

The Determinants of Contract Duration in Cable Television Franchising in New Jersey

Deanna Malatesta
Assistant Professor
SPEA
Indiana University Purdue University Indianapolis

Tel: 317-274-0876
Email: dmalates@iupui.edu

Paper prepared for presentation at the 9th Public Management Research Conference,
University of Arizona, Tucson, USA, 25th-27th October 2007.

The Determinants of Contract Duration in Cable Television Franchising in New Jersey

1 Introduction

The franchise agreement (contract) has been the guiding mode of organization between government and cable companies almost since the introduction of cable television technology. In the typical contract, local governments grant private companies the right to use public rights-of-way for an agreed upon length of time under specified conditions. The franchise agreement has been viewed as the government instrument with comparative advantages over more traditional modes of regulation (Demsetz, 1967; Posner, 1972; Williamson, 1976; Zupan, 1989).

An increasingly important issue concerns the duration of the franchise agreement. A franchise contract that is too short may discourage investment and lead to compromises in service quality (Baldwin and Cave, 1999), while one that is too long may leave parties unable to respond to changes in the market and discourage competition. These risks are of particular importance given the recognized benefits associated with accelerated deployment of broadband services.

Two theoretical streams are relevant to the analysis of contracts: agency theory (“AT”) and transaction costs economics (“TCE”).¹ According to AT, the principal reasons for entering into a contract, or for extending an existing contract, are risk transfer and incentive alignment. Thus, contract duration should be positively related to the level of risk inherent in the exchange. In TCE, contracts are viewed as mechanisms to constrain parties’ efforts at wasteful rent-dissipation encouraged by relationship-specific investment. Thus, according to TCE, contract design, including duration, should match the characteristics of the underlying transaction, most notably the level of asset specificity (Williamson, 1985; Joskow, 1987; Brickley et al. 2002). AT and TCE theory will be developed more thoroughly later on.

¹ See Hart and Holmstrom (1987) for a review of agency theory literature.

This is the first step in a two-part analysis of contract duration, the objective of which is to assess the contractual choices made by parties to 280 cable TV franchise renewal contracts in New Jersey between the years 2000 and 2007 and to see whether choices were made in accordance with the principals underlying agency theory and transaction costs theory.

The analysis relies primarily on original data coded from the actual franchise contracts. Other data sources include regulatory reports and industry published information. This analysis provides an important addition to the work on the determinants of contract duration. It is also the only known study to generally address the efficacy of cable television (re)franchising since the original debate on the subject between Posner (1972) and Williamson (1976).² The dataset is large in comparison to other analyses of this type.³ Also, by examining changes in contract design resulting from regulatory-induced distortion (new franchising policy), it attempts to overcome inference problems associated with other studies (Crocker and Masten, 1988).

This article proceeds as follows. Section 2 provides a brief overview of the process by which cable television companies and local governments renew franchising agreements. Section 3 presents the theoretical framework. Section 4 presents the research methodology and discussion of econometric test results. Section 5 offers concluding comments.

² In general, the efficacy of franchising as mode of organizing for cable television has been called into question. Posner (1972) argues the benefits for cable television. Williamson (1976) notes that franchise bidding loses its advantages when it begins to resemble regulation and the choice among alternative modes must include analysis of other relevant factors. These include the (1) costs of ascertaining and aggregating consumer preferences directly, (2) the efficacy of scalar bidding, (3) the degree to which the technology is developed, (4) demand uncertainty, (5) the degree to which incumbent suppliers acquire idiosyncratic skills and (6) the susceptibility of the political process to opportunistic representation

³ An exception is Joskow's (1987) investigation of the importance of relationship-specific investments in the duration of coal contracts negotiated between suppliers of coal and electric utilities. Joskow's analysis includes a 277 observation sample and a 169 observation subsample. Crocker and Masten's (1988) analysis of 245 natural gas contracts is another exception.

2 Cable television franchising renewal process

Procedures for renewing cable television franchises can be either formal or informal; the process and substance of both options are set out in Section 626 of the Cable Act.⁴ The formal renewal process can be initiated by either the cable operator's submission of written notice to the franchising authority or by the franchising authority's commencement of formal renewal proceedings. The informal process allows for a denial for any legitimate reason, while the formal only allows denial on one of four statutory grounds.⁵ The Cable Act provides the franchising authority six months from the date of the cable operator's request for renewal to commence an "ascertainment process," which is intended to give the local government and the public an opportunity to review the past performance of the cable operator and to identify future cable-related community needs and interests.⁶ The ascertainment process, considered the first stage of renewal, can be accomplished in a number of ways, including with the assistance of consultants, community

⁴ In October 1984, the U.S. Congress amended the Communications Act of 1934 by adopting the Cable Communications Policy Act of 1984. Cable Communications Policy Act of 1984, Pub. L. No. 98-549, codified at 47 U.S.C. §521 *et seq.* ("1984 Cable Act"). The 1984 Cable Act established policies in the areas of ownership, channel usage, franchise provisions and renewals, subscriber rates and privacy, obscenity and lockboxes, unauthorized reception of services, equal employment opportunity, and pole attachments. The new law also defined jurisdictional boundaries among federal, state and local authorities for regulating cable television systems. The Act was subsequently amended by the Cable Television Consumer Protection and Competition Act of 1992 ("1992 Cable Act") and by the Telecommunications Act of 1996 ("1996 Telecom Act"). The 1992 Cable Act codified, and the Commission has adopted, a regulatory plan allowing local and/or state authorities to select a cable franchisee and to regulate in any areas that the Commission did not preempt. Local franchising authorities have adopted laws and/or regulations in areas such as subscriber service requirements, public access requirements and franchise renewal standards. Under the 1992 Cable Act, local franchising authorities have specific responsibility for regulating the rates for basic cable service and equipment.

⁵ Section 626(d) of the Cable Act, 47 U.S.C. § 546(d).

⁶ 47 U.S.C. §626(a).

volunteers, public hearings, surveys, interviews, reports and audits. In the second stage of the renewal process, either the franchising authority or the cable operator submits a renewal proposal. The franchising authority may require facilities and equipment that are related to operation of system, including proposals to upgrade the cable system's capacity. The franchising authority may not, however, require specific video programming or other information services.⁷ After completion of the ascertainment process and within four months of the renewal proposal, the franchising authority must decide to renew or preliminarily deny the franchise.⁸

Federal law preempts any state or local law in conflict with the Cable Act. However, in the absence of any conflict, state and local laws control. New Jersey is one of several states that comprehensively regulates cable television, providing a set of strict guidelines for franchise renewals to be followed by individual local governments. The New Jersey Office of Cable Television (OCTV), a division within the Board of Regulatory Commissioners (BRC) oversees all contract negotiations between the local governments (municipalities, townships, or boroughs) and the cable operators.⁹ In New Jersey, the municipality is responsible for adopting a "municipal consent ordinance" granting renewal that includes terms and conditions for the franchise. Alternatively, the municipality can issue a "resolution of denial."¹⁰ Once procedures are finalized at the municipal

⁷ 47 U.S.C. §624(b).

⁸ There are also specific proceedings required for denial, See § 626(c)(1).

⁹ New Jersey Cable Television Act, N.J.S.A. 48:5A-1 et seq. A complete guide to the renewal process is available at <http://www.bpu.state.nj.us/bpu/pdf/cablepdfs/FranchiseRenewalGuide.pdf>

¹⁰ According to N.J.S.A. 48:5A-23 and -24, the process in New Jersey allows for an informal renewal, but the municipality must acknowledge that it is waiving completion of the formal ascertainment phase and it still must follow state statutory guidelines for the application and ordinance.

level and memorialized in a local ordinance, the petitioning cable operator files with the state for a Certificate of Approval (“COA”).¹¹

In addition to strict procedural guidelines, New Jersey places some additional boundaries around what can be negotiated. As a result, many contractual terms are consistent across local jurisdictions. For example, franchise fees in New Jersey are set at 2% of gross revenues leaving the local government no room to negotiate for a higher fee.¹² With other options otherwise limited, in addition to the issue of contract duration, a few aspects of the contract design receive specific attention and therefore are likely to vary across local governments. These include capital contributions by the cable operator for public education access programming (PEG access), provisions stipulating that the cable operator offer a discounted rate to senior citizens, and provisions requiring periodic audits or reviews of the cable operator’s performance during the term of the franchise.

3 Agency Theory and Transaction Cost Economics

In agency theory, the term “contract” is used to include any transaction. Given the broad definition of contracting, there is little reason to address the question “why contract”, or by extension, the reason for extending a contract. Thus, agency theory contains very little in the way of explaining contracting choice or the decision to contract (Masten and Saussier, 2001). “Even where agency theorists nominally distinguish between explicit and implicit contracts, contracts deduced

¹¹ If the matter is contested, it may go to the Office of Administrative law for a fact finding before it goes before the BRC for final approval.

¹² The federal law allows local franchising authorities to collect up to 5% of the cable operator’s gross basic revenue as a franchise fee (Section 622(b)). However, not all payments made by the operator are franchise fees, e.g., funds contributed by cable operator as capital costs for public education government access (PEG) are not considered part of franchise fee (§ 622(g)). New Jersey caps the franchise fee at 2%.

from agency axioms are complete and therefore efficient in the sense that (1) they specify each party's obligations for every possible contingency and (2) they yield the best possible outcome given the information available at the time of the agreement is carried out and therefore never need to be revised or complimented." (Masten and Saussier, 2001, p. 230, citing Holmstrom and Tirole, 1989, p. 68) Thus, generating testable hypotheses from AT requires consideration of contracting costs (Hart and Holmstrom, 1987, pp. 131-33). Because the benefits of contracting derive from aligning risks and incentives according to agency theory, "... contracting and contract duration should be positively associated with the level of uncertainty and to the importance of effort and information to payoffs." (Masten and Saussier 2002).

According to transaction costs economics, to maximize gains from trade, contract design should be aligned with the underlying characteristics of the trade (Williamson, 1975, 1979; Klein, Crawford and Alchian, 1978). A misalignment results in inefficiency, at best, and discourages trade altogether, at worst. To achieve efficiency in the transaction, parties must choose a duration that matches the level of asset specificity. Assets that are costly to redeploy or to rededicate are characteristically specific. The cost of re-dedicating the asset generates a quasi rent which corresponds to the difference between the current use of the asset and its next best use (Crocker and Masten, 1991). Once the assets are dedicated and sunk, parties to the transaction are inclined to act opportunistically and expropriate rents, for example through hold-up activities or *ex post* strategic bargaining. The attempts by both sides to maximize their gains results in a waste of resources. Thus, the problem is to devise a structure that encourages rent-increasing adjustments (flexibility) but discourages rent-dissipating efforts that redistribute existing surpluses (opportunism) (Crocker and Masten, 1991, p.73). Detailed provisions may discourage breach but they are costly, especially in complex and uncertain environments. More complex and uncertain environments decrease the desirability to contract, and by extension, the desirability to lengthen the contract.

Empirical evidence generally supports the relationships between duration, asset specificity and uncertainty. In agreements involving coal mine operators, Joskow (1987) shows that greater distances between mines and fewer transportation alternatives, both of which affect profit certainty, are associated with longer contract durations. Additionally, coal agreements tended to be longer by 13 years for each additional million tons of coal production under contract. Crocker and Masten (1988) find a similar association between duration and hazard appropriation in an analysis of natural gas contracts; larger numbers of producers and pipelines yielded shorter durations, and contracts written after the 1973 Arab oil embargo were shorter by approximately three years as compared to contracts before the embargo, when there was greater certainty. Saussier (1998, 1999) found the duration of contracts for coal transportation in France were positively related to the level of relationship investment, while Lyons (1994) found that the adoption of formal contracts in engineering sub-contractors were less likely in the presence of conflict.

The characteristics of New Jersey cable television franchise agreements and the underlying relationships are conducive to theoretical testing of agency theory and transaction costs theory. Collectively, the franchise agreements provide a range of durations, from less than one year to twenty-five years. Some contracts specify an automatic renewal period as an extension to the initial renewal term, which limits the nature and scope of renegotiations. The market for telecommunications is also rapidly changing, giving both sides reasons to contemplate the appropriate duration. The duration of the contract will determine incentives for non-observable investments, including equipment upgrades and innovation, which is of particular interest to municipalities. For cable companies, longer term contracts minimize the risk of return on investment and provide some insulation from competition.¹³ Attempts to mitigate uncertainty or

¹³ Although the Cable Act requires that all franchises are non-exclusive, the franchise agreement and right to operate within a jurisdiction provides the incumbent standing to legally challenge/discourage competition.

provide flexibility are also observable in the finalized agreements. For example, a number of agreements provide the municipality the right to periodically review the performance of the cable operator during the term of the agreement, ostensibly introducing the prospect of adjustments and perhaps contract termination where the cable operator fails to correct problems that may arise. The characteristics of asset specificity are also evident. The provision of cable television service requires a significant initial and on-going capital investment. Initial investments must cover the cost of constructing cable lines on utility poles and underground, as well as the cost of cable equipment, and employee recruitment and training, among other things. A significant portion of the investment is sunk cost and therefore not easily re-deployable, the mark of an asset-specific relationship of the type contemplated by Williamson (1975, 1979).¹⁴ Because at some point technology becomes outdated, cable systems operators must rebuild and upgrade plant. Thus, risks associated with asset specificity remain relevant at the time of contract renewal. Moreover, if the franchised territory is spread out, with few homes per mile, and the cable company must provide service to low density areas or rural areas, return on investment is slower. In sum, longer term cable television franchise agreements should be associated higher degrees of asset specificity and with other provisions that reduce uncertainty in the relationship.

4 Research methodology and discussion

The primary focus of this study is on the relationship between the duration of franchise renewal contracts specified at the execution stage and (a) the level of asset specificity and (b) the level of uncertainty. This study relies on original data coded from 280 actual franchise renewal contracts between New Jersey municipalities and cable operators between the years 2000 and 2007,

¹⁴ Some re-dedication of assets may be possible where companies serve multiple jurisdictions in near proximity, for example, by using reusing amplifiers and other similar equipment.

all of which are memorialized in State BRC Certificates of Approval. The sample consists of all franchise agreements that have been released and made publically available at the BRC website.¹⁵ Information on all variables of primary interest is available for 253 contracts in the dataset. The breakdown of contracts examined by year appears in Table 1 and additional characteristics of New Jersey franchise agreements and cable operations are provided in Table 2.

[Insert Table 1 here]

[Insert Table 2 here]

Consistent with other contract analyses, duration (*DURATION*) is measured in years (Joskow, 1987). Duration includes the initial renewal term plus any automatic extension the parties may have agreed upon. Miles of cable plant (*PMILES*) within the franchised territory is employed as a proxy for asset specificity. These sunk costs (per mile) represent a significant risk to franchisees, both initially and in terms of rebuilds and upgrades. Other studies have drawn the parallel between asset specificity, in the sense contemplated by Williamson (1983), and the characteristics of cable television operations.¹⁶ Zupan (1989), for example, discusses the unique advantage of the city due to the non-salvageable investment by the cable operator (p.423). There is also precedent for using initial investments as a proxy, which are highly correlated with miles of plant.¹⁷

¹⁵ See <http://www.bpu.state.nj.us/bpu/agenda/orders>. A complete list of municipalities and franchise expiration dates is available at <http://www.bpu.state.nj.us/bpu/pdf/cablepdfs/eList.pdf>

¹⁶ Williamson (1983) identifies four distinct types of asset specificity, including site specificity, physical asset specificity, dedicated assets, and human capital, but others have suggested these are actually different instances of the same phenomenon (See Joskow, 1987, page 170, footnote 14). Notwithstanding, Williamson (1976) and others (Posner, 1972; Zupan, 1989) specifically note the relationship between the nature of cable television operations and the relationship specific investments associated they entail.

¹⁷ Bercovitz (1999) uses initial investments as a proxy for asset specificity, given the expectation that initial investments and the franchisee's specific or dedicated investments should be highly correlated. Recognizing the relationship between profitability and construction costs, the average cost per mile

A provision to review performance during the life of the franchise (*PERFREV*), possibly allowing for permissible adjustments, should discourage opportunism on the part of the franchisee (cable operator) and decrease the level of uncertainty on the part of the franchisor (municipality). The risk related to the franchisee's return on investment is also lessened by the number of homes per mile. Housing density (*HDENSITY*) equates to more potential customers per mile, shortening the time for return on investment. The cable operator is likely to be more inclined to push for longer durations in low density areas, and conversely, more inclined to acquiesce when profit margins are more certain. A similar logic applies to median household income (*MEDHINC*), which may affect the propensity to purchase services and thus change the risk level associated with the cable operator's return on investment. Lastly, as in all contracts, the final terms reflect the aptitude of the parties involved in the negotiation. A typical city goes through the process of cable television franchise negotiation only once every several years. On the other hand, large multi-system cable operators employ legal experts, who routinely go through franchising and are very adept at the process. In New Jersey, several large operators hold franchises in the majority of municipalities. One operator in particular, Comcast, is involved in 117 of approximately 253 contracts examined.¹⁸ In many cases, the same lawyers are indicated as the official representatives on petitions for renewal. Accordingly, to control for the parity or symmetry between the parties to the agreement, a dummy variable (*EXPERT*) is included for contracts involving Comcast or its legal affiliates.¹⁹ Variable

of construction is published yearly by Kagan and Associates and widely used in corporate report filings to investors and to the Security Exchange Commission.

¹⁸ According to New Jersey's Office of Cable Television, as of January 2007, New Jersey had a total of 2,528,616 cable subscribers, 1,356,086 or approximately 53% were served by Comcast or one of its legal affiliates.

¹⁹ An argument can be made for the consistency of municipal expertise across jurisdictions, since the New Jersey Office of Cable Television makes available state expertise to local municipalities under a municipal assistance program. See <http://www.state.nj.us/bpu/divisions/cable/>.

names, descriptions, and summary statistics are provided in Table 3 and a Correlations Matrix with significance levels are provided in Table 4.

[Insert Table 3 here]

[Insert Table 4 here]

Estimation of Equations

The main specification is as follows:

$$\text{Duration}_i = \alpha_0 + b_1 \text{Asset Specificity}_i + b_2 \text{Uncertainty}_i + b_3 \text{Controls}_i + u_i$$

A first set of results is derived from OLS and assumes that u_i is independently distributed and drawn from a normal distribution. The given equation also assumes that duration is a function of underlying exogenous factors. If this is the case, OLS will produce unbiased estimates of the coefficients. Results for OLS equations are included in Table 5.

[Insert Table 5 here]

Column 1 of Table 5 shows the direct effects of asset specificity (miles of plant) and various measures of uncertainty (performance review provisions, household density and household income), while controlling for asymmetry between the parties (dummy variable for agreements associated with Comcast, Inc., the largest cable operator in NJ, or any of its affiliates). The p value associated with the F statistic (.000) indicates the model is significant overall and, as a group, the independent variables reliably predict duration. The R-square indicates that 27% of the variance in duration can be predicted from the independent variables (plant miles, performance review provisions, home density, median household income, and petitioner's expertise (parity/dummy variable for involvement of Comcast or one of its affiliates). All coefficients are in the hypothesized direction.

Asset specificity is positively related to contract duration, as expected. The coefficient for plant miles (asset specificity) is statistically significant different from zero at the 10% level (.06) Every 1000 plant miles add 1.4 years to the contract, a finding of substantive importance given that 5000-7000 miles are not uncommon in many jurisdictions. Provisions for performance review during the contract term are also positively associated with duration, suggesting that municipalities are more likely to agree to longer terms if they can assess performance and request adjustments during the life of the contract. Additionally, results indicate relationship parity is meaningful (statistically significant at 1%). Contracts involving Comcast, the largest operator in New Jersey, are on average almost 5 years longer than those with other operators. Ostensibly, the reason for involvement of the state's OCTV in franchising, as opposed to a process that only involves the municipality, is to *level the playing field* and provide expertise to franchisors where needed, so that sophisticated cable companies cannot take advantage of the less sophisticated municipalities. Uniform state regulations are intended to have a similar effect. The evidence suggests, however, that this does not occur. Well-established, large, and resourceful cable companies are successful in obtaining longer term contracts regardless of municipal access to state expertise.²⁰

Changes over time and regulatory induced distortions

It is possible that contracting tendencies changed over time. Accounting for this possibility requires the use of dummy variables for the years in which the contracts were finalized (2000-2007). OLS results including dummy variables for years are shown in Table 1 column 2. The dummy variables for contract dates also control for year-related correlations between independent variables

²⁰ Results are also relatively robust for nonlinear forms of OLS, including a logarithm transformation for contract duration and for miles of plant (column 3). The nonlinear specification of plant miles considers the possibility of diminishing effects. Notably, the direction of the relationships hold in all equations/forms and substantive and statistical significance changes are only negligible.

and the error term. The omitted category (base group) is year 2000. Dummies are included for 2001-2007. Results show a general upward trend in duration after 2003. Differences are statistically significant in 2001, 2004, 2005, and 2006. The difference in duration (other factors fixed) between contracts for 2001 and 2000 is approximately 3.3 years. Duration increases by 2.6 years in 2004 and 3.2 years in 2005, as compared to the base year of 2000. One possible reason for the general upward trend, and tendency to increase the franchise duration, is the changing market conditions for telecommunications. Overall, the market is becoming increasingly competitive each year. Large telephone companies such as Verizon are a particular threat to franchised cable operators because they often serve the same territories and have the resources to directly compete by offering broadband services. This would justify a more vigorous attempt by franchised cable operators to lengthen the duration of contracts in an attempt to solidify their right to object to new market entrants and otherwise influence policy to deter competition.

The analysis also focuses on changes in contract design after January 2005, the point at which new legislation was introduced directly related to the franchising process (Table 5, column 3). The equation adds a dummy variable for contracts before January 2005. This also addresses the typical problem in determining whether contracts are ideally structured to minimize transactions costs and to reduce uncertainty. That is, the choice of terms *ex ante* reflects the parties' subjective beliefs about what is ideal rather than actual ideal conditions (Crocker and Masten, 1988). Observed contractual misalignment may relate to faulty beliefs about ideal terms and not necessarily "actual" misalignment. One way to overcome the inference problem, however, is to consider the effects of external stimuli on contract design (Crocker and Masten, 1985). Regulatory policy, for example, may induce distortions thereby changing the risks and incentives associated with certain terms.

Such a regulatory-induced distortion occurred with the introduction of legislation in January 2005, which streamlined the franchising process for potential competitors (mainly large phone

companies). The legislation was intended to encourage direct competition among providers of the video services by granting multiple franchisees within the same territory. The law allows phone companies and other possible competitors to obtain statewide franchises without obtaining approval from every municipality.²¹ The policy change is likely to alter the parties' perceptions about risks related to long-term commitments. It is not clear, however, how the changed beliefs will manifest themselves in the final contract form, which depends on the parties' ability to take advantage of the changed perceptions, in other words, to negotiate the best deal as they view it. The effects of including a dummy variable for all contracts finalized before the statewide franchise law indicate that contracts before the legislation are, on average, 2.16 years shorter than those after the legislation. The final terms imply that the benefits of long-term contracts increased after the legislation, at least as perceived by the more influential party, assuming the final duration reflects this belief.

OLS for shorter term vs long term contracts

To this point, the dependent variable, contract duration, has been treated as a continuous variable. However, it can also be measured as a dichotomous variable, distinguishing between short-term and long-term contracts. Importantly, the state of New Jersey recommends contracts of ten years, which begs the question of why some contracts are longer than ten years.²²

²¹ A complete copy of the Bill adopted May 2006 amending the state's "Cable Television Act" is available online at http://www.njleg.state.nj.us/2006/Bills/A1000/804_U1.HTM. Adopted may 2006. See also *N.J.S.A.* 48:5A-28(l).

²² The Renewal Guide states the following in relation to contract term: "There is no minimum term specified in state and federal statutes. However, a franchise term of three years would virtually start the ascertainment phase proceedings again the same day as the renewed term. The maximum franchise term allowed in the state is 15 years with a possibility of an automatic renewal term for an additional 10 years. A franchise term of 10 years is not unusual. There have been some franchise renewals granted in the state for less than 10 years. Currently, the average franchise term length is approximately 12 years. Overall, the length of the term must be reasonable in light of future commitments by the cable operator." (p.33). A complete guide to the renewal process is available at <http://www.bpu.state.nj.us/bpu/pdf/cablepdfs/FranchiseRenewalGuide.pdf>

Table 6 shows OLS results separately for short-term contracts (less than or equal to ten years; sample = 122) and long-term contracts (over ten years; sample = 102.), column 1 and 2, respectively. The third column provides results for a maximum likelihood equation (logit) where the dependent variable for duration is coded as 1 for more than ten years. Focusing on the third column, the logit results, there is evidence that previous OLS results hold, although some levels of significance diminish. Specifically, plant miles/asset specificity is no longer statistically significant, yet the coefficients all remain in the hypothesized direction. Uncertainty, as measured by household density and household income, decrease the probability of observing a long-term contract. The coefficient on Comcast is statistically significant at 1%, indicating that the advantage held by the state's largest multi-system operator, Comcast, persists.

5. Concluding Comments

An important goal in designing cable television franchise renewal agreements is to find the appropriate tradeoff between incentives for unobservable investments and flexibility related to changing circumstances. Attempts at achieving this goal are reflected in the contract duration and other provisions, particularly those related to asset specificity and uncertainty. This analysis provides an important addition to the work on the determinants of contract duration. It is also the only known study to generally address the efficacy of cable television (re)franchising since the original debate on the subject between Posner (1972) and Williamson (1976). This study provides evidence that the duration of cable television franchise agreements in New Jersey do reflect outcomes predicted by agency theory and transaction cost theory. Specifically, franchise length is positively related to physical investments in cable plant, which are site-specific and dedicated for the purpose of supplying services under contract. Empirical evidence also shows that contract length is shortened in jurisdictions with higher home densities and higher median incomes, suggesting that

these conditions serve to attenuate the costs associated with long-term contracting. Results are also robust to alternative specifications.

There is also strong evidence that large cable operators have an advantage in negotiation. Results across all models consistently show that the largest multi-system operator, Comcast, is able to extend contract terms by up to 5 years. This suggests that neither the state involvement of its experts nor franchising regulations mitigate consequences of party asymmetry as intended. Importantly, this is likely to result in underinvestment over time. This provides reason to believe that existing agency theory and transaction costs theory, although supported by the empirics, fall short of explaining the complete picture. Theory integrating the political process may fill the gap. As argued by Williamson (1976), franchise bidding may lose its advantages when it begins to resemble regulation and the choice among alternative modes must include analysis of other relevant factors, including, among other things, the susceptibility of the political process to opportunistic representation

The study also attempts to overcome inference problems associated with other studies, i.e. working under the assumption that parties' subjective beliefs regarding optimum contract design match actual contract efficiencies/deficiencies (Crocker and Masten, 1988). It does so by examining changes in contract design resulting from regulatory-induced distortion (new franchising policy). A statewide franchising law introduced in 2005 was expected to change the parties' perceptions regarding the contracting risks. Evidence shows that contract duration increased by approximately 3.3 years in 2005 as compared to franchise agreements finalized in 2000. Evidence also supports a general upward trend in duration, suggesting the parties' are more inclined as time goes on to perceive increased benefits and decreased costs associated with long-term contracts.

Finally, more work is needed to determine whether the parties' subjective beliefs *ex ante* about optimum contract design bear out *ex post*. To determine whether objectives were met, for

example, whether unobservable investments were actually encouraged by the contract terms, one must look at effects after the fact. Part two of the analysis will examine performance indicia of cable companies after contract execution.

Bibliography

- Baldwin, R., & Cave, M. (1999). Franchising and its limitations. In R. Baldwin & M. Cave (Eds.), *Understanding Regulation—Theory, Strategy and Practice* (pp. 257-285). Oxford: Oxford University Press.
- Berkovitz, J. E. (Ed.). (1999). *An Analysis of the Contract Provision in Business Format Franchise Agreements*.
- Brousseau, E., & Glachant, J. M. (2002). *The Economics of Contracts: Theories and Applications*: Cambridge University Press.
- Crocker, K. J., & Masten, S. E. (1988). Mitigating contractual hazards: Unilateral options and contract length. *Rand Journal of Economics*, 19, 327-343.
- (1991). Pretia ex machina? Prices and processes in long-term contracts. *Journal of Law and Economics*, 34(1), 69-99.
- (1996). Regulation and administered contracts revisited: Lessons from transaction-cost economics for public utility regulation. *Journal of Regulatory Economics*, 9(1), 5-39.
- Demsetz, H. (1967). Toward a Theory of Property Rights. *The American Economic Review*, 57(2), 347-359.
- Hart, O., & Holmström, B. (1987). The Theory of Contracts. In T. Bewley (Ed.), *Advances in Economic Theory: Fifth World Congress* (pp. 71-155). Cambridge Cambridge University Press.
- Heckman, J. (1976). The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for Such Models. *Annals of Economic and Social Measurement*, 5(4), 475-492.
- Joskow, P. L. (1987). contract duration and relationship-specific investments: Empirical evidence from coal markets. *The American economic review*, 77(1), 168-185.
- Klein, B., Crawford, R., & Alchian, A. (1978). Vertical integration appropriable rents, and the competitive contracting process. *Journal of Law and Economics*, 21(2), 297-326.
- Lyons, B. R. (1994). Contracts and Specific Investment: An Empirical Test of Transaction Cost Theory. *Journal of Economics & Management Strategy*, 3(2), 257-278.
- Maddala, G. S. (1983). *Limited-dependent and qualitative variables in econometrics*. Cambridge: Cambridge University Press.

- Masten, S. E., & Saussier, S. (2001). *Econometrics of Contracts: An assessment of developments in the empirical literature on contracting*. In *The economics of contracts-Theories and applications* (pp. 230-245). Cambridge: Cambridge University Press.
- Posner, R. A. (1972). *The Appropriate Scope of Regulation in the Cable Television Industry*. *The Bell Journal of Economics and Management Science*, 3(1), 98-129.
- Saussier, S. (1998). *Contract Duration: An Empirical Analysis of EDF Coal Contracts*. *áparai^ tre aux Recherches Economiques de Louvain*.
- Saussier, S. (1998). *When Incomplete Contract Theory Meets Transaction Cost Economics: A Test on Contractual choices*. 2nd Annual Conference of the International Society for New Institutional Economics (ISNIE 98), Paris, France.
- Saussier, S. (1999). *Transaction cost economics and contract duration: an empirical analysis of EDF coal contracts*. *Recherches économicques de Louvain*, 65(1), 3-21.
- Saussier, S. (2000). *Transaction Costs and Contractual Incompleteness: The Case of Electricite de France*. *Journal of Economic Behavior and Organization*, 42(2), 189-206.
- Williamson, O. E. (1976). *Franchise bidding for natural monopolies- In general and with respect to CATV*. *The Bell Journal of Economics*, 7(1), 73-104.
- Williamson, O. E. (1979). *Transaction costs economics:The governance of contractual relations*. *Journal of Law, Economics, & Organization*, Oct(22), 233-261.
- Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets and relational contracting*. New York: Free Press.
- Zellner, A. (1962). *An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias*. *Journal of the American Statistical Association*, 57(298), 348-368.
- Zupan, M. A. (1989). *Cable franchise renewals: Do incumbent firms behave opportunistically?* *The RAND Journal of Economics*, 20(4), 473-482.
- Zupan, M. A. (1989). *The efficacy of franchise bidding schemes in the case of cable television: Some systematic evidence*. *Journal of Law and Economics*, 32(2), 401-456.

Table 1		
Year Agreement Finalized	Number of Agreements	Percent of Total
2000	19	7.51
2001	26	10.28
2002	51	20.16
2003	30	11.86
2004	41	16.21
2005	58	22.92
2006	11	4.35
2007	17	6.72
Total	253	100

Table 2

Total number of municipalities in New Jersey	567
Number of municipalities that have a contract with a cable operator to provide services.	563
Number of franchises renewed / finalized between 2000 and 2006.	253
Cable television systems owned by Multiple System Operators(MSO's)	35
Systems owned by Independents	2
Systems owned by an incumbent Local Exchange Carrier	
Average duration in years (initial term)	11.45
Number of agreements offering both an initial term and an automatic extension	45
Average duration in years including any automatic extension	13.01
Number of agreements that include a senior discount	88
Number of agreements requiring periodic review of cable operator's performance	153
Number of agreements that include a capital contribution from the cable operator	156
Average amount of capital contribution	\$49,481.

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
<i>DURATION</i>	Duration(years)	254	13.01	5.48	0.50	25.00
<i>MPLANT</i>	Miles of cable plant	237	2060.33	1413.02	144.00	12251.00
<i>HDENSITY</i>	Household density	257	1539.43	1999.22	1.70	18747.70
<i>MEDHINC</i>	Median HH income	258	71464.26	26591.75	25087.00	202881.00
<i>EXPERT</i>	Comcast affiliation	258	0.45	0.50	0.00	1.00
<i>BEFPOLICY</i>	Before proposal for statewide franchise	258	0.65	0.48	0.00	1.00
<i>PERFREV</i>	Required performance review	248	0.62	0.49	0.00	1.00

Table 4: Correlation Matrix

	Duration (yrs)	Miles of cable plant	HH density	Median HH income	Comcast affiliation	Before proposal for statewide franchise	Capital contribution	Senior discount	Required performance review
Duration(yrs)	1								
Miles of cable plant	0.16	1							
HH density	-0.01	-0.13	1						
Median HH income	-0.17	0.06	-0.37	1					
Comcast affiliation	-0.01	-0.39	0	-0.32	1				
Before proposal for statewide franchise	0	-0.83	-0.8	0	0	1			
Capital contribution	-0.15	0.05	-0.07	0.07	-0.94	-0.14	1		
Senior discount	-0.02	-0.41	-0.25	-0.29	-0.04	-0.03	0.19	1	
Required performance review	0	-0.92	-0.1	-0.6	-0.04	-0.03	0	0	1
	0.24	0.02	-0.11	-0.09	0.38	0.06	0.17	-0.29	
	0	-0.78	-0.07	-0.14	0	-0.34	-0.01	0	

Table 5 : OLS Results			
	1	2	3
Duration in years	Duration in years	Duration in years	Duration in years
Miles of plant (1000's)	.141 (1.86)*	1.44 (2.54)**	.149 (2.04)**
Municipality right to review	0.725 (1.04)	1.14 (1.67)*	0.866 (1.27)
House_density (1000's)	1.51 -(1.69)*	1.55 -(1.78)*	1.59 -(1.86)*
Median household income (1000's)	1.22 -(0.34)	1.31 -(0.12)	1.11 -(0.11)
Comcast/ largest operator	4.922 (6.70)***	5.038 (7.14)***	5.011 (6.95)***
Before statewide franchise (1/05)			-2.16 -(3.19)***
agenda_year==2001		3.296 (2.17)**	
agenda_year==2002		-0.571 -(0.44)	
agenda_year==2003		-1.333 -(0.93)	
agenda_year==2004		2.619 (1.90)*	
agenda_year==2005		3.289 (2.55)**	
agenda_year==2006		1.401 (0.72)	
agenda_year==2007		2.509 (1.46)	
Constant	9.98 (6.63)***	8.03 (4.57)***	11.07 (7.10)***
Observations	224	221	224
R-squared	0.27	0.37	0.30

Table 6			
	OLS if duration ≤10	OLS if duration >10	Logit
	Duration in years	Duration	Long Term (>10 yrs)
Miles of plant	0	0.001	0
	-(0.81)	(3.83)***	(0.74)
Municipality right to review	0.21	-2.11	0.58
	(0.60)	-(1.86)*	-(1.39)*
House_density	1.11	1.21	1.56
	-(0.33)	-(1.27)	-(1.77)
Median household income	1.22	1.58	1.19
	-(0.79)	-(1.19)	(0.54)
Comcast/ largest operator	0.72	4.81	1.93
	(1.37)	(4.43)***	(5.16)***
Constant	9.37	16.01	-1.36
	(7.71)**	(8.04)***	-(1.89)**
Observations	122	102	224
R-squared	0.07	0.307	
Pseudo R-squared			0.204

Robust t statistics in parentheses

** significant at 10% ** significant at 5%; *** significant at 1%*