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Socio-Spatial Implications of Street Market Regulation Policy

The Case of *Ferias Libres* in Santiago de Chile

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Abstract

Unlike in most Latin American cities, street vendors organized in farmers' markets popularly known as *ferias libres* in Santiago de Chile, gained legal recognition early in the twentieth century. Since then, *comunas*, or local municipalities, have provided vendors with individual licenses that stipulate the place and time of operations, and have defined a clear set of rules regarding customer service. However, this early legal recognition has not necessarily overcome the embedded conflict over the economic use of public space. As supermarkets become spatially positioned along the main streets within easy access of the city's transportation system, *feriantes*, or licensed street vendors, are being relocated in less profitable areas. Moreover, *coleros*, or unlicensed vendors, are still flourishing despite efforts to restrict their numbers.

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Keywords: informal sector, regulation, farmers' markets, competition
JEL classification: E26, R38, R53, N76

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This paper argues that the current regulations regarding *ferias* promote market segmentation that is detrimental to both municipal control and *ferias*' competitiveness. An analysis of their spatial distribution within the city identifies two key elements: (i) the probability of a *feria* being located in a particular neighbourhood is sensitive to the patterns of residential socioeconomic segregation experienced by the lower socioeconomic status households, and (ii) the number of unlicensed vendors decreases drastically in relation to the licensed vendors within the less segregated neighbourhoods. These results suggest that a more cautious allocation criteria may promote greater control for the *comunas* while preventing further market segmentation and stigmatization of the *ferias*.

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1 Introduction

In Santiago de Chile, street vendors working in farmers' markets, known as *ferias libres,* achieved recognition as legitimate providers of agricultural produce in 1939 (Salazar 2003: 83). In a context of food supply scarcity, urban planners found in *ferias* an alternative low cost solution to building public markets for serving a growing city that demanded agricultural produce at affordable prices. Although most vendors were not necessarily farmers, as they initially had been, *ferias* remained steadfast through the 1980s within the upper-, middle- and lower-class residential areas.

During the late twentieth century, supermarkets benefited from the concentration of agricultural production fostered by free trade policies, and started to offer competitive prices to a wider clientele. Initially dominant in central areas and upper-class neighbourhoods, supermarkets began relocating into the densely populated working class areas. Furthermore, the modernization of the city's transportation system also contributed to their accessibility reaching consumers traditionally served by street vendors in the farmers' markets.

Due to aggressive spatial competition, *ferias* may potentially be disadvantaged if the location factor is not controlled. In cities such as Lima, Mexico City, and Quito, where street markets are not strongly regulated, the site of the street market is up to the vendors, who tend to favour central areas in order to access a greater number of potential customers. Due to their informal nature, these vendors defend their 'gained' locations as their irrefutable right to pursue market opportunities, and often persist despite urban renewal or gentrification by supermarkets. Instead in Santiago de Chile, legislation giving legal recognition to the *ferias* empowered the *comunas* (local municipalities) to decide on the allocation of farmers' markets[1] to specific streets in order to diminish their negative effects and to maximize consumer benefits. However, the *ferias* are still marginalized in urban planning. None of the urban renewal projects related to Transantiago, the massive transportation system, has recognized the needs of the *ferias* in their designs. Instead, they have been relocated to backstreets far from their original attractive commercial areas.

How is the current regulation affecting the market opportunities of the *ferias* in the competitive environment? What are the consequences of the allocation practices for their image and competitiveness within the city? This document aims to answer these questions by providing a spatial analysis depicting the *ferias'* choice of location and disentangling the neighbourhood effects of residential segregation and gentrification on the populace of *feriantes* (licensed vendors) and *coleros* (unlicensed vendors). I start with a review of the overall nature of the regulations governing the *ferias* and the implications of these for their market opportunity.

[1] Throught this paper, ferias and farmers' markets are used interchangeably.

2 Regulation and its implications

The regulations on ferias libres in Santiago de Chile mainly govern the administration of the economic use of public space. The central components concern the choice of location, operating schedules, procedures for market access, and the norms and sanctions regarding customer service. Each of these components has important consequences on ferias' competitiveness.

2.1 Location and operating schedule

Comunas define the location and operating schedule in which the ferias may operate. Location, with due consideration for the opinion of neighbourhood associations, is established based on reports from the transportation department estimating how the feria would impact on the transit flow; and the Secretary of Communal Planning, evaluating suitability of zoning for economic activities. General criterion promotes the selection of streets that are paved, low in traffic, furthest away from pollution sources, and those that would not cause inconvenience to the resident population. Each location can be used on a particular weekday (Tuesday to Sunday) from eight o'clock in the morning to three or four o' clock in the afternoon.

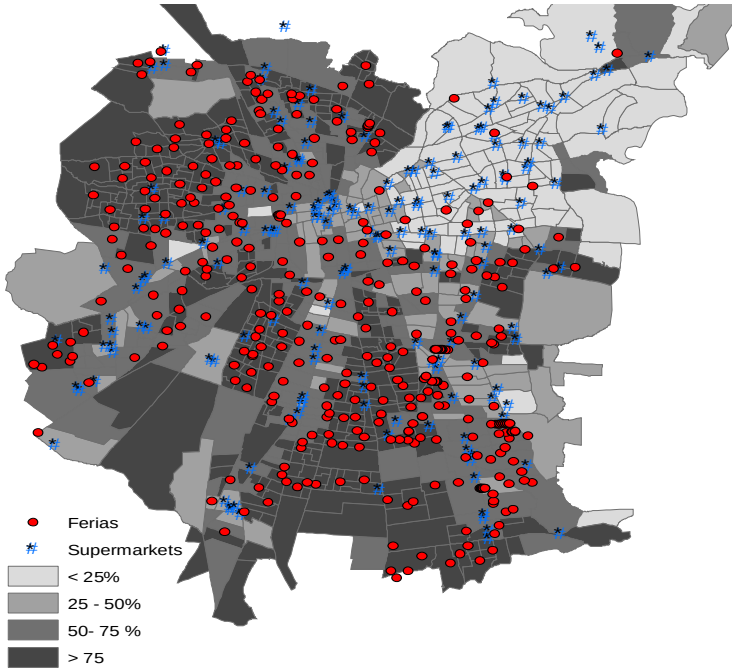
The allocation of a feria site is renewable or may be changed by the comunas at any time, and in some cases, a particular location is restricted to a time-limit of one year. The willingness to incorporate the feriantes in the decision-making process is conditional on local politics. In many comunas, location decisions are neither term-binding nor contingent upon prior consultations with licensed vendors. The allocation criteria, as currently in effect, may intrinsically favour some neighbourhoods. It is easier to set up ferias within neighbourhoods where private cars are not the main source of transportation, and thus residents would not be bothered by the installation of farmer's markets. Only 19 per cent of 364 ferias studied (out of a total number of 406 in Santiago) operate in areas such plazas or parks instead of the street; only 17 per cent provide parking facilities for their customers (ODEPA-USACH 2008). Customers are likely to be residents who live nearby. According to a survey administered in July 2005, approximately 85 per cent of ferias' customers were within a 9-11 minute walking distance: this could indicate that the possible area of influence of a feria to be limited to a maximum one-kilometre radius (Aliaga 2006a: 18).

Ferias can serve a larger clientele by working in different locations. Almost 70 per cent of the residents shop at least once a week in the ferias (ODEPA-USACH 2008: 4). Nevertheless, each feria is generally located at one particular site, operating either once (46 per cent) or twice a week (53 per cent). As Map 1 shows, ferias in comparison to supermarkets are more widespread throughout the city, but their locations differ, as they tend to be closer to areas with a higher proportion of lower socioeconomic households. An examination based on an mean travel time on Tuesdays to Sundays would indicate that approximately 6 per cent, 19 per cent and 75 per cent of the customers come from high-, middle- and lower socioeconomic status households, respectively (Aliaga 2006a: 26).

The standard operational schedule restricts evening activities in order to avoid additional investments by the comuna for lighting or security. This limits the clientele to those who have the time to shop in the mornings, as opposed to supermarkets, which

achieve their highest weekday sales peak between 6 to 9 pm (ODEPA-USACH 2008: 28). Based on a conservative perspective, this implies that those most likely to shop in the mornings are women who work either part-time or not at all. Even though female labourforce participation in Chile is low compared to other Latin American countries (World Bank 2005), the younger women in Santiago (Contreras, Puentes and Bravo 2005) are increasingly participating in the workforce. In the long run, this may make the operating schedules of the ferias outdated and less competitive during weekdays.

Map 1
Location of *ferias* and supermarkets in Santiago de Chile
according to the percentage of low SES households in the neighbourhoods



Source: SIFL (2005), ASOF; Population Census (2002), Supermarket Directory (2005), INE.

2.2 Market access

The allocation of vending posts inside the ferias is governed by a licence granted by the local municipality which also determine the costs and stipulations. Most comunas establish a fee based on the land value assigned by the internal revenue service according to the law of public goods use. The fee may include payment for the commercial right as well as other costs such as cleaning or security services. A number of comunas; however, particularly upper-class such as Providencia, consider each feria as a special case basis and have established a 'social' cost for the license rather than basing the cost in terms of land tax. In these cases, access is restricted to the current number of feriantes; in case of death or abandonment, license is not available to new applicants nor transferred to other family members of former feriantes.

Feriantes, or licensed vendors, are obligated to respect the regulations governing feria location and operating schedules, to have their licence readily visible for easy inspection, and to take part in the expenses for mutual services maintained by the vendors' association, such as chemical bathrooms, etc. A feriante is obligated to work in

his assigned spot during the stipulated days and times, since a long unjustified absence can count towards forfeit of licence.

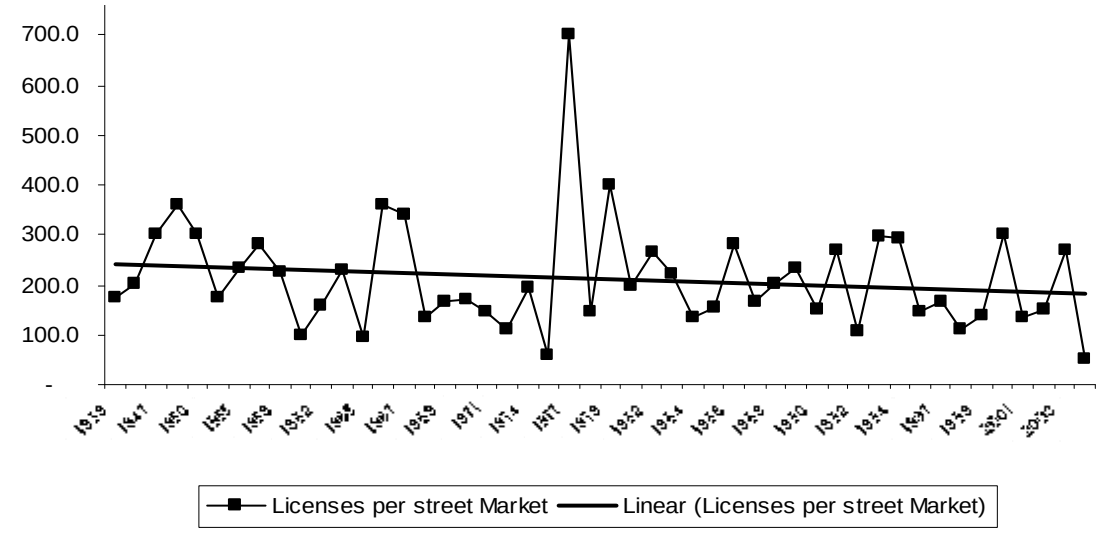
The main preconditions for obtaining a licence include availability of posts at the site, the applicant having no prior commercial business venture as well as residing in the comuna in which the licence is being requested. Few municipalities require registration with the health insurance and social security authorities. They may ask the applicant to verify his residency by requesting additional documentation (such as utility bills), or, dependent on the type of product to be sold, to obtain sanitary licenses. Inspectors can also visit the applicant unannounced. However, there is evidence to suggest that the residency ruling has been side-stepped by an applicant temporarily moving to a relative's address until the license has been approved (Aliaga 2006b: 59). Comunas with a higher proportion of upper-class residents usually have licensed vendors who do not live within the actual municipality but whose operations were linked to producer activities at the time the feria was founded.

The department of commercial patents and inspection in each comuna supervises that area size and the number of licences of the feria do not exceed stipulations articulated in the founding decree. In some comunas, the applicant may need a letter of acceptance from the local feria organization. On inquiry, most municipalities generally deny the availability of licenses, and finding a spot is left to the individual's connections. At times, the mayor or some high-ranking public official may issue a special petition for a social case, and in many cases, representatives of the ferias may provide letters of recommendation without prior consultation with the association. The licence is renewable each season, and can be terminated by the comunas at any time. It cannot be transferred to another person who is not working in the same stall, although some communities may give preference to relatives in the case of death or disability.

The objective of the licence is to minimize the adverse effects associated with the increase of licensed vendors, such as noise, additional garbage, traffic jams, or possible increase in robberies due to the accumulation of people. Urban planners in each comuna decide on the optimal size of the ferias based on how much the street width allows occupancy. Nevertheless, the number of licences among the younger ferias, if analysed according to the year of issue, shows a decreasing or stagnant trend while the coleros' average per licence is certainly on the rise (Figures 1 and 2). It could be argued that because the number of licences is increasingly restricted, many residents in the respective comuna have recently opted to operate unlicensed as coleros.[2] It has been estimated that almost a half of the feriantes had worked as licensed vendors for at least 17 years (ODEPA-USACH 2008: 6), while 50 per cent of the coleros had less than one year of work experience, and 42 per cent had a maximum of three years..

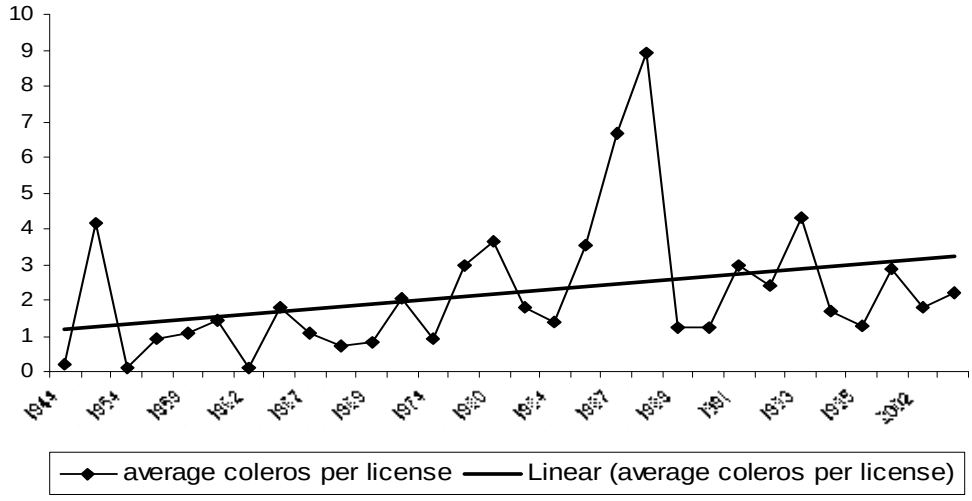
[2] Coleros or unlicensed vendors are used interchangeably in this paper.

Figure 1
Number of licences per *feria* according to the year of set-up, 1939-2004



Source: Author's calculations based on SIFL (2005).

Figure 2
Average number of coleros per licence according to year of feria set-up, 1944-2004



Source: Author's calculations based on SIFL (2005).

The municipalities try to restrict unlicensed vendors by confiscating their merchandise. However, some municipalities, such Renca and La Granja, have decided to issue partial licenses to this group, at half the fee of the actual permit (Aliaga 2006b: 61-2; Stillerman 2006: 518). Since supervision of the coleros is the responsibility of the inspectors, the ferias' associations have little opportunity to block access to their market. Similar experiences of unemployment among the feriantes may trigger some sympathy towards the coleros. A recent study estimated that 39 per cent of the licensed vendors had been unemployed before they obtained the necessary permits (ODEPA-USACH 2008: 6). Moreover, neighbourhoods with high unemployment rates may be more tolerant of the coleros as farmers' markets may also offer an opportunity for other income-generating activities as well. According to a study, 83 per cent of the

coleros work within their home municipality, and in 79 per cent of the case working at the ferias constitutes their main source of income, working generally 74 per cent of the time at the same location. Moreover, this study estimated that 12 per cent of the neighbours provide some type of service—such storage of merchandise or preparing breakfast—to either feriantes or coleros (Pavez et al. 2004: 129). Consequently, being unable to control the size of the ferias may be a response to the need for local sources of employment.

2.3 Customer service

Inspectors in each community visit ferias daily to supervise compliance with customer service norms, in addition to checking for absenteeism. The general norms establish that stalls must comply with established dimensions; prohibited or inferior quality products are not to be sold, working under the influence of alcohol is forbidden, as is the use of informal electric installations; weight value must not be falsified; nor is the authority of the inspectors' to be resisted. The sanctions are graded according to the gravity of the offence. There are four levels of sanctions: a caution or ticket, a fine, confiscation, or cancellation of licence. Three warnings entail a fine in most comunas. Confiscation or termination of licence is applied mostly in cases of repeated offenses or if the products are sold in dangerous or adulterated condition. Once confiscation occurs, the feriante is banned from re-applying for a licence or his licence is suspended up to three years.

Comunas allow only certain types of products to be sold. These include agricultural produce, seafood, meat, groceries, and the like. Certain communities may allow the sale of clothing or other related articles. In some instances, the municipality may stipulate the percentage of non-food products that can be traded, while in others, any non-food product may be prohibited. Regulations stipulate that the delivery of perishable food products requires special provisions: a vendor must have an isothermal or refrigeration system for seafood and meat. All food vendors are required to have a sanitary certificate, while the regulations in some comunas even demand specific clothing (gloves, hats, aprons).

Customer service norms have encouraged feriantes to improve sanitary conditions even within socially disadvantaged comunas. For instance, in 1992, the Food and Agricultural Organization (FAO) at the United Nations promoted a project for the improvement of the temporary stalls selling fish and sea products. Cerro Navia, one of the poorest comunas in Santiago, managed to have all licensed vendors selling food, fish and meat using the updated stalls and registered for temporary sanitary checking. Moreover, a recent study reported that one third of feriantes are increasing security by contracting private guards and 72 per cent are developing marketing initiatives such 'El cliente elige' (Let the client choose), which consists on letting customers select the products themselves, a practise common particularly in the upper-class residential areas (ODEPA-USACH 2008). Despite the advances being made, progress is sporadic. Pavez, Rautenberg and Lee Mira (2004: 130) find that 85 per cent of the neighbours living in the proximity of the ferias in the southwest communities that have with a higher proportion of working-class residents, claim that the markets attract sanitary hazards such street dogs, insects and mice.

3 Distribution of the Ferias Libres, residential segregation and gentrification

In Latin America, there is a growing concern about the effects of residential segregation, not just because of issues related to land prices or housing markets, but also because it could potentially affect social integration. Initially, cities exhibited a macro-scale centre-periphery model of residential segregation: the poor lived in the outskirts with little provision of services and unstable tenure, while the middle and upper classes occupied central areas. Recent research shows that residential segregation—characterized by scattered concentrations of wealth or poverty (Sabatini 2003)—is becoming more evident on the micro-scale either because of social mobility or the expansion of gated communities. Sabatini finds that in Chile micro-scale residential segregation of the urban poor was in later years more strongly associated with social exclusion indicators such as teenage pregnancy, youth inactivity, or higher unemployment rates (Sabatini et al. 2001). Based to this evidence, some scholars have hypothesized that some of the segregation mechanisms could be related to the stigmatization of certain poor neighbourhoods (Katzman 1999). Evaluating whether or not the ferias' prevalence within the poorer neighbourhoods is significantly sensitive to the observed residential segregation patterns will contribute to the identification of possible trends of tolerance or acceptance of the ferias as a sustainable economic practice.

We use the 2005 Information System of Ferias Libres (SIFL, Spanish acronym) produced by the Asociación Chilena de Ferias Libres (ASOF, Spanish acronym), which contains cartographic and attribute information on 401 ferias. Using the 1992 and 2002 population census, households' socioeconomic status (SES) is computed with a score based on two variables: educational attainment of the head of the household and possession of goods.[3] Based on this score, the socioeconomic status groups rank from ABC1 (the highest) to C3, D, and E (the lower classes).[4] Throughout the paper we define the lower socioeconomic status group as composed of C3, D and E. For computing residential segregation indexes, the number of households in each SES category is aggregated at the block and census tract level.

Using the ASOF dataset, a dummy variable indicating whether or not a feria has been located in a neighbourhood is computed as the dependent variable. The interaction or exposure index, applying the residential segregation indicators, measures the degree to

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[3] The author of this classification is Claudio Contreras, a professional geographer, who calculated it in the context of a project oriented to elaborate the socioeconomic map of Chile, co-ordinated by ADIMARK, a marketing agency operating in Santiago de Chile.

[4] The breakdown of the SES groups:

		1992, %	2002, %
highest	ABC1	7.1	10.9
middle class	C2	10.5	23.3
low-middle class	C3	29.8	33.5
lower class	D	23.7	29.3
lower class	E	12.4	19.6.

which a lower SES household interacts with a higher status household within the neighbourhood. At the other end, the isolation index measures the degree to which the poorest SES households (D and E) interact with other similar SES households in the neighbourhood. The dissimilarity index is a measure of evenness. That is, it calculates the percentage of lower SES households that would need to move to achieve an even distribution within the residential blocks. In terms of gentrification, the model includes the percentage increase of high SES households from 1992 to 2002. It also includes an indicator of whether or not supermarkets were located in the area. Supermarket locations were geo-referenced using the 2005 Supermarket Directory for the Metropolitan Region of Santiago de Chile elaborated by the Chilean National Institute of Statistics (INE, Spanish acronym). The assembled dataset contains information on the 879 neighbourhoods approached using the census tract delimitations.

The approach chosen to perform the analysis is the logistic geographically weighted regression (GWR). GWR is a technique that extends the traditional regression method to examine variability in space. It nonlinearly models the local coefficient estimates and adjusted measures for a global pattern, using a fixed kernel with Cartesian co-ordinates indicating the variability range of the parameters. Given the differences in terms of the administration of the markets by the Santiago municipalities, exploring the significance and strength of the local parameters can contribute to identifying the zones that merit a closer look for policy-making.

Table 1 presents the results of the global logistic GWR, predicting changes in the probability of a feria being established in a neighbourhood according to the selected residential segregation and gentrification indicators. Compared to supermarkets whose probability of allocation is 15 per cent, the probability for a feria is 44 per cent, or considerably higher when the operating day of the week is ignored. However, if taken on the basis of a single weekday, the allocation probability for the feria is very close to that observed for the supermarkets. Supermarkets are the city's only providers on Mondays, while ferias operate Tuesdays to Sundays in almost 15 per cent of the neighbourhoods. According to our analysis, if other parameters are held constant, the log odds of a feria serving a neighbourhood on any given day of the week is higher than supermarkets, but lower for each working day and even negative for Sundays.

Contrary to supermarkets, the interaction of lower SES with higher SES households decreases the probability of feria services more consistently for all days of the week. While the presence of both supermarkets and ferias is negatively associated with the isolation of poor households, it weakly reduces the probability of service from the ferias on any day of the week, and on Saturdays and Tuesdays. Consequently, existence of the ferias is not as strongly related to the segregation of the urban poor as it is sensitive to the degree to which lower SES households interact with families of higher SES. The dissimilarity index shows no significant relationship either for the presence of ferias or supermarkets, which corroborates the observation that the overrepresentation of the poor is not related to ferias location but rather to their exposure to middle-class or upper-class households. This implies that existence of the ferias is dependent on a consensus achieved in balancing the needs of various socioeconomic groups.

Table 1
Global model diagnostics and coefficients from GWR logistic regression
for explaining ferias allocation

	Supermarkets	Ferias	Sunday	Saturday	Friday	Thursday	Wednesday	Tuesdays
Probability, %	15.60	44.76	15.36	15.70	14.90	14.33	13.88	15.02
Bandwith	7767.30	7767.30	29089.82	29089.82	29089.82	8156.16	29089.82	29089.82
AIC	683.35	1123.50	727.26	736.42	720.81	685.62	684.97	708.50
Constant	1.38 (0.699)	1.88* (0.738)	-0.24 (0.701)	0.94 (0.707)	0.25 (0.716)	0.72 (0.717)	0.07 (0.702)	0.95 (0.718)
Interaction	-0.05 (0.843)	-2.68* (0.807)	-3.22* (0.916)	-2.47* (0.891)	-2.50* (0.927)	-3.27* (0.961)	-2.78* (0.923)	-2.76* (0.934)
Isolation	-5.16* (0.844)	-1.68* (0.813)	-0.93 (0.818)	-2.52* (0.820)	-1.63 (0.833)	-1.82 (0.837)	-1.79 (0.827)	-2.05* (0.833)
Dissimilarity	1.83 (1.752)	0.03 (0.758)	-0.34 (1.023)	-0.12 (1.044)	-0.26 (0.048)	-1.11 (1.122)	0.48 (1.050)	-1.34 (1.117)
% Increase high SES	-0.04* (0.014)	-0.04* (0.014)	-0.01 (0.021)	-0.05* (0.022)	-0.03 (0.022)	-0.04 (0.027)	-0.04 (0.023)	-0.05* (0.025)
Presence supermarkets		0.02 (0.218)	0.42 (0.284)	0.16 (0.286)	-0.43 (0.335)	-0.21 (0.336)	0.40 (0.291)	-0.25 (0.327)

* p-value <0.05, Standard errors given in parentheses.

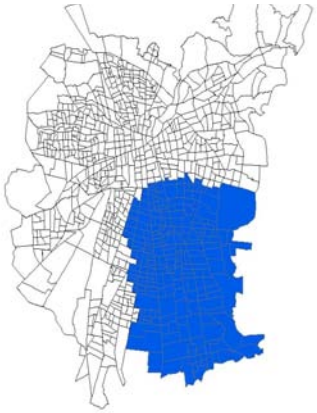
In terms of gentrification, while the presence of a supermarket has no effect on the presence of ferias in a neighbourhood, the increase of high SES households is weakly and negatively associated to the existence of ferias on any weekday, or on Saturday and on Tuesday. As the spread of supermarkets shows a similar relationship, it can be stated that the presence of wealthier families is related to commercially free residential areas.

The local models do not show a substantial reduction of the Akaike Information Criterion (AIC) but provide more effective parameters (see Annex 1). That is, for some neighbourhoods the parameters selected are statistically significant, showing that in 100 per cent and 75 per cent of the study areas the supermarket presence is estimated to be negatively associated with isolation and, albeit weakly, with the increase of high SES households, respectively. Ferias presence, in 100 per cent, 75 per cent, and 75 per cent of the study area, is estimated to be negatively associated with interaction, isolation and the increase of high SES households, respectively. Availability of the feria on Sundays, Fridays, Thursdays, and Wednesdays shows a consistent 100 per cent negative association with interaction. On Saturdays and Tuesdays, presence is 100 per cent negatively associated with isolation and the increase of high SES households.

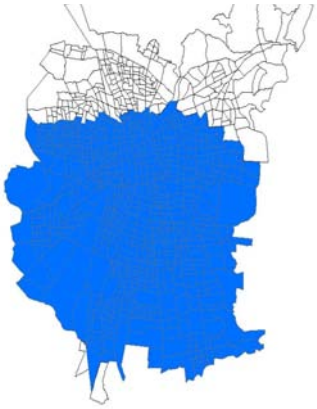
Nevertheless, the parameters selected do not show greater local variation, a condition in which the inter-quartile range in the local model is greater than two times the standard error for the parameter in the global model. Still, zones in which residential segregation

and gentrification of neighbourhoods negatively affect the presence of ferias on any day of the week can be visualized using the local GWR t-values for significant parameters. The blue areas of Map 2, 3 and 4 represent neighbourhoods in which t-values are lower than -1.95; that is, in which parameters have a negative statistically significant spatial relationship to the presence of ferias. Ferias are most negatively associated with isolation in the southeast while interaction has a negative spatial relationship in most of the city, particularly the area ranging from the upper part of downtown to the south. While the presence of supermarkets is not significant to determine allocation in any neighbourhood, the increase of high SES has a wider effect, ranging from the northwest across to the northeast, through the centre and down towards the southeast corridor of Santiago.

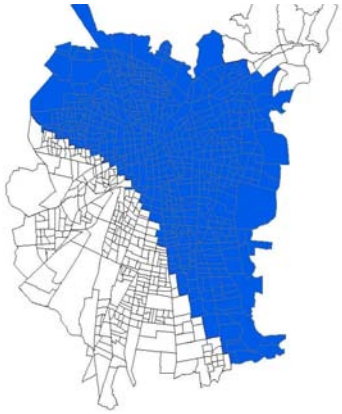
Map 2
Isolation



Map 3
Interaction



Map 4
Increase of high SES households



*T-value <-1.95

The fact that in certain zones of the city the presence of ferias is associated with forms of residential segregation and gentrification of the upper classes, points to the observation that the current regulation practice in these zones is, perhaps unintentionally, segmenting market opportunities of the ferias towards lower SES households.

4 Effects of residential segregation on licence enforcement

As the feria sites bind market opportunities to specific areas, the balance between the needs and expectations of the area's residents not only affects the probability of allocation but also the performance of farmers' markets themselves. The 2005 SIFL dataset provides information on the estimated number of coleros and feriantes for 112 and 267 ferias, respectively. We use this information to analyse whether or not residential segregation in terms of the degree of interaction between the lower and higher SES households significantly affects both population groups, previously normalized using natural logs. For control variables, we introduce dummy variables corresponding to the downtown and northeast comunas, characterized by a higher capacity for enforcement such as that seen in central Santiago and the northeast, as well as to the neighbourhood unemployment rate, calculated from the 2002 population census.

Table 2 summarizes the results of the OLS model predicting the number of licensed (feriantes) and unlicensed (coleros) vendors. A unit increase of the interaction of lower SES households reduces the number of feriantes and coleros by 0.31 and 0.54, respectively. Interaction noticeably reduces the number of coleros even when factors such as comunas with better enforcement and unemployment rates of the neighbourhoods are controlled for. It can be stated with 99 per cent confidence that comunas other than those at downtown and in the northeast are expected to have 3.33 coleros more, when controlling for neighbourhood differences in residential segregation and unemployment rates. The persistent suppressant residential segregation overpowers the anticipated increasing effect of neighbourhood unemployment, suggesting that a more integrated community could benefit from a balance between the need for employment and expectations from supervising the ferias.

Table 2
OLS regression coefficients for the estimated effects of segregation, local unemployment rates on the number of licensed vendors (feriantes) and unlicensed vendors (coleros)

	Licensed vendors feriantes		Unlicensed vendors coleros	
Interaction	-0.31*	-0.18*	-0.54*	-0.39*
	(0.05)	(0.06)	(0.13)	(0.16)
Comunas (downtown-northeast=1)		-0.42*		-0.60
		(0.12)		(0.37)
Unemployment rate		0.10		0.09
		(0.05)		(0.13)
Constant	4.42*	4.15*	3.70*	3.63*
	(0.11)	(0.26)	(0.31)	(0.77)
N	267	267	112	112
R^2	15.0	20.1	14.2	16.4
Adjusted R^2	14.7	19.2	13.4	14.1

*p-value < 0.001, standard errors given in parentheses.

5 Working towards a legislation to sanction competition

Unlike other Latin American cities where policy attempts to relocate vendors from the streets have had limited success (Guerrero 2001; Lawrence and Castro 2006), the regulation of ferias in Santiago de Chile has shown that street markets can be regulated and promoted. However, as observed, the current regulations and particularly the allocation practice can also become a tool to segment their markets, thus intensifying social exclusion. A legislative project has been proposed to congress, which considers outsourcing streets for a 10-year period, favouring the feriantes. Hector Tejada, President of ASOF, defends his position by asserting:

> We want legislation that can be a tool which allows us to compete, and this is a responsibility because as a distribution channel, we support 300,000 small farmers throughout the whole sector, assisting to distribute their products throughout the city. Thus, we are talking about one million jobs. Nowadays, although we control 80 per cent of the sales in fruit and vegetables, there is aggressive competition with the supermarkets, which are essaying new ways to compete with small trade, and this directly affects our market. In this sense, we need to improve legislation and the system of property of public space, we need an outsourcing of the streets (22nd July 2005, Parliamentary Meeting) (author's translation).

The discussion and approval of this legislation has been delayed since 2005. The updated 2008 version of SIFL reports that feria locations are still the same (ODEPA-USACH 2008). Outsourcing the streets for ferias seeks to promote more investment for the provision of lighting, parking and restrooms in their market space. Thus, a more detailed analysis of current locations is needed. A case study on Macul, a community located near downtown southern Santiago, advocates increasing centrality in the decision-making process for establishing ferias, as this could increase potential benefits for consumers and may also invest public areas with a better agglomeration of services (Troncoso Melo 2009).

Ferias are competitive not only because they offer affordable prices and articulate the traditional agricultural chains of small farming in the city but also because they reproduce a unique cultural experience that integrates social groups within their market practices. As ferias are more likely to exist in neighbourhoods where poor households have less interaction with the higher SES households, these locations segregate their clientele, having potential negative effects for competitiveness. Segregated locations may increase the stigma that ferias offer an inferior form of consumption and consequently may reduce incentives to improve service. Moreover, as greater unemployment rates are prevalent among the lower SES neighbourhoods, the need for employment opportunities may indirectly promote unfair competition for the feriantes as well as limit the capacity of the comuna to enforce supervision.

Consequently, it can be suggested that a more cautious location policy that promotes greater interaction between different socioeconomic households could balance the need to shop and work, and could support the interests necessary to adequately manage the use of public space. From a market perspective, ferias in more attractive locations could encourage a more competitive attitude, and improve the quality of service. This outcome could materialize in Santiago de Chile, since legal recognition of the feria implies a social contract that is based on acceptance by the neighbourhood, and above all, since the feriantes are responsive to customers' demands.

References

Aliaga, L. (2006a). 'Feeding the Poor? Spatial patterns and neighbourhood Demographics in Metropolitan Santiago Informal Food System'. Paper presented at the Population Association of America 2006 Annual Meeting.

Aliaga, L. (2006b). *Street Markets in Santiago de Chile: An Assessment of their Locational and Regulation Policy*. University of Texas at Austin, Austin, Texas.

Contreras, D., E. Puentes, and D. Bravo (2005). 'Female Labour Force Participation in Greater Santiago, Chile: 1957-1997. *Journal of International Development,* 17(2): 169-86.

Guerrero, E. (2001). *De Ambulantes a Empresarios? Reubicación y Ordenamiento del Comercio Ambulatorio en Lima Metropolitana.* Lima: Alternativa-DESCO.

Katzman, R. (ed.) (1999). *Activos y Estructura de Oportunidades. Estudios Sobre las Raíces de la Vulnerabilidad Social en Uruguay*. Montevideo: PNUD/CEPAL, LC/MVD/R.180.

Lawrence, P. G., and S. Castro (2006). 'Government Intervention in Street Vending Activities in Guayaquil, Ecuador: A Case Study of Vendors in the Municipal Markets'. *Problemas del Desarrollo: Revista Latinoamericana de Economía*, 37(144): 145-70.

ODEPA-USACH (2008). *Estudio para la caracterización del canal feria para la distribución de productos hortofrutícolas en la Región Metropolitana*. Santiago de Chile.

Pavez, L., H. Rautenberg, and J. Lee Mira (2004). 'Estudio y Catastro de las ferias libres del Gran Santiago'. Paper presented at the Camara Nacional de Comercio, Servicios y Tursimo de Chile.

Sabatini, F. (2003). *The Social Spatial Segregation in the Cities of Latin America*. Washington, DC: Inter-American Development Bank.

Sabatini, F., G. Cáceres, and J. Cerda (2001). 'Segregación Residencial en las Principales Ciudades Chilenas: Tendencias de las Tres Últimas Décadas y Posibles Cursos de Acción. *EURE*, 27 (82).

Salazar, G. (2003). *Ferias Libres: Espacio Residual de Soberanía Ciudadana*. Santiago de Chile: Ediciones Sur.

Stillerman, J. (2006). 'The Politics of Space and Culture in Santiago: Chile's Street Markets. *Qualitative Sociology*, 29 (4): 507-30.

Troncoso Melo, C. G. (2009). *La Feria Libre Como Fenómeno de Centralidad Transitoria. Desafíos del Diseño Urbano ante las Transformaciones de la Actividad Comercial Ferial en Santiago. El Caso de una Comuna Mediterránea Macul*. Santiago de Chile: Pontificia Universidad Católica de Chile.

World Bank (2005). *Household Risk Management and Social Protection in Chile*. Washington, DC: World Bank.

Annex 1
Local coefficients from the GWR logistic regression to explain street markets allocation

				Effective parameters	AIC		
SUPERMARKETS				***12.37***	***677.32***	2*Std. error (global)	Interquartile range (local)
Variables	Min	Lower quartile	Median	Upper quartile	Max		
Constant	0.39	0.71	1.13	1.44	6.53	1.398	0.730
Interaction	-8.13	0.52	1.11	1.42	1.93	1.686	0.900
Isolation	-9.95	-5.64	-4.99	-4.12	-3.61	1.688	1.520
Dissimilarity	-0.86	0.29	1.31	2.18	4.69	3.504	1.890
Increase in high SES	-0.07	-0.06	-0.05	-0.04	0.01	0.028	0.020
STREET MARKETS (any day of the week)				***15.51***	***1118.46***		
	Min	Lower quartile	Median	Upper quartile	Max		
Constant	-0.79	1.24	1.48	2.33	4.62	1.476	1.090
Interaction	-4.05	-3.29	-2.74	-2.12	-1.19	1.614	1.170
Isolation	-4.41	-2.2	-1.38	-1.07	1.0	1.626	1.130
Dissimilarity	-1.38	0.15	0.62	0.99	1.32	1.516	0.840
Increase in high SES	-0.07	-0.04	-0.04	-0.03	0	0.028	0.010
Presence of supermarkets	-0.32	-0.18	-0.07	0.03	0.71	0.436	0.210
Tuesdays				***6.61***	***709.04***		
Constant	0.86	0.9	0.93	0.96	1.04	1.436	0.060
Interaction	-2.91	-2.79	-2.73	-2.69	-2.62	1.868	0.100
Isolation	-2.14	-2.07	-2.05	-2.04	-1.99	1.666	0.030
Dissimilarity	-1.55	-1.33	-1.26	-1.18	-1.07	2.234	0.150
Increase in high SES	-0.06	-0.05	-0.05	-0.05	-0.04	0.05	0.000
Presence of supermarkets	-0.28	-0.26	-0.26	-0.25	-0.24	0.654	0.010
Wednesdays				***6.62***	***684.97***		
Constant	-0.03	0.05	0.07	0.08	0.12	1.404	0.030
Interaction	-2.92	-2.83	-2.78	-2.73	-2.61	1.846	0.100
Isolation	-1.83	-1.81	-1.8	-1.79	-1.78	1.654	0.020
Dissimilarity	0.37	0.5	0.55	0.59	0.79	2.100	0.090
Increase In high SES	-0.04	-0.04	-0.04	-0.04	-0.03	0.046	0.000
Presence of supermarkets	0.35	0.37	0.38	0.38	0.4	0.582	0.010
Thursdays				***14.32***	***684.93***		
Constant	-0.48	0.11	0.24	0.48	2.49	1.434	0.370
Interaction	-4.87	-4.01	-3.52	-2.93	-1.1	1.922	1.080
Isolation	-3.54	-1.52	-1.27	-1.14	-0.48	1.674	0.380
Dissimilarity	-3.86	-1.19	-0.86	-0.66	-0.42	2.244	0.530
Increase in high SES	-0.11	-0.03	-0.02	-0.02	-0.01	0.054	0.010
Presence of supermarkets	-1.49	-0.68	-0.25	0.14	0.47	0.672	0.820*

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Local variation exists when interquartile range (local)>2 standard error for the parameter (global)

Annex 1 (continued)
Local coefficients from the GWR logistic regression to explain street markets allocation

				Effective parameters	AIC	2*Std. error (global)	Interquartile range (local)
Fridays				***6.62***	***721.75***		
Constant	0.2	0.22	0.23	0.24	0.27	1.432	0.020
Interaction	-2.52	-2.5	-2.49	-2.48	-2.42	1.854	0.020
Isolation	-1.67	-1.64	-1.62	-1.61	-1.57	1.666	0.030
Dissimilarity	-0.27	-0.2	-0.19	-0.18	-0.16	0.096	0.020
Increase in high SES	-0.03	-0.03	-0.03	-0.03	-0.02	0.044	0.000
Presence of supermarkets	-0.49	-0.46	-0.45	-0.44	-0.41	0.670	0.020
Saturdays				***6.61***	***736.77***		
Constant	0.75	0.84	0.89	0.95	1.1	1.414	0.110
Interaction	-2.56	-2.49	-2.46	-2.42	-2.3	1.782	0.070
Isolation	-2.7	-2.54	-2.48	-2.43	-2.33	1.64	0.110
Dissimilarity	-0.19	-0.09	-0.06	-0.02	0.11	2.088	0.070
Increase in high SES	-0.06	-0.05	-0.05	-0.05	-0.05	0.044	0.000
Presence of supermarkets	0.11	0.14	0.15	0.16	0.19	0.572	0.020
Sundays				***6.63***	***727.65***		
Constant	-0.29	-0.25	-0.24	-0.23	-0.19	1.402	0.020
Interaction	-3.36	-3.23	-3.2	-3.17	-3.1	1.832	0.060
Isolation	-1	-0.96	-0.94	-0.92	-0.86	1.636	0.040
Dissimilarity	-0.35	-0.29	-0.27	-0.26	-0.24	2.046	0.030
Increase in high SES	-0.01	-0.01	-0.01	-0.01	-0.01	0.042	0.000
Presence of supermarkets	0.33	0.37	0.4	0.42	0.48	0.568	0.050

Source: see text.