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The State of Mexico's Housing – Recent Progress and Continued Challenges

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I. Introduction

In 2004, Fundacion CIDOC commissioned Harvard's Joint Center for Housing Studies to prepare a report assessing *The State of Mexico's Housing*, which was a follow up to an earlier report of the same name supported by Infonavit in 1997. The report provided a snapshot of housing conditions in Mexico and identified key challenges facing the nation in providing decent, affordable housing for all Mexicans. These challenges included the need to expand the scale and scope of mortgage lending through the quasi-public agencies Infonavit and FOVISSSTE¹ while also increasing private sources of financing largely through the efforts of the Sociedad Hipotecaria Federal (SHF); to improve land use planning and infrastructure financing; and to greatly enhance housing market information and the legal infrastructure for market operations.

Over the last decade Mexico has made significant advances in meeting many of these challenges. Through a combination of operational and financial improvements to Infonavit (by far the largest source of loans in Mexico) and FOVISSSTE, advances in the structure and operation of housing and mortgage markets more generally, and stable macroeconomic conditions, government and industry have worked together to finance homes to larger segments of the population while also bolstering national economic growth and enhancing the livelihoods and wellbeing of families and communities across the country. Production of new homes has increased dramatically and financing options were greatly expanded for previously-underserved markets, including the resale and home improvement markets, as well as households unaffiliated with the major housing funds Infonavit and FOVISSSTE. Furthermore, while Mexico was not immune to the impacts of the recent economic downturn, much of the housing sector has weathered the global recession fairly well.

¹ Infonavit and FOVISSSTE are publicly-mandated agencies created in 1972 with the goal of creating dedicated sources of housing finance for private and public sector workers, respectively. In this paper they are referred to as the "housing funds."

However, despite these advances, the demand for affordable and decent housing still far outstrips the supply. In addition, there is a need to improve the institutional coordination and capacity across the different agencies and governmental levels necessary to help address these problems.

Over the past few years, a widespread recognition has emerged of the need to address the physically sprawling, environmentally unsustainable nature of housing development in Mexico. A number of new initiatives have been developed to confront this situation, most notably the collaborative effort of a range of federal agencies to channel resources to Sustainable Integrated Urban Developments (DUIS), with the goal of redirecting urban growth to more central locations that can be better served by infrastructure and transit and include an appropriate mixture of other land uses. But efforts to address sprawl are at best nascent, and problems loom in the future in the form of vacant, abandoned properties and recently-built communities lacking adequate infrastructure and public services, including education and health care.

Finally, while some progress has been made in extending financing to households unaffiliated with either Infonavit or FOVISSSTE—and in providing alternatives to irregular settlements as a source of affordable housing for low-income households—much remains to be done to meet the magnitude of the need. Moreover, efforts to serve these markets suffered a setback when the global recession exposed fundamental weaknesses in the business model underpinning the Mexican non-bank mortgage financing institutions—the Sociedades Financieras de Objeto Limitado (Sofols) and Sociedades Financieras de Objeto Multiple (Sofoms).² In the years leading up to the recession the national development bank, Sociedad Hipotecaria Federal (SHF)³,

² Throughout the report the term Sofols is generally used to refer to these organizations collectively.

³ SHF was chartered in 2001 as a federal development bank backed by the full faith and credit of the federal government. Its predecessor, FOVI (Fondo de Operacion y Financiamiento a la Vivienda), was established in 1963 as a trust fund to channel federal government money and donations and loans from the World Bank to housing. SHF's mission is to strengthen the housing market in Mexico by generating financial services and mechanisms that facilitate the entry of new market participants and to expand access to housing finance to underserved segments of the market. SHF acts as a second-tier bank and so does not have a retail operation, but rather channels funds through financial intermediaries such as commercial banks, SOFOLS, and microfinance companies.

had helped guide the development of the Sofols to become important conduits for channeling private capital into mortgage lending to lower-income unaffiliated workers and development financing for home builders. But the strains of the recession revealed that market forces alone were unable to oversee the activities of these lenders, leading to high defaults and a loss of confidence in these institutions. The Sofols have once again come to rely exclusively on the public sector for financial support, greatly diminishing their role in the market, leaving a significant void in lending to unaffiliated workers and homebuilders.

Despite these continued challenges, the foundations exist to build a better housing sector that supports the economy, creates more livable cities, and serves a broader segment of the population than those with formal employment and with incomes high enough to buy newly built homes. To do so, the federal government and its associated quasi-public agencies will need to consider further reforms to existing practices and to experiment with new efforts to foster housing development that is affordable and sustainable.

The goal of this paper is to assess the progress, changes, and challenges in Mexico's housing sector over the last decade. In pursuit of this goal, we have reviewed the annual reports on *The Current Housing Situation in Mexico*, produced with the collaboration and support of Fundacion CIDOC and a range of public and private organizations, as well as other reports from government, industry, and academia. To supplement this information, we conducted interviews in the spring of 2012 with key stakeholders from federal agencies, the homebuilding industry, non-profit organizations, and academia to gather their views on progress made and challenges remaining in Mexico's housing sector (see Appendix for a list of those interviewed). The perspectives that emerged from this review presented a fairly consistent portrait of the many positive changes that have taken place in the housing market over the last eight years, as well as of the challenges that remain and that have also surfaced since the recent recession.

This study is focused on, and organized around, three critical areas: housing finance, land use and infrastructure, and the legal and information infrastructure for housing markets. Section II examines trends and conditions in the housing finance market, which is the fundamental driver of the housing market. Section III then considers trends and challenges in the area of land use

and infrastructure planning and finance, which are critical determinants of the location, cost, market viability, and characteristics of new housing development. Finally, the report reviews progress in the areas of housing market information and the legal infrastructure for market operations. The report concludes with a brief summary of the key areas of concern for the newly-elected Mexican government as it seeks to build on the successes of recent years and address continuing challenges in meeting the country's need for adequate, affordable, and sustainable housing.

II. Housing Finance

In the early 2000s, the housing finance system in Mexico was still emerging from the long shadow cast by the peso crisis in the mid-1990s. While lending by the quasi-public agencies had begun to grow, the need for housing finance greatly outstripped the capacity of these lenders. Mortgage lending was also almost exclusively directed to newly-constructed homes for workers affiliated with one of the nation's housing funds. To better meet the country's housing needs, there were three broad areas where improvements in the housing finance system were needed. First, there was a clear need to expand the overall volume of financing available for housing, by improving the operations of the quasi-public housing funds, Infonavit and FOVISSSTE that have long been the primary source of mortgage lending in Mexico. Additionally it was important to increase the involvement in the mortgage market of private lenders, including banks, which had largely retreated from the market in the late 1990s, and Sofols, which had begun to emerge in the same period. The creation of SHF in 2001 was designed explicitly to provide supports for banks, Sofols, and other financial organizations to encourage their participation in the market. Second, there was a need to expand borrowing options for households across the income spectrum, with substantial unmet demand among lower-income households both affiliated and unaffiliated with the housing funds, but also few borrowing options for upper-income households not targeted by lending programs run by the housing funds. Finally, there was a need to develop loan products that supported buying or improving existing homes and new self-built homes. Progress and challenges over the last decade in each of these areas are described below.

A. Trends in Overall Housing Lending

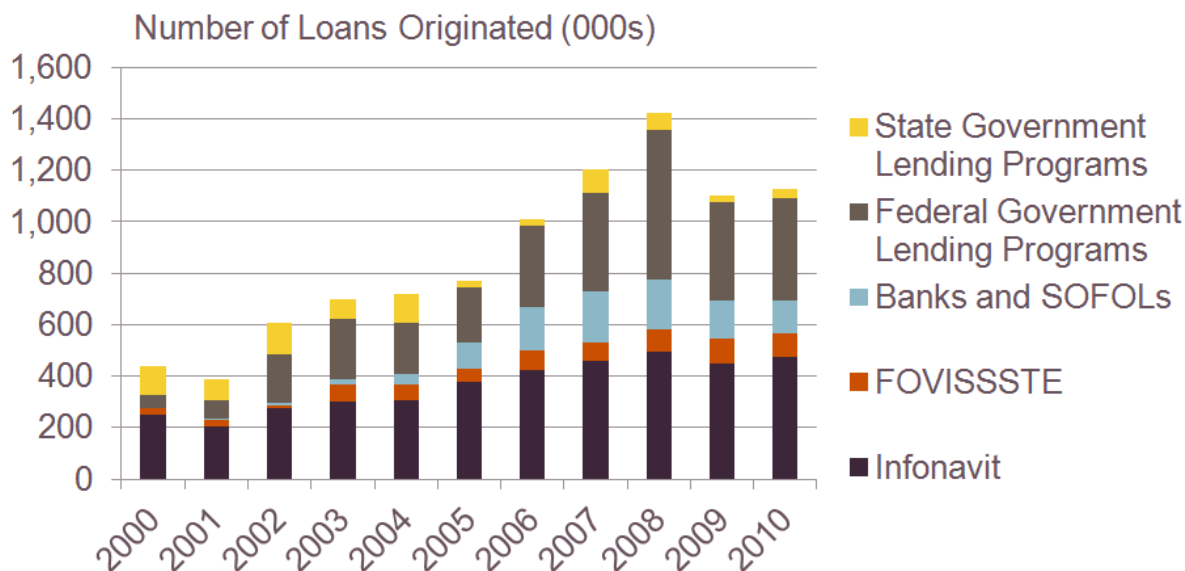
Mexico experienced substantial increases in overall housing loan volumes over the last decade, with important contributions from a range of sources. As illustrated in Figure 1, in 2000 the total numbers of loans originated was in excess of 400,000, with the quasi-public housing funds Infonavit and FOVISSSTE accounting for more than 60 percent of the total volume. By 2008 the total number of loans originated had more than tripled to 1.4 million.⁴ This expansion was greatly aided by a stable macroeconomic environment, but also reflects operational improvements to Infonavit and FOVISSSTE, an expansion of lending activity by the private sector through banks and SHF-supported Sofols, and substantial increases in federal government subsidy programs, particularly those run by the Comisión Nacional de Vivienda (CONAVI) (including the *Esta es Tu Casa* program), the Fideicomiso Fondo Nacional de Habitaciones Populares (FONHAPO). Together, the number of households receiving financing through these federal efforts increased from about 50,000 in 2000 to nearly 400,000 in 2010. With this growth, while lending volumes by the two housing funds more than doubled, their share of total originations declined to about 40 percent given the more rapid growth in other sources of credit. Overall lending volumes declined by slightly more than 20 percent in the wake of the global recession in 2008, with larger declines averted as Infonavit and FOVISSSTE were largely able to maintain their loan volumes, and increased their share of total financings to 50 percent.

The increases in loan volumes by Infonavit and FOVISSSTE over the last decade reflect substantial improvements in these organizations' management. Infonavit in particular has experienced a substantial turnaround in its operations. A decade ago, Infonavit's reach was limited by institutional mismanagement, reflected in high rates of non-performing loans (NPL) and low collection rates from workers that had left the payroll of participating firms.⁵ But by

⁴ The increase in lending is somewhat overstated because of overlap in the activities of lending organizations, including co-financing arrangements between the housing funds and private lenders and the use of federal subsidies in conjunction with other loans.

⁵ For a detailed explanation of institutional changes at Infonavit under the aegis of Victor Borrás see "Scale without Growth: INFONAVIT's Expansion in the Mexican Mortgage Market," Harvard Kennedy School Case Study, 2007. See also "El Proceso de Modernización en el INFONAVIT 2001-2009," Eds. María del Carmen Pardo and Ernesto Velasco Sánchez.

Figure 1: Trends in Housing Loan Volumes



Notes: Federal government lending programs include housing subsidy programs run by SHF, CONAVI, and FONHAPO; State lending programs are activities through OREVIS. Loans from "other institutions" (including SEDESOL's Piso Firme loans) are not included.

Sources: Data for 2000-2009 is from *Current Housing Situation in Mexico 2010* (page 107) and data for 2010 is from *Current Housing Situation in Mexico 2011*, (page 72).

greatly improving its methods for selecting borrowers, maintaining contact with borrowers who leave affiliated employment, and expanding workout options for borrowers in financial distress, Infonavit was able to reduce its NPL rate from nearly 22 percent in 2000 to less than 6 percent in 2006. Additionally, the share of total revenue from worker contributions rose from about a third to a little more than half. One example of the innovations pursued by Infonavit is the Garantía Infonavit program, which offers borrowers a variety of options for decreasing loan payments in cases of disruptions to income, while employers are offered incentives to rehire workers with outstanding loans. Nearly a million such interventions have taken place since 2009, providing aid to hundreds of thousands of borrowers.⁶

The growth in lending capacity of these quasi-public organizations also reflects the strides made in developing a secondary market for mortgage-backed securities in Mexico. Over the course of

⁶ *Current Housing Situation in Mexico 2011*: page 94.

the decade both of these organizations began to securitize portions of their loan portfolios, allowing them to tap the broader capital markets to expand their lending capacity.

All told, these improvements have led to an impressive increase in lending capacity. Between 2001 and 2011, Infonavit originated 4.3 million loans; in contrast, it only originated half this amount from the time of its creation in 1972 to 2000. While FOVISSTE's overall lending volumes are currently about a fifth that of Infonavit, it also experienced a substantial increase in loan volumes over the last decade, up more than three-fold between 2000 and 2008.

Another factor that contributed to the growth in lending by Infonavit and, to a lesser extent, FOVISSTE, was the introduction of cofinancing programs. In addition, the programs helped reach higher-income borrowers who had not previously been served well by the housing funds. Under these programs, a portion of the overall loan amount borrowed to purchase a home is funded through an Infonavit or FOVISSTE loan, with the balance of borrowed funds provided through a bank or Sofol. The use of cofinancing allowed these quasi-public agencies to limit the amount of resources they devoted to higher-income groups while still providing an avenue for them to access the mortgage market. These programs were also instrumental in luring private lenders back into the mortgage market. In 2001 only a little more than 1,000 mortgages were originated by private financial institutions. By 2003 this volume had increased to about 17,000 loans, but this was still only a small amount compared to lending done through Infonavit and FOVISSTE. The cofinancing programs were initiated in 2004 with a few thousand loans, but by 2008 more than 122,000 homes were purchased using cofinancing programs.⁷ By then the total volume of lending by banks and Sofols had reached 200,000 loans.

However, with the onset of the recession, Infonavit placed greater priority on lending to lower-income workers and cut back on the amount of funds it reserved for cofinancing programs. As a result, the share of bank loans that was cofinanced declined from 50 percent in 2008 to 23 percent in 2011.⁸ Still, originations through banks have remained fairly high because banks did

⁷ *Current Housing Situation in Mexico 2010*: page 112.

⁸ *Current Housing Situation in Mexico 2011*: page 70. This measure of cofinancing activity does not include the Infonavit Total product, loans that are originated and managed by Infonavit but

not experience substantial increases in default rates and have therefore had less disruption to their mortgage lending than the Sofols (as discussed more below).⁹ After reaching a peak of more than 100,000 loans in 2009, bank originations only fell to about 87,000 in 2010, and have been regaining ground since then.¹⁰

While the reentry of banks was an important development in the mortgage market, so too was the emergence of the Sofols as a significant source of lending. SHF had carefully nurtured the development of the Sofols for some time as a new means of bringing private sources of funding into the housing market, helping to expand lending volumes and extend credit to the large share of workers unaffiliated with the housing funds. Initially, SHF channeled funding by the federal government and the World Bank to these firms, but during the 2000s SHF provided mortgage insurance and timely payment guarantees to back the issuance of mortgage securities by the Sofols as a means of “proving the market.” As a result of these efforts the volume of mortgage-backed securities grew rapidly: in 2003 a total of more than \$500 million pesos in mortgage-backed securities (BORHIs) were issued; by 2007 this had reached more than \$22 billion pesos.

Having developed a good track record of performance by loans originated through Sofols, beginning in 2008 SHF undertook its long-planned transition out of direct support for the secondary market. Expecting that the private market would impose financial discipline on the Sofols, the Mexican government retained little regulatory oversight of these organizations. However, reflecting trends evident elsewhere in global financial markets, Sofols took on excessive risks in both construction and mortgage lending, and subsequently experienced high loss rates as the recession took hold, with several Sofols going bankrupt. Indeed, with capital unavailable to Sofols and continued high rates of non-performing loans in their portfolios, the Sofol industry essentially collapsed and will be difficult to revive.

with a portion of the loan acquired by another financing institution (see *Current Housing Situation in Mexico* 2009, page 124 for a description of this product).

⁹ *Real Estate Outlook: Mexico*, BBVA Research, January 2012: page 13.

¹⁰ *Current Housing Situation in Mexico 2010*: page 106; *Current Housing Situation in Mexico 2011*: page 72; *Real Estate Flash Mexico*, BBVA Research, June 13, 2012: page 3.

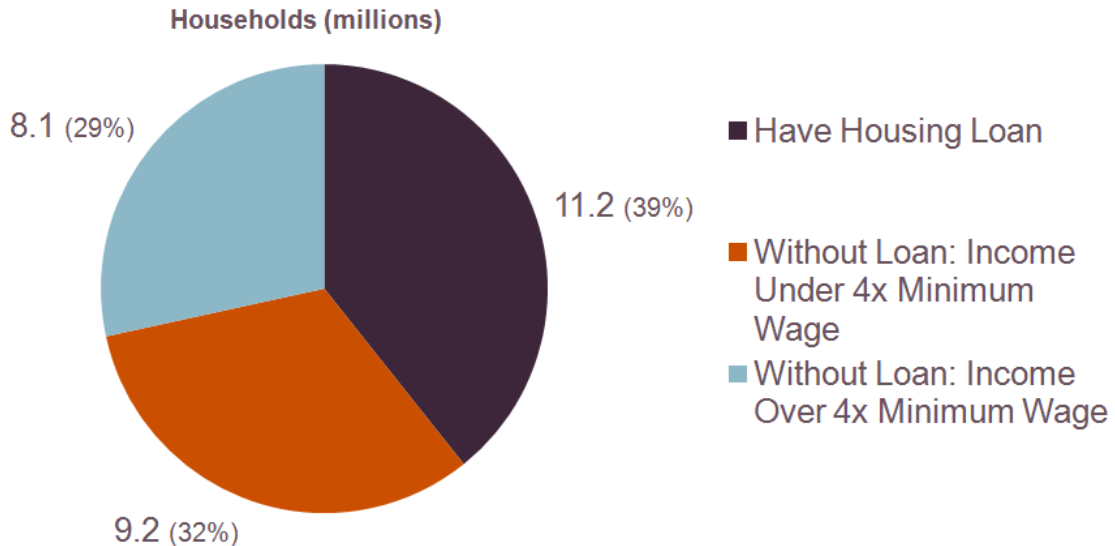
At this point it is not clear how significant a role Sofols will assume in the mortgage market over the next several years as SHF is once again their primary source of funding. If Sofols are to gain the trust of private capital, they will have to be subject to higher capital standards and regulatory oversight. Though the expansion in their lending before the recession showed promise, as noted in the *2010 Current Housing Situation in Mexico*, it is not clear whether it will be possible to revamp this business model to be a viable source of significant lending in the future, particularly to lower-income segments of the population unaffiliated with Infonavit or FOVISSSTE. While banks appear willing to make loans for households in the top income quintile,¹¹ unaffiliated low- and moderate-income households will have difficulty obtaining mortgages now that lending through the Sofols has been substantially diminished. One potential remedy is for the federal government to provide a guarantee for bank loans to lower income households to bring them into this segment of the market and develop an understanding of the true risks associated with these loans. The Sofols had also become an important source of development and construction financing for builders, leaving another void in an important market segment where banks have been reluctant to lend.

B. The Challenge of Meeting Financing Needs for Households of All Incomes

In addition to expanding the overall volume of lending, there is also a clear need for the mortgage finance system to serve a broader range of households by income, both among households affiliated with Infonavit and FOVISSSTE and among workers unaffiliated with these housing funds. Among the nation's 28.5 million occupied housing units in 2010, 17.3 million, or roughly 60 percent, were owned without the use of financing (Figure 2). A slight majority of these households without a housing loan (9.2 million) earned less than four times the minimum wage, which is generally taken as the cutoff for the level of income below which it is difficult to afford a home in the formal market without benefit of subsidies. Still, 8.1 million earned above this cutoff, with a quarter of this group in the top two income deciles, suggesting that a lack of access to mortgage financing is also evident among higher income groups.

¹¹ *Real Estate outlook Mexico*, BBVA Bancomer, January 2012: page 24.

Figure 2: Share of Mexican Households with a Housing Loan in 2010



Source: *Real Estate Outlook Mexico*, BBVA Bancomer, January 2012

Mexico continues to face a significant challenge of developing a source of housing finance for low- and moderate-income households that lack an affiliation with Infonavit or FOVISSSTE. While there is still room for improvement in the range of households served by these organizations, households outside of the formal employment sector that is served by the housing funds have many fewer borrowing options. Of the 17.3 million households without a housing loan as of 2010, roughly two-thirds (or 11.4 million) did not have an affiliation with these organizations. These households must turn to either private lenders (banks, Sofols, or microfinance companies) or to other government subsidized programs. In this regard, the downfall of the Sofols in the last few years is significant. This lending channel held the promise of expanding opportunities for moderate-income households to obtain mortgages, but now seems unlikely to play that role any time soon. Banks have emerged as a consistent source of housing loans, but they focus on the upper end of the income distribution.¹²

¹² *Real Estate Outlook Mexico*, BBVA Bancomer, January 2012: page 26.

Given the importance of Infonavit and FOVISSSTE in the mortgage market, households affiliated with these lenders have a greater chance of obtaining financing. The share of workers in the formal sector affiliated with one of these organizations has been increasing, although a large share of households remain outside of this system. By one estimate the share of workers in 2010 that were unaffiliated with the social security system that would make them ineligible to borrow through these organizations was 55 percent, which was an improvement from the 64 percent share in 2000 but still left a majority of workers outside of the system.¹³ However, since households often have more than one worker, the share of *households* lacking an affiliation with these organizations is lower, with the same estimate indicating that roughly 60 percent of households have at least one member with an affiliation to one of the housing funds.

While workers covered by Infonavit and FOVISSSTE have a broad range of incomes, both organizations have traditionally focused primarily on lending to low-wage workers who nonetheless had sufficient income to afford new homes provided in the formal market. Those who were underserved by these agencies included the many very low-wage workers who could not afford formal new homes as well as high-income affiliated workers who were effectively discouraged from participating by limits on home values that could be financed through these existing lending programs.

Over the last decade Infonavit made a concerted effort to increase the range of its lending programs, both by utilizing federal housing subsidies on the low end and by expanding cofinancing for higher-income workers through cofinancing efforts on the high end. However, there are still substantial gaps in the income ranges that this organization is able to reach. Given the challenges of developing new homes affordable to those earning less than two times the minimum wage, most of the affiliated workers in 2006 who had not yet obtained an Infonavit loan were concentrated in lower income strata: 43 percent earned less than 2 minimum salaries, 35 percent earned between two and four, 12 percent between four and seven, and 10 percent earned more than seven minimum wages. Given the substantial share of lower-income Infonavit-affiliated workers that have not yet obtained a loan, the agency continues to focus its efforts primarily at this lower end of the income spectrum. In 2011, 63 percent of all Infonavit

¹³ *Real Estate Outlook Mexico*, BBVA Bancomer, January 2012: page 24.

mortgages were issued to workers earning less than four minimum wages, with 20 percent of those loans including a federal subsidy.¹⁴

C. Expanding Lending to Meet a Variety of Housing Needs

A final challenge for the housing finance system in Mexico is expanding the range of lending programs to support activities other than acquiring a new home. A decade ago the vast majority of lending was devoted to acquiring newly-constructed homes, yet there was a great need for financing to support self-help efforts that are the primary source of housing for most very low-income households, including funding to acquire lots with services, develop progressive housing, or fund improvements to existing homes. Financing for the acquisition of existing housing in the formal sector was also difficult to come by, despite the fact that this housing stock is often well located relative to developed urban areas and comes in a broad range of sizes and qualities to match households' needs and budgets. Recent years have seen advances in lending options in most of these areas, although one aspect of housing finance that remains completely undeveloped is financing for rental housing, which continues to hinder the development of a larger rental market.

The expansion in lending to address a larger range of housing needs has been most notable in lending to buy an existing home, which accounted for very few loans at the start of the last decade but had come to account for one out of every three loans in the latter half of the decade and nearly two of every five loans in 2009.¹⁵ Since existing homes are characterized by a broader range of housing characteristics and locations, opening up this market offers great benefits both for those looking for a home as well as existing owners seeking to tap their accumulated housing wealth by selling. Still, lending for existing homes represents a much smaller share of the market than would be expected given that the number of new homes constructed each year is only a small fraction of the country's total housing stock.

¹⁴ Informe Anual de Actividades, Infonavit, 2011: page 7.

¹⁵ *Current Housing Situation in Mexico 2010*: page 113.

One of the difficulties in reaching the lowest-income segments of Mexican society through the housing finance system is that it is hard to build homes in the formal sector affordable to those making between two and four times the minimum wage without the benefit of subsidies. Given the cost of providing housing through the formal sector, the only realistic means to provide financial support for the housing needs of the many households with incomes below this level is to encourage the social production of housing through new self-built homes or improvements to existing homes.

Until recently, there were few options for affiliated workers to tap the resources of the housing funds for home improvements. But recently Infonavit expanded its lending for improvements through its *Renueva Tu Hogar* program, where affiliated workers are able to use their accumulated savings in the fund as collateral for a short-term loan from other outside financing companies to fund home improvements. This program has proven very popular, exceeding targeted lending volumes and holding promise as a means for Infonavit to better serve a broader range of workers.

Most of the financing for self-built housing and improvements has come through subsidized programs offered by CONAVI, FONHAPO, or SHF, which combine financial support with technical assistance for the production process. However, the scale of these efforts has fallen well short of the need. Microfinance lenders hold the most promise in this market segment, and SHF is developing programs to support lending through these channels for housing. SHF is estimated to have issued 200,000 housing microcredits, and in 2011 it allocated \$600 million pesos to fund housing improvements and \$50 million pesos for financing self-built housing.¹⁶

Still, this volume of activity is small relative to the millions of low-income households that could benefit from these efforts. Indeed, there are 9.04 million homes that are overcrowded or in need of repairs or improvement.¹⁷ In addition, the country is estimated to need about 500,000 new units a year over the next decade to meet household growth.¹⁸ These limitations are compounded

¹⁶ *Current Housing Situation in Mexico 2011*: page 76.

¹⁷ *Current Housing Situation in Mexico 2011*: page 42.

¹⁸ *Current Housing Situation in Mexico 2011*: page 37.

by the fact that only a small majority of Mexican workers are able to access housing loans through their employment affiliation with either Infonavit or FOVISSSTE. Although this is a shortcoming, it is also an opportunity. If risk is properly assessed and managed, there may be considerable market opportunities for lenders in the unaffiliated market segments. A key challenge remains to design market structures that encourage lending to the millions of unaffiliated workers to purchase, build, and remodel homes.

Another significant impact of the failure of the Sofols has been a decrease in the supply of lending for land acquisition and development. The Sofols had become a key source of these loans as banks largely avoided this market niche. With the Sofols no longer a source for these loans, small and medium sized builders without access to the broader capital markets will have difficulty funding this stage of the development process. Some means of expanding funding for land acquisition and the construction phase is needed to ensure an adequate supply of new housing production and to keep development costs at a reasonable level.

One area where the last decade has not seen any progress is in the development of financing for rental housing. Given the affordability challenges facing low-income households, the development of a larger, formal rental housing market would expand the housing options for Mexicans, particularly younger, more mobile households. The rental sector remains extremely small, however, with only about 14 percent of households renting their homes. There are a variety of often-cited obstacles to further development of the formal rental housing sector, including the degree of legal protections provided tenants. But given the potential benefits of a well-functioning rental market, concerted efforts by the public sector, including efforts to extend financing for these developments, may be warranted.

III. Land Use and Infrastructure Planning and Finance

Improved land and infrastructure planning are necessary to ensure that housing better serves its occupants as well as the community, economy, and environment. There is a need for land use

and infrastructure planning to make certain that existing homes have access to water, sewer, and electricity, as well as public facilities such as schools and transportation, and that in the longer-term, locations for new housing are well-located with respect to employment and public transit. Mexico has long faced a number of concerns related to land and infrastructure planning and financing, which created uncertainties and complications in the development process, worked against long-range planning to accommodate new growth, and made it difficult for government to regulate the creation of informal settlements and to improve those already in existence. For example, limited financing and variation in states' requirements for urban services and in the responsibility for the planning and provision of urban services among government entities led to uneven service provision, with new development on the fringe often lacking access to transportation networks, schools and health clinics.

While some progress has been made, for the most part these challenges continue today, as echoed in both the interviews conducted by the Harvard Joint Center for Housing Studies and in *The Current Housing Situation in Mexico* report series, including a lack of coordination across levels of government, a deficiency of technical capacity at the municipal level, and both a shortage and very high cost of land and infrastructure finance. Absent sufficient federal funding for infrastructure, municipal governments were also found to be reluctant to plan for or accommodate growth since they viewed the cost of supporting new housing as exceeding the revenue these developments would generate. Long-term planning was also impeded at the municipal level by mayors' three-year terms of office, leading to short-term political horizons and substantial turnover in personnel. These three-year nonrenewable terms for mayors have made it more difficult to pursue stable policy and planning frameworks for land development, infrastructure, and municipal service provision.

Over the last decade there has been strong recognition of the impact of weak planning and limited infrastructure financing in producing high levels of sprawl in Mexico's urban development patterns. As documented by SEDESOL (Secretaría de Desarrollo Social), the

degree of sprawl over recent decades has been tremendous: between 1980 and 2010 the urban population in Mexico doubled, but at the same time the urban footprint grew seven times.¹⁹

Such dispersed development patterns have negative consequences along a number of dimensions. To begin with, sprawl substantially raises the cost of developing infrastructure for transportation systems, water and electricity distribution, and waste-water treatment. In a system that is already stretched, trying to meet the country's growing infrastructure demands, fostering patterns of development that can be served more efficiently is essential. Development that leaps over the urban boundary to more removed areas may also push up land values in the areas between the city limits and these developments, further raising development costs. Sprawl also has substantial environmental impacts, not only by increasing commuting volumes, costs, and the associated production of greenhouse gases, but also through development of valuable agricultural or forest lands or in risky and environmentally-sensitive areas. Finally, far-flung residential areas offer fewer employment opportunities and disrupt social ties in the urban core, undermining the quality of life for residents.

A. Informal Housing and Irregular Settlements

There is a complex array of factors that have accelerated sprawl in Mexico, but an important factor is the continued need for housing affordable to lower-income households. In 2008, CONAFOVI estimated that Mexicans earning less than three times the minimum wages would account for more than half of the 82,800 hectares of land needed to accommodate housing expansion over the 2007-2012 period.²⁰ With formal housing (which is produced and sold through the commercial sector) generally unable to produce housing affordable at these income levels, the search for affordable options pushes many of these households to informal settlements on the urban fringe and beyond. Indeed, the 2010 census found that a third of the housing stock was built by the current owner and more than 60 percent was produced outside of the formal sector.²¹ While some of this housing was produced on land by owners with clear title, in many

¹⁹ *La Expansion de las Ciudades 1980-2010*, SEDESOL, 2011, page 6.

²⁰ *Current Housing Situation in Mexico 2008*: page 89.

²¹ *Current Housing Situation in Mexico 2011*: page 30.

cases the development was irregular, without a legal exchange of land ownership. Even if formal title is held, the land may not be fully serviced. While a little more than half of homes without a title have water and sewage service in the home, it is also true that only about three quarters of homes with a title have these services.²² Thus, in many respects the distinction between formal and informal is actually quite blurry, as having title to your home does not ensure adequate urban services while many homes without title have these services and may even pay property taxes.

An analysis of the costs and benefits of informal housing in eight Mexican cities commissioned by SEDESOL has documented the advantages of informal housing in providing larger lots at lower costs and often in more accessible locations than many lower-income households could obtain in the formal sector.²³ Indeed, this study found that the upfront costs of informal housing acquisition were on the order of five to eight times lower than for formal housing.²⁴ In part this difference reflects the more modest nature of the informal home, where residents tend to make investments over time to improve and expand their houses rather than buy a completely finished home. But to some extent it also reflects the contribution of the costs of officially registering and transferring property to a new homeowner as well as the costs of urban services.

Land owners may also have incentives to avoid regularizing existing informal settlements due to the complex nature of this process and the costs it imposes. Given the strength of these incentives and the need for affordable housing options it is not surprising that irregular settlements obtain the tacit approval of local politicians.²⁵ In short, amid a tangle of property taxes and assessments, building codes, and land use regulations, it is all too often easier and cheaper to avoid lengthy bureaucratic transactions and build homes on irregular land.²⁶

Yet channeling more housing production through the formal sector is important to address the sprawling nature of urban development in Mexico. Informal settlements can be poorly located,

²² *Current Housing Situation in Mexico 2010*: page 124.

²³ *Mercado Formal y Informal de Suelo: Analisis de Ocho Ciudades*, by Roberto Eibenschutz Hartman and Pablo Benillure, June 2009.

²⁴ Eibenschutz and Benillure, 2009: page 205.

²⁵ Eibenschutz and Benillure, 2009: page 64.

²⁶ “The Demand for Land Regularisation: Theory and Evidence from Tijuana, Mexico,” *Urban Studies* 49(2):271-288, 2012, Paavo Monkkonen.

occupying areas that pose safety hazards, are environmentally sensitive, or have inadequate connections to municipal services. With many of the homes in these settlements lacking clear title, homeowners may have less incentive to invest in long-lasting improvements and may also have greater limits on their ability to access credit to improve their homes. In fact, a 2010 study conducted by SHF in conjunction with the World Bank found that among households with incomes less than six times the minimum wage, those with a deed invested 28 percent more in their homes compared to households without a deed; moreover, their investments were more likely to increase the longevity of their home.²⁷ (However, the same study also found that only about 10 percent of both those with and without a deed had used financing to invest in their homes, reflecting the lack of financing options for lower-income homeowners generally in support of home improvement.) Importantly, having a significant share of housing on irregular land may impair property tax collections, limiting the ability of local governments to afford necessary infrastructure investments.

Increasing the share of new housing built on regularized land requires strengthening legal control over land use to deter irregular development, identifying land suitable for development both within the urban boundary and in appropriate areas on the fringe, and increasing financial support for social housing production in planned areas. The last decade has seen some significant initiatives in each of these areas. As will be discussed more below, there have been substantial efforts to enhance the comprehensiveness and accessibility of official information on land ownership, which is a fundamental building block for strengthening control over land markets. SEDESOL has also taken the lead in efforts to regularize existing developments and to channel new development to appropriate areas as part of the Habitat program begun in 2003, which subsidizes infrastructure and land title for new and existing homes. From 2003-2009 it supplied 3,062 hectares of land for housing and urban development, provided 8,240 plots of land with basic infrastructure, and regularized and recorded over 16,000 land titles.²⁸ SEDESOL has also been engaged in the development of land banks as another means of channeling development to appropriate locations.²⁹ Another example is the Assisted Self-Production Housing Program

²⁷ *Current Housing Situation in Mexico 2011*: pages 83-84.

²⁸ *Current Housing Situation in Mexico 2010*: page 96.

²⁹ *Current Housing Situation in Mexico 2010*: page 95.

developed by SHF, which aims to promote sanctioned self-built housing with official land title by channeling microfinancing as well as technical assistance through registered affordable home builders and non-governmental organizations to low-income households. SHF is also providing substantial support for microfinance lenders as a means of increasing the availability of credit for low-income households seeking support for home improvement projects.

However, while important, there are constraints on the scale of these efforts. The Habitat program has a ceiling of \$5 million pesos in federal funding per project, with cash-strapped state and municipal governments required to match the federal contribution.³⁰ In 2011 SHF planned to provide \$50 million pesos for the Assisted Self-Production program, which is small relative to the scale of potential demand.³¹ And while SHF's support for microfinance was more substantial at \$600 million pesos and as of 2011 it had supported approximately 200,000 microfinance loans for housing, this is still only a fraction of the potential scale of this market.³²

In addition to efforts to promote new development on regular land, there is a substantial backlog of existing homes without titles that need to be regularized and tied into the existing urban service networks, and there are long-established efforts to do so. From 1972-2007 Corett regularized an estimated 2.2 million plots of land.³³ These efforts have also been expanded in recent years, with the 2008 Support to Regularize Human Settlements Program (PASPRAH) signaling the Mexican government's commitment to regularize vast numbers of households with ambiguous land title. From 2008-2009 Corett and SEDESOL collaborated and allocated \$500 million pesos in subsidies to low-income households to defray the costs of regularization.³⁴ But the challenge remains significant: Corett has estimated that 90,000 plots are illegally divided every year, while census data indicates that as of 2008 an estimated 37 percent of owner-occupied homes lacked an ownership deed, totaling 6.9 million homes.³⁵

³⁰ *Current Housing Situation in Mexico 2010*: page 96.

³¹ *Current Housing Situation in Mexico 2011*: page 76-77.

³² *Current Housing Situation in Mexico 2011*: page 77.

³³ *Current Housing Situation in Mexico 2008*: pages 88-89.

³⁴ *Current Housing Situation in Mexico 2008*: page 89; and www.sedesol.gob.mx.

³⁵ *Current Housing Situation in Mexico 2008*: page 86; and *Current Housing Situation in Mexico*, 2010: page 124.

Ultimately the most effective means of reducing irregular developments is to provide viable alternatives to informal settlement for obtaining housing that is reasonably well-located with respect to employment. Unless this is done, citizens will continue to occupy land and live for extended periods of time with substandard, poorly serviced housing, hoping for eventual regularization and infrastructure extensions.

B. Sprawl and the Formal Housing Sector

It is not just informal housing that is responsible for the sprawling nature of housing development in Mexico, as housing production in the formal sector has also contributed to these patterns of urban growth. With a large share of new housing demand concentrated among workers with modest incomes and very limited availability of public sources of accessible and serviced land, homebuilders often opt to build homes on cheap land on the urban fringe. With much of this land communally-owned ejidal land, requiring a complex and time-consuming process to transfer ownership for development, builders often leapfrog the urban fringe to find large tracts of land at a price that will support new housing development for modest-income workers on land less complicated and costly to acquire.

Beyond issues related to land availability and development costs, the contribution of formal housing production to sprawl also reflects the incentives inherent in the housing finance system. In an attempt to aid the greatest number of workers, Infonavit and FOVISSSTE have set lending goals that call for lower-income households to receive a large share of loans. With such a large share of mortgage financing channeled through these agencies, homebuilders have further incentive to build housing targeted at lower-income households. The challenge for builders is to find locations where it is possible to produce formal housing at prices affordable at these income levels, which generally means building at locations far from urban centers.

Reflecting the challenges of living so far from the urban core, large shares of these homes produced through the formal sector have been found to remain unoccupied. A 2010 Infonavit study estimated that two out of every ten homes purchased with financing from the agency were uninhabited. This same study revealed that almost a third of respondents who had abandoned

their homes had done so because they were too far from school, work, or family.³⁶ Workers may be motivated to buy such far-flung homes if they feel this is their best option for exercising their right to obtain a mortgage through Infonavit or FOVISSSTE. Perhaps with a wider array of borrowing options, including loans to self-build or improve existing homes, the pressure workers may feel to buy a new home even in an inconvenient location will be reduced. But it is likely that they will need additional subsidy to do so because land values and hence housing costs are sharply higher in better-located existing settlements.

Infonavit has also taken steps to understand the nature of the abandoned home problem, to remarket the abandoned homes, and to reform their lending programs to reduce the incidence of abandonment in the first place. These are important efforts to repurpose vacant homes for community infrastructure and improve spatial planning principles.

C. Role of Municipal Planning and Infrastructure Provision

A common factor underlying these trends in both the formal and informal sectors is the lack of effective land planning, regulatory oversight and financing for infrastructure at the municipal level. There is a great need for urban plans that identify suitable areas for this development, for public financing of the needed infrastructure, for a range of loan products through Infonavit and FOVISSSTE that give affiliated workers broad choices in both the existing and new housing markets, and for technical and financial support for social housing production. Absent this, both formal and informal housing production will be driven to the urban fringe and beyond, raising the cost of providing urban services, leaving Mexican families at extended distances from jobs and social networks, and straining the environment. While homebuilders have managed to operate within the existing system, they still struggle in inefficient ways to fully internalize the costs of infrastructure at these distant locations, stretching Infonavit and forcing it and developers to fund infrastructure that might be more efficiently financed through other government agencies like Banobras and Fonadin.

³⁶ *Estado de las Ciudades de Mexico 2011*: page 51.

Article 115 of the Mexican Constitution empowers municipalities to conduct urban planning, regulate and enforce land uses, and provide infrastructure. In practice, however, municipalities rely on monetary transfers from the federal government, where much of the knowledge and capacity to develop housing, land use, and infrastructure resides. One indication of the need for improved capacity at the local level is given by the recently developed Index of Municipal Competitiveness in Housing (Incomuv), which rates the 402 most significant municipalities in the country along 78 dimensions related to the capacity of the local government to plan and manage urban development and housing market conditions.³⁷ By this measure in 2011 only 15 percent of municipalities were rated as having at least adequate capacity, although another 36 percent were rated just below this level. Herein lies the crux of Mexico's institutional coordination challenges: capacity and capital are largely at the federal level, but municipalities have responsibility for planning and financing. This complicates urban governance and revenue collection and it engenders convoluted institutional arrangements in which federal programs attempt to control local urban development, often bypassing municipal administrations in the process.³⁸

D. Federal Role in Shaping Development Patterns

A key step in creating public policies that will support compact and efficient patterns of urban development is to foster greater coordination at the federal level among agencies that set policies related to land use and urban planning, housing subsidies, housing finance, and infrastructure financing. An important step in this direction was the establishment in 2008 of the Sustainable Integrated Urban Developments Promotion and Assessment Group (GPEDUIS), including representatives from all of the federal agencies with a stake in the housing development process, to define and develop the necessary supports and incentives to promote Sustainable Integrated Urban Developments (DUIS). The DUIS strategy has the broad goal of ensuring planned urban growth; encouraging dense, vertical development; and ensuring that new housing connects to metropolitan areas, includes infrastructure, and accesses transportation, jobs, and social services

³⁷ *Current Housing Situation in Mexico 2011*: page 53.

³⁸ *Estado de las Ciudades de Mexico 2011*.

by certifying that geographic areas have developed formal plans that meet the program's goals.³⁹ DUIS have different approaches by location, preferably densification projects for intraurban areas, developments in areas that are already connected to infrastructure and transport, or new, master-planned developments that connect to metropolitan areas. But in all cases a DUIS certification provides a strong incentive to homebuilders to develop communities that are dense, mixed-use, and environmentally and economically sustainable. In exchange for fulfilling DUIS criteria, developers can receive considerable benefits, including technical land use and environmental planning assistance from SEDESOL and Semarnat; preferred housing subsidies from CONAVI; infrastructure financing and loan guarantees from Banobras; housing mortgage credits from Infonavit, FOVISSSTE, and the SHF; and Fonadin investments in land banks and infrastructure.⁴⁰

The DUIS strategy illustrates how federal agencies are collaborating and using their financial clout and technical knowledge to create private sector incentives for planned urban development. Despite its importance, however, the program is only beginning to gain traction and achieve scale. As of 2012 only eight DUIS have been certified, benefitting roughly 312,000 Mexican households and encompassing over 9,000 hectares of land. There are, however, 17 new DUIS in 11 states being evaluated for certification, containing 800,000 dwellings and covering 20,500 hectares.⁴¹ The establishment of the GPEDUIS and the DUIS strategy itself represents an important step in the process of fostering more efficient patterns of urban development. In the years ahead it will be important to monitor the process to identify successes and failures in achieving its goals and to take the steps needed to learn from these experiences and fine tune the approaches used.

Since land use in Mexico is ultimately a concern of municipal governments, it is also critically important that efforts to encourage more efficient development patterns include steps to improve the capacity of state and municipal governments to develop long-term plans that recognize the need to incorporate areas for expansion of housing affordable to low-income households. Efforts

³⁹ *Current Housing Situation in Mexico*, 2011: page 60.

⁴⁰ SHF presentation on DUIS: www.cmic.org, last accessed 6/21/12.

⁴¹ *Current Housing Situation in Mexico* 2011: page 62.

to improve the quality, location, and sustainability of housing require stronger coordination among multiple federal, state, and municipal agencies in agrarian, urban, and environmental sectors, which to date have been marked by complicated and often conflicting institutional arrangements that hamstring urban planning and housing production. While one solution is for the federal government to use its financial and technical leverage to circumvent lower levels of government, it is also important that federal efforts take into account the important roles lower levels of governments play in understanding and representing the needs of their residents by enhancing their ability to play a lead role in the planning process.

In recognition of this need, several federal agencies have implemented efforts to help build local capacity to develop and carry out local planning functions. For example, SHF has committed to provide technical assistance to municipalities that rank low on the Incomuv competitiveness rating to help improve their capacity, including training public employees and commissioning municipal planning institutes.

Another notable effort is the Program for Municipal Competitiveness in Housing (PCMV), spearheaded by Infonavit. The voluntary program attempts to boost local capacity, increase transparency, and create predictable land use regulations in order to attract development. The central thrust of the program is to grade municipalities on “housing sustainability” according to four metrics: habitability, competitiveness, good governance, and municipal solvency. Municipalities receive either a “sustainable” or “non-sustainable” grade, and in instances of non-sustainability, Infonavit collaborates with SEDESOL and the National Institute for Federalism and Municipal Development (INAFED) to help the municipality improve its provision of “sustainable” housing by designing public programs to improve housing conditions, strengthen local bureaucracy, and increase investor and developer confidence and invest in homebuilding within the municipality.⁴² To encourage participation, Infonavit also helps municipalities develop property tax collection systems that build on Infonavit’s collection of mortgage payments directly from borrowers’ paychecks, offers scholarships to public employees, and provides consulting services on drafting municipal legislation.⁴³

⁴² Pardo and Sanchez, 2011: 313-314.

⁴³ *Current Housing Situation in Mexico 2011*: page 54.

However, PCMV has not yet enjoyed wide participation: a 2009 study found that, of the nation's roughly 2,400 municipalities, 67 chose to participate in the program, with 22 receiving a "sustainable" grade.⁴⁴ Indeed, the PCMV's reach is limited in no small part because municipalities must opt to participate in the program; a CIDE study from 2010 found the optional nature of the program to be one its greatest limitations. Areas with inconsistent or opaque municipal land use regulations—in effect, the municipalities that could benefit most from the program—are often the least likely to participate because the PCMV could reveal a de facto permit-granting arrangement in which local authorities permit development based on their interests rather than compliance with any publicly available plan.⁴⁵

With federal programs and funding so significant in shaping urban development and trying to support and guide municipal planning for development, Mexico is in need of ongoing federally-funded initiatives like PCMV and DUIS. The kinds of compact development for low-wage workers and urban redevelopment to serve low-wage workers are still relatively new to Mexico. The effort to develop the tools and techniques to advance these goals would be well served by investment in a national think tank dedicated to developing these tools and techniques and engaging the public, private, and civic sectors in active discussions of how to improve policies and programs to create more livable and sustainable urban communities.

IV. Strengthening the Informational and Legal Infrastructure of the Housing Market

Another area where Mexico has made substantial progress over the last decade is improvements in information regarding conditions in the housing market, including systematic measures of house prices, the characteristics and quality of the new and existing housing stock, and data on mortgage loan performance. This information is of great importance in fostering more efficient

⁴⁴ *Current Housing Situation in Mexico 2010*: page 90.

⁴⁵ "Estrategias, dilemmas, y oportunidades de la Nueva Mision y Vision del Infonavit: Un estudio de caso," Edar E. Ramirez de la Cruz y David Arellano Gault, Centro de Investigacion y Docencia Economicas, November 201, page 28.

market outcomes through better-informed actions by policy makers, decisions by home builders and lenders, and choices by consumers.

A. House Price Indices

Until very recently one of the key shortfalls in available information was the lack of reliable measures of house prices. To address this need, since 2009 SHF has been producing a house price index derived from a national database on property appraisals. The index is available on a quarterly basis nationally, at the state level, and for some of the largest municipalities in the country. BBVA, the nation's largest private financial institution, has also produced a house price index utilizing a subset of the same information that provides more details on price trends by housing characteristics. The accumulation of a time series on house prices, and planned extensions of the SHF index to provide monthly measures as well as indexes for subcategories of housing, will increase the usefulness of this information over time.

B. Data on the Housing Stock

Another important development has been the creation of a series of metrics and registries regarding the housing stock. One such data source on new housing is the Sole Housing Registry (Registro de Vivienda or RUV), which was initiated by Infonavit in 2006 and has since been taken over by an independent organization. The RUV captures information from homebuilders on all new housing being planned, tracks properties through the construction process, compiles information such as location, size, and price, and identifies the financing used to purchase the home. Further, it is publicly available through the Information Exchange Network (RII), an online platform that also allows state and municipal governments to share information with construction companies. The RUV represents a substantial improvement in the ability to monitor the supply of new housing.

Mexican government agencies have also begun to collect a range of information on the quality of both housing and communities in new developments. Given the government's strong financial presence and political clout driving housing production, these metrics help refine and improve

housing policy by evaluating the performance of homebuilding corporations in meeting the federal government's housing goals. Additionally, these metrics are framed against the mounting realization that the location and characteristics of the surrounding community are critical to achieving sustainability goals.

An important development in this domain is the Residential Satisfaction Survey, a survey of a national sample of new homebuyers conducted annually by SHF to gather feedback on their experiences as owners and their satisfaction with their home along a number of dimensions including the housing unit itself, maintenance and repairs required, the characteristics of the overall housing development, and access to transportation, social services, and infrastructure.⁴⁶ This index provides consumers and builders with critical information on the homebuyers' experience and satisfaction with their new homes and communities to help guide the market toward improved housing conditions. The survey not only highlights which specific developments yield the highest and lowest satisfaction, but also documents the importance of specific attributes and captures how much households have to spend on transportation and repairs, as well as how satisfied buyers are with the financial institutions they used.⁴⁷

Infonavit has also developed indicators to measure the quality of housing and the local built environment (Qualitative Evaluation of Housing and its Environment: ECUVE indicator) and the quality of life linked to housing (Quality of Life Index Linked to Housing: ICVV). The ECUVE indicator is, in essence, a weighted average of a series of indices related to the housing unit itself, the local environs, and sustainability factors. Examples of the types of information included are the amount of living space, its quality, the degree of maintenance required, and the efficiency of power use as well as access to transportation networks, public services, and pedestrian routes. The ICVV, in contrast, aims to measure how householders' quality of life improves as a result of acquiring a new home. Both indicators are intended to be updated annually to provide a consistent measure of outcomes associated with new housing developments.

⁴⁶ *Current Housing Situation in Mexico 2011*: pages 48-49; Pardo and Sanchez, 2011: 307.

⁴⁷ *Current Housing Situation in Mexico 2011*: pages 46-50.

Another valuable new measure, already discussed above, is the Index of Municipal Competitiveness in Housing, which is produced by the Mexican Institute for Competitiveness at the request of Infonavit, CONAVI, and SHF. As has been noted, the index provides a valuable indication of the degree to which municipalities are able to support sustainable and competitive housing development. Unlike the Infonavit PCMV initiative, the index does not rely on the voluntary participation of municipalities and so is available for more than 400 of the largest local governments in the country. The index is a valuable tool for federal agencies to target guidance on the means for improving local land management practices.

C. Property Registries

In terms of strengthening both available information and the housing market's legal infrastructure, perhaps the most important activities over the last few years may be efforts to modernize and better coordinate the public property and cadastral registries and to take steps to ensure the compulsory registering of real estate transactions. Begun in 2007, the Modernization of the Public Registries of Property (RPP) aims to create an official cadastre of property ownership and transfer of title in Mexico. Spearheaded by SEDESOL since 2009, it has covered 27 states with the goal of expanding to the remainder of the country. The task is daunting because property information is distributed across a patchwork of agrarian, infrastructural, environmental, planning, and census agencies. Nonetheless, the rewards are great: a public, accessible online cadastre of property type and ownership providing information that facilitates homebuilding and home sales, allows assessors to appraise homes, and aids municipal authorities in developing property tax regimes. It is also a step toward more transparent and forward-looking municipal planning, facilitating the regularization process and channeling more development through the formal market. Indeed, SEDESOL intends to integrate the property data with other spatial data on hazards and land use, thus allowing municipalities to access spatial planning data and make informed planning decisions. Ideally, this data compilation will extend to citizens as well, who will use the information to select housing and participate more fully in urban planning decisions in their communities. While much has been accomplished in this area, much remains to be done to expand the technical capacity of state and municipal governments to develop the systems and procedures needed to fully modernize and coordinate these systems.

The ability to monitor housing market conditions over time has also been given a substantial boost by the annual reports on the *Current Housing Situation in Mexico*. Each year these reports provide a comprehensive review of housing market conditions and identify key policy developments across a broad spectrum of issues. Taken together, these reports provide a rich chronicle of Mexico's progress in meeting its housing challenges in recent years. Perhaps one area for improvement is for the reports to more consistently include presentations of longer-run trends in market conditions in addition to a detailed review of current conditions. But hopefully, these reports will continue to be produced on an annual basis to maintain this important historical record.

V. Conclusion

Mexico has made measureable progress over the past 10 years in better meeting the country's housing needs. Given the high cost of producing housing relative to annual incomes, credit is the lifeblood of the housing market, and over the last decade there have been significant advances in expanding the flow of finance for housing, both through improvements in the lending operations of Infonavit and FOVISSSTE and by a substantial growth in lending by the private sector. As a result, more affiliated workers have had access to credit and the number of new homes brought to market has grown substantially. Importantly, there has also been a notable increase in financing for existing homes, expanding the range of options available to homebuyers so they can better meet their housing needs while also giving existing homeowners greater opportunity to tap the wealth that has accumulated in their homes. Borrowing opportunities for home improvement efforts have expanded through microfinance lenders supported by SHF and through a popular new lending option offered by Infonavit, helping improve housing conditions for the large share of Mexicans who live in self-built homes.

But substantial challenges remain. While Infonavit and FOVISSSTE have greatly expanded their lending volumes, and focused a substantial portion of their efforts on workers making between two and four times the minimum wage, there are still many workers with incomes below these

levels who cannot afford new homes in the formal sector. It is also difficult to serve homebuyers with slightly higher incomes without subsidies. In their efforts to supply homes affordable to workers with incomes between 2 and 4 times the minimum (those targeted by Infonavit and FOVISSSTE) homebuilders have also been pushed beyond the urban fringe—in some cases well beyond—to find land that is both available for development and cheap enough. To meet the needs of low-income workers the housing funds must develop better mechanisms to support the social production of housing. The *Renueva Tu Hogar* program is a promising step in this direction, but further efforts to support new housing production are needed.

Another pressing issue is the need to expand borrowing options for the more than 11 million households who are both unaffiliated with either of the national housing funds and who do not currently have a mortgage. The charters of both Infonavit and FOVISSSTE limit them to serving affiliated workers that contribute to these funds and therefore they are neither organized to serve these households nor do they have the mandate to do so. But more than half of these households have incomes above four times the minimum wage and so could potentially be served by the formal market. With critical support from SHF, the Sofols had made steady progress during the middle part of the last decade in expanding borrowing options for these unaffiliated workers. But the planned transition of these lenders from a market with substantial government supports to a more purely private model revealed fundamental flaws in the underlying business model. The Sofols have once again come to rely substantially on support from SHF, and at present there is no clear path for a substantial expansion in their lending capacity.

While bank lending to the highest-income households has revived, banks have shown no willingness to expand lending to moderate-income households. Yet there is reason to believe that there are legitimate opportunities for expanding private lending to more moderate-income levels. A BBVA study found that unaffiliated renters generally allocate the same share of their salary for rent as affiliated homeowners devote to their mortgage payments; and in some cases, renters even paid more than homeowners. Indeed, affiliated and unaffiliated workers across income deciles allocate similar shares of monthly housing payments—around 21 percent, or the amount

normally dedicated to a mortgage.⁴⁸ This means that even though many unaffiliated workers struggle to meet typical measures of risk and creditworthiness, they nonetheless make regular monthly housing payments that can even exceed those of “creditworthy” affiliated workers in the same income bracket. However, some form of government guarantee seems needed to give private capital the confidence to lend to this important market segment. Similarly, some forms of additional support will likely be needed to provide the financing required by homebuilders for acquisition and development of land, particularly for small and medium builders who lack access to the broader capital markets and who may be well suited to smaller scale developments in infill locations.

For the nearly half of unaffiliated households with incomes less than four times the minimum wage, efforts to support the social production of housing in appropriate locations and with access to urban services are needed. CONAVI’s efforts to provide technical support for this means of housing production through the Social Housing Production program (PSV) is notable in this area, with the additional support of funding for subsidies of roughly \$350 million pesos in recent years.⁴⁹ SHF’s Assisted Self Production of Housing program also aims at providing alternative means of supplying new homes that involve owners in construction design and supervision. This program provides another model for combining financial and technical support to ensure that housing is well-built, well-located, and appropriately serviced. But the scale of all these efforts is still small relative to the potential demand.

While finance is critical to housing, effective land use planning and infrastructure investments are of vital importance in directing where housing development occurs and to the quality of life in these developments. Over the last few decades Mexico has seen the size of its urban areas grow by a factor of seven even as the population has only doubled. A complex array of factors have combined to drive new housing production in both the informal and formal sectors to far-flung locations removed from employment and social networks, lacking adequate schools and health services, and costly to tie into urban utility grids. Remedying this pattern will require concerted actions involving federal, state, and municipal governments to identify appropriate

⁴⁸ *Real Estate Outlook: Mexico*, BBVA Research, January 2012: page 25.

⁴⁹ *Current Housing Situation in Mexico 2011*: pages 30-33.

locations for development to occur, to invest in the infrastructure needed for these developments, to enhance legal and regulatory regimes to deter irregular settlements, and to create the financial incentives for homebuyers and homebuilders to support more sustainable housing.

The DUIS strategy is the most notable advance in this direction. The strategy starts with the realization that addressing the problem of sprawl requires the coordination of the multiple federal agencies with overlapping responsibilities for financing and regulating housing and infrastructure. The effort also recognizes the importance of both fostering active planning for sustainable development and aligning financial incentives with these goals. The DUIS concept makes use of the powerful leverage of federal financial incentives to steer states, municipalities, and homebuilders toward these goals. However, the DUIS strategy is still very much in the early stages of implementation and so careful monitoring, evaluation, and potential modifications are needed to ensure the efficacy of this effort.

Beyond the DUIS strategy, there is also a pressing need for initiatives to decrease new irregular developments and to channel self-built housing to well-located, serviced, and titled land. SEDESOL's Habitat program has succeeded in both fostering new social housing production on titled land as well as regularizing existing development. Other ideas, such as developing land banks for self-built housing, also hold promise. But as with many such promising approaches, the scale of these efforts needs to be greatly expanded to match the scale of demand for low-income housing.

A strong federal lead on these efforts is essential given the substantial financial resources and technical capacity that reside at this level of government. Ultimately, though, the responsibility for developing and executing land use planning falls to municipal governments, which are also best positioned to understand the needs of local residents. As a result, the federal government must also seek to include state and municipal governments as key contributors in efforts to address these challenges and to take steps to develop capacity at this level of government to meet these responsibilities. There have been a number of new initiatives by federal agencies in recent years both to assess the capacity of municipal governments and to offer technical assistance and training where needed, which represent an important start in addressing this need. Nevertheless,

with so much of housing production and housing finance tied to the two quasi-governmental agencies Infonavit and FOVISSTE—and with infrastructure and social housing funded almost exclusively by federal agencies—the ability of a small number of institutions to drive and shape local development should not be underestimated. CONAVI, as the lead agency for housing policy in the nation, has the potential to coordinate the activities of these institutions to achieve important improvements in land use planning and infrastructure even as efforts are ongoing to strengthen municipal capacity.

A final critical ingredient necessary to drive improvements in housing market operations and outcomes is more comprehensive information to gauge conditions, foster market development, and provide feedback on public and private actions in the market. Since 2004, Mexico has made significant strides in expanding available information, including the initiation of house prices measures for many areas of the country, the tracking of new housing development, and the assessment of the quality of new housing along a number of dimensions. These advances have made important contributions to the information infrastructure needed to support the further development of the market for existing homes and to improve operations in the new home market. With substantial need for expansion of lending to lower-income groups, one area where further advances in available information could help foster market development would be better information on borrower performance under a variety of conditions and terms. .

Overall, our review of the state of housing in Mexico in 2012 has revealed that much has been accomplished over the last decade in improving the country's ability to meet its housing needs. Yet, much remains to be done. The initiatives begun over the last several years provide a substantial foundation to build on as the country looks to a new Presidential administration to chart a course to meet these remaining challenges. Still small in scale, these initiatives have the potential if expanded to make significant headway in better housing more Mexicans and unleashing the power of housing investment as an engine of economic and social development. To seize the opportunity to build on the substantial foundation that has been built in recent years it will be important in the coming years to subject the many new initiatives to a thorough evaluation to identify ways to modify, improve, and bring these efforts to scale. There is also a need to identify what can be done to foster the development of a more robust rental market—the

one area where Mexico has yet to make any progress. One step in this direction would be the creation of a national think tank dedicated to undertaking this needed analysis as well as involving the public, private, and nonprofit sectors in pursuing concrete steps to improve policies and programs to meet Mexico's broad range of housing needs in a sustainable manner.

Appendix: List of Interviewees

Javier Gavito Mohar	Sociedad Hipotecaria Federal (SHF)
Manuel Pérez Cárdenas	FOVISSSTE
Ariel Cano Cuevas	CONAVI
Victor Borrás Setién	Infonavit
José de Jesús Gomez Dorantes	Infonavit
Guillermo Babatz Torres	Comision Nacional Bancaria y de Valores (CNBV)
Sara Topelson de Grinberg	SEDESOL
Luis Orvañanos Lascurain	Corporación GEO
Iñigo Orvañanos Corcuera	Corporación GEO
Pedro Caire Obregón	Corporación GEO
Luis Orvañanos Lascurain	Corporación GEO
Enrique Vainer Girs	Grupo Sadasi
David Vainer Zonzenszain	Grupo Sadasi
Enrique Vainer Girs	Grupo Sadasi
Luis Urrutia Sodi	Grupo ICA
Luis de Pablo Serna	Socio Honorario Fundacion CIDOC
Antonio Zúñiga Hernández	Vinte Viviendas Integrales
Gabriela Alarcon Esteva	Instituto Mexicano para la Competividad
Enrique Ortiz Flores	Habitat International Coalition Latin America
Daniel Leal Díaz-Conti	Asociación Hipotecaria Mexicana (AHM)
Eduardo Torres Villanueva	BBVA - Bancomer
Alberto Mulás Alonso	Cresce Consultores
Roberto Eibenschutz Hartman	Universidad Autonoma Metropolitana Xochimilco