



# Geographic disparities in rural land appreciation in a transforming economy: Chile, 1980 to 2007



W. Foster<sup>a,\*</sup>, G. Anríquez<sup>a</sup>, O. Melo<sup>b</sup>, D. Yupanqui<sup>c</sup>, J. Ortega<sup>b</sup>

<sup>a</sup> Millennium Nucleus Center for the Socioeconomic Impact of Environmental Policies (CESIEP) and the Department of Agricultural Economics of the Pontificia Universidad Católica de Chile, Santiago, Chile

<sup>b</sup> Department of Agricultural Economics of the Pontificia Universidad Católica de Chile, Santiago, Chile

<sup>c</sup> Ministry of Social Development, Government of Chile, Santiago, Chile

## ARTICLE INFO

### Article history:

Received 6 March 2016

Received in revised form 10 May 2016

Accepted 20 June 2016

### Keywords:

Rural land  
Land prices  
Land appreciation  
Agriculture  
Chile

## ABSTRACT

This paper reports on a research effort to gather and analyze rural land value data during a period of unprecedented growth in Chilean agriculture. This information is important to understand the geographical distribution of gains associated with the transformation of the rural sector during a period of rapid development, trade liberalization and transition toward a predominant emphasis on export earnings in agriculture. A large set of data of rural land transactions for 1980, 1990, 1997 and 2007 were collected from a sample of land registry offices. Results show notable declines in the physical size of transactions, significant average annual rates of increase in real per-hectare values, and a small-parcel premium for rural land associated with non-farm land use. Overall real land values have increased faster than the average annual growth rates in the agricultural sector's value added, suggesting that land owners have gained proportionately more than other claimants to sectoral income. Tests show significant geographic disparities in annual rates of land appreciation across regions and municipalities. Consistent with differential net gains due to integration into world markets and the geographic heterogeneity of suitability for different land uses, northern areas, with greater emphasis on export-oriented crops, have experienced the highest average rates of annual real per-hectare value growth, in the order of 7 percent, while southern areas, emphasizing traditional crops and pastures/livestock, have experienced growth rates of half that. Geographic disparities are also explained by proximity to urban population and income centers.

© 2016 Elsevier Ltd. All rights reserved.

## 1. Introduction

Rural land use and values are an important source of information for assessing the distribution of benefits of economic growth. Current and anticipated economic rents from land-based activities, such as farming, housing and tourism, are capitalized into the present value of land, which represents the bulk of the value of all rural assets, even in developed countries with high rates of mechanization (USDA, 2014). Rural land values depend in major part on the expected value of the future stream of the net income generated by agricultural production, although other characteristics, such as distance to urban areas, suitability for future residential use, environmental amenities, and government programs can influence land prices (e.g., Chavas and Shumway, 1982; Alston, 1986; Burt, 1986; Barnard et al., 1997; Shi et al., 1997; Drescher et al., 2001; Plantinga

and Miller, 2001; Huang et al., 2006; Palmquist, 2006; Guiling et al., 2009; Wasson et al., 2013; Uematsu et al., 2013).

To what degree has the comparatively rapid growth in the Chilean economy and in the agricultural sector's value added been capitalized into the value of rural land? What has been the geographic pattern of land value changes? Have there been bigger winners than others? The benefits of the growth in net income generated by the farm sector, in large measure spurred by its integration into international markets and its related shift toward a predominant emphasis on export earnings, are shared both by the sector's labor force, in the form of wages and salaries, and by the owners of fixed capital and, most importantly, land. Certainly real rural wages have increased and poverty rates decreased significantly over the last three decades (e.g., see Campos and Foster, 2013); and recently both rural poverty rates slipped below urban rates and the World Bank reclassified Chile from a middle-income to a high-income country.

An overall objective of this study is to evaluate to what degree different rural land owners have enjoyed increases in the value of

\* Corresponding author.

E-mail address: [wfooster@uc.cl](mailto:wfooster@uc.cl) (W. Foster).

their property. The underlying hypothesis tested in this study is that land prices in fact experienced economically significant increases in real terms. A second objective is to test if land value increases have been similar throughout the country; or if certain regions, particularly those associated with the fruit and wine export sector, both favored by the policy turn to international market openness, have been especially favored. This would have implications for assessing the disparate geographical impacts of growth and trade liberalization policy and for possible dissimilarities in territorial development and eventual land use changes. Furthermore, Chile's economic development has altered significantly income levels and populations in urban centers, with likely consequence for surrounding land prices (e.g., see [Yue Jin et al., 1997](#); [Capozza and Helsley, 1989](#); [Hardie et al., 2001](#)). Location specific conditions related to urban growth might also have led to geographic differences in anticipated development pressures and consequent land use changes. Chile's economic transformation following major reforms led to a significant increase in the proportion of the workforce in nonfarm activities, especially in service sectors, and to growing urban populations and incomes in certain areas. Such urban growth would be linked both to rural land appreciation and to a form of land fragmentation driven by proximity to residential areas and the potential for nonagricultural uses. The latter consequence is often associated with what is known as the small-parcel premium ([Brorsen et al., 2015](#)).

This study contributes to the analysis of rural land values in developing countries and in Chile in particular, where economic development was markedly rapid following transition to civilian rule in the 1990s and where growth between 1980 and the present has raised per-capita real incomes on average at a rate of about 3.2 percent annually. Due to the difficulty of direct observations of land transactions, previous studies specifically for Chile have made use of asking prices in newspaper sales advertisements or of private-company value assessments. These studies, briefly reviewed below, do confirm that land value levels are higher in production zones closer to the large metropolitan area of Santiago and where export-oriented crops are found, but do not address the question of the real appreciation of land values or the geographic disparities of land price changes. In contrast to previous studies, which typically focus on a reduced geographical scale and use newspaper sales advertisements, this present paper reports on results from an on-going research project that examines the evolution of rural land values across all important agricultural zones of Chile by making use of transactions data collected from land registries. In Chile, local land registries (*Conservadores de Bienes Raíces* – CBRs) record real land transactions at the municipal level, which permits a comprehensive overview of land values at different points in time and so of the evolution of land values over time and in different geographic locations. The labor-intensive research effort in this study has produced what is likely the most extensive data set available regarding rural land values in Chile.

Analysis of the real (cost-of-living-corrected) value per hectare of land transactions shows that parcel values vary significantly according to size and region. The data demonstrate that between 1980 and 2007 there was a notable shift downward in the distribution of parcel sizes of transactions and an even more remarkable average annual rate of increase in regional median land values in real terms (an all-region yearly estimate of 4.9 percent). More importantly for the question of geographic differences in land price changes, statistical tests reveal that, in addition to finding a significant small-parcel premium effect, real per-hectare land values increased most rapidly in those regions with export crops and greater population and income growth (in some regions on the order of 7 percent annually); and that land values increase more slowly (on the order of 3 percent annually) in southern regions where traditional crops and grazing concentrate. A more

detailed examination of municipal-level rural land price growth rates between the agricultural census years of 1997 and 2007 confirms that real value increases are linked to land-use specialization in the export-oriented fruit crop sector, supporting the contention that an overall open trade policy led to significant geographical disparities of impact among rural land owners.

In the following section, the paper first reviews the basic methodology for the data collection strategy and statistical analysis. Section 3 presents the results of the data analyses, and Section 4 summarizes the conclusions that can be drawn from the evidence presented and discusses policy implications.

## 2. Rural land values, new data and an interpretive model

### 2.1. A brief review of rural land value studies for Chile

As noted the difficulty of direct observations of the details of land transactions have meant that previous studies of rural land values Chile have made use of asking prices in newspaper sales advertisements or of private-company value assessments. [Hurtado et al. \(1979\)](#) offer the earliest systematic analysis of long-term trends in land values in multiple regions of the country, making use of 794 newspaper announcements between 1917 and 1978 and correlating per-hectare values with parcel characteristics. These newspaper data on sales offers were extended to 1998 by [Schönhaut \(1999\)](#) and further extended to 2008 by [Cancino et al. \(2009\)](#) and used in [Donoso et al. \(2013\)](#) and [Donoso et al. \(2014\)](#). [Morandé and Soto \(1992\)](#) make use of similar newspaper announcements for land value data for the period 1975–1989, [Troncoso and Calderón \(2000\)](#) for 1983–1996, and [Troncoso and Tobar \(2005\)](#) for 1983–2002. These studies concentrate on estimating a hedonic relationship between price levels of land and characteristics of either parcels or geographic areas. [Bravo-Ureta and Fuentes \(2003\)](#) is a prototypical investigation in broad agreement with results found by various authors. Using 552 private-company property assessment reports for 1981–1996, the study finds (concurring with the earlier work of [Hurtado et al., 1979](#)) that land values are higher in the northern production zones (where fruits and export crops tend to predominate); and that parcels with fewer hectares, farm infrastructure (including irrigation), soil quality and proximity to urban areas are positively related to assessed values.<sup>1</sup>

### 2.2. The study's data: Chilean rural land transactions as recorded in land registries

Given available resources, the data-collection phase of this study was limited to 37 land registry offices (*Conservador de Bienes Raíces* – CBRs) that could be visited during the time available. These offices represent 31 percent of the 118 CBRs in total that cover the full area of this study and in which are found 414,048 farm units as counted in the 2007 Agricultural Census. The geographic area of interest is the main agricultural zones between the Atacama Region (III) in the north (latitude 27°22'S) and the Los Lagos Region (X) in the south (latitude 41°28'S). The regions covered account for 98 percent of national agricultural value added as estimated in national accounts. The CBR registries were selected randomly in

<sup>1</sup> In an unusual application of the hedonic approach to land values, [Baland and Robinson \(2012\)](#) make use of Chilean newspaper advertisements to test whether or not there was a political value bid into the price of rural land based on large owners having knowledge of tenant farmers votes; they find that with the elimination of economic rents associated with electoral clientelism (prior to 1956, when voting behavior was observable to landlords before completely secret ballots) rural land prices declined significantly in areas in which patron-client relationships predominated.

Download English Version:

<https://daneshyari.com/en/article/6547111>

Download Persian Version:

<https://daneshyari.com/article/6547111>

[Daneshyari.com](https://daneshyari.com)