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Since 2009, the Lincoln Institute has supported her research on the impacts of residential land use regulations on informality, urban extension, and land values in Latin American cities. In her consulting practice, she has worked with a number of government departments in Argentina and other Latin American countries, as well as several international organizations such as the World Bank, UN University World Institute for Development Economics Research, and the Development Bank of Latin America, among others.

Cynthia holds a M.Sc. in urban economics and a Ph.D. in regional and urban planning from the London School of Economics and Political Science.

## The Impacts of Land Use Regulations in Latin America

**LAND LINES:** Local land use regulation is a difficult topic to tackle. Although zoning and other interventions can be a strong remedy for market failures, they can have unplanned adverse effects. How did you come to take on this type of research?

**CYNTHIA GOYTIA:** I became interested in the economic analysis of land use interventions as I began to recognize that land markets are about more than just land and location. Over the last 30 years or so, land use regulation and zoning have become much more important than land taxation in determining quality of life for people in cities. And over time, I noticed that land use interventions designed to achieve socially desirable ends sometimes had unintended negative consequences that planners and policy makers had totally failed to anticipate. For example, government regulations affect access to a wide range of public goods and, as a result, may lead to increased residential segregation and informal development.

All these facts encouraged me to research the effects of government interventions on the land market. I also realized that part of the knowledge gap about regulatory effects in Latin America resulted from the lack of comparable and systematic data on land use. So in 2005, I began an extensive research agenda on this subject, which started as a cooperative effort with Argentina's national government and later gained the strong support of the Lincoln Institute.

**LL:** How relevant to Latin America are the results of recent studies claiming that over-regulation of land use in developed countries drives up housing prices?

**CG:** Our empirical research provides evidence that by increasing prices in the formal land market, thus reducing the supply of housing affordable to low-income households, some aspects of land

use regulation could promote more informal development. For example, the Land Use Law enacted in Buenos Aires Province 38 years ago defined new requirements for minimum lot size and forced developers to finance the infrastructure for new subdivisions. These requirements priced low-income households out of the legal land market and into the informal sector.

While the overall objectives of the law were not bad, they had unintended consequences for housing affordability. As a result, the land market was severely skewed to the higher-income segment, while the low-income submarket—households that previously had been allowed to construct their own houses on residential lots—was practically dismantled by the time the new land use standards were enacted and enforced. Not surprisingly, these types of constraints have led to illegal occupation of land in nearly two-thirds of the municipal jurisdictions forming Argentina's metropolitan areas, including Buenos Aires Metropolitan Area.

**LL:** Many analysts assert that exclusionary building and land use codes are largely responsible for rampant informality in the region. How would you respond to that criticism?

**CG:** My recent research supports the claim that land use regulation is used not only to correct for market failures, but it can constitute a way to achieve exclusionary aims as well. We have found that municipalities with large shares of both educated households and disadvantaged populations tend to impose more restrictive residential zoning to maximize the benefits that formal home owners receive from their local governments.

There are some interesting correlations between the use of exclusionary measures in some jurisdictions and conditions in nearby areas. For example, municipalities in Buenos Aires with stringent policies about infrastructure provision are surrounded by municipalities with large shares of households that lack basic services. Indeed, under-provision of infrastructure is central to the idea of urban exclusion. The local government may thus attempt to indirectly regulate the scope of informal

development by failing to pave the roads or provide connections to water and sewerage services. Under-servicing informal settlements may be a strategic device to discourage migration to areas experiencing population growth pressure, which are already highly populated, richer, and reluctant to share their tax base with lower-income migrants.

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**LL:** Among the many factors accounting for informality in Latin America, where would you place land use regulation?

**CG:** Our research provides evidence of a link between land use regulation and the housing choices of urban households in Argentina. Municipalities that have enacted more land regulatory measures also have larger informal sectors, suggesting that the regulatory environment severely constrains development of formal low-income land and housing markets. For example, minimum lot sizes set up land consumption levels that low-income households cannot afford. Moreover, these regulations determine the amount of housing that can be built on lots by setting maximum heights, floor area ratios, or allocation of open space—skewing the supply to the upper-income market. Relatively high project approval costs (in terms of both time and money) also have negative impacts by raising the final cost of housing and/or discouraging developers from building housing for low-income households. At the same time, however, inclusionary policies—including value capture or betterment levies, impact fees, and setting vacant land aside for affordable housing—reduce the likelihood that households resort to informal land markets.

One of the most important concepts we need to understand is that informality is not merely a poverty issue, but rather a land market distortion that affects households of all incomes. Therefore, land use regulation should contribute to the design of policies that are able to address the fundamental causes of informality and hold down the prices of serviced land.

**LL: The efficiency-equity trade-off seems to be at the heart of debates about land use regulation. This trade-off is played out under different rules when it comes to higher-income and lower-income urban areas, as plainly revealed in Brazil's special zones of social interest (ZEIS)—low-income areas preserved for affordable housing by the state.**

**CG:** You are right. Rules such as general-purpose urban zoning regulations are quite different from the pro-poor standards allowed in ZEIS. General-purpose zoning is meant to improve the efficiency of urban land use, especially in the formal housing market. Adequate planning facilitates timely infrastructure investment and large-scale urban development. Overall, efficient land use contributes to improved urban productivity. But many times, it does not in itself ensure affordability for lower-income groups.

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At present, we do not have a rigorous evaluation of ZEIS effects, but it is important to consider two facts when it comes to the less stringent standards set for low-income housing. First, the rationale for allowing different regulations for particular segments of the housing market is that doing so enhances general welfare. Second, the pragmatic solution of regularizing informal areas raises the question of why municipalities do not allow higher densities in the first place, provided that the appropriate

infrastructure is put in place. In theory, allowing higher-density development in formal areas would increase the overall supply of buildable land, thereby reducing prices and increasing the availability of affordable housing.

**LL: Are there any good examples of politically feasible, socially inclusive land use regulations?**

**CG:** In most developing countries, the challenge is to design policies that address the fundamental causes of informality and promote social inclusion. Jurisdictions that have adopted—and effectively implemented—inclusionary measures are now better able to provide more affordable housing options in the formal market. But there are at least two distinct types of approaches, which push the land use regulation agenda in our cities in different ways and have various implications.

The first type of approach focuses on easing land use restrictions that disproportionately affect the supply of low-income housing. We know that higher land costs due to “forced consumption” make housing less affordable to lower-income families. Revising these types of standards—such as allowing condominium units in low-density areas (where most low-income households live), increasing floor area ratios, and reducing minimum lot sizes for subdivisions where infrastructure is phased in—helps to improve housing affordability in the formal market. These measures also make it more profitable to develop low-income housing, thereby increasing the incentives to supply units for this market segment. There are now some examples of formal developers building low-income subdivisions and affordable housing units in some municipalities where population and affordable housing demand have been growing fast, such as La Matanza, in the Buenos Aires metro area.

The second type of land use innovation involves making changes to regulatory frameworks. Government jurisdictions at all levels are now enacting a variety of policies that play a more active role in land and infrastructure development and finance, guiding urban growth and infill development while also capturing the

value of large-scale public investments. Rosario, Argentina, provides a great example. The government there grants building rights—notably in high-income areas—as long as the proceeds are used to fund the public investments necessary to support higher densities and to provide serviced land for affordable housing or for informal settlements.

I have already underscored the importance of infrastructure spending. Over the last decade, metropolitan agglomerations in Argentina were expanding 3.5 percent annually on average while the population was growing by 1.2 percent annually. This development path makes the financing of infrastructure imperative. Some municipal governments have responded by implementing betterment levies. Trenque Lauquen is a case in point. The municipality has used the levies not only to finance infrastructure investments, but also to manage urban growth and make land available for different uses, including low-income housing. Although limited in scope, this success shows that betterment levies are a feasible and flexible instrument that can help expand urban services. It also prevents informal land subdividers from exploiting the gap between the prices of raw and fully serviced formal land.

**LL: Based on what we know and do not know about land use regulation in Latin America, which research priorities do you think the Lincoln Institute should pursue?**

**CG:** The Lincoln Institute of Land Policy has been doing a great job in generating knowledge about land use regulation in Latin America through its support of research, seminars, and other activities, and by encouraging valuable interactions among a broad audience of urban planners and policy makers in the region. Now we need to build on this knowledge to promote policies that improve land and housing affordability, and to identify the sources of supply distortions that lead to low compliance and widespread informality.

This means improving our understanding of the impacts of regulatory innovations now taking place in the region. Although we have some case

studies about the effects of these new tools, we need to carry out a comprehensive review of the ways cities, municipalities, states, and national offices define their regulatory frameworks. Creating a comprehensive database of this information for the main urban agglomerations in the region would allow comparisons over time and across municipalities.

To this end, we at CIPUV performed a nationwide survey of planning officials about local land use regulations in Argentina's metropolitan areas. The set of indicators assembled in the CIPUV Index of Land Policy (CILP) provides detailed information on such parameters as the existence of land use plans, the authorities involved in zoning changes and residential project approval processes, the existence of building restrictions, the costs related to project approvals, and the implementation of value capture instruments.

Over the years, our research has started to reshape planners' attitudes about regulatory frameworks. We have initiated a dialogue with planners and public officials in the hope of gaining new insights about the role of land markets within cities and the impacts of regulations. In addition, our standardized indices have enabled comparisons of regulations across municipalities as well as analysis at the metropolitan and state levels. As a result, some municipal and provincial jurisdictions in Argentina have recently updated, or are in the process of updating, their land use plans and laws, some of which date back nearly half a century.

**LL: Would it be feasible to develop an international version of the CIPUV Index of Land Policy?**

**CG:** Yes. Taking up such an initiative would have two important effects. First, it would allow comparisons of metropolitan areas throughout Latin America and increase the visibility of successes that some cities have had in increasing land affordability. And second, it would provide fertile ground for policy makers and researchers to learn which initiatives lead to better outcomes. It is not only feasible, but a central challenge that should be addressed in the coming years. □