

State casket sales restrictions: A pointless undertaking?

Judith A Chevalier
Yale School of Management and NBER

Fiona Scott Morton
Yale School of Management and NBER

January 2006

Abstract:

We utilize a new micro dataset of prices of funeral goods and services at individual funeral homes, plus data from the Census to examine the effects of state regulations that restrict entry into funeral goods market. In particular, some states have regulations that allow only licensed funeral homes to sell caskets, while others allow unlicensed retailers, such as Costco, to compete with funeral homes in the sale of caskets. However, as caskets and funeral services are complements, generally purchased in one-to-one proportions, it is not a priori clear that casket sale restrictions can expand the rent extraction capabilities of licensed funeral homes. Our results suggest that when courts lift funeral goods sales restrictions the prices of funeral goods fall but the prices of funeral services rise by nearly as much. Overall, our results support the “one monopoly rent” hypothesis; we do not find that overall funeral home revenues decline when funeral goods sales are lifted.

JEL classification: L11, L13, L40, L43, L84

Keywords : One monopoly rent, monopoly leverage, funerals, caskets

Acknowledgements: We are grateful for the expert research assistance of Carlos Rocha. Contact information for authors is: Box 208200, New Haven, CT 06520, and judith.chevalier@yale.edu and fiona.scottmorton@yale.edu.

1. Introduction and setting

A longstanding debate in industrial organization is the question of whether, and under what circumstances, a firm with market power can increase its profits by bundling its product for sale with products in other markets. Much of the recent work on the “monopoly leverage” question has been motivated by recent litigation involving Microsoft. However, the issue can arise in many markets. In this paper we examine the market for death care goods and services. Death care is a large and important industry in the United States; receipts for funeral services in 2002 totaled approximately \$4522 per recorded death.¹ This level of expenditure means a funeral is often one of the largest expenditures a family makes after a house and a car. Entry in the services component of this industry (embalming, cremation, etc) is regulated in all states, arguably giving some market power to firms in those markets. In addition, some state legislatures have passed laws which allow only licensed firms in the funeral services market to sell funeral goods to consumers (e.g. caskets, urns), while in other states, competitive retailers can sell funeral goods. In this paper, we utilize a new micro dataset of prices of funeral goods and services at individual funeral homes to examine whether consumers pay more for funerals overall (including goods and services) when all components of the funeral are regulated compared to the situation where goods are sold competitively and services are regulated. We are interested in whether consumers are harmed when regulators permit only licensed funeral homes to sell funeral goods such as caskets.

According to the 2002 Economic Census, American consumers spent \$11.0 billion at the nation’s funeral homes in 2002, almost exactly the same amount as they spent at the nation’s movie theaters. Given the large expenditures by consumers, it is perhaps not surprising that a thicket of federal and state regulations have evolved to constrain death care establishments. It has been argued that consumer protection regulation is crucial because consumers who are engaged in making funeral arrangement decisions are

¹ The 2002 census reported revenues for NAICS 8122 (funeral homes and funeral services) divided by total deaths as reported by the Centers for Disease Control. The \$11.0 billion in total spending at funeral homes and the \$4522 per death do not include non-funeral home spending for death care services (largely spending at cemeteries and crematories). These expenditures totaled \$3.4 billion, or another \$1405 per death.

generally constrained to make decisions very quickly, may not always be in the frame of mind to undertake a full evaluation of their options, and may frequently be inexperienced in making funeral arrangement decisions. In addition, regulation has been rationalized as necessary due to the potential public health ramifications of the treatment and disposal of human remains. The regulations promulgated by the Federal Trade Commission focus largely on forcing funeral homes to provide clear disclosure of all prices and options available to consumers. However, the states have also adopted more detailed regulations of the entry and practices of funeral service providers. All states have some form of occupational licensing for funeral directors, as well as licensed funeral homes. While many of these regulations may serve public health or consumer protection purposes, it is not surprising that some of these regulations have been argued to serve the interests of the death care industry rather than consumers.

In this paper, we are concerned with state regulations regarding the sale of funeral goods—caskets, containers, urns, and outer burial containers. A casket is a container for a body that will be buried; a container contains a body that will be cremated; an urn is a container for ashes generated by a cremation; an outer burial container is either a burial vault (under casket) or a grave liner (above casket). Some cemeteries require use of outer burial containers to keep the cemetery ground smooth. According to the FTC Funeral Rule of 1984, funeral homes may not require consumers to buy funeral goods from the funeral home; the funeral home must accept without surcharge funeral goods that consumers have purchased elsewhere.² However, as mentioned above, several states have regulations (largely put into place in response to the Funeral Rule) requiring that funeral goods may only be sold by licensed funeral homes. In other, unrestricted states, consumers may purchase caskets from independent casket retailers such as Costco.

In recent years, funeral goods regulations have been challenged in many states by independent casket retailers. These challenges have been heard and appealed with varying results in different courts. Most recently, the United States Court of Appeals for the 6th Circuit struck down the Tennessee law restricting the sale of funeral goods to

² The FTC Funeral Rule may be viewed at: <http://www.ftc.gov/bcp/rulemaking/funeral/16cfr453.pdf>

licensed funeral homes (*Craigiles vs. Giles*). However, the United States Court of Appeals for the 10th Circuit upheld Oklahoma's very similar statute (*Powers vs. Harris*), noting that it was "parting company" with the 6th Circuit on this opinion. The United States Supreme Court, in declining to hear an appeal of the Oklahoma case has, for the moment, allowed the differing judicial interpretation of these laws to stand.

An argument frequently given by the plaintiffs in their challenges to these laws is that funeral products consumers would be better off if there were competition in the market for caskets³, even holding constant the regulatory structure governing entry in funeral services. Indeed, even the 10th Circuit, while upholding the Oklahoma Law, suggested that it suspected that the law was harmful to consumers.⁴

Of course, the consumer welfare point is not entirely clear on theoretical grounds. The classic Chicago School arguments regarding bundling discussed in Director and Levi (1956), Posner (1976) and Bork (1978) could apply in the case of caskets and funerals. As argued eloquently in Harrington (2003), caskets and other funeral services are generally purchased in one-to-one proportions—every funeral requires a casket and some services (preparation of the body and the like). Funeral services and caskets are close to perfect complements. The Chicago School argument would suggest that, if funeral providers have market power in the provision of services due to regulatory barriers, they cannot achieve more market power by monopolizing caskets also. If caskets are provided by a competitive industry at marginal cost, then the funeral service provider can still

³ While the consumer argument is reliably cited by the plaintiff, and may be of most interest to economists, the plaintiffs' main legal arguments in these cases have centered on whether the laws, in preventing a retailer from making a living as a casket seller, violate the casket sellers' 14th Amendment rights. The casket retailers' victory in the sixth Circuit is notable judicially because the 6th Circuit is the highest court in some time to find that "due process" and "equal protection" rights apply to commercial or economic liberties. Previous precedent, beginning with *Slaughterhouse cases* (1873) and [U.S. v. Carolene Products](#), 304 U.S. 144 (1938) places little scrutiny on state regulations which affect "ordinary commercial transactions" but not "fundamental individual liberties."

⁴ The court, in its opinion, stated that the law exacts "needless" and "wasteful" requirements on casket sellers. Indeed, the court notes that, "While baseball may be the national pastime of the citizenry, dishing out special economic benefits to certain in-state industries remains the favored pastime of state and local governments." However, the court concluded that economic protectionism is itself a legitimate state interest.

extract the full monopoly rent through a margin on the other funeral services. Thus, by this argument, given the existing market power in funeral services, the state casket restrictions may have no effect on the overall price for a funeral paid by consumers.

Even this argument, however, has its limitations, and there are several reasons why the casket sale restriction might give funeral directors additional pricing power in the overall funeral market. Whinston (1990) and Nalebuff (2004) note several situations in which the classic Chicago School monopoly leverage argument does not hold. The most relevant for the case of funeral goods-funeral services is the possibility that the casket is the most effective tool for price discrimination available to the funeral director. If this is true, the funeral director may extract more rents from consumers in states which ban a competitive fringe of retail casket retailers. This is akin to the Bowman (1957) metering argument, where consumption of the secondary good serves as a meter of the consumer's overall willingness to pay. Blackstone (1975) documents this type of metering in the context of paper for electrofax copy machines.

Given the theoretical ambiguity about the effects of the regulations on consumers, we examine the question empirically. To do this, we primarily utilize data from the Generalized Price Lists (GPLs) of individual funeral homes. According to the FTC Funeral Rule, all funeral homes must have GPLs itemizing the prices of goods and services. We obtain a panel of prices drawn from GPLs from local affiliates of the Funeral Consumers Alliance (FCA). The FCA is a nonprofit consumer advocacy organization. These local affiliates produce annual comprehensive price surveys of the funeral homes in their local area. Because of the costliness of our data collection methodology and because we want to examine a somewhat culturally homogeneous area, our data are drawn from the Southeast to Mid-South.

In this region, we have data from one state which has funeral good sales restrictions (Virginia), data from two states which had such restrictions that were eliminated by litigation (South Carolina and Tennessee), and data from three states that never had funeral goods sales restrictions (Kansas, Missouri, and North Carolina). We will use

panel data on funeral home prices (with funeral home fixed effects) to isolate the effects of these restrictions on prices.

A practical reason why we might have difficulty evaluating the one monopoly rent argument in this context is that the absence of retail restrictions does not guarantee effective and vigorous price competition in funeral goods for all the funeral homes in our data. Storefront retailers may take some time to become established, for example, and may move only to the locations with enough customers to justify the fixed costs of entry. While competition can be generated by casket retailers who ship their products into a region (see next paragraph) rather than local retail outlets, the data in Harrington (2005) and elsewhere demonstrates that this is not a significant part of the market during the majority of our sample period. If effective competition from distant retailers is small, then consumers must depend on entry and competition of local stores to generate competitive price for funeral goods.

Consumers have numerous options among retailers who will ship caskets. However, shipping costs and time delays restricted the popularity of this option during our sample period. Two of the most notable online retailers are Costco and Funeraldepot.com. Costco is a high-profile retailer, but it does not ship its caskets to every state where it is legal to do so, and, consumers must be willing to wait for the casket to arrive or pay a fairly substantial overnight shipping fee.⁵ Shipping times are an issue in this industry because of the need to perform a funeral quickly. In general, shipping costs can be significant in the Internet channel due to the size of the casket and lack of economies of scale of a single buyer. Harrington (2005) suggests that Internet sellers find it difficult to set up an efficient network of affiliates to deliver the caskets and therefore have a cost disadvantage relative to a local funeral home. Harrington also finds that Funeraldepot.com earns lower profits on the sale of caskets in states with heavy regulation of funeral homes. This is likely because the resulting market power of its local affiliates allows them to demand higher fees to receive and deliver caskets to customers.

⁵ On January 16, 2006 Costco's stated additional fee for overnight delivery on "The Lady of Guadalupe" casket was \$375.

It also has been suggested that funeral homes discourage shipped-in caskets by sometimes requiring that the consumer be on site at the funeral home at the moment the casket arrives to receive and inspect it.⁶ If these frictions are sufficient to eliminate competition even in states with no funeral sales restrictions, we will of course find no effect of the funeral sales restrictions.

We have price information for a popular good-service bundle bought by consumers who want the most simple, basic funeral. We show that the price of the goods portion of this bundle fall almost exactly as much as the price of the service portion rises, leaving the overall prices paid by these consumers almost unchanged.

A limitation of our data is that they contain prices but not quantities. Thus, our data do not tell us how consumers scale up their purchases of funeral goods and services as their demand for quality increases over the level of the simple basic bundle. We cannot, then, use our micro data to show how the overall bill for consumers who purchase “fancy” funerals is affected by the entry regulations. In part to address this, we supplement our micro analysis of individual prices with an examination of the data from the Census on overall consumer spending for funerals. We conduct differences in differences specifications to show that overall funeral spending is invariant to the addition or removal of state funeral restrictions. Our data do show some weak support for our micro evidence that spending shifts out of goods and into services when restrictions are lifted.

As a further check on our analyses, we examine the announcement effects of the various court decisions on the stock market valuations of the producers in this market. We use stock market data on publicly traded funeral home chains and casket makers to examine the effect of court decisions determining the constitutionality of these laws on the market’s expectation of the future cash flows of these firms. We find no evidence that court decisions striking down funeral goods sales restrictions were “bad news” for the future profitability of the large funeral home chains.

⁶ The Funeral Consumers’ Alliance has recently filed a complaint in the US District Court (Northern District of California) alleging a variety of anticompetitive behavior on the part of funeral homes

Thus, our overall results are generally consistent with the application of the Chicago School “one monopoly rent” argument in this context, given effective retail competition in unrestrictive states.

The paper proceeds as follows. Section 2 describes the datasets used in this paper. Section 3 examines the impact of legislative change on prices using the micro dataset of funeral home prices in the South. Section 4 examines the state-level data from the Census. Section 5 presents the event study evidence and Section 6 concludes.

2. Data

The primary data used in this paper are price data collected in annual surveys of local funeral home prices conducted by local affiliates of the Funeral Consumers Alliance. Unfortunately, while these local “memorial societies” are all affiliated with the FCA, they do not, as a matter of course, forward all of their surveys to the FCA. Thus, we were forced to obtain most surveys by direct contact with each of the local memorial societies, of which there are generally one to four per state. Again unfortunately, many memorial societies were not aware that old surveys could be useful to researchers, and many local societies did not save their old surveys or the old Generalized Price Lists (GPLs) from which they were drawn. More unfortunately still, the FCA did not, until recently, establish uniform procedures for local memorial societies for creating their price surveys. Funeral home GPLs contain dozens of different prices for all the services offered by the home, and memorial societies generally do not record all of the prices available. Thus, different memorial societies make different choices about the level of detail to provide in their surveys.

Along with the various prices, which we will describe below, an important element of our study is to classify states by whether or not they have these restrictive laws and to date when these restrictions were lifted. This is somewhat more complicated than it might at

first seem, as many of the legal challenges to these laws result in decisions that are not reported by the major legal reporting services. We rely on Fulton (2004), the most complete and careful legal analysis of these issues available. Fulton (2004) carefully describes the statutes containing restrictive funeral legislation and the various challenges to these rules. As a robustness check, we note that the Costco website lists states to which it will ship caskets, and that the set of states to which they will not ship includes the states classified by Fulton as currently restrictive. States that were restrictive at some point during the post-1998 period are: Alabama, Delaware, Georgia, Idaho, Louisiana, Maine, Mississippi, Minnesota, Oklahoma, South Carolina, Tennessee, Vermont, and Virginia. Tennessee's law was struck down at the end of 2002 and South Carolina passed a law reversing its restrictions in mid-2002.

To supplement the micro data from the South, we also examine data from the U.S. Census on total spending on funerals. Data on the revenues by state for funeral homes are obtained in the 1982, 1997 and 2002 economic census. Data on deaths by state are obtained from the Center for Disease Control website. Data on cremation rates by state are obtained from the Cremation Association of North America (www.cremationassociation.org). Data on per capita personal income is obtained from the Bureau of Economic Analysis.

Finally, we examine the market values of death care firms in response to judicial announcements. The firms in question are the three largest funeral home chains, Service Corporation of America, Stewart, Alderwoods, and Carriage, all of which are publicly traded, and the largest casket manufacturer, Hillebrand. Stock price data for these firms are obtained from the Center for Research in Securities Prices (CRSP).

Summary statistics for all the data used in the paper can be found in the Appendix.

3. Effect of Legislative Changes on Prices: Micro Data

In this section, we examine the effect of funeral goods sales restrictions on prices of funeral goods and services using the data collected from FCA-affiliate surveys and General Price Lists.

3.1 *Funeral bundle prices*

We begin by examining the most basic funeral bundle purchased by consumers, the price for a “direct burial”. Many FCA-affiliates indeed report only direct burial prices as the basis of price comparison across funeral homes. A direct burial is a burial for which the body is not embalmed, and there is no formal viewing of the remains or ceremony with the body present. A direct burial generally takes place in a wooden casket with a cloth-covered fiberboard top.

Because each FCA-affiliate constructs its own price survey with little central guidance from the FCA, we find there are three general practices used to construct this price. One is to provide a price for a direct burial without the casket, one is to provide a price for the direct burial including cloth-covered wooden casket, and one is to provide the price both with and without the casket (only one memorial society does it this last way). The propensity to report one way or the other does not appear to be correlated with state restrictions; we have approximately equal numbers of with-casket and without-casket prices from restrictive and non-restrictive states. Approximately one hundred funeral homes change from reporting a with-casket price to a without-casket price during our sample period. These changes appear to be driven by changes in the reporting practices of the two Memorial Societies concerned, rather than a change in the products offered by the funeral homes. In 2004 our Tennessee Memorial Society moves to reporting immediate burial ‘without casket,’ while the Kansas/Missouri Society does the opposite.

To estimate the price effects of state funeral restrictions and to simultaneously deal with this heterogeneity in the data, we propose a differences in differences “semi-hedonic” methodology.

Consider the following specification:

$$P_{it} = \alpha_i + \beta(\text{Restrict}_{it}) + \gamma(\text{Casket}_{it}) + \delta(\text{Casket}_{it} * \text{Restrict}_{it}) + \lambda I(\text{Year}_t) + \varepsilon_{it} \quad (1)$$

Where: P_{it} is the price of a direct burial with or without a cloth-covered wooden casket at funeral home i at time t . α_i , a parameter to be estimated, is the funeral home fixed effect. Restrict_{it} is a dummy variable that takes the value of one if funeral home i is in a restrictive state at time t . Note that two states change status during our period. Casket_{it} is a dummy variable that takes the value one if the price for funeral home i at time t includes the basic casket. $\text{Casket}_{it} \times \text{Restrict}_{it}$ is an interaction between the two dummy variables above, and will show if the price of caskets differs between restrictive and non-restrictive states. $I(\text{Year}_t)$ are dummy variables for the years in our sample, and ε_{it} is an error term.

Because we estimate this specification in price levels, the coefficient γ can be interpreted as the implied price of a cloth-covered wooden casket in the data. It is identified from the funeral homes that change reporting practices during the sample. Because these homes are limited in number and geographic spread, we also report the difference in the mean prices with and without a casket, after controlling for year. β measures the difference between the price of funeral services in the restrictive and non-restrictive states, and δ is the difference between the price of the casket (later, funeral goods more generally) in the restrictive and non-restrictive states. Since we include funeral home level fixed effects in these specifications, it is important to realize that the coefficients for β and δ are essentially being identified from South Carolina and Tennessee, the states that switch legal regimes during our sample period.

Our basic estimate of (1) is in the first column of Table 1. Here, we estimate (1) using one observation per funeral home, taking the with-casket price whenever it is available. The coefficients suggest that funeral services cost significantly less (at the 7% confidence level) when restrictions are in place, but that funeral goods cost significantly more (at the 2% confidence level). Interestingly, the point estimate of the decrease in services price, \$252 is almost exactly equal to our estimate of the increase in the price of the funeral

goods in restrictive states of \$261. Thus, our estimates suggests that the total price paid for a casket plus basic funeral services is essentially unchanged by judicial action lifting the casket sale restrictions.

While we do not report the year dummies, our estimates of their magnitude suggest that the price of an immediate burial is increasing by approximately \$61 per year over the time period of our study.⁷

Because some local affiliates (and thus funeral homes) report data for both the with-casket and without-casket prices, we can construct the sample in different ways. Columns 2 and 3 repeat the specification in Column 1 with small changes. Column 2 uses the without-casket price whenever available, omitting the with-casket price when both are available for a given funeral home-year. The results are similar, although the point estimate for the price discount on services in restrictive states is slightly larger (suggesting that consumers actually pay less overall in restrictive states). Both the coefficients for “restrictive” and “restrictive x with-casket” are statistically significant at the 5% confidence level. Column 3 allows each funeral home-time period to have up to two observations, both the with-casket price and without-casket price if available. Standard errors are adjusted to allow within-funeral home-within time period error terms to be correlated. Since only one relatively small memorial society collects both prices, this adds only 79 observations to our data set. The results are similar, although the price discount for restrictive states is statistically significant at only the 13% level in this specification.

⁷ An alternative specification choice is to include a linear time trend rather than year dummies. When we estimate this specification, the coefficient on restrictive state falls somewhat in magnitude while the standard error does not, so statistical significance declines relative to the specification with year dummies. We prefer the year dummies specification because our Memorial Societies tend to survey their funeral homes every two or three years but are not synchronized, and so a linear trend across all observations puts more structure on the data than may be warranted.

Table 1: Price of Direct Burial

	1	2	3
Price includes casket	793.0 (70.2)	877.0 (131.2)	689.8 (60.0)
Restrictive	-251.7 (134.1)	-335.28 (147.8)	-196.30 (128.17)
Restrictive x price includes casket	261.0 (109.2)	253.6 (108.9)	265.9 (114.0)
N	1437	1437	1516
year dummies?	Yes	Yes	Yes
funeral home dummies?	Yes	Yes	Yes
R-squared	0.78	0.77	0.78
Mean of dependent variable if without casket	\$1432		

Dependent variable is price of direct burial either including or not including a cloth-covered wooden casket. Standard errors are in parentheses. Standard errors in the third column are robust to clustering with funeral home-years. Construction of the price variable differs across the columns as described in the text.

Table 1 also provides point estimates of the price of the cloth-covered wooden casket in a funeral home in a non-restrictive state. These range from \$690 to \$877 across the various specifications. In our dataset, one memorial society in a non-restrictive state gathers prices for immediate burial both with and without a casket. For that limited sample, the average implied marginal price of the casket is \$858 in 2004. The average difference in with- and without casket prices controlling only for year effects is \$550.

Our estimates, again, suggest that consumers who buy both a cloth-covered wooden casket and direct burial services at a funeral home appear to pay close to the same overall total price in restrictive and non-restrictive states. Services cost more in the states with no restrictions on the sale of caskets, but casket prices are lower. However, it is important to notice that our point estimates of the prices of a cloth-covered wooden casket, even in the states without casket sale restrictions, are quite high. A quick examination of websites

that sell retail caskets indicates that consumers who have access to funeral retailers should be able to obtain basic cloth covered wooden caskets from outside retailers for approximately \$440. It appears that competition from outside casket retailers does not drive casket prices down to marginal cost, perhaps due to the search/inconvenience cost of obtaining the casket elsewhere, or perhaps due to lack of competition in the industry.⁸ Thus, it is worth comparing the welfare of a consumer who buys everything at the funeral home in a restrictive state to a consumer who uses an outside vendor for funeral goods in a non-restrictive state. According to our estimates in the first column, a consumer in a non-restrictive state would pay \$261 more for funeral services than a consumer in a restrictive state, but could pay about \$605 less for the goods (total price of casket in restrictive state is $\$793 + \$252 = \$1045$, less the \$440 Internet casket price), implying a total savings of \$344. This is substantial relative to the mean \$1432 price of a direct burial not including a casket in the sample.

We examined the sensitivity of our standard errors to clustering at the state and alternatively, state-year level. Our standard errors shrink when we do this, so we report the more conservative specifications described above.

The second type of bundle commonly researched by the local FCA affiliates is direct cremation. Direct cremation is processing of the body for cremation without a viewing or other ceremony with the body present. Again, some FCA affiliates collect data for a direct cremation including a cardboard or fiberboard box for the cremation to take place in, while others collect the price for direct cremation without the box. We proceed exactly as in Equation (1) and Table (1), replacing the variable $Casket_{it}$ with the indicator variable Box_{it} , which takes the value one if the direct cremation price used includes a cardboard or fiberboard box.

Table 2 Column 1 uses the price for direct cremation with a cremation box supplied by the funeral home for the body whenever possible and the price for direct cremation

⁸ Again see the complaint filed by the FCA for details of alleged anticompetitive behavior.

without a cardboard box when necessary. Column 2 does the reverse. Column 3 uses both data items when available, adjusting the standard errors appropriately.

Table 2: Direct Cremation

	1	2	3
Price includes cardboard box	140.8 (59.9)	103.2 (80.9)	124.3 (18.6)
Restrictive	-138.7 (65.3)	-128.9 (68.6)	-138.5 (57.3)
Restrictive x price includes box	124.0 (61.7)	120.6 (62.1)	121.9 (51.5)
N	1525	1525	1627
year dummies?	Yes	Yes	Yes
funeral home dummies?	Yes	Yes	Yes
R-squared	0.82	0.81	0.82
Mean of dependent variable if without box	\$1379		
Dependent variable is price of direct cremation either including or not including a cardboard/fiberboard cremation container. Standard errors are in parentheses. Construction of the price variable differs across the columns as described in the text.			

Once again, we find results very consistent with those in Table 1. Restrictive states in Column 1 charge significantly less for cremation-related services, but significantly more for the regulated funeral good, the cardboard container for the body. The amount of money involved is somewhat less than in the case of the casket. The restrictive funeral home charges approximately \$124 more for the box and \$141 less for the services. The magnitude of the savings on the services is insignificantly different from the magnitude of the increased markup on the funeral goods. This finding is robust across the three specifications, although the statistical significance is somewhat lower in the 2nd specification.

Here, we have more local FCA affiliates that have collected prices both with a box and without a box; there are 102 price observations where both prices are collected for the

same funeral home at the same timepoint. In our 2004 data, the average implied price of the box for those funeral homes is \$122. This is essentially the same as the price of the box that we estimate hedonically in the three specifications in Table 2, thus giving us confidence in our hedonic methodology.

Again our results suggest that a consumer who shops entirely at the funeral home would pay approximately the same amount for the good-service bundle in a restrictive versus an unrestrictive state. Of course, it is clear that the hedonic price of \$123 is well above the marginal cost of a cardboard box. We have found various websites offering these for \$18-\$25 plus shipping. However, at these prices, we have only found them sold in minimum quantities of 6-12, with the shipping charges amounting to almost as much as the containers themselves⁹. Nonetheless, a consumer who exerted effort to bring a cardboard box from elsewhere with her to the funeral home will pay less in total charges than a consumer who purchases a cremation box from the funeral home, even in an unrestrictive state.

Of course, it is worth noting that in both restrictive and unrestrictive states, it is only the *sale* of funeral goods by unlicensed retailers that is forbidden. According to the federal funeral rule, the funeral home cannot refuse funeral goods purchased from another funeral home nor can it refuse appropriately constructed homemade funeral goods. While homemade funeral goods may be unusual, there are flat pack kits for sale on the Internet that lower the expertise required in making such items.

One potential concern with these results is the relatively small number of observations. One might worry that funeral homes do not change prices very frequently, and that the results in this section might be driven by large changes in prices by one or two funeral homes when restrictions are lifted, with almost no change from the rest. This does not appear to be the case. We examine price changes within a funeral home from survey to survey. We examine price changes for direct burial and direct cremation only when the

⁹ Apparently, some church groups and hospices buy ten packs of these to store as a service to their members.

reporting method did not change over this time period (it either included a container/casket both times or did not). For direct burial, we find that a (positive or negative but not zero) price change is recorded from one survey to the next for 87% of the funeral home-years, while for a direct cremation a price change is recorded over that period 83% of the time. Thus, the majority of funeral homes are not simply giving the Funeral Consumers Alliance local affiliate the same dusty price card year after year; the recorded prices are being updated fairly regularly.¹⁰

3.2 Funeral service prices

While “direct burial” and “direct cremation” are the most reliably collected data by the local FCA affiliates, some affiliates collect other data items in their surveys. In particular, the following items, in order of the frequency with which they are collected, are often reported:

- (1) Basic embalming price: recall that a direct burial or direct cremation does not include embalming. However, many families prefer to have embalming done, and it is required in most states if a memorial service will be held in which the body is present, or if the body will be held for more than four days before burial/cremation.
- (2) Transfer price: this is the price for the having the funeral home pick up the body from the place of death.
- (3) Hearse price: this is the price for using a hearse to carry the body to the cemetery.
- (4) Ceremony price: this is the price for using the funeral home to hold a ceremony. This does not include fees paid to any type of religious officiant.

While we have limited data on these services, we nonetheless analyze pricing of these services in restrictive and non-restrictive states. Since there is no “goods” component to

¹⁰ A second concern is that a 2002 crematory scandal in Georgia that received a lot of publicity might be affecting the results. In March 2002, newspapers reported that the Tri-State Crematory in Noble, Georgia was not cremating bodies as it was supposed to do, but was simply dumping them in the woods behind the facility. While this undoubtedly raised the profile of cremation and perhaps caused consumers in our states to shop more carefully across funeral homes, it is not clear why the scandal would change consumers’ willingness to pay for the goods versus the services.

these prices, but all services, we undertake a regression specification similar to equation (1) without the interaction term. In particular, we estimate:

$$P_{it} = \alpha_i + \beta(\text{Restrict}_{it}) + \lambda I(\text{Year}_t) + \varepsilon_{it} \quad (2)$$

Where: P_{it} is the price of a given service at funeral home i at time t . α_i , a parameter to be estimated, is the state fixed effect (to conserve on degrees of freedom, we do not include a funeral home fixed effect). For embalming, for example, there are fixed effects for each of the several FCA societies reporting embalming prices. Restrict_{it} is a dummy variable that takes the value of one if funeral home i is in a restrictive state at time t . $I(\text{Year}_t)$ are dummy variables for the years in our sample, and ε_{it} is an error term.

Again, due to the inclusion of fixed effects, the coefficient for Restrict_{it} , β , is identified only because Tennessee and South Carolina switch from restrictive to unrestrictive states. One memorial society in each of these states reports prices for embalming, for example. Thus, our results in this section should be interpreted with caution, as they are obtained from a limited sample.

The “one monopoly rent” hypothesis suggests that, when these states drop their funeral goods sales restrictions, funeral homes in those states will raise service prices relative to funeral homes in neighboring states, while lowering the prices of funeral goods. Thus, we predict that the coefficient β will be negative; service prices will be lower in restrictive states. Results for the four available prices are found in Table 3.

Table 3: Prices of Funeral Services in Restrictive and Non-restrictive States

	Transfer	Embalm	Hearse	Ceremony
Restrictive dummy	-42.5	-71.32	-72.2	-56.9
(s.e.)	(19.7)	(39.96)	(19.4)	(24.5)
Year dummies	y	y	y	y
State dummies	y	y	y	y
Mean value of dependent variable	169.6	476.3	201.0	357.6
(s.d)	(63.8)	(127.6)	(64.3)	(134.6)
N	494	521	359	274

One can see that while the Restrictive dummy coefficient is negative for all four goods, significantly different from zero at the 5% confidence level for three goods, and at the 10% confidence level for embalming.

3.3 Funeral Goods

Typical funeral goods listed on a GPL include caskets, urns, and grave liners. Each of these products comes in many varieties and prices. It would not be practical for a funeral home to include its complete list of goods prices on its GPL. So the FTC requires that the funeral home include its range of prices for caskets, urns, and grave liners. The funeral home must also give any interested customer its casket price list. Since we are working off of GPLs or surveys of GPLs, the only prices we have available in principle are the minimum and the maximum for caskets, urns, and grave liners.

This is not ideal. Given the wide variety of casket models and prices and given that the variety of models offered could well change when funeral goods restrictions are limited, one would want to be extremely careful about making inferences from just the minimum and maximum reported prices, one cannot really make inferences about the change in the price of any given casket model. We are only slightly less concerned about drawing

inferences from the pricing of grave liners. However, as there are far fewer varieties of grave liners than caskets, it is probably less likely that the variety of grave liner models offered by the funeral home changes significantly around the time of a legal change.

We estimate the specification in Equation (2) separately for the minimum price for each funeral good and for the maximum price for each funeral good. Unfortunately, memorial societies do not always collect this information, and we find that, in particular, very few memorial societies collect the information for urns. We have no “before and after” data for restrictive states for urns. Thus, our analysis in Table 4 considers only caskets and grave liners.

Table 4: Prices of Funeral Goods in Restrictive and Non-restrictive States

	Casket-Min	Casket-Max	GL-Min	GL-Max
Restrictive dummy	14.6	2379.25	-91.2	2159.6
(s.e.)	(92.24)	(2497.3)	(76.2)	(1308.56)
Year dummies	y	y	y	y
State dummies	y	y	y	y
Mean value of dependent variable	749.4	10425.3	591.5	7330.4
N	545	479	400	396

Clearly, Table 4 is, as expected, difficult to interpret, as significant price movements are generally not detectable. The exception is the maximum price for graveliners, which bears a positive coefficient, statistically significant at the ten percent confidence level. This suggests that the upper end of the graveliner price range falls when funeral goods sales restrictions are removed. While this is consistent with the theory, we would not want to make too much of just one marginally significant coefficient.

4. Total Funeral Spending

4.1 Spending in restrictive and non-restrictive states

Our evidence thus far shows that consumers who purchase the most basic casket or cremation container in combination with basic services pay almost the same amounts in

restrictive and non-restrictive states. That is, funeral homes appear to shift revenue from the goods to the services if they face potential competition in goods. The micro data only show the total cost of the most basic funeral services (as well as the individual prices for other goods or services). It is possible that, as consumers move up the quality spectrum, the funeral goods sales restrictions do have an impact on overall funeral home revenues. This would happen if, for example, funeral homes in restrictive states were able to use casket markups as a price discrimination tool. Thus, in this section, we examine more macro evidence on the impact of funeral good sales restrictions. To do this, we use data from the 1982, 1997, and 2002 Economic Censuses. Our goal is to ask whether, as the “one monopoly” theory would suggest, total funeral receipts are invariant to the institution of funeral goods sales restrictions. Further, using Census data on the sources of receipts, we can examine whether the absence of funeral goods sales restrictions lead to a shift out of funeral goods revenues, and into funeral service revenues.

We use state data from the 1982, 1997 and 2002 Economic Census to measure total funeral home receipts per death, controlling for the proportion of the population that is cremated. To control for possible state-level heterogeneity in funeral preferences, we adopt differences specifications to the extent possible. The 1982 Economic Census is prior to the imposition of the FTC Funeral Rule in 1985. Before the Funeral Rule, funeral homes could refuse caskets purchased elsewhere or surcharge consumers for them; the passage of the Funeral Rule was the impetus for state casket sale restrictions. These laws are all in place by the 1997 Census. However, the laws are lifted due to litigation in 3 states by the time of the 2002 Census.

We first examine whether, funeral spending in each state in 1997 (as measured by funeral home receipts per death) is higher or lower in restrictive states, controlling for that states’ pre-Funeral Rule spending levels (from the 1982 Census). We want to control for other major changes that occurred between 1982 and 1997 that may impact cross-state changes in funeral spending. To do this, we consider changes in state level per capita income from 1982 to 1997, to control for the fact that funeral spending is likely a normal good. We would like to control for changes in cremation rates from 1982 to 1997. We do this

because we know that there has been a secular increase in cremation in the U.S. over approximately the last 20 years, and that some areas (in particular the West) have embraced cremation more rapidly than the rest of the country. However, we have found no reliable state level cremation data for 1982. The Casket and Funeral Supply Association of America states that the cremation rate nationally stood at under 10% in 1980, but exceeded 25% by 2000. Given that the cremation rate is fairly close to zero in 1982 (and unknown), we approximate the change in the cremation rate from 1982 to 1997 to be the actual 1997 cremation rate.

Our first specification then is:

$$RPD_{i97} = \alpha + \beta(\text{Restrict}_i) + \gamma(\text{CremRate}_{i97}) + \delta(RPD_{i82}) + \lambda(\% \Delta pcInc_{i82:97}) + \varepsilon_i \quad (3)$$

Where i indexes states, and years are written in the subscripts. RPD is receipts per death. $CremRate_i$ is the cremation rate in state i (cremations per death). Per capita income in a state is $pcInc_i$. $Restrict_i$ is a dummy variable which takes the value one if state i had a funeral goods sales restriction in place by 1997, and ε_i is an iid error term. The sample has one observation per state plus the District of Columbia (minus Wyoming and Alaska, whose 1997 data were not disclosed by the Census).

The results are reported in the first column of Table 5. The results in the first column show that receipts per death in 1997 are positively and significantly related to receipts per death in 1982, as expected. However, the coefficient is well less than one, and the constant positive and significant, suggesting some regression to the mean in state spending, even controlling for other factors. As expected, the cremation rate has a negative and statistically significant effect on receipts per death in 1997. The mean of the dependent variable, total receipts per death, is \$4166. The cremation rate coefficient is -\$3086, which implies that receipts per death for a cremation totals only \$1080. Of course, a higher cremation rate may also proxy for an overall preference in the state for simpler funerals. The change in per capita income has a positive effect on receipts per death, as expected, but the effect is not statistically significant at standard confidence

levels. Our variable of interest, the *Restrictive* indicator variable, has a small negative coefficient of -80 but the t-statistic is only 0.4. We conclude that there is no evidence that the restrictions affect overall receipts per death.

Table 5: Receipts per death				
	(1)	(2)	(3)	(4)
Dependent variable	total	Merch	Non-merch	total
Time difference	Receipts	Receipts	Receipts	receipts
	per death ₉₇	per death ₉₇	Per death ₉₇	per death ₀₂
	82:97	82:97	82:97	97:02
Change in per capita income	596.28 (588.59)	-67.61 (272.70)	663.9 (553.99)	4750.43 (2121.21)
Receipts per death 1982	0.573 (0.24)	0.359 (0.11)	0.213 (0.23)	
Receipts per death 1997				1.057 (0.08)
Cremation rate 1997	-3085.66 (703.50)	-1453.99 (325.95)	-1631.67 (662.16)	
Change cremation rate 1997:2002				-2468.61 (2469.61)
Restrictive	-80.38 (198.25)	174.77 (91.85)	-255.15 (186.60)	
Law change				18.41 (279.29)
Constant	3273.72 (922.71)	1132.81 (427.51)	2141.9 (868.47)	-864.72 (571.76)
N	49	49	49	49
R-squared	0.61	0.67	0.32	0.82

Standard errors are in parentheses.

For 1997, but unfortunately not for 1982, we were able to obtain data from the Census bureau on sources of receipts by state. They categorize receipts into “receipts for merchandise” and “receipts for services”. In Columns 2 and 3 of Table 5, we repeat the specification in (4), but replace total receipts per death with merchandise receipts per death and non-merchandise receipts per death respectively. The point estimates of the

coefficients suggest that the presence of restrictions in the post-Funeral Rule period is associated with relatively higher merchandise receipts per death and lower service receipts per death. The higher merchandise revenue estimate is statistically different from zero at the 6% confidence level, while the lower service revenue estimate is statistically different from zero at only the 18% confidence level. We hypothesize that this implies that, in the wake of the Funeral Rule, funeral directors moved rents out of funeral goods and into funeral services, except in states which adopt funeral good sales restrictions.

Column 4 of Table 5 examines the 1997 to 2002 time period. During this time period, South Carolina, Georgia, and Mississippi lifted their funeral sales restrictions (due to legal challenges). Tennessee did so also, but only at the end of 2002. For Column 4 of Table 5, the following specification is estimated:

$$RPD_{i02} = \alpha + \beta(\Delta Restrict_{i97:02}) + \gamma(\Delta CremRate_{i97:02}) + \delta(RPD_{i97}) + \lambda(\% \Delta pcInc_{i97:02}) + \varepsilon_i \quad (4)$$

Where i indexes states, and years are in subscripts. RPD is receipts per death. $CremRate_i$ is the cremation rate in state i (cremations per death). $pcInc_i$ is per capita income for state i . $\Delta Restrict_i$ is a dummy variable which takes the value one if state i had a funeral goods sales restriction in place by 1997 but removed them by 2002, and ε_i is an iid error term

The results are found in Column 4 of Table 5. Note that receipts per death in 2002 are estimated to be 1.06 times receipts per death in 1997, with a small, borderline statistically significant constant term. This suggests that over this shorter horizon, there is less reversion to the mean than we see over the longer horizon. In this specification, the change in cremations per death has a negative coefficient as expected, but is not statistically significant at standard confidence levels. The change in per capita income has a positive and statistically significant effect on receipts per death, suggesting that funerals are a normal good. The dummy variable indicating the legal change has a tiny coefficient with a t-statistic of only 0.07. While we would like to examine the sources of receipts for 2002, the Census Bureau has yet to release those data

Thus, the results over this time period support our earlier findings that the addition or deletion of funeral goods restrictions do not have a very big impact on overall funeral industry receipts. This is important because our finding in the micro data that the increase in service prices offsets the decrease in goods prices might only hold for the most basic types of funerals. For more expensive funerals, funeral directors could conceivably be able to engage in quality ‘metering’ along the goods dimension (the casket). If this were more effective than other mechanisms for extracting surplus from consumers, then we would have found that funeral homes would earn less revenue overall in states with retail competition in funeral goods. We do not find this to be the case; funeral home receipts per death overall do not appear to change when the legal regime changes. This suggests that if price discrimination is being practiced by monopoly funeral home directors, there are service items (e.g. arranging a ceremony, use of facilities, embalming, transportation of various kinds, catering, etc.) that can be used to extract surplus as effectively as price discrimination using goods. Our findings suggest that the offset between higher goods prices and lower service prices in restrictive states may hold through the range of funeral ‘qualities.’

5. Event study of suppliers

Another way to examine the issues addressed in Section 4 is to turn to the producer side of the market and ask whether the expected producer profits are a function of the legal regime. In the “one monopoly rent” world hypothesized by the Chicago School, the expected profits of funeral home chains would not be affected by changes in the regulation of retail casket suppliers, since funeral home chains could extract their monopoly rents with or without the casket sale restrictions, as long as the barriers to entry (regulatory and non-regulatory) into the services component of the industry were left intact.

To examine this issue, we undertake an event study. We consider four events of interest: the United States District Court for the Eastern District of Tennessee’s decision in the Tennessee case (striking down the Tennessee law), the Sixth Circuit Court of Appeals’ decision in the Tennessee case (upholding the District Court’s decision), the U.S. District

Court for the Western District of Oklahoma's decision in *Powers vs. Harris* (upholding Oklahoma's casket sale restrictions), and the Tenth Circuit Court of Appeals' decision in the Oklahoma case (upholding the District Court's decision). Of course, our event study is limited to examining the impact of these decisions on the market values of publicly traded funeral home chains. These chains (SCI, Alderwoods, Stewart, and Carriage) all have operations in many states. Thus, we would not expect the Eastern Tennessee or Western Oklahoma decisions to be particularly financially important per se.

The Appeals Court decisions are potentially more important because the Appeals Courts have wider jurisdictions than the District Courts. However, Tennessee was the only restrictive state in the Sixth Circuit, while Oklahoma is the only restrictive state in the Tenth Circuit. The Sixth Circuit's unanimous decision was considered by many to be a surprise, and the announcement of the Sixth Circuit's decision would be interpreted as greatly lowering the probability that restrictive laws would not survive court challenges. How one might interpret the Tenth Circuit's decision is more nuanced. Clearly the decision itself was good news for those wanting to maintain these sales restrictions. However, the decision introduced an ambiguity in that many legal observers believed that the second appeals court decision greatly raised the probability of national judicial review, since it created a large inconsistency in the two Circuits (and because it was clear that the sponsor of the case, the Institute for Justice, would attempt to appeal the Oklahoma case all the way to the Supreme Court).¹¹

We examine the question of whether the stock market anticipated these decisions to have large effects on the profitability of these funeral home chains. As argued, we might expect that, if these restrictive regulations raise profits substantially for funeral home chains, we might particularly expect to find the Sixth circuit's decision to have a negative impact on funeral home expected profits. We would more hesitatingly predict that the Tenth Circuit's decision would be good news for funeral home expected profits.

¹¹ The defendant in the Tennessee case decided against appealing the case following the sixth circuit's unfavorable decision. Of course, as mentioned above, the Supreme Court declined to hear the appeal of the Oklahoma case.

We undertake a standard event study analysis. First, we group the 4 publicly traded funeral homes into a portfolio (SCI, Stewart, Carriage, and Alderwood). We undertake a regression in which we regress the returns of the funeral home portfolio on the value-weighted total NYSE/AMEX stock market return from CRSP. In this regression, we include dummy variables for the three day event window centered at the District Court’s decision in the Tennessee case (decided 8/21/2000), the three day event window centered at the District Court’s decision in the Oklahoma case (decided 12/12/2002), the three day event window centered at the Appeal Court’s decision in the Tennessee case (decided 12/6/2002), and the three day event window centered at the Appeals Court’s decision in the Oklahoma case (decided 8/23/2004). We include daily returns for this portfolio for the 300 trading days before the first decision through 12/31/2004. The results are reported in the first column of Table 6.

Table 6: Event study results		
	(1) Funeral homes	(2) Alderwoods
Beta	0.69 (0.05)	0.86 (0.10)
Tennessee court	-0.0007 (0.0145)	
OK court	-0.0021 (0.0145)	-0.0053 (0.0179)
Tenth Circuit	-0.0014 (0.0145)	0.0114 (0.0180)
Sixth Circuit	0.0061 (0.0145)	0.0862 (0.0990)
Constant	-0.0001 (0.0007)	-0.0001 (0.0011)
R-squared	0.11	0.09
Obs.	1397	754

The results suggest that the market did not view any of the court decisions as important events for the future profitability of these funeral home chains. Of course, this is consistent with the “one monopoly rent” hypothesis, illustrating that these laws do not

shift a lot of profits to these funeral retailers. However, it is also possible that the effects of these laws are too small relative to the magnitude of these large diversified funeral home chains to be detectable.

We partially investigate this alternative hypothesis in the second column of Table 6. In this column, we only consider the stock returns of the Alderwood funeral home chain. An approximate calculation suggests that Stewart Enterprise, Carriage Services, and SCI each have approximately 10% of their operations accounted for by funeral homes in restrictive states (calculated by multiplying the percentage of revenues from funeral homes by the fraction of funeral home locations in restrictive states). In contrast, Alderwoods has 23% of its operations accounted for by funeral homes in restrictive states. Indeed, 30 of its 623 funeral homes are located in Tennessee and 18 are in Oklahoma. It is possible that the effects of these decisions could be larger for Alderwoods.

Unfortunately, Alderwoods began public trading after the Tennessee lower court decision. Our analysis the period from when CRSP data for Alderwoods first appeared through 12/31/2004. The results suggest that none of the court decisions have statistically significant estimated effects. Indeed, the sign of the coefficient for the Appeals Court decision for the Tennessee case is positive, the opposite of what one might have expected.

Given the small exposures of these funeral home chains to the affected states, we are cautious about overinterpreting the results in Table 6. However, it is clear that the results do not overturn the “one monopoly rent” hypothesis.

6. Conclusions

We examine state laws restricting the sale of funeral goods to licensed funeral homes. Certainly, state regulations of funeral homes and funeral directors have implications for the rents that can be extracted by funeral service providers (as shown in Harrington and

Krynski, 2002). However, our empirical results suggest that laws restricting the sale of funeral goods appear to shift rents from funeral services to funeral goods rather than increasing rent extraction opportunities overall.

An interesting question that follows immediately from our finding is, why were funeral homes putting the rents in caskets in the first place if it is costless to move them into services? While we have no immediate answer to that question, it is clear that there is no reason *not* to extract rents from the casket and so we would expect some funeral homes to do so. Additionally, we would not want to conclude from these results that it is costless (in terms of total economic profit) for a funeral home to transfer any amount of rent between goods and services. We find a shift of a few hundred dollars in response to an opening up of the goods market to competition. If that goods market instead featured vigorous price competition that drove the price of caskets to marginal cost, funeral homes might find it costly in terms of lost business to put all of those lost rents into service prices. We cannot estimate the effects of this experiment because it is outside the bounds of our data.

An important limitation of our analysis is that we cannot measure directly whether legislative and judicial attempts to open up competition in funeral goods have actually led to significant competition amongst funeral goods providers. Our conclusions are not inconsistent with the change in legal regime having an extremely limited effect on retail competition. While Internet retailers have created alternatives for consumers, their product offerings are still an option largely only for those who are willing to purchase a casket from a photograph. Storefront casket retailers are still uncommon. Indeed, the largest two casket manufacturers, Batesville and Aurora will only supply caskets to licensed funeral home directors. The overall state of competition in funeral goods markets thus remains a subject for future research.

References:

- Blackstone, Erwin (1975) "Restrictive practices in the marketing of electrofax copying machines and supplies: the SCM corporation case" *The Journal of Industrial Economics*: 23:3:189-202.
- Bork, Robert (1978) *Antitrust Paradox: A Policy at War with Itself*, Basic Books, New York.
- Bowman, Ward (1957), "Tying Arrangements and the Leverage Problem", *Yale Law Journal* 19, 31.
- Director, Aaron and Edward Levi (1956), "Law and the Future: Trade Regulation", *Northwestern University Law Review* 51, 281.
- Fulton, Gere (2004), "Retail Casket Sales: A "White Paper" on the status of litigation to overturn state restrictions on retail casket sales," Funeral Consumers Alliance, www.funerals.org.
- Harrington, David (2003), "Breathing Life into the Funeral Market", *Regulation* 26(1).
- , (2005) "Brick-and-Mortar Barriers to Internet Casket Sales: Are State Funeral Regulations Part of the Mortar?" mimeo, Economics Department, Kenyon College.
- Harrington, David and Kathy Krynski (2002) "The Effect of State Funeral Regulations on Cremation Rates: Testing for demand inducement in funeral markets" *Journal of Law and Economic*, vol. XLV, pp199-225.
- Nalebuff, Barry (2004) "Bundling as an Entry Barrier," *The Quarterly Journal of Economics*, MIT Press, vol. 119(1), pages 159-187.
- Posner, Richard (1976), *Antitrust Law: An Economic Perspective*, University of Chicago Press.
- Whinston, Michael (1990), "Tying, Foreclosure, and Exclusion" *American Economic Review*, 837-859.