 1221  Dev. Min Max  46843 44.33692 109.2  33531 40.05974 116.29	305 7 305 7	rp_brn rp_unb
Dev. Min Max  1.0178 41.24253 133.09  32716 40.14337 144.02  32716 40.14337 144.02  144.02  Dev. Min Max  2557 43.53449 113.7  25957 45.53166 113.79  15.504 42.0909 123  15.504 42.0909 123  Dev. Min Max  25957 43.5316 113.79  15.504 42.0909 123	Obs	Variable
Dev. Min Max  1.0178 41.24253 133.09 32716 40.14337 144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  144.02  145.5166 112.79  15.504 42.0908 1121  15.504 42.0908 1121  15.504 42.0908 1121  15.504 42.0908 1121  15.504 42.0908 1121  16.50974 116.29	ate = VA, r_city	-> padd = 1, state
Dev. Min Max  1.0178 41.24253 133.09  32716 40.14337 144.02  144.02  Dev. Min Max  42521 43.52449 110  25045 39.60574 113.7  Dev. Min Max  129557 45.53166 112.79  15.504 42.0908 1221	305 7 305 7	rp_brn rp_unb
Dev. Min Max  13716 41.24253 133.09  32716 40.14337 144.02  144.02  Dev. Min Max  42521 43.52449 113.7  25045 39.60574 113.77  Dev. Min Max  25045 39.60574 113.77	Obs	Variable
Dev. Min Max  1.0178 41.24253 133.09 32716 40.14337 144.02  144.02  144.02  144.02  144.02  15.504 42.0908 113.7  15.504 42.0908 112.79  15.504 42.0908 122.79	ate = VA, r_city	-> padd = 1, state
Dev. Min Max  1.3176 41.24253 133.09  32716 40.14337 144.02  144.02	305 7 305 7	rp_brn rp_unb
Dev. Min Max  1.0178 41.24253 133.09 32716 40.14337 144.02  144.02  144.02  144.02  15044 13.57449 113.7	Obs	Variable
Dev. Min Max 1.0176 41.24253 133.09 32716 40.14337 144.02 144.02 144.02 144.02 1504. Min Max	ate = NY, r_city = ALBANY_NY	-> padd = 1, state
Dev. Min Max 1.0176 41.24253 133.09 32716 40.14337 144.02  La*, clear  \( \begin{array}{c} \beta - \qq \\ \lambda - \qq \end{array} \\ \lambda - \qq \qq \\ \lambda - \qq \qq \\ \lambda - \qq \qq \qq \qq \qq \qq \qq \qq \qq \	305 7 305 7	rp_brn rp_unb
Dev. Min Max 1.0179 41.24253 133.09 32716 40.14337 144.02  ta*, clear $\beta - 9$	Ohs	Variable
Dev. Min Max 1.0178 41.24233 133.09 32716 40.14337 144.02  ta*, clear  \$\beta - \beta \text{ (1-9)} \text{ (1-9)} \text{ (1-9)} \text{ (1-9)}	ate = MD, r_city	-> padd = 1, state
Hin Hox  41.24253 133.09 16 40.14337 144.02  Clear	bysort padd state r_city: sum rp_brn rp_unb	bysort padd et
. Min Max  78 41.2433 133.09 16 40.14337 144.02	oshell==1 ons deleted)	<pre>, keep if texacoshell==1 (3965 observations deleted)</pre>
. Dev. Min Max 15.0178 41.24253 133.09 1.32716 40.14337 144.02	II (Motiva) cuments\STATA\GF	*shell-texaco II (Motiva) use "D:\My Documents\STAT
. Dev. Min Max	1	rp_unh
. Dev. Min Max	305 7	ud_dı
The state of the s	Obs	Variable
		-> padd = 2, state
75.75745 13.63152 42.22222 111.08 D	305 7 305 7	dun_dr urd_dr
Mean Std. Dev. Min Max	Obs	Variable

-> padd = 3, state = TX, r\_city = DALLAS METRO

<i>z</i>				38 3516	200	1
•	Mex	Min	Std. Dev.	Mean	Obs	Variable
			D	VA, r_city = RICHMOND		-> padd = 1, state
7, 4	111.6 114.34	42.71207 38.82915	13.61531 14.18869	75.96594 74.05724	305 305	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	variable
	PARAMETERS AND		K VA	VA, r_city = NORFOLK_VA	4	-> padd = 1, state
2	109.2 116.29	44.33692 40.05974	13.46843 14.33531	76.25432 74.78455	305 305	rp_brn rp_unb
	Max	Min.	Std. Dev.	Mean	obs	Variable
			×	" VA, r_city = FAIRFAX	te ≃ VA, r_c	-> padd = 1, state
			p_unb	sum rp_brn 1	ate r_city:	. bysort padd state r_city: sum rp_brn rp_unb
	h-n				ns deleted)	. keep if bpamocommal (5490 observations deleted)
	B-4		_fe.dta", clear	\\GRC\R_DATAI	Jments\STATA	*bp-amoco use "D:\My Documents\STATA\GRC\R_DATA1_fe.dta",
						1
ت عر	111.06	40.34647 37.24014	13.64036 13.99014	72.87419 71.6197	305 305	rp_brn rp_unb
Ġ.	Max	Min	Std. Dev.	Mean	Obs	Variable
The state of the s	PROPERTY AND THE PROPER		Z	TX, r_city = HOUSTON		-> padd = 3, state
, ,	111.3 115	41.21864 40.29869	13.83895 14.15033	74.33926 73.76679	305 305	rp_brn rp_unb
0 1.	Max	Min	Std. Dev.	Mean	Ohs	Variable
		70-28-28-0-110-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	/SOUTHLAKE	TX, r_city = DALLAS/SOUTHLAKE	u	-> padd = 3, state
2	110.28 111.45	41.23059 37.84946	13.20752 14.12415	74.85686 72.86522	305 305	rp_unb
•	Max	Min	Std. Dev.	Mean	Obs	Variable
	The second secon	A STATE OF THE PERSON NAMED IN	/FT. WORTH	" TX, r_city = DALLAS/FT. WORTH		-> padd = 3, state
2	110.71	41.39785 38.47073	13.73544	74.42464 73.11005	305 305	rp_brn rp_unb
	Max	Min	Std. Dev.	Mean	Obs	Variable

ن ج	112.79 121	45.53166 42.0908	14.29557 15.504	78.82641 77.05792	305 305	rp_brn rp_unb
2	Max	Min	Std. Dev.	Mean	Obs	Variable
The state of the s			, AA	= NY, r_city = ALBANY_NY	te = NY, r_c	-> padd = 1, state
ت 2	110.99 112.91	42.73596 39.05615	14.25076 14.72492	75.14949 74.72118	305 305	rp_brn rp_unb
₹ <b>5</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
			ioro	ity = PAULSBORO	ite = NJ, r_city	-> padd = 1, state
, c	110 113.7	43.52449 39.60574	13.42521 14.25045	76.28026 74.78593	305 305	rp_brn rp_unb
	X X	Min	Std. Dev.	Mean	Obs.	Variable
	The state of the s		ORE	state = MD, r_city = BALTIMORE	ite = MD, r_c	-> padd = 1, sta
\(\frac{1}{2}\)	113.12 113.85	43.07049	14.38655	77.90598 74.93969	305 305	rp_unb
75 -	Мах	Min	Std. Dev.	Mean	Obs	Variable
				ty = BOSTON	te = MA, r_city	-> padd = 1, state
, ' _2	110.38	43.23775 39.30705	14.06539	75.06763 74.15397	305 305	rp_brn dr
<b>?</b>	Max	Min	Std. Dev.	меап	Obs	Variable
	THE RESIDENCE AND ADDRESS OF THE PERSON OF T	Court of the Court	GTON_DE	DE, r_city = WILMINGTON_DE	н	-> padd = 1, state
2. 9	110.56 112.64	42.18638 40.11947	14.18687 14.39369	76.5732 74.85535	305 5	rp_unb rp_brn
2 .	Max	Min	Std. Dev.	Mean	obs	Variable
	e contrator esta esta constituente appendique		VEN	CT, r_city = NEW HAVEN	н	-> padd = 1, state
			dun_q	sum rp_brn r	ate r_city:	75 . bysort padd state r_city: sum rp_brn rp_unb
	41-14				mobil==1 ons deleted)	74 , keep if exxonmobil==1 (2440 observations deleted)
	8-14		fe.dta", clear	\GRC\R_DATA1	:uments\STATJ	72 . *exxon-mobil 73 . use "D:\Ny Documents\STATA\GRC\R_DATA1_fe.dta",
						7
`	133.09	41.24253	15.0178 16.32716	79.87487 79.69659	305 305	rp_brn rp_unb
<i>S</i>	Max	Min	Std. Dev.	Mean	Ohs	Variable

-> padd = 1, state = NY, r\_city = NEWBURGH

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Variable Ohs Mean Std. Dev.

305 77.92395 13.77593 44.5595 109.65 305 75.762135 14.32943 40.51374 113.68  = PA, r_city = PHILADELPHIA  Obs							
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32843 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs	,	Мах	Min	Std. Dev.	Mean	Obs	Variable
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, F_city = PHILADELPHIA Obs				×	tty = HOUSTO	u	-> padd = 3, stat
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA Obs	٥	111.3 115	41.21864 40.29869	13.83895 14.15033	74.33926 73.76679	305 305	rp_brn rp_unb
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  = PA, F_city = PHILADELPHIA Obs	ö	Max	Min	Std. Dev.	Mean	Obs	Variable
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs				S/SOUTHLAKE	stey - DALLA		padd + 3, stat
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.22943 40.51374 113.68  PA, r_city = PHILADELPHIA Obs		110.28 111.45	41.23059 37.84946	13.20752 14.12415	74.85686 72.86522	305 305	rp_unb
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  **PA, r_city = PHILADELPHIA  Obs		Мах	*i5	Std. Dev.	Mean	Obs	Variable
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs	The state of the s		William Committee on the Committee of th	S/FT. WORTH	ity = DALLAS	4	-> padd = 3, stat
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs	ن	110.71	41.39785 38.47073	13.73544 14.09219	74.42464 73.11005	305 305	rp_brn rp_unb
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs	Z	Max	Min	Std. Dev.	Mean	Obs	Variable
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  = PA, r_city = PHILADELPHIA  Obs		deriver of the second policy of the second s		METRO	ity = DALLAS	8	padd = 3, stat
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  = PA, r_city = PHILADEL.PHIA  Obs	رت	111.08 114.09	42.2222 39.59379	13.63152 14.08181	75.75745 74.27152	305 305	rp_unb
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  = PA, r_city = PHILADELPHIA  Obs Hean Std. Dev. Min Max 305 75.44173 14.12462 42.87933 110.51 305 74.53504 14.89013 39.12784 112.52  = VA, r_city = FAIRFAX Obs Hean Std. Dev. Min Max 305 76.25432 13.46843 44.33592 119.2  = VA, r_city = RICHMOND	จ	Мах	Min	Std. Dev.	Mean	Obs	Variable
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs	-	THE REAL PROPERTY OF THE PERSON OF THE PERSO		DWC	ity = RICHMO	18	padd = 1, stat
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  PA, r_city = PHILADELPHIA  Obs	Ó	109.2 116.29	44.33692 40.05974	13.46843 14.33531	76.25432 74.78455	305 305	rp_brn rp_unb
305 77.92385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68  = PA, r_city = PHILADELPHIA Obs Mean Std. Dev. Min Max 305 75.4417 14.12462 42.87933 110.51 305 74.53604 14.59013 39.12784 112.52  = VA, r_city = FAIRFAX	<b>o</b>	Max	Min	Std. Dev.	Mean	Obs	Variable
305 77.92385 13.77893 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68 = PA, r_city = PHILADELPHIA Obs Mean Std. Dev. Min Max 305 75.44173 14.12462 42.87933 110.51 305 74.53604 14.89013 39.12784 112.52				×	ity = FAIRF	8	padd = 1, stat
305 77.92385 13.77893 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68 = PA, r_city = PHILADELPHIA Obs Hean Std. Dev. Min Max	ت.	110.51	42.87933 39.12784	14.12462	75,44173 74,53604	305 305	rp_unb
305 77.93385 13.77593 44.6595 109.65 305 75.76115 14.32943 40.51374 113.68 * PA, r_city = PHILADELPHIA	0	Мах	Min	Std. Dev.	Mean	Obs	Variable
77.92385 13.77593 44.6595 109.65 75.76115 14.32943 40.51374 113.68	A CONTRACTOR AND A CONT			)ELPHIA	ity = PHILA	18	padd = 1, state
	ر ح	109.65	44.6595 40.51374	13.77593 14.32943	77.92385 75.76115	305 305	rp_unb
Obs Mean Std. Dev. Min Max	æ	Max	Min	Std. Dev.	Hean	Орв	Variable

-> padd = 5, state = CA, r\_city = STOCKTON -> padd = 5, state = CA, r\_city = SAN DIEGO -> padd = 5, state = CA, r\_city = SACRAMENTO -> padd = 5, state = CA, r\_city = LOS ANGELES -> padd = 5, state = CA, r\_city = IMPERIAL -> padd = 5, state = CA, r\_city = COLTON Variable Variable Variable Variable Variable Variable rp\_brn rp\_brn rp\_brn rp\_unb rp\_brn rp\_brn rp\_unb rp\_brn Obs 242 242 242 Obs 242 obs. 242 90.735 17.96091 59.00836 86.24518 20.60041 48.97252 90.6813 88.19126 94.92573 18.29633 87.81901 19.96236 91.72781 17.77232 85.91825 20.30546 95.9858 17.27469 91.38626 19.3823 91.98409 17.75075 86.78553 19.8106 Mean Std. Dev. 17.9636 21.28897 59.092 48.05257 59.773 49.28315 62.48507 56.57109 62.15054 50.65711 60.81242 Min Min E S Min. Min Min 148.58 155.7 152.7 148.55 150.77 167.85 148,05 166,38 165,25 Max Max Ma x Max Мах XBX *۵*, 2 2 B, 4 B, 4 B, 4  $\sigma_{ar{}}$ 2

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92 .
93 . \*shell-texaco I(Equilon)
93 . use "D:\My Documents\STATA\GRC\C\_DATA1\_fe.dta", clear

95 . keep if shelltexacoss1 (968 observations deleted)

4-3 8-3

96 . bysort padd state r\_city: sum rp\_brn rp\_unb

-> padd = 5, state = CA, r\_city = COLTON Variable rp\_brn 242 242 S S 91.98409 17.75075 86.78553 19.8106 Mean Std. Dev. 60.81242 Min 148.05 Max B, 4

90 . keep if toscounocal==1 (242 observations deleted)

\*tosco\_unocal
use \*D:\My Documents\STATA\GRC\C\_DATA1\_fe.dta\*, clear

• \*cARB

• \*uds-total: not available

• \*marathon-sahland: not available

• \*marathon-sahland: not available

• \*shall-texaco II (Motival: not available

• \*pp-meco: not available

• \*map-uds: not available

• \*map-uds: not available

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91 . bysort padd state r\_city: sum rp\_brn rp\_unh

4-6 8-6

-> padd = 5, state = CA, r\_city = IMPERIAL Variable rp\_brn rp\_unb 242 obs 95.9858 17.27469 91.38626 19.3823 Mean Std. Dev. 62.48507 56.57109

Z.

150.77

50

-> padd = 5, state = CA, r\_city = SACRAMENTO

Variable rp\_brn rp\_unb 242 940 91.72781 17.77232 59.092 85.91825 20.30546 48.05257 Mean Std. Dev. Min 148.55 154.31 Max 2,2

97 .

98 . log close
log: D:\Wy Documents\STATA\GRC\grc\_rcity\_mergers.smcl
log type: smcl
closed on: 24 Jun 2004, 16:14:04