Competition and regulation in Swedish markets

- an analysis of remaining problems

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Abstract

In the early 1990ties many Swedish markets were still heavily regulated, and competition law was surprisingly lax. In a previous analysis (Fölster and Peltzman, 1997) it was shown that markets with stricter regulations and less new entry also suffered from slower production and productivity growth as well as higher prices.

Since then many markets have been deregulated. Competition law has been sharpened. In spite of these significant changes and increased import competition Sweden is, however, still a high price country. According to OECD statistics prices are about 15 percent above what one would expect given Sweden's GDP level. The higher price level can partly be explained by differences in tax levels between countries.

This paper analyzes remaining competition problems in two parts. The first part gives an overview over changes in the competitive environment and their effects. It is shown that Sweden actually deregulated traditional natural monopolies more than most European countries. Swedish prices appear to be relatively low in these markets, and productivity growth has picked up after deregulation.

A large share of the economy is, however, still dominated by local government monopolies. There is a concern that anticompetitive policies in these markets negatively affect growth of private business. Sweden has relatively few upstarts of new businesses. Thus anticompetitive practices in the markets controlled by local government may reduce entry and competition in other markets as well.

The second part turns to an empirical analysis of this question. Since many services provided by municipalities are subsidized, we cannot meaningfully measure price effects of anticompetitive local policies. Using panel data of municipalities´ competitive stance we show, however, that lack of competition seems to have a measurable negative effect on local growth in private income and employment.

Introduction

In a previous analysis of competition in Sweden (Fölster and Peltzman, 1997) we concluded that Swedens high price levels and low productivity growth could partly be explained by a history of lax competition policy and a shortfall of new entry into many markets. Since then a number of markets have been at least partially deregulated. Aggregate productivity growth has picked up. Sweden is still a "high-price" country, however. Diagrams 1 and 2 show price levels in relation to GDP in 1990 and in 2004 for the countries for which OECD data was available in 1990. In 1990 Sweden was roughly 40 percent above the regression line indicating the value that would have been expected given Swedens level of GDP per capita. In 1992 the Krona was devalued. After the devaluation Sweden moved to roughly 20 percent above the regression line and has since then inched down to about 15 percent above the regression line.

Diagram 1. Relative Price level and GDP per capita in 1990, OECD = 100.

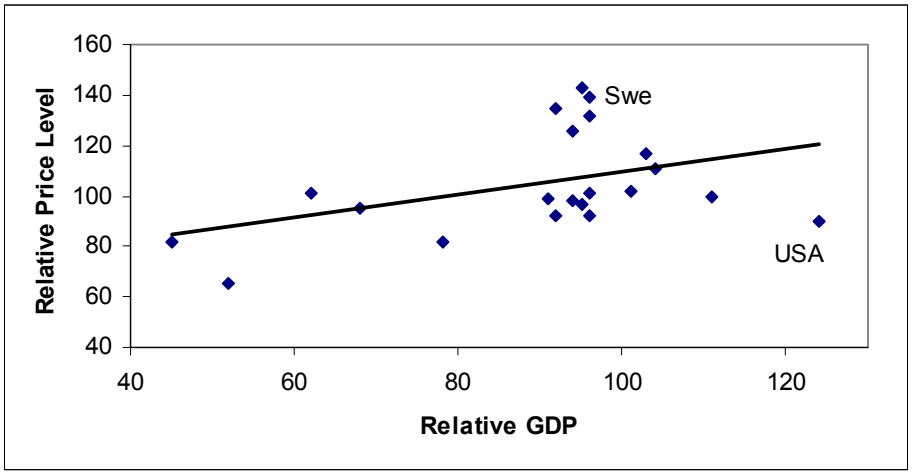
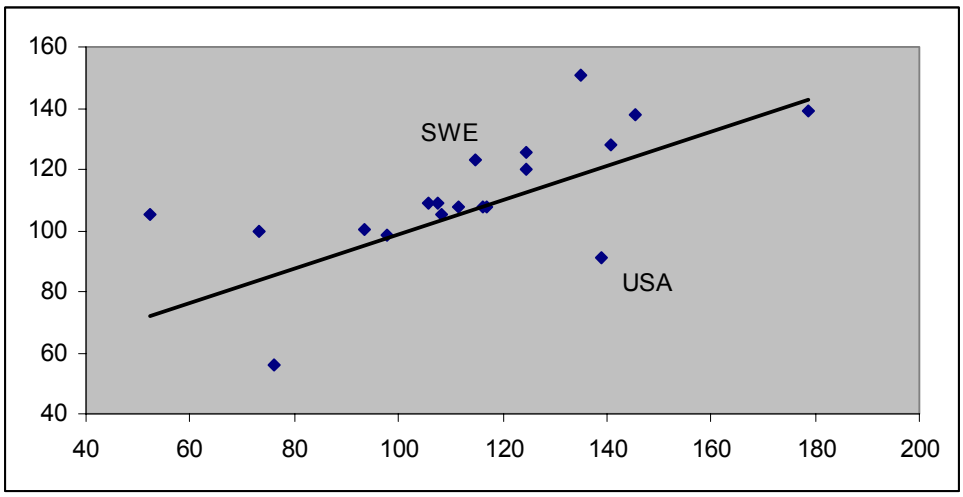


Diagram 2. Relative Price level and GDP per capita in 2004, OECD = 100.



While the relative price level in Sweden has fallen it may be a surprise that it has not fallen more. Sweden is still among the more expensive European countries, even though the other Nordic countries, Ireland and Japan now are more expensive than Sweden.

For most goods there is now intense competition from imports. Import penetration in private production was calculated to be 15.1 percent in the early 1990-ties.[1] Today it is above fifty percent. While this may largely be an effect of globalisation, changes in competition policy and deregulation have probably contributed. In addition competition policy is in line with EU-policy. And a number of areas have been deregulated.[2]

In this paper we begin by describing the changes in competition policy and the deregulations that have been implemented. Then we turn to an analysis of remaining competition problems. One of the remaining problems is obviously that Sweden still is a high price country. Another remaining problem is that a large share of the economy still is controlled by local government monopolies. Apart from price effects, these may inhibit start

[1] Flam, Horn and Lundgren (1993).
[2] Further it is often claimed that prices should converge within the EU. This claim is supported by some studies, e.g. Rogers (2001). Other studies, e.g. Bergman (2004), however point out that convergence of Swedish prices has been slower after Sweden joined the EU than before.

and growth of local business, and thus have wider consequences for local economic development. In the final section of this paper we examine this question using panel data of competition policy in Swedish municipalities.

Competition policy

In earlier decades Sweden's competition policy has been extremely lax. Until 1993 cartel agreements were legal. Firms were free to enter agreements for example on price fixing, sharing of markets and allocation of retail outlets among manufacturers. Only resale price maintenance agreements and joint tendering on public contracts were prohibited. Around 1990 there were over one thousand cartel agreements registered, affecting about 15 percent of total sales of goods and services.[3]

In our previous analysis of the Swedish manufacturing sector over the period 1976-1990 we were able to discern economic effects of registered cartels. A key result was that price- and environmental regulation raised prices considerably. Once the effect of regulation was taken into account the registered cartels contributed little to higher prices. However, cartels were found to have a substantial negative effect on output. It should be noted, however, that output was much more accurately measured than prices.

In 1993, Sweden´s law on competition was brought in line with EC rules. Among other things this widened the applicability of the per se rule. Horizontal price-fixing and market sharing agreements were made illegal regardless of whether they can be shown to have negative effects. Fines were increased considerably. In 1994 Sweden joined the EU.

The previous lax competition policy may have spilled over in the sense that previously legal arrangements in some cases continued as informal arrangements. A number of cartels of this sort were uncovered by the competition authority in recent years.

[3] SPK (1992).

Natural monopolies have been deregulated

Sweden seems to have deregulated many of the traditional natural monopolies rather more than the European average. In comparisons provided by the EU it is shown that all European countries have opened their aviation and telecoms markets. Most countries, but not Sweden, still retain a partial monopoly for postal services (letters). About half of the European countries have not yet opened their electricity markets to competition. Taxi regulation prevents entry in many countries, but not in Sweden (Bekken, 2003). And railways seem to be more liberalized than in most European countries.

In fact though there remain quite a number of regulatory issues in all these markets. We will give a brief account of how Sweden has tried to tackle these issues and what the outcome has been.

Electricity

The electricity market was previously vertically integrated. The large producers regulated the market in various clubs under the chairmanship of the dominating state owned Vattenfall. After deregulation in 1996 the market has been divided into three segments: Generating, distribution, and trading firms. Only distribution firms are now regulated monopolies. In addition the Nordic market has opened, so that export and import of electricity have become easier. It is quite common now for trading firms to sell imported electricity directly to households. Consumers are billed separately by the distribution firm.

One concern has been that the larger groups have bought up small and medium-sized networking and trading firms. State owned Vattenfall remains a dominating actor which increasingly has invested in other countries as well. A recent investigation by the Regulatory

Reform Commission also claims that the supervising Energy Agency needs to be strengthened and given more independence.

Electricity prices are lower in Sweden than in many other European countries. There seems to be no in depth study of the effects of deregulation on prices. Prices are largely driven by taxes, what types of new generating technology is granted permission to operate, and prices in neighbouring countries.

Aviation

While aviation has been deregulated, the market is still dominated by SAS which is partly state owned. A considerable number of entrants have come into the market, and some have left again. Profit levels are generally low. Most airports are state owned and not exposed to competition. There are complaints of how they charge fees for their services and allocate slot times. Fees have increased considerably since 1993.

In aviation, prices have risen more than the consumer price index since deregulation. But an international comparison seems to indicate that Sweden has about the same price level as many European countries for business tickets, but lower prices for private tickets (Luftfartsverket, 2004).

Railways

Previously the Swedish State Railways, SJ, had a monopoly. Now it is merely a carrier, while the National Rail Administration operates the network. For goods traffic entry is free, but for passenger traffic SJ still has a monopoly for profitable traffic. Non-profitable interregional and local traffic is procured by various authorities, often in a competitive tendering procedure.

In the railway market, prices fell for transport of goods, but increased for passenger traffic, in particular for non-subsidized traffic. This is partly explained by new

high-speed trains that were taken into operation. The subsidized traffic was often put out to tender and has seen smaller price increases. Some of the price increases are explained by the fact that the degree of subsidization has been reduced from 64 percent in 1990 to 42 percent in 2002. One study concludes that the most important competition to railways has come from long distance bus traffic which was also liberalized during the 1990ties.[4]

Postal services

State owned Posten AB has been exposed to intense competition in financial services and package delivery. At the heart of the monopoly, however, was letter delivery. This has been opened to competition and up to one hundred firms entered. Only one firm however has been able to establish a large scale operation.

For postal services London economics (2003) finds that Sweden has an average price level comparable to other European countries, and considerably lower level than still regulated Norwegian prices.

Telecommunications

The market has gradually been opened to more players than partly state owned TeliaSonera. TeliaSonera also operates most of the fixed nationwide network, but is required to allow access to other firms at regulated prices. Mobile services are provided by a number of competitors that operate their own network.

In the telecom market an OECD comparison indicates that prices are relatively low in Sweden compared to other European countries.[5]

[4] Järnvägsgruppen (2003).
[5] OECD (2003).

Apart from the network services there have been a number of other deregulations. One example is taxis. Before deregulation entry and prices were regulated. There were often queues for taxis. After deregulation the number of taxi companies and drivers increased considerably. For the taxi market Bekken (2003) shows that Stockholm has relatively low prices compared to other European capitals. Burdett and Fölster (1994) analyze the effects of taxideregulation. They conclude that the decrease in waiting times of on average four minutes per trip was well worth the price increase given taxi customers estimated valuation of waiting time.

In addition entry has become easier in a number of areas from financial services to retail stores and chimney sweepers. Prior to 1992 the implied subsidies to food production was even higher than in the EU. In addition entry at the retail level was subject to municipal zoning regulation which was often used to protect the biggest chains. These restrictions were abolished in 1992, but reinstituted in 1996. In the meantime, however, many municipalities have changed their local policy which has led a gradually increasing market share for low-price stores. Further new food store chains and foreign chains have entered the market, albeit on a small scale. The Swedish Competition Authority found that in the period 1997-2000 that municipalities with a strict implementation of zoning regulation in fact had less food stores per inhabitant, and that a more liberal implementation appeared to lower food prices.[6]

In retail trade apart from food, however, foreign chains have entered on a large scale and in many cases hold considerable market share. In fact there seems to have been a measurable impact on prices. The diagram below shows how consumer prices for food have fallen behind the general price index since competition has increased. The second diagram below shows food prices relative to EU-countries. Even there a clear decline of Swedish

[6] Lundvall and Odlander (2001).

prices relative to EU prices is discernible – with the exception of a small rebound in 2002/2003.

A number of studies (e.g. Lipsey and Swedenborg, 1996, 1997) have previously shown that high food prices are not just caused by differences in competition, but also agricultural protection, tax differences, wage dispersion and prices for other services. Bergman (2004), in a more recent study, finds that Swedish food prices are no higher than in the EU once differences in labour costs, wage tax wedges, and consumption taxes are taken account of.

Diagram 3. Swedish consumer prices for food and total, index 1990 = 100.

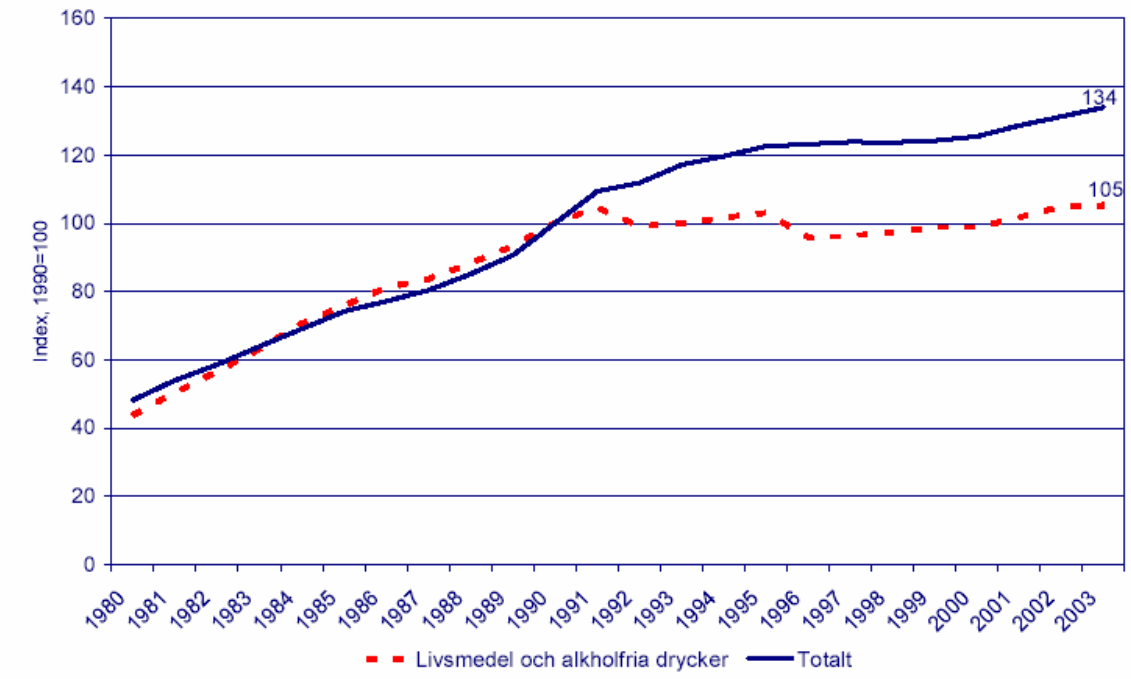
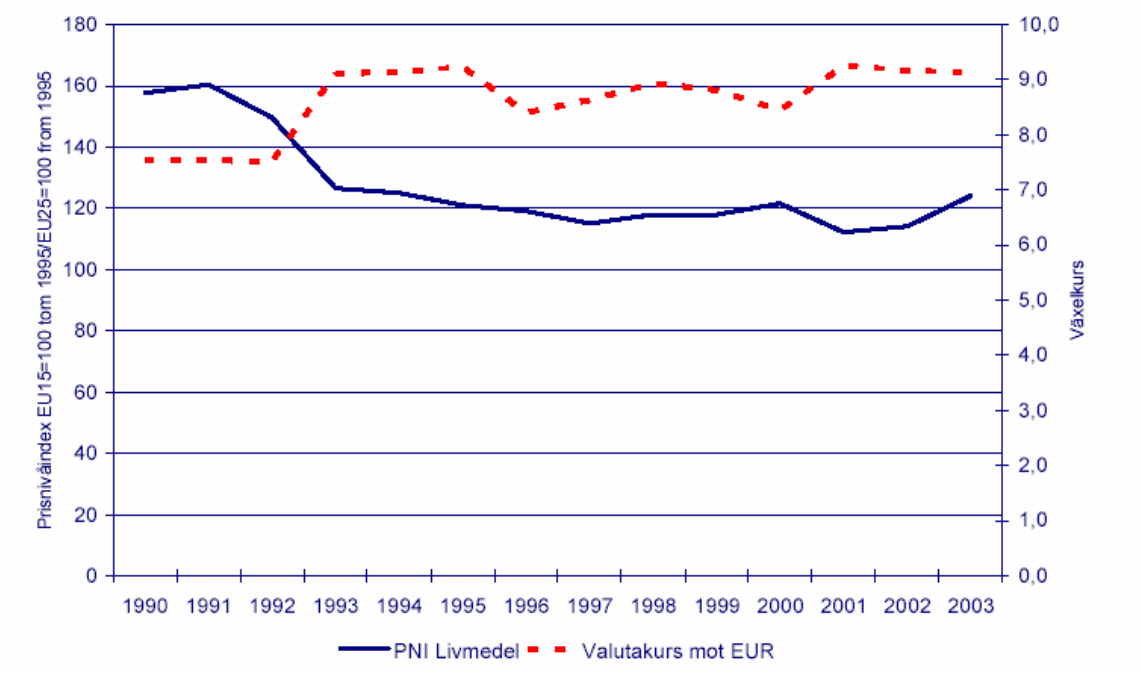


Diagram 4. Swedish prices for food in comparison to EU-countries, and exchange rate movements.



Source: Eurostat (2004).

Municipal services still provided by monopolies

Local government is the main provider of welfare services in Sweden. They produce and buy health care, schooling, care of elderly, local transport as well as a wide range of cultural services. Municipalities and counties in Sweden provide public consumption amounting to close to a quarter of GDP. Of that amount about nine percent are purchased from private providers, up from about four percent in 1990. Unfortunately there are no exact figures of how large a share is of local government services is not procured through a tendering process. A rough estimate is that public providers win contracts in tendering in about half the cases. That would imply that 82 percent of public consumption provided by local government is not exposed to competition at all.

In child care 13 percent is produced by private providers, for the care of elderly the figure is 12 percent, and in schools about five percent. Voucher schools have been allowed since 1991, and have nearly six percent of all pupils.

The gradual increase in competition for local government services has rendered some success. For example costs for local bus services decreased considerably in the early 1990ties as most municipalities began procuring these services in open tendering.[7] Several studies indicate that voucher schools have had a positive effect on academic achievement in surrounding municipal schools.[8]

In addition local governments provide private consumption. Some of this is distributed through utilities such as water, the local electricity network, garbage collection, park- and road management. Sometimes these are produced by the municipal administration, sometimes in municipal companies, and sometimes they are procured from private firms. Municipalities also provide a significant share of rental housing, sport facilities, local transport and libraries. Further all municipalities have to some degree entered markets for private consumption that is normally provided by private firms. Some municipalities operate stores or taxies. Many operate cafeterias or restaurants. Many operate gyms that compete with private gyms. These services are often cross-subsidized. The effects of such subsidized competition is analysed further in section 3.

[7] Alexanderson, Fölster and Hultén (1998).
[8] E.g. Bergström and Sandström ( )

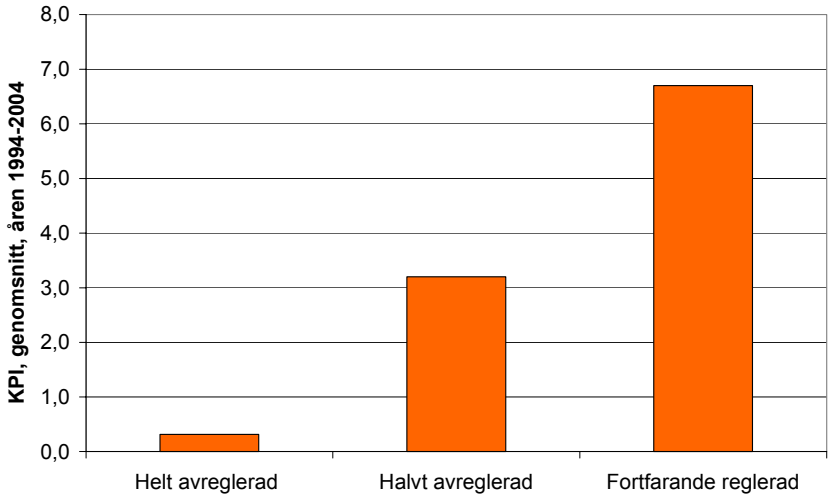
2. Remaining competition problems

A recent government investigation, the Regulatory Reform Commission (2005), has attempted to summarize the effects of deregulation in telecoms, electricity, postal, domestic aviation, taxi and railway markets. Their conclusion is that the number of firms has increased in all the deregulated markets. Productivity has increased faster after deregulation in at least four of the six markets.[9] A sign of this is also that employment has decreased in all markets except for the taxi market.

When it comes to price changes, however, the Commission claims that prices have increased relative to the consumer price index in five of the six markets. The only exception is the telecom market where prices have fallen substantially. This way of viewing the effects of deregulation on prices seems to be at odds with the studies referred to in the previous section that seem to indicate that Sweden has relatively low prices in deregulated network markets. One way of resolving this divergence is to look at the diagram below. This shows the average annual increase in consumer prices in three types of bransches. Most industries are deregulated. On average prices have increased 0,2 percent per year. Partially deregulated industries include electricity, postal services, railroads. There prices have increased three percent a year. Finally completely regulated branches have seen prices hikes of 6 percent a year. These include health care and a number of municipal services.

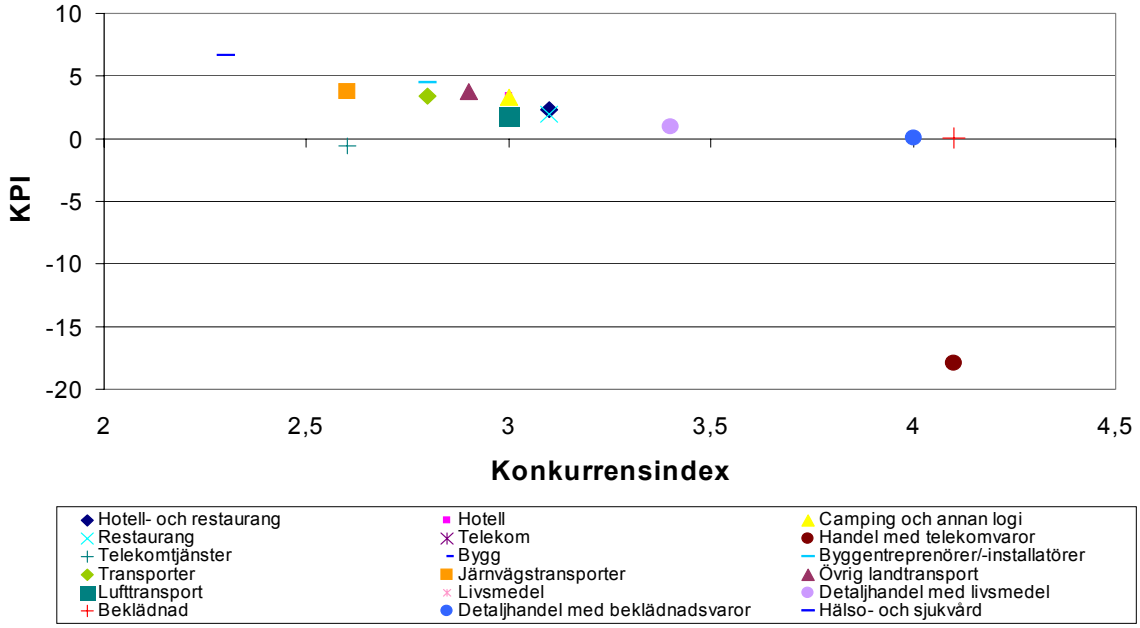
[9] For example Falkenhall and Kolmodin (2004) show that labour productivity in the state owned postal firm (Posten AB) increased by 30 percent after deregulation between 1993 and 2000. Veiderpass (2004) shows that total productivity in the electricity supply industry fell by 16.9 percent during the period 1970-1995, but increased after deregulation by 19 percent.

Diagram 5. Increase in consumer prices in completely deregulated, partially deregulated and regulated industries, percent average increase per year.



A closer examination seems to confirm this pattern. In the diagram below 18 industries have been ranked in terms a competition index that is based on the extent of product market regulation, new entry and a number of other factors. There seems to be some correlation with average annual price increase. Bergman (2004) also plots the unexplained (by differences in labour costs, wage tax wedges and consumption taxes) price differences between Sweden and the EU against an index of the level of competition, and finds a close correlation.

Diagram 6. The competition index and the average annual price increase, 1994-2004



Taxes explain part of the difference

The Swedish competition authority has analysed relative price levels at the macro-level.[10] Their conclusion is that about half of the difference between Swedish and OECD price levels can be explained by the population size, GDP per capita, tax levels, labour costs, consumption patterns and exchange rates. The other half remains unexplained and is interpreted to be the result of insufficient competition.

Bergman (2004) analyses price differences between Sweden and the EU för 30 different consumption categories over the years 1990-2001. He finds that differences in labour costs, wage tax wedges, and consumption taxes explain 62 percent of the price differences. Price differences for food appear to be nearly completely explained by these variables.

In both studies taxes explain a significant share of the price gap between Sweden and the EU. Average value added tax rates are 22 percent which is considerably

[10] For example in Konkurrensverket (2000).

higher than in most countries. Income tax levels also play a significant role, presumably because they increase labour costs.

Lack of competition is still a problem in a large segment of the economy

Bergman also calculates the remaining price difference for the thirty consumption categories that cannot be explained by differences in taxes, labour costs, the exchange rate and changes in demand. Categories where the unexplained price difference is at least 10 percent to Swedens disadvantage reveals an interesting pattern.

Rents	11%
Health care	13%
Transport services	12%
Alcoholic beverages	38%
Alcohol-free beverages	22%
Tobacco	14%
Newspapers and books	11%
Restaurants and hotels	18%

In the first four categories state and local governments have significant monopoly power. These areas also stand for a significant share of consumption, and thus affect the overall price level. This gives an indication that government monopolies may be a significant remaining cause of high price levels in Sweden.[11]

The important role of local monopolies is also evident in a comparison by Braunerhjelm et al. (2002). They estimate that 32 percent of Swedish consumption was provided on markets open to competition, while the average for EU-countries was 45 percent. The main reason for the difference is that a relatively large share of Swedes consumption is

[11] There may be category-specific explanations for the remaining four categories. While beverages are more highly priced in Sweden, other food has lower prices. For food as whole the unexplained difference is only one percent. Tobacco sales are considerably smaller in Sweden than in most European countries, which may affect prices. Prices of books and newspapers tend to be higher in smaller countries, because there are fewer subscribers per newspaper. For hotels and restaurants there may be a composition effect. High consumption taxes imply that hotels and restaurants to a greater extent cater to business customers which probably affects price levels.

either public consumption (such as health care, child care and care of elderly) or consumption provided by publicly owned companies (such as municipal housing, garbage collection and water companies). In these areas competition is much less common than in markets that cater to private consumption.

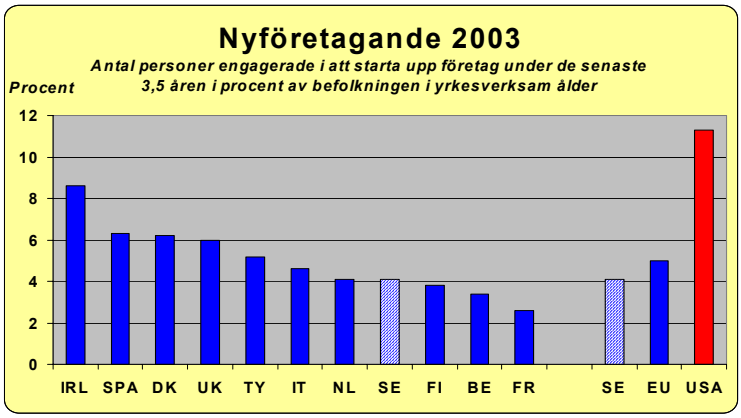
At the state level there is also a large number of government agencies and state owned firms that affect competition. In one survey of government agencies one fourth of all agencies were found to be active producers in private markets (Bergdahl, 2000).

Lack of new entry is still a problem

In our previous (1997) study an important result was that lack of new entry was a greater problem than industry concentration. New entry can sometimes be stopped by specific regulation in a market. There may, however, also be a problem with more general incentives to start new firms.

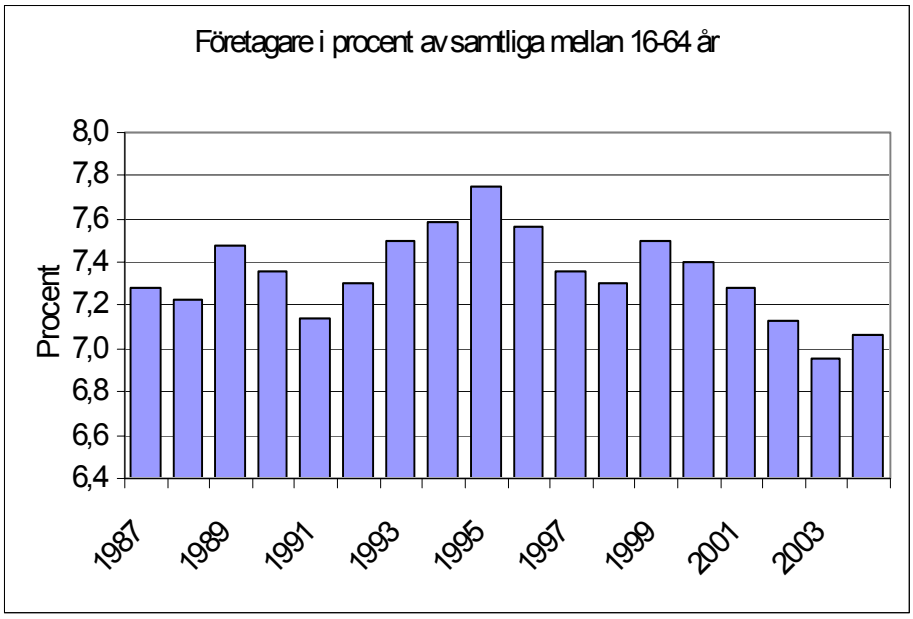
At a macro-economic level Sweden has relatively few people engaged in starting new firms, and relatively few firm owners. This is shown in the diagrams below.

Diagram 7. Share of working age population that have started a business during the previous 3,5 years. Global Entrepreneurship Monitor, 2003.



In fact the there is downward sloping trend in the number of self-employed.

Diagram 8. Share of self-employed in Sweden´s working age population



Source: SCB, AKU.

It is therefore of interest to examine also how competition policy affects new entry and establishment of new businesses in general.

3. Local Government Policies and the Private Sector in Sweden

Local governments play an important role in Sweden's federal system. Their expenditures amount to around 25 per cent of GDP, and they also employ about a quarter of all Swedish workers. These are around double the comparable figures for the US. Because of their large economic role the tax, expenditure and regulatory policies of these local governments can have important effects on the private sector, and that connection is the subject of this section.

Sweden's federal system consists of 21 counties (län), which are the rough equivalent of US states, and 290 municipalities (kommun), similar to a combination of US counties and cities. Here we focus on the municipalities, which account for around 80 per cent of local government employment and 70 percent of expenditures. Our goal is to first describe some aspects of the municipalities' political economy that we can measure and then explore the connection between those measures and the larger local economy.

We use extensively the results of an annual survey conducted by the Confederation of Swedish Enterprise (SN) of approximately 37,000 Swedish business owners. The survey includes two questions about the government of the municipality in which the business operates: 1) What is your experience with unfair public competition from your municipality? 2) What is your experience with bureaucracy and regulation in the municipality? The responses are on a 1-6 scale, where higher numbers mean a better experience. We have municipality averages of these responses for no fewer than 273 of the 290 municipalities for 2001-2004. Accordingly a panel of municipalities over these particular years plays a large role in our subsequent analysis.

The questions are, in principle, about different aspects of a business owner's relations with municipality government. The first reflects the extensive involvement of the government in local enterprises. The 290 municipalities operate 1400 firms with combined

revenues of about 130 billion kronor per year. Close to half of the revenue comes from housing firms. Local utility firms are also common. Many municipalities also operate hotels, restaurants, retail outlets or repair shops. In addition there are many examples of competition on private markets by municipal agencies. This raises a concern that municipalities may deter provision of private goods and services by engaging in unfair competition, and through general business conditions. In a survey by the Swedish Competition Authority two of three firm owners claimed that they are exposed to competition from government services.[12]
In the SN survey by the Confederation of Swedish Enterprise firm owners the most commonly mentioned problems are:

- Sales below costs: Municipal agencies frequently sell at marginal cost since fixed costs are already covered by tax revenue. For example, the municipal Park administration frequently sells excess plants to the general public at low prices.

- Subsidies to some actors on the market: Municipal agencies provide subsidies to municipal sport facilities or provide free labour in unemployment programs to municipal firms.

- Tendering in which municipal and private companies compete is rigged in favour of the municipal firm.

- Conflict of interest: An example is that a municipal agency that controls fire security standards also sells consultancy services on fire security.

The government is thus both a competitor and a potential source of contracts for the private sector. In the context of the survey question, a private business person would give low marks to a municipality that favoured or subsidized a government-owned competitor or foreclosed a market entirely to private supply.

[12] Konkurrensverket (2004).

The second question, about bureaucracy and regulation, would apply to all businesses, not just those facing government competition. We will soon see, however, that there is a large common element – call it perceived 'business friendliness' - in the answers to these two questions.

Swedish municipalities have been privatizing some activities. In aggregate the share of private provision of municipally financed services has increased from four percent to nine percent since 1990. There are, however, large regional differences. In Stockholm about 20 percent is purchased from private providers. In about half of all municipalities the share is close to zero. We use the percentage of a municipality's budget spent on private contracts for activities formerly provided by the municipality itself as another indicator of the local political economy.

Finally, we use two broad measures, one political the other fiscal. Politically municipalities are governed by municipal councils. These have anywhere from 31 to 101 members depending on population, and they are elected every four years. The last election occurred in 2002, which is conveniently in the middle of our period of greatest interest. The allocation of seats among parties is determined by proportional representation. We use a simple right-left summary of this allocation. The "right-wing" share is based on the seats held by the four main right-of-center parties(the Moderates, Center party, Liberals and Christian Democrats) while the left-wing share is based on representation of the three main left parties (Greens, Social Democrats and Left party). Together the seven main parties hold 95 per cent of the seats, but the minor parties can be important locally.[13]

Our fiscal measure is the local tax rate. Most revenues for county and municipality government is raised by a tax on individual income (after exemptions and deductions). The rates reflect the division of spending between the two levels of government with the

[13] For example, there is neither a right nor left majority in around one-sixth of the cities

municipality tax around twice the county tax. The combined local tax rate averages around 25 per cent of unadjusted income and over 30 per cent of taxable income.

Our goal is to see if local public policies plausibly affect the size of the local economy, with particular reference to the private sector. For example, does a municipality's private sector grow if it adopts policies friendly to the private sector? Does any private sector growth enlarge the overall economy or just replace government activity? To answer such questions we employ a variety of measures of the municipality's macroeconomy. These include:

- Employment, total and private sector. These are for workplaces located within the municipality.
- Individual income and individual plus enterprise income. These are the amounts assessed for collection of local and national taxes. Individual income approximates wage and salary payments in the national accounts. Each municipality taxes its own residents.[14] Accordingly one municipality is credited with income generated at a workplace in another municipality. The enterprise income is, in principle, the capital income generated at workplaces in the municipality.
- The private sector share of household income. The numerator is wages and benefits received from the private sector. The denominator adds to this wages and benefits from the public sector plus publicly financed transfers.
- Private workplaces in the municipality. A workplace is similar to an establishment in US data, i.e., the basic micro-unit for industry analysis. Total private sector activity equals activity per workplace times the number of workplaces. Accordingly an increased number of workplaces need not imply a larger private sector, if there are many small new workplaces.

[14] Municipalities are compensated by the state for differences in tax revenues that are due to differences in residents income.

For our purpose, the first and last of these measures are probably most relevant because they relate most directly to income generated within the municipality. None of these measures capture directly activity in the unreported 'shadow economy.' By some measures this may comprise five to fifteen percent of GDP. To the extent that anticompetitive policies negatively affect business activity, we cannot exclude that this is partially offset by greater activity in the shadow economy.

Tables 1 through 3 provide some descriptive data and correlations. They are mainly self-explanatory, but some highlights deserve mention. Table 1 shows the business community to be faint in its praise of the local public sector. The scores hover below the middle of the 1-6 range and there is no discernible trend. By contrast, private contracting is growing rapidly, its share of municipal budgets having nearly doubled over the 1997-2003 period. Politically, municipalities tilt slightly left. There was small but non-trivial party turnover in the 2002 elections, which led to slightly more right-left polarization than before. Both Tables 1 and 2 highlight again the importance of Sweden's public sector; over half of household income in the average municipality comes from public sector employment or transfers.

Table 3 provides descriptive correlations (panel A) and regressions (panel B). The variables in the latter are chosen somewhat arbitrarily, and no causal inferences should be drawn from them (especially the between municipality regressions in part 1 of panel B. Our goal here is to give the reader a sense of the important regularities (and non-regularities) in the makeup of the political economy of Swedish municipalities. Panel A, which is dominated by between effects, shows that the municipalities most friendly to business (high survey scores, relatively low tax rates, high private contract shares) tend to have relatively large private sectors and lean to the right politically. The between regressions in panel B suggest

that both these factors (and, where relevant, lower tax rates) contribute independently. The one wrinkle here is with private contracting. This has gone furthest in large, high-income cities and in the Stockholm area, where the private contract share is over double the national average. Neither city size, nor income nor location seems consistently related to the other indicators.

The within regressions confirm some of the cross-sectional patterns. So a tilt to the right in the 2002 elections or an increase in tax rates tends to be associated with less pro-business policies. However, these regressions are more interesting for what they do not show. For example, each includes among the regressors an estimate of the exogenous component of the size of the local economy. This is derived from the pre-sample period industry composition of local employment and the within sample period *national* trends in industry employment.[15] That "expected employment " variable has no consistent relation to the political economy variables. Thus we can allay fears that , for example, incipient good times become reflected in business people's praise for the local government or in a rightward tilt politically. Also, the last within regression suggests that business perceptions of unfair competition do not move significantly in the short run when the private sector receives more municipal contracts.

Finally, all of the correlations and regressions sugges that the two elements of the SN survey may be measuring much the same thing. The two are highly correlated across and within municipalities, and they share similar coefficients in the between regressions. Accordingly, we will henceforth work with an average of the two elements, which we chose to regard as an overall indicator of pro-business policies.

[15] Specifically, we have a roughly 1-digit industry breakdown of employment by municipality. We take the 1999 composition as a base year. Then we multiply the base year employment in each industry in each municipality by an index (1999=1.0) of total Swedish employment in that industry for each year. The result is an estimate of what total employment in the municipality would have been if employment in each of its industries had grown at the national average rate after 1999. This estimate is unaffected by any municipality policy change or political shift after 1999 (that differs from the national average).

The local economy and political economy. Table 4 contains a more systematic look at the data. It shows results of within and between-municipality regressions in which the dependent variable is some economic outcome and one of the political economy variables is on the right-hand side. This, in-effect, treats the political economy measures as alternative depictions of similar underlying local policies, a view which is roughly consistent with the data in Table 3. (Nothing much of substance changes, however, if we run more traditional multiple regressions). The within-regressions are identified from movements, net of fixed year-effects, over 3 or 4 years within each of the 290 municipalities. The between-regressions are just cross-municipality averages with added controls for municipality population and the Stockholm region.[16] As expected, the within results tend to be weaker but the presumed direction of causality is perhaps a bit easier to swallow than for the between regressions. All of the results need to be taken with some caution: undoubtedly causality runs both ways and these data are too crude to do much more than state that caveat.[17] Accordingly, we try to emphasize the more or less consistent patterns in the data.

While individual results vary in strength, the broad pattern can be gleaned from the first 2 columns. Municipalities that business people perceive as friendly and that have lower tax rates tend to have higher incomes which are generated in larger private sectors. That pattern shows up in both the short-run (within) and long-run (between) relationships. The only wrinkle is the significant positive within coefficient of local tax rates, combined with the

[16] In the Swedish context this region is an outlier. Per capita income here is around 20 percent above the sample average as is the private share of household income and employment. We also tried dummies for Sweden's far North, which lies at the other end of these distributions, but these never proved significant. Table 4 does not show any of the results for these controls, because they are peripheral to our inquiry. In summary, larger municipalities and, of course, the Stockholm region have above average incomes, employment and private income shares. Private employment shares are unrelated to population (but higher around Stockholm) and private workplaces per capita are more numerous in the smaller municipalities (but there is no regional difference).

[17] We gave into the usual temptation to search for instruments. For example, we tried using the results of the 2002 municipal elections to instrument for some of the other policy variables. However, as Table 3 suggests, the connection here is too weak for this kind of strategy to be useful.

equally strong negative between effect, in the total employment regressions. One inference is that public sector expansion raises employment in the short run, but reduces it in the long run.

Some of the magnitudes in the between regressions are quite substantial. Consider, for example, the -.024 between coefficient for local tax rates at the top of column (2), which gives the effect of a +/- 1 point move in the local tax rate on the log of per capita income. A 1 point move in local tax rates is around 3 per cent, so the -.024 coefficient implies that most of the revenue from a tax increase is ultimately offset by erosion of the local economy. Taken seriously, this suggests that Sweden's local public sector may be near the top of a Laffer curve. We would suggest that the result at least not be dismissed lightly. The reason for doubt would be that the tax rate is proxying for some force that makes intrinsically low income municipalities adopt high tax rates. If that is true for Sweden it is certainly not generally true. For example, while we have not done the same simple between-state exercise for the US, we suspect it would show the opposite results: the high tax rate states in the US (New York, California, Massachusetts) include some with the highest per capita incomes.

The between tax coefficients for the private sector income and employment shares are even more startling. While some of the variables are not directly comparable, it is worth tracing through the implications of a 1 point local tax rate increase for the size of the private sector if the between coefficients are causal: as mentioned, total income would fall 2.4 per cent. Now read down column (2) to the -.032 between coefficient for the private share of household income and note from Table 2 that this share averages around half. So the 1 point tax rate increase would reduce the share to around .47. All in all, these results imply, private sector based incomes would fall by twice the percentage change in the tax rate. The same exercise for private employment yields a percentage decline that ranges from the same to

twice the percentage tax rate increase.[18] The implication is that Sweden's private sector may already be on the wrong side of the long-run Laffer curve.[19]

The between coefficients on the SN survey also imply sizeable effects. Again the caveat about causality is in order (as is the counter-implication of US experience, where low income states and cities often adopt business-friendly policies to attract businesses to their area). For example, the .022 coefficient near the top of column (1) suggests that per capita income will rise by 4.4 per cent if a city moves from moderate hostility (1 standard deviation below the mean) to moderate friendship toward business (1 standard deviation above the mean) on this survey[20]. This may not sound like much, but in egalitarian Sweden it is around a fourth to nearly a half of the standard deviation of per capita income across Swedish municipalities.[21] The implications for the size of the private sector of the relevant between regressions are even more dramatic.[22]

The remaining political economy variables, private contracting and party shares in the municipal council, mostly echo the preceding results. Generally, higher aggregate incomes and greater private sector shares tend to be associated with municipalities that have more private contracting or lean to the right politically. However, the effects here tend to be measured a bit less precisely.[23]

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[18] The larger estimate is based on the -.035 between coefficient in column (2) in the private employment share regression. The smaller estimate is based on the -.017 coefficient in the regression immediately below that.
[19] Note that even the short-run (within) tax rate coefficient in the total income regression (-.011) is sizeable. It implies a tax elasticity of income of -.3.
[20] But the reader should not take the suggestion literally. The coefficient is measuring a variety of forces summarized in one variable, the SN survey. When we enter both the SN survey variable and the tax rate in the same between regression, the coefficient of the survey declines around 40 per cent (and the -.024 tax coefficient drops by around a fourth).
[21] From Table 2 , note that the mean of the per capita income variable is around 150 thousand SEK with a standard deviation of around 25, or 17 percent. So 4.4 per cent is around a fourth of this latter figure. Note, however, that the between regression includes controls for population and Stockholm, which reduce the unexplained standard deviation to around 10 per cent.
[22] For example, a two standard deviation increase in a municipality's survey score is associated with a one standard deviation increase in the private sector share of household income.
[23] They also tend to be smaller numerically. For example, the results imply that only a small part of the effects of raising the tax rate by one percentage point would be offset by devoting all of the revenue to private sector contracts.

The private workplace variable behaves differently than the other measures of the private sector. There is no robust evidence that business-friendly policies are associated with more private businesses. Indeed the short-run (within) tax rate effect is significantly positive. Recall, however, that the number of private workplaces can increase even if the private sector contracts in the aggregate. Thus the results in column (2) of Table 4 hint that new workplaces opening in the wake of a tax increase are smaller than average and make up for only part of the reduced activity at established workplaces. To some extent this may reflect the fact that small workplaces find it easier to work partly in the shadow economy and thus can earn some their income untaxed.

On the whole we think the results in Table 4 should encourage a broader investigation into the impact of local public policies on economic activity generally and private sector activity in particular. Some of the individual results are weak, and we would reiterate caution about interpreting each result as a causal effect of a particular policy. However, we would emphasize the broad pattern in the data: municipalities that show up well on most any pro-business metric or move in that direction tend also to have better performing local economies and larger private sectors.

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Table 1. Descriptive Statistics: Political Economy of Swedish Municipalities, 2001-2004

	Sample size	Mean	Std. Dev	Within SD	Notes
SCB Survey					
Unfair Public Competition?	1142	3,19	0,48	0,24	1
(1= big problem, 6=no problem)					
2001	273	2,87	0,47		2
2002	273	3,11	0,40		2
2003	273	3,56	0,39		2
2004	273	3,19	0,39		2
Quality of Bureaucracy & Regulation					
(1=Bad, 6=Excellent)	1142	2,66	0,27	0,14	1
2001	273	2,61	0,27		2
2002	273	2,64	0,28		2
2003	273	2,71	0,27		2
2004	273	2,69	0,27		2
Municipal Council Seats, Shares					
Right-wing parties	580	0,45	0,12	0,03	3
Left-wing parties	580	0,50	0,11	0,03	3
2002 election transitions					
right majority gained	18				4
right majority lost	12				4
left majority gained	20				4
left majority lost	15				4
Local Tax Rates (percent)					5
total	1447	31,32	1,17	0,41	
municipality	1447	21,25	1,33	0,22	
county	1442	10,10	0,53	0,32	
Private Contracting (percent)					6
2001-03	868	6,11	4,81	1,32	
2001	289	5,51	4,19		
2002	289	6,21	4,94		
2003	290	6,62	5,20		
1997	287	3,57	3,11		7

general note: subsequent regressions may use transformations of these variables.
Within SD is the standard deviation within municipalities, across years

notes on variables:
1. sample includes municipalities with missing data for some years
2. sample includes only municipalities with data in all years
3. share of seats in the 1998 and 2002 elections held by the main right wing parties (Moderates, Liberals, Christian Democrats, Center)
or left wing parties (Green, Social Democrats, Left). Other parties not classified.
4. Majority means that the coalition has over 50% of the seats. There are 580 potential transitions for the 290 councils in 2002.
5. Local taxes are levied on individual incomes, after exemptions, by muncipality and county. Data include 2000, because rates levied in t are collected in t+1
6. Payments to private contractors as per cent of municipality's total expenditures
7. shown for comparison only

Table 2. Descriptive Statistics: Economic Variables, Swedish Municipalities, 2001-2004

	Obs	Mean	Std Deviation	Within SD	Notes
Aggregate Indicators (per capita)					
Personal Income (SEK 000)	1157	141,18	16,79	2,070	1
Personal + Enterprise Income (SEK 000)	1157	152,09	25,13	7,290	1
employment (2001-03)	868	0,40	0,09	0,009	2
Private Sector					
Share of Household Income (2001-03)	868	0,49	0,08	0,007	3
Share of employment (2001-03)	869	0,62	0,08	0,015	4
Private workplaces per 1000	1158	107,46	29,96	3,280	

see general note to Table 1

notes on variables
1. Assessed income before deductions and exemptions for assessing local and national taxes. Local taxes are assessed only on personal income.
2. employment at workplaces located in the municipality
3. household income from privately financed wages and benefits/(private + public wages and benefits+ public transfers)
4. employees at privately owned workplaces/employees at all workplaces

Table 3. Correlations and Descriptive Regressions: Political Economy Variables

Notes		Unfair Public Competition (1)	Mun Bureaucracy &Regulation (2)	Local Tax Rate (3)	Right Wing Seat Share (4)	Private Contract Percent (5)
	A. Correlation Coefficients Political & Economic Variables					
	Municipal Bureaucracy/Reg	.61				
	Local tax rate	-.23	-.27			
	Right Wing Seat Share	.37	.33	-.37		
	Private Contract Percent	.24	.13	-.46	.34	
	Personal Income per capita	.28	.14	-.31	.15	.66
	Private Income share	.35	.35	-.55	.36	.49
	Private Employ't Share	.34	..39	-.39	.33	.21
	Private Workplaces per cap	.12	.01	.15	.33	-.08
	population (log)	-.15	-.06	-.38	.06	.42
	stockholm region=1	.15	.05	-.36	.18	.69
A	B. Descriptive Regressions					
	1. Between Municipalities Coefficients					
1	unfair public competition			-.019		.369
1	mun bureaucracy			-.380		
	local tax rate	-.186	-.156			-.714
	right wing seat share	1.649	1,435	-.658		7.559
	private contract percent	.015	-.001	-.061		
	per capita income (log)	.028	.099	.941	-.242	14.315
	private income share	3.842	4.370	-3.768	.706	-9.356
	population (log)	-.390	-.222	-.271	-.002	.854
	stockholm region	-.151	-.634	.109	.038	7.459
	Between Rsq	.53	.28	.48	.17	.69
	No of Obs (municipalities)	851 (289)	851 (289)	851 (289)	578 (289)	851 (289)
2	*2. Within Municipalities Coefficients*					
3	expected employment (log)		-6.427		-.366	10.054
	unfair public competition					.035
4	mun bureaucracy & Reg	.82				
	local tax rate		-.153		-.008	.385
	right wing share		.169			1.098
	private contract percent		.003			
	Within Rsq		.55		.07	.15
	No of Obs (municipalities)	1142 (290)	851 (289)		578 (289)	851 (289)

notes

A. coefficients shown in small font have P-values>.05. All others have P<.05
1. expressed as a standardized (0,1) variable
2. all regressions include year and municipality dummies. Standard errors (not shown) are clustered by municipality
3. predicted employment, given pre-sample industry composition of municipality and national trends in industry-specific employment. See text
4. first column gives within municipality correlation 'unfair public competition' and 'municipal bureaucracy/regulation'
subsequent results on this line, and for the next column, are for a standardized (0,1) average of the two standardized variables

Table 4. Local Public Policies & the Local Economy and Private Sector, 2001-2004

Notes		Political Economy Variable							
A		(1) SN Survey		(2) Tax Rate		(3) Private Contracts		(4) Right-wing Share	
B	**Economic Outcome**	Coeff	t	Coeff	t	Coeff	t	Coeff	t
	Total (per capita, logs)								
	Individual + Enterprise Income								
	-----Within	.004	0,9	-.011	2,7	.001	1,1	.034	0,9
	-----Between	.022	3,1	-.024	4.0	.008	3,8	.059	1,2
1	Employment (net of expected)								
	-----Within	.004	1,7	.008	2,8	.002	2,1	-.062	1,2
	-----Between	.013	4.0	-.008	3.5	.002	2.0	.103	5.2
	Private Sector Shares of								
2	Household Income								
	-----Within	.002	2,3	-.002	2,2	-.0001	0,4	.024	1,6
	-----Between	.042	10.8	-.032	9.2	.004	3.1	.194	6.2
	Employment								
	-----Within	.002	1,2	-.001	0,5	.0004	0,6	.023	0,8
	-----Between	.047	9.2	-.035	7.9	.005	3.1	.228	5.8
1	Employment (net of expected)								
	-----Within	.001	0,8	-.0003	0,1	.0001	0,8	.011	0,4
	-----Between	.016	5.4	-.017	6.9	.005	5.4	.153	7.5
	Private Workplaces (per capita, log)								
	-----Within	.003	0.9	.007	3.4	.002	2.0	-.062	1.1
	-----Between	.006	0.3	-.003	0.2	.016	3.2	.958	8.4

Notes:

A. Dependent variable in each regression is the indicated economic outcome. The political economy variable in each column is entered separately.
The "SN Survey" is a standardized (0,1) variable which averages the standardized values of unfair public competition' and 'municipal bureaucracy & regulation' as described in Table 3. Other variables are as described in Tables 1 through 3.

B. Economic outcomes under 'total' are municpality totals divided by population. 'Private sector shares ' are the fraction of the total originating in the private sector.
Each "within' regression includes year and municipality dummies, and standard errors are clustered by municipality.
Each 'between' regression includes the log of population and a dummy for the Stockholm region.
Coefficients for all these controls and regression summary statistics are not shown. Sample sizes vary according to the variables: total income, the SN survey, right-wing seat share and tax rates are available for most municipalities for 2001-2004. Employment, private workplaces, private contracts and private household income shares are available for 2001-2003. There are 290 municipalities.

1 Expected employment is computed as described in text n.2. We have a similar, but noisy, measure for private employment. It is the expected employment in industries with mainly private employers (all 1-digit industries except government, health and education). For total employment we deduct the log of expected employment from the log of actual employment. For the private employment share we use our noisy measure of expected private employment to construct an expected private employment share and deduct that from the actual privbate employment share.
All employment data are for workplaces in the municipality. Thus per capita employment can and does occasionally exceed 1.0

2 See note to Table 2. The denominator includes government transfers as well as government wages and benefits.