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Dear Sir:

The USAID's Regional Housing and Urban Development Office for South America (RHUDO/SA), through the Latin American Center for Urban Management (LACUM), contracted the Inter-American Planning Society (SIAP) for the development of short studies in the Municipalities of Paraguay and Chile. The studies were lead to generate basic knowledge in areas such as: the Market Land Values, Urban Infrastructure, Formal and Informal Housing, Local Services Provision and Property taxes.

The studies were carried out at low cost rate by professionals who were taking Post Graduate courses in the University of Texas. The studies consist of basic analysis of information, data processing and comments on concrete situations.

Please find enclosed two copies of the following documents:

- "Assessed and Market Land Values in Concepción, Paraguay".
- Housing Market Tends in Paraguay: An analysis of Urban Housing in the Formal and Informal Sectors (the case of Encarnación)".
- "Urban Infrastructure and Citizen Participation in the Marginal Settlements of Asunción, Paraguay".
- "Municipal Solid Waste Service Provision in Chile: Possibilities for Greater Cost Recovery (the case of San Antonio)".
- "Property Tax Assessment and Municipal Strengthening in Chile (the case of Quillota)".

Sincerely,

Marino Henao
Executive Director, RHUDO/SA-LACUM

Enclosed: a/s
MH:pc



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**SOCIEDAD INTERAMERICANA DE PLANIFICACION
INTERAMERICAN PLANNING SOCIETY**

**Property Tax Assessment and
Municipal Strengthening in Chile**

Jeffrey G. Stern
August 15, 1993

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This report was prepared as a joint project between SIAP and the USAID/RHUDO (Regional Housing and Urban Development Office for South America) with the collaboration of The University of Texas at Austin. The author is a graduate student in Community and Regional Planning at The University of Texas. The field research for this report was supervised by Dr. Patricia Ann Wilson, Associate Professor of Planning at The University of Texas. Field work was conducted in June and July of 1993.

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Abstract While market values of property in Chile are estimated to be four to ten times higher than assessed values, a case study of the municipality of Quillota indicated that market values were only one to two and a half times greater than assessed values. Thus, the current reassessment of lands by the *Servicio de Impuestos Internos* (Internal Revenue Service), which is seeking to bring market values in line with assessed values, will not generate a substantial amount of new municipal income. If Quillota is typical, reducing the gap between assessed and market values would not have as much of an impact on municipal revenues as generally assumed. Moreover, proposed changes to municipal income laws seek to lower tax rates to offset the tax increases to property owners, defeating any substantial gains in municipal income. Nevertheless, the current reassessment of properties could have an impact on municipal revenue. By updating the cadastre and reclassifying land use from agricultural to urban, as well as identifying previously unregistered commercial properties, which pay additional taxes, new income could be generated. Allowing municipalities greater control over setting and collecting taxes is crucial to municipal strengthening, but most municipalities are not yet prepared, either administratively or technically, to take over management of the cadastre, taxation, and other tools which would allow municipalities to greatly improve planning and budgeting. New administrative structures which allow municipalities greater control over their finances, while simultaneously maintaining taxation powers out of the political realm, must be sought in order to decentralize power and bring equitable growth to municipalities.

I. Executive Summary

Tax assessment in Chile

Property taxes in Chile are assessed and calculated by a spatially decentralized central government agency, the **Servicio de Impuestos Internos**. Offices of the S.I.I. are located in the capital of each province. Varying numbers of provinces make up each of the 13 regions of Chile. It is the responsibility of these offices to assess property values for all properties in the province. As this is a function of a central government agency, municipalities have no role whatsoever in taxation of properties, in setting tax rates or exemptions, or in collecting taxes due.

Tax collection is carried out through the banking system and all taxes are remitted directly to the National Treasury. From here, they are redistributed to the municipalities; forty percent of the funds collected for each municipality is returned directly to it, while the other sixty percent is redistributed through the **Fondo Comun Municipal**, a redistributive fund created to improve financial equity between municipalities. While property taxes make up only 4.5 percent of all taxes collected by the central government, they are the majority of municipal income.

Currently, municipalities have no little role in property taxation. Under current law, many municipalities are unable to tax a great number of properties which leaves them with several problems. First, municipalities face a general lack of the necessary resources to meet their needs. Furthermore, sanitation services, which are paid only by those who pay property taxes yet are provided to all members of the community, consume a large part of the municipality's budget. Finally, the central government has been unable to maintain an even flow of funds to the municipality from taxes collected, making long term budgeting and planning nearly impossible.

Assessed versus Market Values

Assessed property values, those used by the S.I.I. for taxation, have not been updated in Chile since 1977. Since this year, they have been adjusted by the consumer price index. However, they are currently being reassessed by the S.I.I. The new values were to be made official in January of the current year; these values have not been placed into effect yet because of political issues. As well, a new law is currently being debated in the congress which would allow municipalities some leeway in setting their own tax rates. Municipalities may also be allowed to begin charging all property owners for sanitation services. Nevertheless, the new law will not increase municipal income by a large proportion; proposed tax rates under debate will be lower than current rates, and tax exemption levels, based on the new property values, may or may not increase the number of taxpayers.

Agreements arranged by the Ministry of Finance and the Ministry of the Interior have permitted some municipalities to help the S.I.I. update cadastres. However, these are purely financial arrangements which permit the municipality to use funds to aid the S.I.I. In no way do they represent greater autonomy for the municipality with regard to taxation.

While tax collection is generally efficient in Chile, and there are few problems with tax evasion, the law highly restricts the power of the

municipality with respect to most forms of taxation. Interviews with government officials indicated that any form of municipal strengthening would come in the form of greater autonomy in setting tax rates in all areas, not just property taxes. Improved redistribution of taxes by the central government, in the form of more equal amounts of money sent at regular intervals, would allow municipalities to improve greatly budgeting and planning processes.

The Case of Quillota, Chile

The municipality of Quillota, Chile is representative and typical of the innumerable smaller municipalities that make up Chile. While most government officials stipulated that market values were anywhere from four to ten times greater than assessed values, a sample of vacant properties in Quillota revealed that market values were no more than 1.5 to 2.5 times greater than assessed values. And because the urban area of the city was nearly fully built up, a dynamic land market had long ago ceased to exist.

However, agricultural zones at the city's periphery are beginning to be slowly consumed for housing purposes. Most of the new lands created in the peripheral areas of Quillota are used by SERVIU (Servicio de Vivienda y Urbanismo-a national agency for public housing) to build subsidized housing; little incentive exists for private investment in housing in these peripheral areas.

The zoning plan for Quillota influences growth and development in the city. But rather than influencing the land market that remains in Quillota, it influences the dynamics of renovation and construction in the city. The plan was drawn up long after the city was already established and urbanized, and simply requires that new constructions match existing constructions in defined areas. However, because of certain regulations which make investment difficult, construction on the few existing vacant lots rarely occurs, even on those lots remaining on valuable commercial and residential property in the town center. And despite a tax structure which penalizes property owners for leaving lots vacant, many are still left as such.

The New Municipal Income Law

Currently, new laws are being debated in Congress which would allow municipalities to set their own property tax rates (between 1.1 and 1.9 percent) and charge for waste management services. Also being debated is the possibility of raising the value set for exempted properties.

Allowing municipalities to set their own tax rates would increase municipal autonomy. However, the new rates are lower than the old tax rate of two percent, thus defeating any substantial gain in income generation on the new assessed values. As well, raising the value of properties exempted from taxation (approximately four million pesos) would defeat the purpose of the new assessed values. The new values would bring many properties below the four million peso level above it, obligating them to pay taxes. But if exemption values are raised, any substantial gains in income generation will be lost.

The new municipal income law, if passed, is unlikely to increase substantially the ability of municipalities to raise income from property taxes. New sources of municipal income lie in business licenses and newly transformed urban land; gains in these areas can be achieved through maintaining an up-to-date cadastre.

Implications for Municipal Revenue

The case of Quillota illustrates the lack of control municipalities have over taxation, tax structures, and policies made at the national level which affect land markets. Municipalities also lack control over setting tax rates for properties as well as other areas, and face problems with receiving a regular and even flow of income. All these problems hinder municipalities in planning and budgeting for development, creating infrastructure, and increasing private investment. Further research will provide a clearer definition of where problems and bottlenecks lie, while this preliminary report provides an overview and insight into possible areas for deeper investigation.

While Quillota is a small municipality lacking a rapid process of change, the transformation of agricultural to urban land is occurring here. Such a process widespread in Chile, especially around Santiago and the fifth region, where the majority of Chile's population is concentrated. Further studies at a provincial or regional level could reveal the amount of land being urbanized annually and the role of public and private sectors in land transformation. An estimate of land being transformed annually could allow the S.I.I. and municipalities to better calculate income from recently urbanized zones, as tax structures differ for agricultural and urban zones.

The agreements which allow some municipalities to contract persons to update the cadastre are another valuable source of municipal income. By keeping the cadastre up-to-date, especially with respect to the change of properties from residential to commercial use, thus requiring a business license which generates municipal income, and registering the transformation of agricultural to urban land, which pays a higher tax rate, municipalities can increase revenue. Expanding municipalities' role in updating the cadastre and increasing coordination with the S.I.I. could greatly increase municipal income.

Finally, increasing municipal autonomy over income generation could allow greater political and economic decentralization, and increased efficiency in land use and allocation. Because property taxes are such a large part of municipal income, they constitute a crucial part of the municipality's budget. While assessed and current values are no longer far apart, many problems still exist within the tax structure which inhibit efficient and fair payment of taxes.

A study at the national level could be useful in revealing problems with tax collection, the National Treasury, and why municipalities do not receive a constant and even flow of funds from the Treasury on a regular basis. Changes in financial policies administered at the national level could allow municipalities to collect and receive at least part of the income generated through property taxes. Greater autonomy over their collection, even in part, would allow municipalities to better estimate income for budgeting and planning purposes.

While municipalities still lack the administrative structure and technical expertise to assess properties and collect taxes, a coordinated project between the S.I.I., the central government, and municipalities could improve municipal capacity in these areas. Increasing municipal capacity and autonomy with regard to property taxes and their collection would also increase incentive to keep assessed values up to date with market values. Property values are the basis for other taxes and fees charged by the municipality. Better coordination between the S.I.I. and the municipalities

would facilitate keeping the cadastre up to date, thus improving municipalities' capacity for budgeting and planning.

By examining the municipality of Quillota and the national offices responsible for tax collection, some of the needs of and problems facing this municipality and others have been revealed. Further research will provide new alternatives and solutions to the problems facing municipalities, and eventually allow greater autonomy and control for municipalities.

II. Introduction

Improved use of land in both urban and rural areas in developing countries can lead to improved resource bases for municipalities. And with increasing emphasis on municipal strengthening by international lending institutions in the 1990s, the importance of land use and municipalities' role in land markets is growing. Municipalities are seeking ways to increase their tax base, gain greater control over collection and use of financial resources, and increase their political power in decision-making that affects local and regional areas. While land values and land use in urban areas have been the subject of extensive research, there is a lack of information regarding land use in small municipalities outside major urban areas. A study of the property taxation system and land values in a small municipality of Chile was undertaken to reveal a greater understanding of these areas. The municipality chosen for the area of study was Quillota, a small municipality in the central valley of Chile's fifth region. The study was useful in revealing problems at both the local and national levels, as well as indicating the differences between assessed and market values, the factors influencing these, and the dynamics of the land market in a small municipality. The preliminary nature of this study has also revealed a number of areas for further investigation, which will be discussed in the conclusion.

Before undertaking the study, several works were reviewed which investigate and discuss land markets and land market research methodology in Latin America. These include several works by Dowall, *Urban Planning for Latin America* by Francis Violich, *Renta de La Tierra y Heterogeneidad Urbana* by Guillermo Geisse and Francisco Sabatini, "The Impact of the Land Factor on Urban Growth in the Developing Countries" by Darin-Drabkin, "Access to land," in *Housing, the State and the Poor* by Gilbert and Ward, and *Methodology for Land and Housing Market Analysis* edited by Gareth Jones and Peter Ward (forthcoming 1994). While some of these titles are concerned with methodology and others with actual research, they provide a perspective on current research and research methods into land markets. Though somewhat disparate in focus, these titles convey some of the questions regarding land markets and their functioning. What benefits can be gained by improving our knowledge of land markets and their functioning? What role has the municipality played in land markets, and how has this role been historically defined and determined? How have factors such as public policy, pressure from social groups, and macroeconomic trends affected land markets? What role has the state played in regularizing and incorporating illegally obtained land? How is research conducted into these areas?

Dowall's work explains many of the benefits associated with improved knowledge about land markets. Land markets are far from perfectly competitive, and neo-classical economic theory often cannot account for the numerous factors at play in land markets. These include differing land characteristics, differing numbers of buyers and sellers with distinct motives, and different local, state, and federal policies all at work simultaneously. Thus, land markets are highly complex. As well, land markets can often be divided up into submarkets within one city or region based on numerous categories, including level of income, zoning, and building codes, to name a few (1980).

Violich's book is useful in illustrating several themes important to the Latin American planning process and its effect on land markets. In Latin America, strongly centralized patterns of government inherited from Spanish

tradition have often limited the role of the municipality in regulating and zoning its land, while taxes have also been collected by the central government and redistributed under different schemes which have sought to reallocate monies more equitably. Simultaneously, Spanish tradition allowed cities to exercise strong control in their surrounding region. Nevertheless, national governments in Latin America tend to control a large percentage of financing for municipalities, leaving them largely powerless in terms of financial self-sufficiency(1987, 114).

Violich stresses the obvious need for municipalities to gain more autonomy and control in financing and policy-making, as many of the issues germane to cities are overlooked or ignored in centralized, nationally-oriented policy. Simultaneously, reform of municipal administrative structures, which would allow them to work more closely and in better coordination with the national government, is needed. Violich notes the lack of studies regarding local policy-making processes.

Geisse and Sabatini's work serves to present some of the specific policies affecting land use in several Latin American cities, and provides examples of some of the problems indicated by Violich. They too point out shortcomings of the unregulated market, dominated by short term interests and speculation, which are often incompatible with greater efficiency and social equity. Increased state intervention to regulate markets would allow local governments to capture a greater share of land appreciation and make planning processes more feasible.

Land prices in developing countries have tended to rise much more rapidly than land prices in industrialized countries. Darim-Drabkin's work serves to point out some of the factors responsible for this phenomenon, similar to some of those presented by Geisse and Sabatini. Outdated and poor record keeping by regional or national offices with regard to assessed land value has tended to keep property taxes extremely low, making the holding of vacant land relatively cheap. And though land is not actually scarce, expected future profits have encouraged many landholders to keep their land undeveloped, leading to an artificial bidding up of land prices. Foreign firms doing business in developing countries also often purchase large areas of land at the current market price; because land still seems relatively cheap to them in many of the developing countries, land prices continue to be bid up artificially (1977).

While the first three authors focus on general issues affecting land markets in Latin American cities, Gilbert and Ward's chapter on access to land provides three specific case studies of access to land and the functioning of land markets in three Latin American cities. While the previous authors only briefly discussed factors beyond zoning laws and financial factors affecting land markets, Gilbert and Ward provide a detailed study of how state policy and macroeconomic factors regulate and influence the land market. They articulate the mechanisms, both market and non-market, which control and influence land use in urban settlements. Insight into the state's role in land use is discussed at length, and the influence of differing political contexts clearly illustrates how land markets and land use differs in distinct urban environments.

The chapter and the appendix notes describing methodology are useful in gaining a perspective on land markets and their functioning, as well as providing policy alternatives needed due to growing pressure for increasingly scarce land. Finally, the methodology outlined is useful in understanding how research regarding these topics can be carried out. Unlike the other titles

previously discussed, Gilbert and Ward provide detailed descriptions of land market workings and policy making for land markets.

Ward and Jones' *Methodology for Land and Housing Market Analysis* is an extremely useful assessment of the analytical tools and research methods available to pursue land use studies. The significance of changing political situations and their effects on land markets is discussed in this section. How differing research methodologies affect research results are discussed, as well as ideas regarding the formation of a common methodology towards land market research.

Actual case studies at the micro level help indicate some of the shortcomings of available research data and methods, and give an idea of how to construct land market information in different political and administrative contexts. Amitabh discusses the usefulness of land registration data, arguing that beneath its shortcomings it is often of use. Siembieda notes the effects of political dynamics on *catastro* land prices, indicating that data are often not uniformly valued due to political reasons (i.e. in a neighborhood with unionized workers special preference is given to secure a voting block).

The third and final section addresses how land use research can be used to examine and address public policy for land and property markets. Many of the chapters help illustrate the effects of planned intervention on local property markets. Case studies illustrate how public policy has or has not valorized land, and demonstrate the political forces that shape land markets. The role of the political process in creating and segmenting land markets is closely examined.

Rather than offering new findings or theories regarding land markets, the book helps illustrate how methodology can effect research results, and offers suggestions towards formulation of a common research methodology for land and housing markets.

While this preliminary study on property taxation and municipal income benefitted from the methodological suggestion in these sources, it could incorporate only a fraction of them due to time and resource constraints.

III. Administrative Structure of Chile

Chile is divided into four administrative levels. At the top of the hierarchy is the national government, followed by the regional governments, of which there are thirteen, followed by the provincial governments, of which there are fifty-one. The smallest and last administrative level is the community or *comuna*, of which there are 335. The municipality is the smallest legal entity and its administrative power covers the community. Thus, there are also 335 municipalities.

The *Intendente*, chosen by the president of the republic, is the highest authority at the regional level. Following the *Intendente* is the governor, also chosen by the president of the republic, who resides at the provincial level.

At the municipal level, the administrative structure consists of a democratically elected mayor and a council. The municipality has governmental powers over the *comuna*. These include the ability to generate revenue through property tax receipts and vehicle and commercial licenses. The municipality also is responsible for the administration of secondary education and health programs, but receives funding for these areas from central government transfers.

Major infrastructure or public service projects can be proposed by the municipality, but must be approved by the central government and funded through agreements made with the central government. Major projects are funded through the **Fondo Nacional de Desarrollo Regional**, a regional development fund administered through the SUBDERE (subsecretariat of regional development). Each region is granted a certain amount of the fund based on coefficients calculated for population, regional income, and other factors. Municipalities compete among themselves for money from the fund. Municipalities, to obtain money from the fund, must present proposals to the **SUBDERE**; municipalities can request money for infrastructure projects for sewers, roads, electricity, health, education, and potable water facilities.

The principle services the municipality is responsible for include public lighting, maintenance of public spaces (parks, plazas, etc.), trash collection, and maintenance of streetlights. All of these services must be contracted by the municipality to private firms. The main source of revenue for the municipality to pay for these services is the property tax. The rationale behind such an administrative system is to allow the municipality to reduce fixed costs by reducing infrastructure costs for the provision of named services. It also creates competition between service providers, thus allowing the municipality to allow contract bidding for certain services. Finally, the municipality is able to reduce its administrative apparatus under such a system.

A preliminary study of the municipality of Quillota was undertaken to determine administrative problems, as well as to examine the property taxation system. Quillota is the capital of the province of Quillota, one of the seven provinces that comprise the fifth region of Chile. The province of Quillota has a population of approximately 240,622, and the *comuna* of Quillota, over which the municipality resides, has a population of approximately 68,284.

IV. Property Taxation

Two distinct administrative units are responsible for land registry and taxation. These include the Conservador de Bienes Raices and the Servicio de Impuestos Internos (Internal Revenue Service).

The Conservador de Bienes Raices is a branch of the Ministry of Justice, and is responsible for legal aspects of land ownership. It is the equivalent of a land registry office. Here all land titles, mortgages, and other data are recorded. These offices are spatially decentralized. *Conservadores* are placed according to the size of the population in an area. Some *Conservadores* serve various communities and municipalities, while others serve only one municipality. A *Ministro de Fe*, chosen by the president, is the highest authority at each CBR and is legally authorized to serve as witness to all land titles. Both state owned and privately owned lands are registered here. Because the CBRs maintains records of all land sales, they serve as a main provider of information to the S.I.I. for the calculation of assessed property values for taxation purposes.

The Servicio de Impuestos Internos is an agency within the Ministerio de Hacienda (Ministry of Finance), and is responsible for the fiscal aspects of land. The S.I.I. calculates all property taxes. The municipality has no role whatsoever in gathering property taxes. The municipality is, however, responsible for updating the cadastre.¹

While the municipality is responsible for updating physical changes to the cadastre, the S.I.I. is responsible for adjusting all property values according to information provided by municipalities.

An accord between the Ministry of the Interior (Ministerio del Interior) and the Ministry of Finance (Ministerio de Hacienda) allows certain chosen municipalities to help the S.I.I. by contracting and financing private individuals, such as engineers, draftspeople, and administrative professionals, to update assessed values. However, in interviews with land appraisers, several expressed the current lack of appraisers needed to keep values updated. As well, they noted that the S.I.I. was further reducing its staff because the agreement allowed the municipality to contract private assistance. They indicated that while the accord allowed extra staff to be hired, full time staff was diminishing in the area of appraisers, and when the accord ended the S.I.I. would be left with even less appraisers than before, making the task of keeping land values up to date even more difficult.

¹Updating the cadastre is a process which consists of registering and mapping new subdivisions, new constructions, and changes of residential properties to commercial ones or vice versa.

Both the law and the administrative structure hinder any incentive for the S.I.I. to maintain up-to-date property values.

Because the central government and not a municipal body is responsible for updating property values, the S.I.I. has no incentive to maintain and continually reevaluate property values. As well, the law prohibits updating assessed values with market values more than once every five years. Because reassessments are currently taking place, the national government has permitted municipalities to financially assist the S.I.I. Agreements between certain municipalities and the corresponding communal offices of the S.I.I. have allowed more efficient and rapid updating of the cadastre. Regardless, municipalities still remain entirely out of the process of assessments. New administrative structures and changes in the law could allow municipalities to have an increased role in assessing and taxing lands. However, according to interviews with S.I.I. personnel at the national level, municipalities are unequipped to maintain and update cadastres, and this responsibility should remain with the S.I.I. As well, transferring control of the cadastre and property valuation to municipalities would allow political issues to enter into property valuation. The S.I.I., a national agency, is also given control over cadastres and valuations in order to allow coordination and uniformity in setting property values nationwide. If municipalities were given these responsibilities, there would be a lack of uniformity in appraisal criteria and land values at the national level. New administrative structures which allowed coordination between municipalities with regard to appraisal criteria, while at the same time maintained assessments out of the political realm, could strengthen municipal capacity for income generation and increase municipal autonomy.

The S.I.I. assesses property values for both agricultural and nonagricultural land. A multi-sourcing process is used in order to calculate assessed values as close to market values as possible.

Property taxes are assessed for two distinct categories of land by the S.I.I. These include agricultural land and non-agricultural land; the latter consists of land for houses, apartments and all other land dedicated to urban use. Land appraisals are carried out by decentralized branches of the S.I.I. which are located in the capital city of each province.

The *Servicio de Impuestos Internos* is responsible for carrying out land studies in each province and calculating assessed values for taxation purposes. Values are gathered through a multiple sourcing process, as the capacity of the S.I.I. to assess all properties is impossible due to lack of personnel. Sources of land values include records of transfers of title, provided by the *Conservador*¹, assessed values calculated by banks for mortgage purposes and

¹However, records provided by the *Conservador*, which contain the supposed price the buyer and seller agreed upon, are often lower than actual values. Buyers and sellers often agree to place a lower price on the legal title in order to avoid paying higher taxes. The *Conservador* as well as the S.I.I. is aware of this problem.

by insurance companies for insurance purposes, newspaper listings, interviews with real estate brokers, and some appraisals performed by the S.I.I. itself. Zoning plans and infrastructure plans are examined and taken into account. As well, all property owners are required to submit a descriptive declaration of their property and a calculation of its value in accord with instructions given by the S.I.I. No less than five years nor more than ten years can pass between declarations. The S.I.I. uses these data to calculate assessed values for all properties.

With data gathered through the multiple sourcing process described above, the S.I.I. attempts to calculate land values as close to a true market value as possible. Final values are calculated not necessarily on market values, but on relation to other properties. A separate assessment is made for any property constructed on the land. Property is classified by the quality of the construction, type of construction, technical specifications, building costs, age, and importance to the community and location with regard to commercial sectors. Land values are assessed and taxed independently of any properties constructed on them. Several coefficients are applied to land values, in order to bring them as close as possible to market values. These include adjustments for the lot size (with regard to the standard lot size for the city sector), land utilization, front to back proportions, lot shape, topography, location with regard to a corner, availability of services (i.e. water, electricity, sewers), and location with regard to industry, business, trash dumps, and other surrounding factors which influence land price.

The S.I.I. maintains records of all properties through cadastres and other means. The communal plan is a map of the community, which notes all blocks with a number, as well as coefficients for price adjustments of lots, with regard to their location. Plans also exist for each block which indicate every property on that block. Every property is also assigned a number. These physical cadastres exist for taxation purposes. However, the chief of property appraisals indicated the lack of a legal cadastre, which would be helpful in settling land disputes and indicating exact shape and form of a property.

The *Rol Comunal* is a computerized list of all properties within the community. There are two distinct *roles*; one exists for urban properties and another for agricultural properties. The urban *rol* contains the lot number of every property, the property owner, the address of the lot, its assessed value (adjusted), and the use to which the lot is dedicated (commercial or residential). For each block, there is a folder which contains the receipts for every lot on that block. These records also contain the lot size, the land value and the tax charged on it, the value of any constructed property on the lot and the tax charged on it, and a sketch of any construction, indicating its form, purpose, and size in square meters.

Currently, only the President has the authority to determine in what order and when lands will be assessed. Within a community, the law states lands must be assessed at least once every ten years and no more than once every five years (Law 17.235, Article 3). Changes in this law are being debated which might allow municipalities increased power over frequency of property assessments and setting of tax rates. Such changes would provide the municipality greater autonomy with regard to finances.

Assessed property values have not been updated with on-site visits since 1977. Since then, these values have been adjusted twice a year, in July and January, by the consumer price index. The C.P.I. is the only adjustment applied to assessed values since 1977.

Property taxes are collected by the central government; funds are then redistributed to municipalities on a monthly basis. Municipalities have no role whatsoever in the tax collection process.

Collection is carried out through the banking system; property taxes are paid in four quotas each year, in April, June, September and November. Taxes are remitted through the banks to the national treasury.

Sixty percent of all property taxes remitted to the national government is redistributed to the municipalities through the **Fondo Comun Municipal**, which was created as a redistributive mechanism to assist poorer municipalities. The other forty percent is returned directly to each municipality. The FCM is critical for the poorer municipalities, as the other sources of municipal revenue (vehicle registration and business permits), favor the wealthiest municipalities-those with high business activity, high property values and many vehicles (Wilson 1990).

V. Efforts to Update the Cadastre and Property Values

Physical cadastres were last updated nationwide in 1987. Assessed property values, those used for taxation purposes, have not been updated since 1977 and have only been adjusted by the consumer price index since 1977. Currently, efforts are underway to reappraise all properties in Chile for taxation purposes.

In accord with the law, a nationwide effort was undertaken in May of 1986 to incorporate new properties into the cadastre and to update assessed values with market values. The study, initiated by the S.I.I., consisted of a questionnaire sent out to all property owners, which asked them to evaluate the condition of their property, changes made to it, and what they thought it was worth. However, the study was flawed in that subjectivity entered into the questionnaire process and created enormous distortion in the calculation of new values. For example, while one apartment owner rated his or her property as a "1" on a scale of one to ten, a neighbor, living in a basically identical property, rated the property a "5". The S.I.I. calculated new property values based upon the information provided by property owners between May and October of 1987.

The new values, calculated by the S.I.I. and based on the evaluations by property owners, and the resulting tax increases, were sent to property owners in 1988. The newly assessed values and the taxes due on them were put into effect retroactively to January 1987. The S.I.I. then received a major backlash because owners of nearly identical properties, in numerous cases, received entirely different assessed values. Owners of identical properties found themselves owing different amounts of taxes because of the different assessed values placed on their properties by the S.I.I. Thus, the newly calculated and distorted values were cancelled and never placed into effect. However, new properties created by land owners through the selling off and subdividing of agricultural and residential properties, and the construction of new buildings, were incorporated into the cadastre.

Currently, assessed values are being updated with market values. The new assessed values were to go into effect in January of 1993, but have not yet been made official. They are scheduled to go into effect for the second semester of 1994. The delay in enforcing these new values is a fundamentally political one. Currently, the new law regarding municipal income (*Ley de Rentas Municipales*), is being debated in the congress. As well, the central government can delay enforcing the new values until after the elections, as enforcing them prior to the elections would prove unpopular. By delaying their enforcement, they avoid an unpopular political issue, and even if they lose the election, the new party in power can simply point the finger to its predecessor and thus also avoid the blame for increased property values and the resulting higher taxes.

At the present time property taxes are based on two percent of the assessed value. A 30 percent charge on the 2 percent tax due is added on as an additional penalty for vacant lots and commercial properties. Newly proposed property tax rates, being discussed in the Senate, will likely be 1.5 percent of

the new assessed values. However, under current law this value can also be raised or lowered the President of the republic at any time. Municipalities were recently granted the power to set tax rates as they see necessary, between a range of 1.1 percent and 1.9 percent, allowing them more autonomy with regard to income generation. However, this new law has not yet been approved by the President.

According to interviews with government officials, with the new increased property values and the newly proposed lower 1.5 percent tax rate, the tax burden charged each property owner will remain approximately the same as before the reappraisals when the tax rate was at 2 percent. The newly increased values will bring in more taxpayers as the number of property owners falling within exemption levels will decrease. But simultaneously, the 30 percent charge to owners of vacant lots and commercial property owners may be reduced; thus, the amount of taxes collected by the central government will probably remain at previous or only slightly increased levels.

The updated assessed values also serve as values upon which certain other taxes and licenses are based. Inheritance taxes, transfer of title rights, and income taxes (which incorporate individual assets) are based on assessed values. These taxes are collected by the treasury and go directly to the central government. Subdivision permits, which are issued by the municipality, and for which the municipality collects a fee, are also based on assessed values.

VI. Methodology of the Quillota Study

The municipality of Quillota was utilized for a small preliminary study of assessed and market values. Quillota is a small town located in the agricultural zone of the fifth region. It is typical of the fifth region and of Chile in that it has the historic Spanish plaza, surrounded by commercial and residential zones. Surrounding the central zone are residential areas, and finally agricultural properties and a river restrict the city on all sides. This urban format is typical of many Chilean municipalities. Quillota falls eighth, with regard to overall property values, in a ranking, carried out by the S.I.I., of the 37 communities that make up the fifth region.

Quillota was previously divided by the S.I.I. into three distinct zones for taxation purposes. However, the S.I.I. recently divided Quillota into seven sectors, with two additional subsectors, for tax assessment purposes. (See appendix A). This new sectoral division was used for the study. However, sectors W, Y, and Z were not included as these are small settlements which lie beyond the urban periphery or are composed of purely rural lands.

Vacant lots were used in order to gain a perspective on available land for future growth. Also, vacant lots were used in order to allow future researchers a data base from which land prices could be traced back in time in order to examine land markets, though these appear to have long ago stagnated, an issue which will be discussed further on. Finally, vacant lots were selected to avoid the various complications that arise when attempting to collect land prices on built properties.¹

Ten vacant lots were selected at random from each sector. Of each of these ten, five were discarded based on certain criteria. All attempts possible were made to use normally shaped lots as close to midblock as possible. Lots with a surface area as close as possible to the standard lot size for the area were used. As well, lots with unusual topography were discarded. An average price per square meter was calculated separately for assessed and market values. Market values were obtained from the S.I.I., as they have already been calculated through the means described above.

Several distinguishing criteria were used to define each sector. These included:

- a) Use of land and type of activities.
- b) Demand for space and type of development (expansion, renovation, stable, decaying, or changing use).
- c) Socio-economic status of residents and type of resident (rental or property owner).

¹However, the S.I.I.'s records contain a separate appraisal and tax for the property alone, and another appraisal and tax for the property itself.

d) Infrastructure.

e) Type of services available (educational, business, health, financial, etc.).

Sector A, (Appendix A), consists of the old Spanish plaza and the surrounding blocks. It is characterized by a high concentration of commercial and residential properties. Most businesses in the sector cater to local, communal, and provincial needs. It is the most highly urbanized of all sectors, and as it is already well built up and the center of most activity for Quillota, tends towards renovation rather than expansion or decay. Its residents are mostly middle class, and tend to be renters and property owners. Residential density is high and there is average demand for the sector. This sector provides commercial, educational, financial and health services, as well as other public and private services (real estate offices, government offices, etc.), and churches and parks. Infrastructure, including sewer systems, electricity, potable water, gas, and paved roads and sidewalks exist in this sector. Transport links to other communities and provinces are available in the sector. The predominant lot size in this sector is 500 square meters.

Sector B is a predominantly residential sector lying to the north of the city center. It is highly urbanized and consists mainly of residential properties and some commercial properties meeting local needs. It is characterized by stable or slow change, and medium to low demand for property. Most residents are middle class renters or property owners. Commercial and educational services are available in this sector. The sector contains the same basic infrastructure as sector A, and local and provincial transport is available from within. Normal plot size in this sector is 350 square meters.

To the South and West of the city lies sector C, an urbanized, residential area. Some renovation takes place in this part of the city, but it is generally stable and characterized by slow change. Little demand exist for space exists here, and middle class renters and property owners occupy this medium-density area. Health, commercial, and educational services are available here, as well as intercommunal and provincial transportation. All infrastructure is available here. Typical lot size measures 350 square meters.

The Southern and Eastern part of the city is made up of sector D. This area contains lands dedicated to residential, commercial, and industrial uses, with some stable areas and other open spaces undergoing expansion at a normal rate. Demand for space in the area is average. Both middle and lower class residents live in this sector. Commercial, educational and religious services are located here, as well as some inoffensive industry. A large part of the sector is dedicated to military uses. Sewer systems, potable water, and electricity is available here, but not all streets are paved in this area. The average lot size measures 200 square meters.

The subsector E₁, to the Northwest of the town center, was used instead of sector E. This subsector contains a much higher density of housing and lots than the sector as a whole, and thus better reflects land use in the area. Subsector E₁ is also an irregular settlement for lower income groups, and thus better reflects the demand for land by lower income groups than the rest of

the sector. This sector is mostly residential, with some other activity, and is generally in decay. It is a low income sector with insufficient infrastructure; there are no paved roads or sewers in this area, a lack of all types of services, and low quality construction. As well, it is a hilly area. Average lot size here measures 200 square meters.

VII. Analysis of Quillota

Property taxes are collected for approximately 20 percent of the municipality's residents. Of these contributors, 50 percent also pay sanitation services for the entire municipality. Under the current system, sanitation costs are paid by only 10 percent of the city's residents, making service provision highly inequitable in terms of cost to the beneficiaries. As well, sanitation services consume a disproportional amount of the municipality's budget.

As table 1 indicates, in the first quarter of 1993, there were 11,441 urban lots in Quillota, of which 2,428 paid taxes. The sum total of their contributions equaled 59.6 million pesos. 1,504 property owners paid for sanitation services, contributing a total of 2.6 million pesos for the quarter for this service. 1,037 property owners paid 10.1 million pesos in additional penalties.

Sanitation services are billed to property tax payers for residential property owners and through business licenses for commercial property owners. While only slightly more than ten percent of property owners pay sanitation services, as indicated in table 1 below, they are nonetheless provided to the whole municipality. This indicates that approximately 80 percent of the municipalities residents are receiving sanitation services without paying for them. This is a common problem throughout Chile, as most properties in small municipalities, of which Quillota is typical, consist of properties which have values within the exemption level. Only in municipalities which contain a large number of high valued properties (i.e. Vi_a del Mar, Las Condes in Santiago), are a larger proportion of property owners paying for sanitation services. At the same time, the municipality is obviously not receiving all the funds it could collect for property taxes because of the numerous exemptions given to property owners.

Officials of the municipality regarded the sanitation problem as a major one. For 1993, Quillota's estimated municipal income was 167 million pesos, while trash services alone cost 10 million pesos per month. The problem of financing trash as well as lighting and other services will be discussed further on.

The newly updated cadastre and the corresponding new values would bring more property values above exemption levels, requiring the owners to pay sanitation services. However, because the new *Ley de rentas municipales* may actually raise the value of properties allowed for exemption, there may be little or no substantial gain in the number of property owners paying sanitation services. The new law may allow municipalities to charge for sanitation services independent of property values, but this still remains to be seen.

Table 1 Tax Data for the second quarter of 1993, Quillota, Chile.

	Total (billions of pesos)	Number of lots (thousands)
Value of all assessed properties	37.5	11,825
Value of all exempted properties	28.1	10,851
Total number of exempted properties		9,397
	(millions of pesos)	
Net Contributions	46.8	2,428
Sanitation	2.6	1,504
30% Additional	10.1	1,037
Total contributions	59.6	2,428
Urban lots		11,441
Rural lots		384

Source: Servicio de Impuestos Internos, Quillota, Chile.

Market land values in Quillota are 1.5 to 2.5 times higher than assessed values. However, land and property values are currently being updated.

As graph 1 indicates, assessed values were far below market values in 1993.¹ In sectors A and B, market values were nearly 2.5 times higher than assessed values. In sector A, the increased values indicate the availability of infrastructure and services in the area. As well, as Quillota expands outward, the city center becomes more and more valuable as growth becomes increasingly restricted by agricultural lands and other geographical factors at the periphery. The few vacant lots in the area are probably being held for speculative purposes or until landowners can obtain capital to construct here.

In lower income areas of the city land prices show the least difference between assessed and market values. This indicates that land prices have increased the least in this area since they were last assessed. These lower priced zones are where growth is occurring at the most rapid pace. Because of the low price of land in this area, which is often semi-fertile agricultural land, these areas are being consumed for housing purposes.

¹For raw data see appendix B.

Nevertheless, these data should be interpreted with some caution, as the data was only a small fraction of all lands in Quillota.¹ As well, no measure was taken of the difference between the assessed and market values of actual property constructed on lots, which is assessed apart from lot value by the S.I.I.

The result of the lack of land in Quillota is a stagnation of the land market in the interior of the city, and continuous, but slow growth at the periphery. While the state has provided an average of approximately 250 new houses a year for the last nine years to Quillota, adding approximately 29 hectares of urbanized land to the city over the last nine years, further study is needed to determine how the process is affecting agricultural property values.

¹While comparison of properties within the city indicates that assessed values were behind commercial values, it is difficult to draw any other conclusions from the sample data. While data was used in periphery areas of the city, it does not reflect the process of urban expansion that is occurring at the fringe of the city. Urban land markets in many areas, Quillota for example, do not consist of "urban" land, but of agricultural land which is transformed to urban land through a lengthy and complicated process. Further study is needed to examine agricultural property values at the fringe of the urban area. These properties are often purchased by private individuals or by the state and then urbanized and subdivided for housing. A study on a provincial or regional level, which traced agricultural land prices from time of purchase (for housing purposes), to a state of complete urbanization, could provide an accurate picture of the process of the agricultural to urban transformation of land.

VIII. Land Zoning

While a zoning plan and zoning laws exist for Quillota and are maintained by the municipality, they do not so much influence the small land market that remains as they influence the renovation and reconstruction of the city.

Municipalities are granted the power to create and alter zoning plans. They are also authorized to permit or decline building permits for properties within their territory. One source of income for municipalities, based on the assessed land value, is the construction permit.

Quillota's zoning plan has little effect on central areas of the city. Because the city is very old and was built up long before a zoning plan was created, the plan is based on what has already been constructed, with some new changes. According to interviews with officials of the Board of Public Works (Dirección de Obras Públicas), the plan has been changed and revised several times over the last twenty years, and has yet to be made official. The current plan is supposed to become official within the next three months.

While property values are based in part on the zoning plan, it appears to have little influence on changing property values because the market is extremely small, if not nonexistent, for new property. The plan does, however, influence the construction of new properties. New building requirements demand that new properties be constructed a certain distance back from the street in order to widen narrow colonial streets. Because many of the residential and business properties begin immediately after the sidewalk and are not recessed from the street, as is traditional Spanish custom, owners of old and decaying properties are hesitant and unwilling to rebuild or renovate. Construction of new properties on already constructed lots usually does not occur because of the high cost of having to destroy the entire property and rebuild farther back from the street, as the new zoning laws demand.

As well, new properties built in the central sector of the city, (sector A in Quillota), are required to be multi-story constructions. According to key informants, property owners often lack capital to invest in building structures of this size, and thus land is left vacant. However, other interviews indicated that much of the vacant land in Quillota is held in the hands of a few families, especially in the center city area, and many of these families simply hold property without using it, at the same time allowing it to decay. At the same time, infrastructure inadequacies exist for multi-story buildings. Water and electricity services do not meet the requirements for such buildings.

Sector E₁, the lowest income sector in Quillota, is also the sector with the least infrastructure. No incentives exist for private or public entities to invest in this sector as it is a costly area for this type of investment. Its uneven and steep terrain make infrastructure improvement more difficult and costly than in other areas; therefore, no incentive exists for infrastructure investment. Though the sector is well populated, there is little demand for new space in the sector.

Though this sector is made up of mostly irregular settlements, residents of this area do have an incentive to regularize and apply for land title. Officials of the S.I.I. in Quillota indicated that no informal land market existed; all lots in the area were registered and newly created lots are quickly regularized, as landowners can receive state subsidies for housing construction once they hold title to a property.

An official in the D.O.P. indicated that owners of vacant lots would soon be required to build on their properties, however, he could not explain how the new requirements would be enforced, nor where property owners were going to obtain the capital for new construction. It was indicated, however, that if properties were not constructed on vacant lots a system of fines would be enforced.

It is neither political nor social mechanisms that prevent the land market in Quillota from functioning. The city has simply reached its growth limits; though some agricultural land has been consumed by the city, the process has been slow and rapid and widespread growth is unlikely. Because Quillota is a small municipality, a dynamic and active process of change is not occurring. Though some growth still occurs on the Northwestern border near the Aconcagua river, this growth usually consists of irregular settlements of low income people. The area is unlikely and unfit for development, as it commonly floods during the winter season.

Most urban growth in Quillota is subsidized by the state and infrastructure investment is costly, presenting disincentives to private investors. However, according to an official of the S.I.I., there have been cases of private investors buying agricultural land at agricultural land prices, then selling this land at an enormous profit to the municipality, which turns the land over to SERVIU (Housing and Urbanization Service) for low income housing and urbanization. This is a process worthy of further investigation.

IX. Municipal Finance

In an interview with the financial administrator for the municipality of Quillota, several problems were revealed. The first was sanitation. Because sanitation is so costly, it occupies a large part of the municipal budget. If sanitation services were paid for by all members of the community, not just those who pay property taxes, a great deal of money would be freed up for use in other areas of the municipality.

Another major problem was the redistribution of taxes from the central government. Money is remunerated monthly from the central government to the municipality. Part of this money comes out of the F.C.M. while another part is money returned directly to the municipality. Because the cash flow to the central government is uncoordinated and erratic, the quantities received each month by the municipality also vary, sometimes between several hundred thousand pesos and several million pesos. Thus, the municipality has no way to plan or budget future improvements. Some months the money remunerated is scarcely enough to pay employees, while other months large amounts arrive.

But the greatest problem expressed was the lack of power over taxation and setting tax rates. With regard to business licenses, government official noted that because of restrictions on municipalities on setting tax rates, many large industries pay inordinately small sums for business licenses. At the same time, these industries receive all the benefits provided by the municipality, namely sanitation services, public lighting, and others. Interviews with government officials also indicated that municipalities could be further strengthened by allowing them to set property tax rates and exemption levels, and tax rates for vehicle licenses.

X. Conclusion

By examining the case of Quillota, various problems municipalities face with regard to taxation and autonomy appear can be extrapolated to the national level. Quillota illustrates the problems facing many municipalities with regard to sanitation services and user fees. While changes in municipal income laws may allow municipalities to begin charging fees to all recipients of sanitation services, municipalities also need the capacity to calculate the growth of demand for such services in the future. Improved information regarding urbanization of agricultural lands and housing growth could contribute to solving this problem. Such information could also serve the private providers of sanitation services, contracted by municipalities, to better estimate future costs in expanding areas.

Another problem facing Quillota and other municipalities is the lack of infrastructure in low income areas, as well as those areas recently occupied by low income groups. While public sector investment exists for housing and infrastructure provision, no apparent incentives exist for private investment in these areas. As well, Quillota illustrates that while public sector investment in housing and infrastructure occurs in areas of the city where costs are low, no such investment takes place in already established irregular housing settlements where infrastructure provision is more costly (i.e. in an area of steep terrain). Thus, while new housing and infrastructure are being provided in certain areas of the city, other already established areas are neglected. While infrastructure investment usually increases the value of serviced land much more than the cost of the infrastructure itself, why is it so difficult to finance public infrastructure? New methods of financing, such as deferred special assessments¹ could increase investment in these areas.

Another area needing further research is the conflict between zoning plans and urban growth. In Quillota existing infrastructure does not meet the needs of building types as demanded by zoning regulations. This is only one of the possible conflicts between public policy and the private sector. Other zoning regulations may create disincentives for private investment and inhibit access to land for low income groups. Continued investigation in this area could reveal other problems.

While Quillota is a small municipality lacking a rapid process of change, the transformation of agricultural to urban land is occurring here. Such a process widespread in Chile, especially Santiago and the fifth region, where the majority of Chile's population is concentrated. Further studies at a provincial or regional level could reveal the amount of land being urbanized annually and the role of public and private sectors in land transformation. An estimate of land being transformed annually could allow the S.I.I. and

¹See Shoup, Donald C. Is underinvestment in public infrastructure an anomaly? in Jones, Gareth and Peter M. Ward, eds. Forthcoming 1994. *Methodology for Land and Housing Market Analysis*. London: University College Press.

municipalities to better calculate income from recently urbanized zones, as tax structures differ for agricultural and urban zones.

A study at the national level could be useful in revealing problems with tax collection, the National Treasury, and why municipalities do not receive regular funds on a regular basis. Changes in financial policies administered at the national level could allow municipalities to collect and receive at least part of the income generated through property taxes. Greater autonomy over their collection, even in part, would allow municipalities to better estimate income for budgeting and planning purposes. While municipalities still lack the administrative structure and technical expertise to assess properties and collect taxes, a coordinated project between the S.I.I., the central government, and municipalities could improve municipal capacity in these areas. Increasing municipal capacity and autonomy with regard to property taxes and their collection would also increase incentive to keep assessed values up to date with market values. Finally, property values are the basis for other taxes and fees charged by the municipality. Better coordination between the S.I.I. and the municipalities would facilitate keeping the cadastre up to date, thus improving municipalities' capacity for budgeting and planning.

Finally, increasing municipal autonomy over income generation could allow greater political and economic decentralization, and increased efficiency in land use and allocation. Because property taxes are such a large part of municipal income, they constitute a crucial part of the municipality's budget. While assessed and current values are no longer far apart, many problems still exist within the tax structure which inhibit efficient and fair payment of taxes.

From this study it appears that bringing assessed values up to date with market values will not constitute a substantial increase in municipal income, at least for the case of Quillota. It is not yet possible to quantify the increase in income due to current reassessments. However, once the new *Ley de Rentas Municipales* is established, and new tax rates and exemption levels are set, studies could be undertaken to examine the actual increases resulting from the new law. If it holds true that new assessments have not brought about substantial increases in municipal revenue, new municipal revenue reform, beyond the newly proposed laws, may be necessary.

Availability of data, especially census data, was one of the major constraints of this study, and will be for future studies. Currently, no data exist at the comunal or municipal level for population, population density, and other areas. However, the 1992 census, still being processed, will contain data disaggregated at the comunal level. This will provide future researchers a key tool for future investigations.

By examining the municipality of Quillota and the national offices responsible for tax collection, some of the needs of and problems facing this municipality and others have been revealed. Further research will provide new alternatives and solutions to the problems facing municipalities, and eventually allow greater autonomy and control for municipalities.

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Appendix A
Maps of Quillota

Appendix B
Assessed Values Data

Assessed Values 1993

SECTOR	Plot	Rol #	Address	M ²	\$/m ² (1993 pesos)
	1	1-0022	CHACABUCO 42	339	\$5,292.71
	2	17-0026	CARERRA	300	\$4,349.64
A	3	36-0022	PUDETO 650	210	\$2,097.14
	4	43-0009	SAN MARTIN 485	532	\$4,353.74
	5	55-0028	BULNES 549	760	\$2,274.98
	Avg.			428.2	\$3,673.64
	1	125-0059	MERCED 90	430	\$652.45
	2	126-0072	SERRANO	418	\$767.91
B	3	160-0025	21 DE MAYO 402	504	\$2,847.99
	4	165-0034	BENAVIDES 40	659	\$4,900.78
	5	165-0053	CALLEJON LOS PAJAROS	355	\$1,010.83
	Avg.			473.2	\$2,035.99
	1	68-0052	O'HIGGINS 1049	254	\$7,320.77
	2	68-0038	FREIRE780	485	\$1,277.99
C	3	82-0025	P LYNCH	164	\$1,591.32
	4	28-0013	AV VALPARAISO 223	153	\$2,056.91
	5	28-0025	CONCEPCION 9910	599	\$1,198.15
	Avg.			331	\$2,689.03
	1	193-0019	SGTO ALDEA 40	250	\$3,001.25
	2	193-0028	CJ DEVIA LT 1	271	\$2,407.55
D	3	195-0011	HERBOSO	460	\$6,240.80
	4	198-0051	PORTALES LT 3	219	\$1,280.16
	5	202-157	D ECHEVERRIA	162	\$1,107.32
	Avg.			272.4	\$2,807.42
	1	129-0154	BALMACEDA	251	\$714.69
	2	137-0012	PORVENIR	200	\$896.93
E ₁	3	141-0064	ACONCAGUA NTE ST 2	120	\$1,494.88
	4	142-0047	H BAEZA	185	\$969.65
	5	10-0019	CONCEPCION 1460	446	\$402.21
	Avg.			240.4	\$895.67

Source: Servicio de Impuestos Internos, Quillota, Chile.