Economic-Political Interaction Explaining Local Variations in Privatization of Public Services

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Abstract

This study seeks to make one theoretical, one methodological, and one empirical contribution to the on-going study of local governments' contracting out decisions. First, it is suggested that the amount of public services contracted out to firms is best explained by an *interaction* between local political preconditions and the local economic preconditions facing prospective firms. It is argued that while both factors are *necessary*, none of them is *sufficient* for extensive contracting out to occur. Second, to enable the observation and interpretation of the interaction effect, a multiplicative regression model is used to supplement the traditional additive technique. Third, when the theory is tested on the hitherto unexplored case of the Swedish elderly care market; it is found that in a majority of municipalities, right-wing dominance is related to increased contracting out of elderly care services. However, in the 10% or more with the least favorable business environment (assessed on the basis of urbanization, population, and income), *privatization is not a question of politics but one of (lacking) economic potential.* The findings suggest a limit to the extent to which the local variations in privatization can be affected by national legislation, and imply that the national government will not be able to guarantee all citizens access to a choice of alternative service delivery, when relying on firms and the free market alone.

Introduction

This study seeks to add to the understanding of the mechanisms behind the emergence of local variations in markets for public services. The subject is by no means unexplored in previous research on public administration, local government and alternative public service delivery. A plethora of theoretical perspectives and explanatory factors have been suggested; predominately on the basis of the American case, in which privatization and market models have been in play since the early 1980s (Greene, 1996). Yet, as noted by Boyne (1998), conclusions have often been contradictory and consensus is wanting.

Building steadily on the previous literature in the field, this study uses the case of the Swedish market for elderly care services to argue that future research ought to pay more attention to the *interaction between political and business economic logics* shaping privatization patterns. By developing a refined theoretical framework and by complementing the additive regression model commonly used in the field with a multiplicative interaction model, it aims to contribute to start bridging the gap between the disparate claims in previous studies.

The study is structured as follows. Initially, the main features of the international body of literature on the subject are reviewed, as well as a number of studies on adjacent topics in the cases of Sweden and Finland. On the basis of this review, a refined theoretical framework for the study of local variations in privatization of public services is introduced, which includes hitherto largely overlooked factors related to the supply side of private services, derived from literature on the firm and on economic geography. Secondly, the case of the Swedish market for elderly care services is introduced, and it is hypothesized that the amount of contracting out of Swedish elderly care services varies between the 290 municipalities in line with local political as well as economic preconditions. Thirdly, some methodological issues regarding multiplicative models and operationalizations are discussed and an additive and a multiplicative model are set up to test the hypothesis. The statistically significant results indicate that while both politically and economically favorable preconditions are *necessary* for extensive contracting out to occur, none of the factors is *sufficient*. These findings suggests a limit to the extent to which local variations of public services can be affected by national legislation, and that the national government will not be able to guarantee all citizens access to a choice of alternative service delivery, if relying on firms and the free market alone. Although the theoretical framework outlined in this study has generalizing ambitions, the empirical results might not readily be generalized to cases elsewhere since the findings are based exclusively on the Swedish case.

Theorizing Privatization

Privatization is a broad term, commonly used to describe a large variety of reforms that infer a transfer of state-run operations to market governance; including subcontracting, management contracting, leasing, and concession (Mudambi, 2003). Lundqvist (2008, p. 257) yet acknowledges that there are more dimensions to a service function than its operation, and suggests that any such function might be categorized on the basis of whether the responsibility for its *regulation*, its *financing*, and its *production*, respectively, is public or private. Privatization, thus, could denote any modification of a service function away from the wholly public scheme into any of the other seven categories, including complete divestiture (Lundqvist, 2008, p. 258). Recognizing that among previous studies on privatization the scholarly focus is typically directed towards either the consequences of reform or the causes of reform, the present study links to the latter, explanatory, strand of the research. In regard to the scope of the definition of privatization, this study is focused on the body of literature devoted to the *privatization of delivery (PoD)* of public services (Zehavi, 2012), and the decision of governments whether to *contract out* such services to private actors.

Explaining local variations in contracting out

In a comprehensive review of two decades of literature aimed at explaining variations in service contracting across U.S. local governments, Boyne (1998, p. 151) groups the explanatory variables generally used into four main categories: *fiscal stress, scale and market structure, public preferences,* and *the power of public employees*.

Fiscal Stress.

Fiscal stress explanations may broadly be attributed to the public choice school; often times traced back to work by e.g. Niskanen from the early 1970s. According to this approach, a public agency engaged in delivery of public services is prone to overproduction and inefficiency, due to its monopolized character (Niskanen, 1971). A strong normative conclusion has been to remedy inefficiencies by introducing competition and external service providers. On the basis of this theory, it has been suggested that contracting out is likely to be more prevalent in communities that suffer from financial pressures (Boyne, 1998). However, as pointed out by Boyne there might be reasons to believe that this relationship in some cases is the opposite, since an alternative reason for a local government to contract out might be to achieve a higher quality of service – which after all is likely to command a higher price in the marketplace. In such cases, those local governments that are most *fiscally healthy* might be expected to have the highest degree of contracting out. The failure to account for the simultaneous opposite mechanisms of fiscal stress might be the reason that such explanations often turn out insignificant when tested empirically (1998, p. 153).

Scale and Market Structure.

Explanations associated with scale and market structure mostly relate to the size of the potential cost savings of contracting out. The fact that local governments are customarily limited to provide services to only its particular jurisdiction might result in a suboptimal scale of delivery (Donahue, 1989). While fiscal stress might be regarded as a pushing force towards external delivery, promises of scale economies and a competitive market might be pulling local governments in the same direction (Boyne, 1998, p. 153). Hence, it might be expected that the potential for reducing costs, and thus the degree of contracting out, is lower in larger and more densely populated areas, where it is possible for the same firm to deliver services to more than one jurisdiction (Bel & Fageda, 2007; Ferris & Graddy, 1986). Moreover, due to the higher poverty and lower income level of rural communities, the availability of private providers in such communities might be sparse, as private investment "seeks those areas offering the greatest profit" (Warner & Hefetz, 2003, p. 705). An "insufficient supply of alternative private deliverers" has been reported as an obstacle to contracting out by almost one quarter of US local government managers in surveys conducted in the 1990s. (Hefetz & Warner, 2004, p. 180)

On the contrary it has been suggested that a sparse population "limits the externalities (such as negative public health impacts) which require [public services] to be provided publicly in more congested urban areas" and that citizen attitudes toward privatization should be more favorable in rural communities, considering the more limited scope of services provided in such communities in the first place (Warner & Hefetz, 2003, p. 705). However, as pointed out by Ferris & Graddy (1986) and Warner & Hebdon (2001) private delivery might not be the only solution to achieve economies of scale, but this could also be achieved if local governments by means of inter-municipal cooperation extend their service delivery beyond their own jurisdictions. Lastly, it has been suggested that the more services that a local government provides; the bigger is the scope for privatization (Warner & Hefetz, 2003). In this vein, Brudney, Fernandez, Ryu, & Wright (2004) included a control variable measuring budget size in a cross-agency analysis of contracting out.

Public Preferences.

Explanations related to public preferences are based on the theory that local political decisions may be influenced by political leaders' loyalty to an ideology (Bel & Fageda, 2007), or by a desire to comply with the demands from key constituencies (Pierson, 2001). Regarding ideology, it has been noted that traditionally, "[r]ight-wing parties have been linked to more pro-private business values, whereas left-wing organisations are conventionally associated with public values (Bel & Fageda, 2007, p. 521). This view, however, is not undisputed; and a trend towards left–right convergence in regard to privatization of delivery may be anticipated for multiple reasons. First, because of the broad influence of new public management (NPM) ideas during the past decades, market-based reforms have become accepted across the political spectrum, and second, "although the left has a fundamental reason to oppose privatization of welfare state finance /…/ because it stands in contradiction to its redistribution goals, the basis for opposing PoD is less clear. PoD does not necessarily change social resource distribution or impact equality." (Zehavi, 2012, p. 196) In regard to the Swedish case, Gingrich (2011) demonstrated the ways that the Social Democratic Party (SAP) has altered its stance on privatization various times since the early 1980s. Nevertheless, in a case comparison of five OECD countries, Zehavi (2012, p. 214) found that partisanship still matters: "Although both right and left governments privatize, the left tends to be the more reluctant privatizer."

In regards to key constituencies, it is the supposed impact of welfare program beneficiary groups such as the elderly or the poor – assumed to favor public delivery – that has been most frequently studied (Boyne, 1998). More recently, however, attention has also been directed towards potential impact by local service providers (Brudney, Fernandez, Ryu, & Wright, 2004).

The Power of Public Employees.

A fourth group of explanations relate to the impact of the supposedly self-interested public employees and their unions (Boyne, 1998), who based on fear of layoffs, and lower wages and benefits have been shown willing and able to oppose privatization (Boyne, 1998; Savage, 2004; Brudney, Fernandez, Ryu, & Wright, 2004; Zehavi, 2012).

Much attention has also been paid to the management level of the public sector. In local government settings, ideological preferences – not only of elected leaders, but also of high-level public managers – have been observed to affect the degree of contracting out. Entrepreneurial managers have been hypothesized to be more eager to engage in contracting out (Brudney, Fernandez, Ryu, & Wright, 2004), *as well as* to "perform internal process improvements which could result in higher levels of contracting back-in" (Hefetz & Warner, 2004, p. 180). This effect, needless to say, would depend on the degree of control over the public agencies exerted by the elected leaders and the high-level managers to begin with.

Related Findings from Sweden and Finland.

The suggested importance of the individual high-level managers is supported in one of the few studies of the explanations of local variation in privatization in a Nordic context. Granqvist (1997, p. 298) found that the attitudes towards privatization of high-level managers and the elected Head of the Executive Board of Finnish municipalities had an impact on the amount on privatization initiatives launched locally.

To the knowledge of the author, no explanatory study has been made on the variations in Swedish local governments' privatization efforts. However, insomuch as privatization might be regarded as an innovation, some parallels might be drawn to previous studies of municipalities' general susceptibility to new ideas and propensity to adopt innovative strategies, which largely lend support to the above-mentioned evidence that local politics is markedly dependent on individuals. Henning (1996) found that it is more often local politicians who have private sector experience (e.g. from unions or business) that engage in innovative industrial policy, along with chief executives who are recruited from enterprise. Furthermore, Schmidt (1986) found that, besides from structural factors, institutional factors such as the size and the complexity of the local administration and the degree of competitiveness in the local politics (newly elected politicians being more keen to reform) determined the propensity to adopt a wide array of innovations. Lastly, findings by Håkansson (1997) indicate that partisanship had a major importance in shaping reforms in Swedish municipalities during the 1990s. For instance, local governments headed by the Moderates were found to be the most eager to implement purchaser/provider models and choice reforms.

Towards a bilateral theory of contracting out

Although there is no common approach among analysts to the categorization of the explanatory factors reviewed above, Bel & Fageda (2007) argues that they may be comfortably grouped into *economic* and *political* families. While more crisp than most other conceptualizations, nonetheless theirs is characteristic of the lion's share of the previous literature as it gives full attention to the decision on part of the government. Thereby, it is essentially overlooked that *in order for a service delivery contract to be established, it takes not only an inclined local government but also a complying firm*, willing and able to deliver.

Admittedly, scale and market factors are recurrently included in explanatory analyses (Ferris & Graddy, 1986; Hefetz & Warner, 2004; Warner & Hefetz, 2003; Bel & Fageda, 2007; Hirsch, 1995). However, with few exceptions (notably Warner & Hefetz, 2003) these factors are generally considered exclusively on part of government, and assessed on the basis of how they affect the government's decision whether to contract out. This line of thought is most clearly demonstrated by the vast predominance of *additive* models among previous explanatory studies. In an additive understanding of the causal mechanisms, poor economic motives for privatization may be counterweighed by for instance a greater ideological conviction on part of the political leaders, and vice versa. However, as is argued below, the relationship between economic and political factors is better conceptualized as *conditional* rather than additive.

The considerations made by firms before market entry have received plenty of attention in the scholarly disciplines of strategic management and economic geography, and deserve some elaboration here. Since the formulation of the central place theory in the 1930s, economic geographers have been engaged in explaining the location, size and structure of commercial as well as public service supply – particularly the emergence of cities and other so called central places. The classic models developed by for instance Christaller (1933) were based on minimalist principles of supply and demand: "minimum effort for the consumer and a minimum possible market area for the producer or distributor". Enterprises, in such models, arise spontaneously as soon as – but only if – the necessary market requirements were met (Dale & Sjøholt, 2007, p. 15). More recent theories of localization, such as Porter's (2000) *Diamond Model* of competitive advantage, suggest that not only local demand conditions shape the local business environment but also factors such as the presence of particular types of suppliers, or labor with particular skills. Pulled by the prospective competitive advantages, firms tend to form clusters in particular locations, thereby giving rise to patterns of local and regional variation.

As noted by Porter (2000, p. 257), "[c]apturing the nature of the business environment in a location is challenging given the myriad of locational influences on productivity and productivity growth". And indeed, among the many criteria that Alexander & Doherty (2008, p. 235) deem relevant for initial considerations before market entry, at least six might be considered relevant in the context of firms considering a local public service market entry: *population size, population growth, urbanization, consumption patterns, stability of political structure* and *labor relations.* In the one piece within the contracting out literature that discusses these factors at greatest length, Warner & Hefetz (2003) argue that higher unit costs in areas with sparse population, together with the higher poverty and lower income levels of such communities may make them less attractive to private service providers.

The passage below outlines a two-dimensional theoretical framework that adds the insights about market entry considerations, offered in the economic literature, to the extensive theories of what shapes political decisions, developed in the field of political science. The theory gives rise to a hypothesis about a conditional relationship between on the one hand a political inclination towards contracting out and on the other hand a favorable business environment. Expressed formally, it is suggested that while both factors are *necessary* for extensive contracting out to occur, none of them is *sufficient*. That is: in locations where the business environment is unfavorable enough, not even the most inclined political majority will be able to perform much contracting out. Correspondingly, contracting out may be held back even in an economically favorable jurisdiction in case it is governed by a reluctant political majority[1].

Figure 1

Political and Economic Preconditions for Contracting Out

		Economic Preconditions	
		Unfavorable	*Favorable*
Political Preconditions	*Unfavorable*	Limited Demand Limited Supply *Outcome:* Limited Contracting Out	Limited Demand Extensive Supply *Outcome:* Limited Contracting Out
	Favorable	Extensive Demand Limited Supply *Outcome:* Limited Contracting Out	Extensive Demand Extensive Supply *Outcome:* Extensive Contracting Out

As described in Figure 1, *Political preconditions* may be seen as decisive of the *demand* for contracting out, as expressed by those in ruling capacity of the local government. Following the main strand of the literature, demand may be considered to be determined by the ideological conviction among political leaders and the influence exerted by various interest groups and political constituencies, as well as by factors related to fiscal stress and potential cost savings.

Congruently, *Economic preconditions* determine the attractiveness of the particular market to firms that are considering an entry, that is, the *supply* for contracting out. Although complex in nature, a favorable business environment for services is generally characterized by high demand, high income, the lower unit cost and the better access to infrastructure that come with a higher degree of urbanization, and a stable political environment. Conceivable operationalizations of the abovementioned variables are elaborated on below, as well as what methods to use to test the theorized conditional relationship. Before that, however, the legal and political context of the Swedish elderly care market is introduced and a hypothesis is derived.

Applying the Theory to the Swedish Elderly Care Market

During the last two decades, market features such as competition and privatization of service delivery are increasingly occurring within the Swedish public sector (Gingrich, 2011; Hartman, 2011). Sweden provides a viable case for testing the theory above since, as noted by Gingrich (2011, p. 191) the general movement towards the market “rests on substantial local variation”.

Although the governmental responsibility for public services to the Swedish citizenship is divided between state, county and municipality level, and although there are local variations in privatization to be explained across the spectrum, the scope of this study does not allow for a comprehensive take on the matter. Since analyses of services governed at municipality level benefit from more units than analyses of those governed at county level, (290 vs. 21), the study concentrates on a service of the former kind, which could be expected to be determined largely according to the theorized interplay between supply and demand; that is elderly care[2]. For a valid indicator of the local government’s political composition to be composed, the scope needs to be narrowed to the last finished term of office, which is that of 2006 – 2010.

Since the 1980s, Sweden has had an extensive public system of long-term care for the elderly, which as of today comprises close to three percent of GDP (Gingrich, 2011). The last decade, expenditure has declined somewhat (Szebehely, 2011) and private delivery has become more common – as of today about 10 percent of all employees in the sector has a private employer (Hartman, 2011). Yet as noted, regional differences are apparent. While Hartman reports that competition is still absent in the majority of the municipalities, (2011, p. 260), official data from 2010 indicates that within the top 20 municipalities, the average share of elderly care expenditures contracted out to profit and non-profit private suppliers is 42 percent (RKA, 2012).

Sweden has no single, national elderly care market but rather, as Gingrich (2011, p. 190) puts it, the story of markets in Swedish elderly care is "largely a story of local political choices to introduce markets." This local discretion has its roots in the 1992 "Ädelreform" – an act, which ruled the municipalities to have the unified responsibility for, inter alia, the elderly care service – and the 1991 Local Government Act, which increased local autonomy in regard to contracting out decisions (Gingrich, 2011). These conditions make the demand for privately delivered elderly care in Sweden an appropriate case for a test of the political logic theorized above.

However, as suggested above, not only the political preconditions determine the achieved amount of contracting out, but also the economic preconditions; that is the opportunity for the firm to make a profit on the business. In the – to the knowledge of the author – only study on privatization in the Nordic region in which the demand/supply logic has been thoroughly considered, it was found that when new legislation mandated Finnish municipalities to contract out audit services, "(on average) municipalities received service offers from only two audit firms vis-á-vis the five offer requests submitted by the municipalities to audit firms". Particularly, the small number applied to peripheral municipalities (Vakkuri, Meklin, & Oulasvirta, 2006, p. 44).

An indication that the theorized logic for supply is in play also in the case of the firms involved in the Swedish public service market is provided by Statistics Sweden (2011). The agency notes that the "[r]eturns on total equity were 15 percent for private enterprises within education, health care and social services for 2009 /…/ [which] /…/ can be compared with 8 percent for all private enterprises in the country." (Statistics Sweden, 2011c, p. 34) Moreover, the Swedish National Tax Agency assesses that group ownership by private equity firms is more common among firms in the public service sector than among enterprise in general, and notes that the public service sector is characterized by frequent changes of ownership (Skatteverket, 2012). In all, these factors indicate that the firms in question are responsive to the opportunity to make a profit when considering a local market entry.

Taken together, these conditions imply that the amount of realized contracting out in the case of the Swedish elderly care market might be expected to vary between municipalities in line with the local political and economic preconditions. This hypothesis may be formulated as: *Contracting out of elderly care services is most extensive in municipalities in which both political and economic preconditions are favorable, but is limited in municipalities in which one or more of those preconditions are unfavorable.*

Methodological considerations

In the following section, the methodological approach of the study is presented and justified. Using data from 250 municipalities, the hypotheses are tested by means of Ordinary Least Square (OLS) regression models. A weakness of OLS regression sometimes articulated in favor of other techniques is that it is unable to distinguish between additive effects and conditional relationships (e.g. Shalev, 2007). However, as noted by Brambor, Clark, & Golder (2006, p. 64), it has been "well established that the intuition behind conditional hypotheses is captured quite well by multiplicative interaction models". Thus, to capture the hypothesized conditional relationship between political and economic preconditions, the additive model is complemented with a multiplicative one. In a model with this design, a multiplicative interaction term is included along with the constitutive terms and the control variables, in accordance with the following basic interaction model.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \beta_4 X_3 \ldots + \varepsilon \qquad (1)$$

In the equation above, X_1 and X_2 denote the two variables expected to interact, X_1X_2 is the term used to capture the interaction effect, and X_3... represent any control variables included. It should be noted that by the inclusion of the X_1X_2 term, the model is no longer meant to test only if X_1 or X_2 is related to Y, but also whether the impact of either of the two variables on Y depends on the value of the other one. As noted by Braumoeller (2004, p. 809) ”β_1 captures [particularly] the impact of X_1 on Y when X_2 = 0 (and vice-versa)”, hence any statements about the statistical significance of the β_1 and β_2 coefficients apply only to a subset of the cases. Although the estimated coefficients generated by multiplicative models might seem puzzling at first, Brambor, Clark, & Golder (2006) and Braumoeller (2004) have described how meaningful interpretations can be made. Their advices are retained as the results of the regression analyses are interpreted.

Operationalizations and data

Dependent variable

Available data from the database Kolada, run by the Council for Local Government Analysis (RKA), provides two indicators of the extension of contracting out of elderly care service at municipality level. For the year 2010, data is retrieved on 1) the total expenditure for services contracted out to profit and non-profit private suppliers within elderly care and care of disabled as share of gross expenditure minus internal revenue and own external sales (RKA, 2012) and 2) the number of elderly (65+) who as of October 1st 2010 were provided privately supplied residential care or permanent residence service as share of the total number of elderly who were granted residential care or permanent residence (indicator N20803) (RKA, 2012). The two indicators are strongly correlated (Pearson’s r. = 0.904**). Thus, in order 1) to lower the risk that poor reliability in any of the two indicators causes the variables to yield conflicting results if regressed separately, 2) to increase the validity of the dependent variable, and 3) to save space by reporting one rather than two set of models, the two indicators are collapsed into one index by adding the share of expenditures to the share of residents in private care and dividing that sum by 2. This averaged indicator is labeled *Elderly Care Privatization (ECP)*[3]. Unfortunately, data is lacking for 40 out of the 290 municipalities.

Independent variables

The independent variables below are selected on the basis of the explanatory factors discussed and used in previous research. They include indicators of the economic preconditions, an indicator of the political preconditions, and a number of control variables.

Economic Preconditions.

Although the nature of a favorable business environment is not easily captured (Porter, 2000), the perfect should not be the enemy of the good. Thus three indicators discussed by Alexander & Doherty (2008) as well as by Warner & Hefetz (2003) are selected: urbanization, population, and income/ purchase power. Municipality level data on degree of *Urbanization* (defined as the share of the inhabitants in a municipality living in an urban area) is published by Statistics Sweden on a five-year basis, for what reason data from 2005 is used (Statistics Sweden, 2011a). Data on *Population* is retrieved from the same dataset. The indicator of *Income* is based on data on total income earned from employment or business (Statistics Sweden, 2012). The average median income of 2007-2010, calculated in 2010 prices, is used to increase robustness.

For the multiplicative term used to be composed, the three indicators need to be collapsed into an index. The weight of each of the three constituting indicators is determined by estimating their respective isolated impact on each dependent variable when included in a regression model together with the rest of the independent variables. On the basis of the sizes of their respective Standardized Beta coefficient, they are weighed into an *Economic Preconditions Index (EP),* which accounts for the exact amount of variation in elder care privatization as does the three constituting indicators together.

Political Preconditions.

As argued by Gingrich (2011) and Zehavi (2012), right-wing parties are more approving of extending markets into public service sectors than are left-wing parties. However, since this claim has also been questioned (see Zehavi, 2012), an indicator of *Right-Wing Dominance (RWD)* in the local assembly is used to enable a test of this contested issue. The indicator is computed by the total number of seats won in the 2006 local elections by the four right-wing parties, which constitute the national government (the *Moderates*, the *Liberal Party*, the *Centre Party* and the *Christian Democrats*), as share of the total number of seats in the local assembly. Data is retrieved from Statistics Sweden (2011b).

The Interaction Term.

The interaction term is computed by multiplying the values of *Economic Preconditions Index (EP),* and *Right-Wing Dominance (RWD)*. This term is labeled *Interaction (EP*RWD).*

Control Variables.

To isolate the effect of right-wing dominance, the models control for six additional factors that have been suggested affecting the local government's decision to contract out. Fiscal stress as well as fiscal health have been claimed to have a positive relation to privatization. Thus, controlling for the municipality's *Fiscal Health*, a measure is included of the local government's operating surplus as share of the sum of tax revenue and state aid. The average of the 2005 and 2006 surpluses is computed (RKA, 2012).

It has been suggested that the more encompassing the local government's service and expenditures, the bigger the scope for cost savings through privatization. Thus, following Brudney, Fernandez, Ryu, & Wright (2004) the *Size of Government Budget* is controlled for. Specifically, an indicator of the total per capita expenditures of the local government's services to its jurisdiction is included, based on the 2005-2006 average of the Kolada indicator N03066, which includes services financed by taxes as well as by fees (RKA, 2012).

The potential impact of key constituencies such as welfare beneficiaries and elderly is controlled for by the inclusion of an indicator of the *Working Population* as share of the total population residing in the municipality. This variable is treated as an inverted proxy for the size of the supposedly privatization-opposing constituencies, and thus it is expected to have a positive impact on contracting out. Additionally, following again Brudney, Fernandez, Ryu, & Wright (2004), an indicator is included of the number of business establishments per 1000 inhabitants, to control for the potential favorable impact of a high number of people involved in the *Local Enterprise*. For the two above-mentioned indicators, the 2007-2010 average is computed, on the basis of data produced by Statistics Sweden and retrieved from a data source provided by the Confederation of Swedish Enterprise (2012).

The reluctance of the Swedish Association of Local Authorities and Regions to disclose disaggregate data on union membership prevents the control for union strength and supposed opposition. However, there are reasons to believe that this factor might not be as influential in regard to the contracting out decision in the Swedish case as elsewhere. First, in Sweden private and public employees are generally members of the same union, as in the case of *Kommunal,* the Swedish Municipal Workers' Union (Kommunal, 2011). Second, public employees are not necessarily more privileged than private employees, in terms of for instance pension entitlements and wage levels. Rather, as noted in a Statistic Sweden report, there are "minimal differences in salary levels between public and private within education, health care and social services" (2011c, p. 35). Moreover, as noted by Gingrich (2011, p. 199), throughout the 1990s Swedish unions, including *Kommunal*, have gradually begun to accept some market reforms, ultimately in hope of higher wages and better working conditions.

Two factors related to the local political environment might also be controlled for. Schmidt (1986) found that competitive politics bolster the local government's susceptibility to innovations. Thus, a dummy variable labeled *Political Stability* is included, for which those municipalities are assigned a "1" in which either of the blocks of Swedish politics[4] have maintained plurality in each of the elections in 1998, 2002 and 2006. Data is retrieved from Statistics Sweden (Statistics Sweden, 2011b). Lastly, some of the impact related to the acknowledged importance of individuals in local politics is controlled for. An indicator of the local *Leader's Inclination* towards privatization is developed based on data from a comprehensive survey (8800+ respondents) of Swedish local politicians' attitudes, carried out in 2008 – that is the midst of the term of office analyzed in this study (Gilljam, Karlsson, & Sundell, 2010). For privacy considerations, the reply of the individual Head of the Executive Board is not disclosed; instead his or her attitude towards "more private delivery of municipality services" is inferred from the gathered replies from the contemporary political majority. The replies are transformed into a 0-1 scale in which a higher score represents a more approving attitude towards privatization. This indicator controls for potential local and temporary deviations from the suggested party lines of right wing and left wing parties.

Correlation Analysis.

A correlation analysis of the independent variables reveals a considerable correlation between *Right-Wing Dominance* and *Leaders' Inclination.* Since the latter indicator is included in order to distinguish between partisanship effects on the one hand and local leaders' preferences one the other, and since it does not show any sign of multicollinearity when the model is diagnosed by means of VIF tests, it is kept in the model. The only variables for which multicollinearity – expectedly – poses a problem are the *Economic Preconditions,* the *Right-Wing Dominance,* and the term for the *Interaction (EP*RWD).* Since the latter term is a linear function of the two former, the terms are assigned high VIF-scores when included in the same model and diagnosed for multicollinearity.

The issue of multicollinearity in multiplicative models has been raised often before. Friedrich (1982, p. 803) gives a thorough account of this criticism and replies that multicollinearity "does not 'distort' the b_1 and b_2 coefficients in an interactive model as compared with an additive model." Moreover, Brambor, Clark, & Golder (2006, p. 70) have demonstrated that while omitting a constitutive term from the model reduces multicollinearity and thus standard errors, "the danger of inferential errors from omitting constitutive terms outweighs any possible benefits." On the basis of this reasoning, both constitutive terms are included in the multiplicative model.

Analysis

In terms of the indicators introduced and labeled above, my hypothesis may be rephrased as follows: An increase in *Right-Wing Dominance* is associated with an increase *in Elderly Care Privatization (ECP)* when the value of *Economic Preconditions Index (EP)* is high, but not when the value of *Economic Preconditions Index (EP)* is low (and vice versa). Since this hypothesis is conditional in nature, the additive model is complemented with a multiplicative model. The regression results are presented in Table 1.

Table 1

Regression Results of Elderly Care Privatization

Dependent Variable:	Additive Model			Multiplicative Model		
Elderly Care Privatization	B	Std. Error	Beta	B	Std. Error	Beta
(Constant)	- 0.608***	0.168		1.140***	0.269	
Economic Preconditions						
Economic Preconditions Index	0.088***	0.010	0.500	-0.142***	0.031	-0.806
Political Preconditions						
Right-Wing Dominance	0.287***	0.067	0.263	-2.561***	0.368	-2.349
Economic-Political Interaction						
*Interaction (EP*RWD)*	-	-	-	0.407***	0.052	3.141
Control Variables						
Fiscal Health	0.003*	0.002	0.086	0.004**	0.002	0.105
Size of Government Budget	-4.350E-7	0.000	-0.020	-3.181E-6**	0.000	-0.143
Working Population	-0.003	0.003	-0.057	-0.003	0.002	-0.058
Enterprise	0.002	0.001	0.076	0.002	0.001	0.068
Political Stability	0.005	0.018	0.016	-0.014	0.016	-0.041
Leaders' Inclination	0.069	0.042	0.100	0.063*	0.037	0.092
Model Statistics						
Rho	.683			.759		
Adj. R^2	.449			.560		
N	250			250		
Model Sig.	0.000			0.000		

Tests of Significance: *<0.10; **<0.05; ***<0.01 (two-tailed tests).

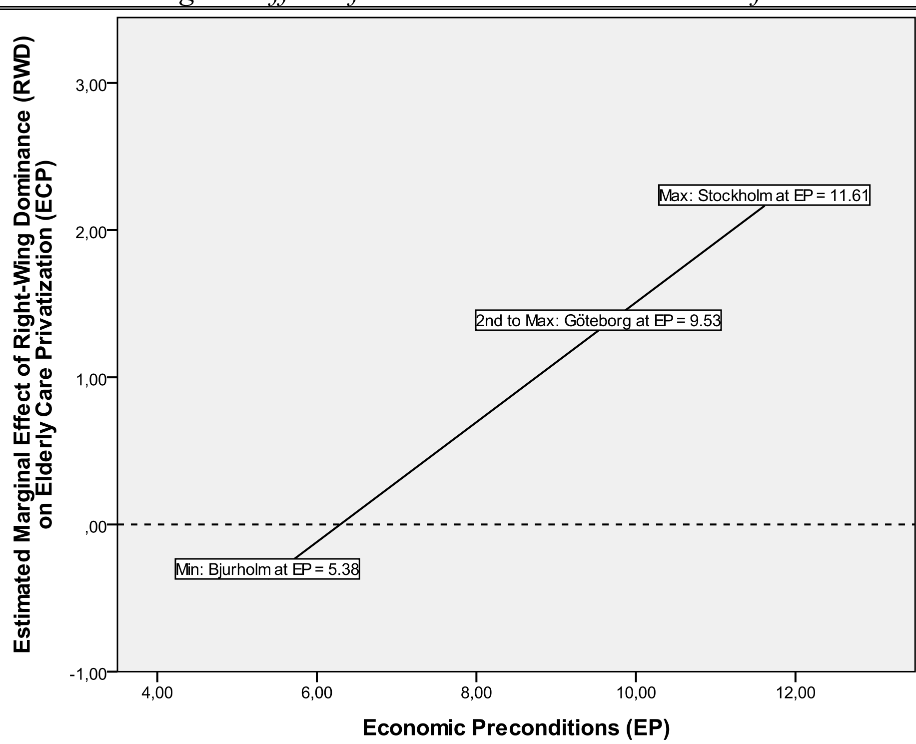
Compared to the additive model in which no interaction term is included, the Adjusted R^2 coefficient in the multiplicative model is up by 0.11, which indicates that the latter model is better fit to explain the local variation in *Elderly Care Privatization*. Besides the significant positive impact of *Fiscal Health*, there is a highly significant ($t = 7.836$) positive interaction between the two constitutive variables, which is what this model is designed to test. No general interpretations are to be made on the basis of the coefficients on the *EP* and *RWD* terms in the multiplicative model. As noted by Brambor, Clark, & Golder (2006, p. 72; X and Z in original changed to X_1 and X_2), the coefficient on the constitutive term X_1 "must not be interpreted as the average effect of a change in X_1 on Y as it can in a linear-additive regression model /…/ [because] /…/ the coefficient on X_1 only captures the effect of X_1 on Y when X_2 is zero."

The multiplicative interaction term itself is not straightforwardly interpretable, but as demonstrated below it allows for a closer analysis of how the marginal effect of a changed value of X_1 on Y varies depending on the value of X_2 and vice versa. Since mathematically the two marginal effects are really two representations of the same function, henceforth the discussion sticks to the analysis of the marginal effect of *RWD* on *ECP* at different values of *EP* while leaving the marginal effect of *EP* on *ECP* at different values of RWD aside. In this case, the marginal effect is calculated as:

$$\frac{\Delta ECP}{\Delta RWD} = \beta_{RWD} + \beta_{EP*RWD} \times EP = -2.561 + 0.407 \times EP \qquad (2)$$

The slope in Figure 2 below illustrates the estimated marginal effect.

Figure 2
Estimated Marginal Effect of RWD on ECP as a Function of EP



$Y = -2.561+0.407 \times EP$; $EP = EP_{ECP}$

As illustrated in Figure 2, an increase of *Right-Wing Dominance* is estimated to have no positive impact on the level of *Elderly Care Privatization* in case the *Economic Preconditions Index* score is lower than 6.29, which is the case in 70 of the 290 Swedish municipalities[5]. Differently put: In those municipalities, the economic preconditions for enterprise are so poor, so that an increased strength of the right-wing fraction of the local assembly is not sufficient to achieve an increased level of privatization. For contracting out to increase, a prior improvement of the business environment is necessary.

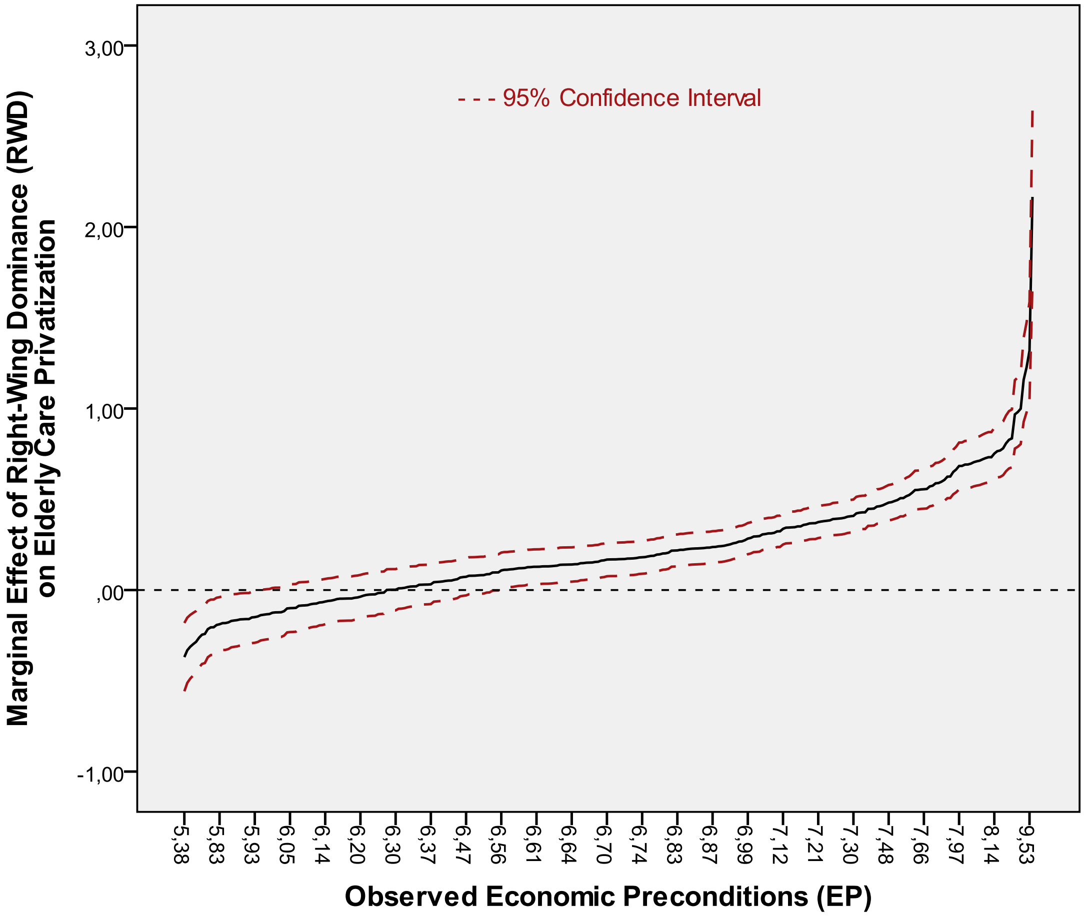
However, since the results in Table 1 do not convey information about the standard error and thus the significance of the estimated impact of *RWD* on *ECP* in any other cases than when *EP* = 0, the advice from Brambor, Clark, & Golder, (2006, p. 74) are followed to take the analysis one step further by calculating the standard error of Eq. (2), using the following equation[6]:

$$s_{(\beta_{RWD}+\beta_{EP*RWD}\times EP)} = \sqrt{var(\beta_{RWD}) + EP^2 var\,(\beta_{EP*RWD}) + 2EPcov(\beta_{RWD}, \beta_{EP*RWD})} \quad (3)$$

This being done, confidence intervals for the marginal effect of *RWD* on *ECP* may be computed for all substantively meaningful values of *EP*. Since the standard error of the marginal effect varies according to the value of *EP* (Friedrich, 1982), so does the confidence interval. The slopes in Figure 3 indicate this function. The 95 % confidence interval around the line indicates the conditions under which a marginal change in *Right-Wing Dominance* has a statistically significant effect on *Elderly Care Privatization*: that is "whenever the upper and lower bounds of the confidence interval are both above (or below) the zero line." (Brambor, Clark, & Golder, 2006, p. 76).

Figure 3

95% Confidence Interval for the Marginal Effect of RWD at Values of EP



Marginal Effect computed as $(\beta_{RWD} + \beta_{EP*RWD} \times EP)$.
Confidence Interval computed as $(\beta_{RWD} + \beta_{EP*RWD} \times EP) \pm 1.96 \times s_{(\beta_{RWD}+\beta_{EP*RWD}\times EP)}$,
N = 250.

Recognizing that the upper bound of the confidence interval < 0 at $EP_{ECP} < 5.96$, it can be concluded that only for the 29 municipalities with Economic Preconditions less than or equal to those of Storuman, it is certain by 95% that there is no marginal effect of *RWD* on *ECP*. Congruently, since the lower bound of the confidence interval > 0 at $EP_{ECP} > 6.56$ it is only for the 182 municipalities with Economic Preconditions better than or equal to those of Landskrona that it is certain by 95% that there is a positive marginal effect of *RWD* on *ECP*. For those 79 municipalities in-between it cannot be said with certainty that the marginal effect is above 0. As the hypothesis test is passed for 70 percent of the municipalities, it may nonetheless be concluded that the hypothesized conditional relationship between political and economic preconditions does exist.

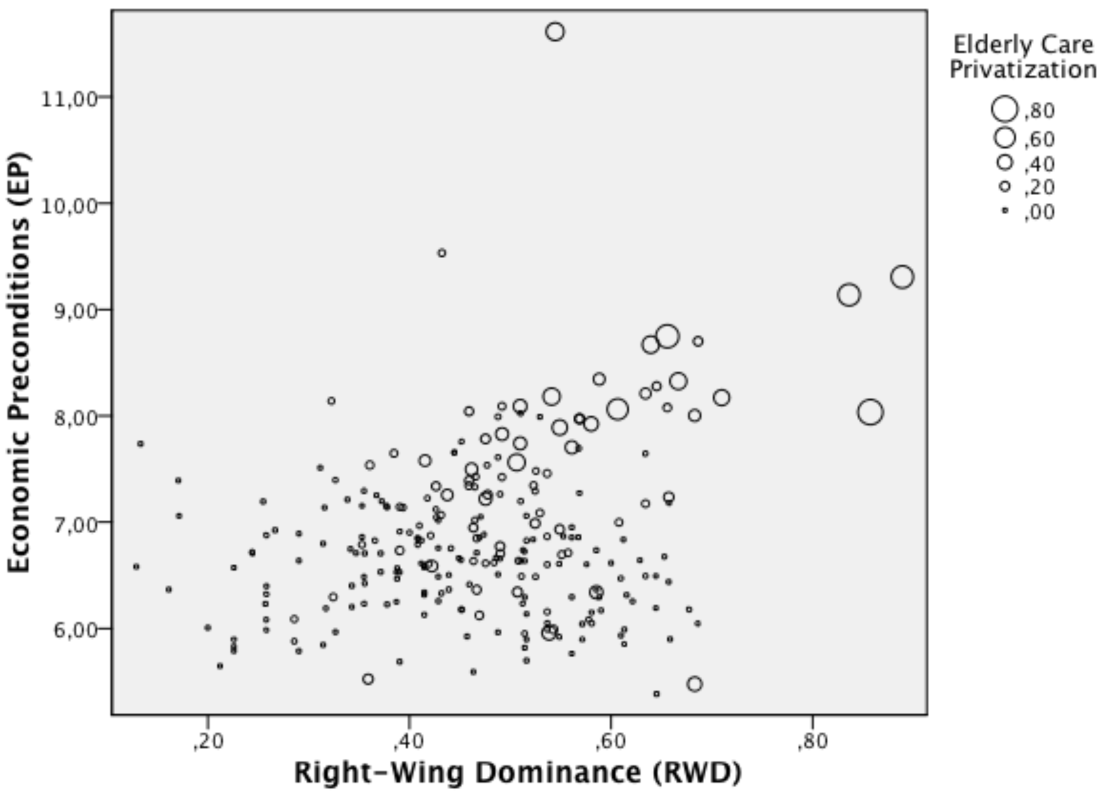
Discussion and conclusions

This study set out to refine the theoretical understanding of the mechanisms behind the emergence of markets in the public sector, as well as at providing an example of how to apply multiplicative models to the study of contracting out. Testing a theory of interaction between political and economic preconditions, it aimed to explain the apparent regional and local variations in privatization of Swedish public services.

The findings lend support to the fiscal health hypothesis raised by Boyne (1998), as well as to the hypothesis raised here that there is a conditional relationship between the local business environment and the degree of right-wing dominance of the local assembly regarding the extent of elderly care privatization. For the following discussion of this point, the bubble plot of the municipalities in Figure 4 below might be helpful.

According to the models in this study, it is estimated with a 95% certainty that in municipalities with an unfavorable enough business environment (the bottom 29 on the basis of the index developed here), the marginal effect of an increased local right-wing dominance on the level of contracting out of elderly care services does not reach above 0. That is to say: *During such economic preconditions, privatization is not a question of politics but a question of economics.* This case might be illustrated by municipalities like Bjurholm, Mellerud, and Essunga (located in the lower right area of Figure 3), which at the time were all governed by right-wing majorities, yet in which the expenditures on privately delivered elderly care did not reach above 3 percent – figures equal to those found in similar, left-wing governed municipalities like Åsele, Torsby and Ragunda (located in the lower left area of Figure 4).

Figure 4
Bubble Plot: Degree of Elderly Care Privatization



N = 250.

With the same degree of certainty, it can be concluded that in municipalities, in which an unfavorable business environment does not constitute a bottleneck for the supply of service firms (approximately the top 182), there is a positive marginal effect between increased right-wing dominance and elderly care privatization. That is to say: *During such economic preconditions, privatization stops being a question of economics and starts being a question of politics*.

While indeed, the Social Democrats governing Stockholm City between 2002 and 2006 did not limit private contracts and Social Democrats in for instance Västerås introduced market features in the 1990s (Gingrich, 2011), other major municipalities (located towards the upper left area of Figure 3), in which left-wing governments have been in power continuously since 1998 or beyond, provide good examples of these dynamics. In Göteborg, Sundsvall, and Luleå, for instance, expenditures on privately delivered elderly care in 2010 were considerably lower (17, 1, and 2 percent, respectively) than what would have been expected given their scores on the economic preconditions index.[7]

While the interactive model seems to capture the broad explanatory patterns, it leaves a couple of cases unresolved. These puzzling cases may constitute interesting study objects for future research on how local governments after all might seemingly be able to overcome the economic obstacles to privatization. Of particular interest are the cases of Årjäng and Tomelilla, ranked 298th and 262nd in the economic preconditions index, who nonetheless spend 39 and 23 percent on privately delivered elderly care.

The preliminary evidence from this study entails some possible implications concerning the extent to which the local variations can be affected by the state. First, while the national government might decide according to what logic the local variations are to emerge (the economic-political logic tested in this study or the – supposedly – all-economic logic governing the school market), the government could scarcely counteract variations by any other means than by contracting back-in of elderly care service. Secondly, it follows that the government will not be able to guarantee all citizens access to a choice of alternative service delivery, when relying on firms and the free market alone. Rather, such an objective will have to be pursued by means of public intervention of some sort, such as certain subsidies to firms and non-profit organizations, or the planned expansion of inter-municipal cooperation.

Lastly, while this is not the place for a reanalysis or reinterpretation of previous studies on local variations in contracting out, a comment might be made regarding the possible implications of the present findings for future research. First, the theory builds upon the insight that the causal mechanisms determining privatization outcome might vary between localities, and that the estimated impact of the independent variables therefore might be distorted if all observations are run in the same additive model. Considering the strong, multiplicative relationship found in this study, it is possible that the extensive use in this field of additive models, in which some of the included variables do de facto interact, may explain parts of the high variability in the results of empirical studies found in the literature reviews by Boyne (1998) and Bel & Fageda (2007).

Second, while the insight that causal mechanisms of contracting out might vary between localities was offered already by Warner & Hefetz (2003), who designed separate models for rural, suburb and metro localities, the present study demonstrates how the conditional relationship can be more closely analysed by the use of multiplicative models as compared to separate additive analyses for different groups of observations. While the economic preconditions index intended to capture local variations in business environment is admittedly crudely operationalized, the interaction effect discovered here underscores the claim that in order for variations in contracting out to be fully understood, the contracting out decision needs to be studied not only from the side of the government but also on part of the firms.

The expansion of privatization of public service delivery in Sweden and elsewhere entails an increasing occurrence of relations and transactions between firms and governments. As this study has indicated, decisions made by these firms have a considerable impact on the outcome of processes habitually perceived of to be pure matters of politics. Hence as the influence of these firms grows, so should the attention they receive from scholars of political science.

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Endnotes

[1] The two factors might not themselves be unrelated. Indeed, as shown in Figure 1, there is a low, yet significant correlation (Pearson's r = .221**) between one indicator of local *Economic Preconditions* and one of local *Right-Wing Dominance*. This, however, does not preclude their conditional relation to contracting out, but rather makes the test more challenging.

[2] The Swedish school market would provide an interesting case for comparison. Since it is the Swedish Schools Inspectorate that decides upon applications to run independent schools (Skolinspektionen, 2012), the local variations in independent schools are not expected to follow the logic of contracting out, but instead primarily the patterns of local economic preconditions.

[3] Due to incomplete data, mainly for the second constitutive variable, N_{ECP} drops to 250. This is unfortunate, but the benefits of the more valid indicator must still be considered to outweigh the benefits of the additional observations available had only the expenditure variable been used.

[4] The right-wing block comprises the *Moderates*, the *Liberal Party*, the *Centre Party* and the *Christian Democrats*, while the left-wing block consists of the *Social Democrats*, the *Green Party* and the *Left Party*.

[5] Since there is no theory suggesting that right-wing parties would be *less* inclined to privatization than would left-wing parties, all negative estimates of marginal effects of increased *Right-Wing Dominance* on privatization are considered to be equal to 0.

[6] $var(\beta_{RWD})$ and $var\ (\beta_{EP*RWD})$ are calculated as the squares of the respective standard deviation presented in Table 4. $cov(\beta_{RWD}, \beta_{EP*RWD}) = -0.019$ (Retrieved from SPSS)

[7] On average, the 50 top-ranked municipalities had a figure of 23 percent.