The Welfare Effects of Migrant-State Coproduction
The 3x1 Program, Remittances and Public Goods Provision in Mexico

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St. Helena, warmly referred to as the heart of Napa Valley wine country, is home to Duckhorn Wine Company, which boasts production of over a dozen Bordeaux varietal wines in seven distinct vineyards. One of these vineyards, Patzimaro, is located at the base of Spring Mountain, thousands of miles away from the small town in Michoacán, Mexico that bears the same name. Since emigrating from Patzimaro de Aviña in the late 1980s, the Hurtado family, and many others, have become an integral part of Duckhorn Vineyard's daily operation. When it was time to name the St. Helena vineyard, the Duckhorn family honored their employees by naming it after their hometown in Mexico. Ninety-five percent of the vineyard and cellar staff emigrated from Patzimaro and almost 40 percent of the total population of Patzimaro de Aviña lives and works in Napa Valley. In fact, over 30,000 Mexicans, mostly from Michoacán, reside in Napa and Sonoma counties.[1] The flows of family remittances sent by migrants to Mexico account for a substantial share of the disposable income households have for basic needs; in Michoacán alone, remittances make up almost 15% of the state GDP and in 2009 Mexico received over $23 billion in family remittances.

In addition to sending remittances directly to families, migrants pool their efforts to raise *collective remittances* and partner directly with government agencies to coproduce infrastructure projects and much needed public services. While collective remittances are only a fraction of the size of family remittances to Mexico, they finance a range of public goods in migrants communities of origin including water, electricity, roadways, drainage and sewage as well as myriad other social welfare projects.

[1] U.S. Census Bureau Decennial 2000 report. An article on the Napa Valley-Michoacán connection appeared in the Napa Valley register in July 2008.

The Hurtado family, along with 150 other Napa residents from the town of Patzimaro, recently banded together to form Club Patzimaro, a migrant hometown association that fundraises to support development projects in their community of origin. Migrant hometown associations (HTAs) are voluntary civic associations comprised of people that share common affective ties and attachments to their place of origin and are common outgrowths of the migratory process across the world. The Mexican government, among other migrant sending countries, are seizing the opportunity to engage these organized migrant associations to amplify public works expenditures at the local level. Since 2002, the Mexican Ministry of Social Development (Sedesol) administers a federal matching funds program, the *3x1 Program for Migrants*, whereby each level of the Mexican government – local, state and federal – matches peso-for-peso the collective remittances of Mexican migrant HTAs in the U.S. for infrastructure projects in their hometowns. Through the 3x1 Program, Club Patzimaro has donated an ambulance, repaved roads, restored the town church, retrofit a dam to pipe water from the natural spring to residences and created a filtration system for the town's main sewage line. Club Patzimaro is but one of hundreds of migrant hometown associations working in conjunction with government agencies to coproduce public goods and services across Mexican localities.[2]

Countries across the world including Somalia, Colombia, El Salvador and the

[2] The coproduction of community development is not restricted to coordination between transnational migrants and their places of origin. There is a large and growing body of literature that addresses the impact of hometown associations, located in urban centers, on the rural countryside (see Woods 994; Lentz 1994; Trager 1996; Honey and Okafor 1998; Henry and Mohan 2003; Page 2007 for rich studies based on African regional migration cases).

Philippines have recently followed suit and began to implement matching funds programs akin to the Mexican 3x1 Program to attract and channel the material contributions of the diaspora community living and working abroad. Unlike family remittances, which are private transfers between households, collective remittances are resources that national and regional governments can attract through redistributive spending programs and channel towards local development. This paper is a first attempt to address the potential welfare effects of collective resources at the local level using Mexico as the motivating case. This paper asks: does the cross-border social action of organized migrant groups actually impact community development? Does the coproduction of public works between migrant collective agents and public agencies in their countries of origin improve citizens' access to social welfare?

Despite a voluminous literature on family remittances and community development and the politics of public goods provision across the social sciences (see Adida and Girod 2011 most recently), there is very little systematic research on the welfare effects of collective remittances and this particular form of coproduction. The *co*-production of public works between public and private actors is not a new phenomenon, although migrants are a relatively new kind of nonstate collective agent that partners with public administrative agencies in the provision of social welfare. As Evans pointedly notes, "the image of the good bureaucrat—carefully insulated from constituents—has its usefulness, but openness to the role of the 'coproducer,' whether of sewer systems or social capital, may be the best way to increase effectiveness and ultimately the best way to preserve the integrity of increasingly besieged public institutions" (Evans 1995: 205).

Revolutionary changes in communication and transportation technology encourage the mass movement of people and capital and the globalization that characterizes the contemporary world economic system has produced more than 200 million foreign-born workers living in countries other than where they were born and send remittances home to support individuals and households.

Global remittance flows increased substantially over the last decade: in 2010 remittances sent through official monetary channels increased to $419 billion from $276 billion in 2006 and $188 billion in 2005 (MPI and World Bank 2010). In developing countries, this autonomous source of foreign exchange from overseas workers is one of the most stable sources of external finance and amounts to more than foreign aid and investment; in the case of Latin America remittances surpass aid and investment combined. Even though family remittances remain an important source of external hard currency for many migrant sending states, migrant collective remittances and the hometown associations that send them also have important political, economic and social consequences at the micro-, meso- and macro-level in sending countries (Duquette 2011). Given the sheer amount of global flows of family remittances between households and their importance to labor sending countries in 2009 alone – $49 billion to India, $47 billion to China, $22 billion to Mexico, 49%, 25%, and 20% of GDP in Tajikistan, Lebanon and Honduras, respectively – it is entirely reasonable to understand why the bulk of studies analyze whether (and how) this source of private revenue catalyzes economic development. And while collective remittances are often only a 'drop in the bucket' compared to family remittances (Ostergaard-Nielson 2003), it is this form of

finance that I argue has appreciable effects on social welfare.

By focusing exclusively on the household as the central unit of analysis researchers miss a valuable opportunity to examine how migrant nonstate actors, local citizens and sending state public agencies engage in collective mutual support across borders to coproduce much needed basic goods and services. This research attends to migrant-state coproduction and assess the welfare effects of this form of public-private partnership. I argue that migrant-state coproduction serves as an additional collective mechanism in the delivery of public goods and can help explain more of the variation in social welfare provision at the local level.

While extensive out-migration is often lamented for its pernicious effects on hometowns – human capital flight, depressed population growth, and decreased local tax revenues, for example – I demonstrate how migrants mobilize their remittances to improve the living conditions of local residents through the coproduction of public services in concert with sending state public agencies in Mexico. I argue the process of migration changes the material status of migrants, creating new opportunities for them to participate in the improvement of social welfare in their hometowns. Capitalizing on the wage differential in their host countries, transnational migrants' evolving resource base creates the material pre-requisite for transnational collective action. It is the 'intensity' and 'regularity' of exchanges which are novel in the contemporary period of mass migration and which enable transnational migrants to support community development in their place of origin (Portes et al. 1999).

Most of the research explaining the emergent variation in public goods tends to

focus on the nature and structure of state institutions, principally the effectiveness of formal electoral institutions of accountability. However, despite the import of decentralization, democratization and good governance initiatives across the globe designed to bring political authorities closer to the needs and preferences of the citizenry and electoral mechanisms to hold representatives to account for their performance while in office, some states remain unwilling and unable to delivery public goods and services. In so-called unconsolidated democracies and post-transition democracies like Mexico where entrenched patron-client networks provide a means through which politicians can gain electoral victory through targeted transfers (rather than programmatic policies) public goods are often underprovided. Given these and other drawbacks to public provision this paper begins to fill a theoretical and empirical lacuna in the extant literature on public goods provision and uncovers the extent to which a particular kind of intermediary institution, migrant-state coproduction, improves citizens' access to social welfare? Does the 3x1 Program deliver on its state objective to improve social welfare in Mexican municipalities with high migration intensity?

Drawing on a combination of qualitative (???ADD???) and quantitative evidence from Mexico, this paper finds that coproduction between migrant hometown associations and public agencies in the migrant sending state of Mexico, financed with collective remittances and government matching funds through the federal 3x1 Program for Migrants, facilitates greater citizen access to drainage and sewage, although not water, as well as reducing poverty levels across localities over the 2002-2005 observation period, ceteris paribus. While disaggregated data on public goods are only available for water

and drainage over the 2000-2005 period, the paper sheds some light on the effectiveness of coproduction for two kinds of public services. It is promising that the statistical analysis reveals a positive correlation even though the observation period is restricted to three active years of the 3x1 Program because of data availability of public goods (after 2005). This result should give us some confidence that once the remaining years of the 3x1 Program can be incorporated into the analysis, that welfare effects of collective remittances improve for these and other kinds of public goods and services.

The results from this paper also bring to light broader implications for the study of the welfare effects of coproduction and state-society synergy and remittances and development policy. First, coproduction of public works in which external social groups take on greater responsibility in one of the core functions of the state helps to supply public works that improve citizens' quality of life in migrant communities of origin. While most research on the politics of public goods provision tends to focus exclusively on state institutions, migrant collective actors are serving as important intermediary institutions enabling local residents to access basic services that they may have not have been able to access without migrant HTAs mobilizing their collective resources for their sending communities. Research needs to continue to examine the ways in which intermediary institutions that span the public-private divide have local development impact and the political economy conditions that nurture and stymie these forms of public-private partnerships. Development studies that fail to account for remittances, both family and collective remittances sent by migrants directly to households or for community social welfare projects, remain incomplete. Social groups, domestic and

transnational, are important resources for state-society synergy that improve local development in conjunction with public agencies.

Second, while the present study identifies a positive statistical relationship between citizens' access to drainage and a reduction in poverty rates, further research is necessary to evaluate whether collective remittances substitute for local government public good expenditures. If decentralization reforms in Mexico and elsewhere fail to give local governments the legal capacity to raise autonomous local revenues and remain dependent on higher tiers of government (state and federal) for revenue transfers to supply public goods, local governments may become reliant on external remittance resources for local expenditures. This question is beyond the scope of this study, but the political consequences of migrant-state coproduction in Mexico and in other country contexts is a promising avenue for future research.

Third, as Adida and Girod (2011) note, studies that focus on aggregate measures of public services used in the majority of studies on government accountability in Mexico and beyond assume that citizen access to public services translates into government provision. This misattributes both local residents local investment in water infrastructure (piping) in their dwellings with family remittances (Adida and Girod 2011) and as this study shows, would dismiss the positive contribution of migrants' cross-border social action with collective remittance resources. External remittance flows create novel opportunities for local and transnational participation in local governance, including coproduction partnerships that blur the boundaries between public and private spheres. This research suggests that studies of public goods provision must take into account how

nonstate actors play a role in local governments' willingness and capacity to provide social welfare to the citizenry; migrant HTAs, a kind of nonstate actors are becoming important actors channeling resources and mobilizing government attention towards community development projects.

Migrant-State Coproduction and the Provision of Public Goods

Public goods – potable water, electricity, education, and roads, for example – are intrinsic components of social welfare. Inadequate provision of clean drinking water and sanitation often leads to disease outbreaks. Access to quality health care services reduces complications during maternal childbirth and infant mortality rates. And paved, easily navigable roads connect important market centers and economic outposts where agricultural producers sell locally and export commodities to earn a living. Public service delivery is, in short, important for individual wellbeing everywhere.

Scholarship that examines the provision of public goods and services is typically divided between a market-based logic of development and traditional theories of public administration (Evans 1995). Since the private sector confronts typical problems associated with collective action – free-riding, shirking, and opportunism, for example – market institutions often fail to supply satisfactory levels of public goods (Samuelson 1954, 1960; Tiebout 1956; Coase 1960, among others). In light of the public goods problems associated with the private sector logic, the public sector approach argues that public goods and services are best delivered through a system of public administration, most notably government institutions.

Government agencies have long been considered the regular producer of public goods because they are the best equipped with the economies of scale, legal prowess and technical expertise required for the construction of public infrastructure projects. There is a voluminous literature that evaluates the factors that affect the effective design of public works and the size of the public sector including regime type (Olson 1993; Persson et al. 2000; Baum and Lake 2001; Boix 2001), decentralization (Oates 1997; Alesina and Spolaore 1999; Besley and Coate 2003; Bardhan and Mookherjee 1998), federalism (Weingast and Shepsle 1981), economic modernization (Lipset 1959; Dahl 1964; Przeworksi and Limongi 1997; Adsera et al. 2003), robust civil society (Putnam 1993; Tsai 2008) and different sets of variables that affect political institutions such as administrative and bureaucratic capacity (Kohli 2000), ethnic and social heterogeneity (Alesina et al. 1999; Banerjee and Somanthan 2001; Posner 2004) and electoral competition (Persson and Tabellini 1999; Hiskey 2003; Chhibber and Noorudin 2004; Cleary 2007). However, as several researchers observe, neither has this system of public administration been very successful in providing essential public goods nor has the decentralization of decision-making to sub-national levels of governments or greater political competition delivered on its promise to bring policy makers closer to the needs and preferences of local citizens in non-industrialized countries (Bardhan 2006; Bird 1999; Cleary 2010; Tsai 2008).

Moreover, a focus on either side of the "Great Divide" in the distribution of public goods eclipses an opportunity to identify and analyze patterns of constructive mutual support between state and non-state actors. Government is the regular producer of

public works, but whether the regular producer is the only producer depends both on the nature of the good or service itself and on the incentives that encourage the active participation of others (Ostrom 1996). Moving past the artificial walls separating the public and the private spheres of production, Evans (1995), Ostrom (1996) and Tendler (1997) among others, have led the charge identifying relationships that blur the boundaries between public and private to describe a process in which complementary inputs used to produce a good or service are contributed by individuals who are not "in" the same organization. As Ostrom argues "…contrived walls separating analysis of potentially synergetic phenomena into separate parts miss the potential for synergy" particularly the study of how state and civil society coordinate their efforts to coproduce public goods and services (1996: 1083).

Coproduction, as all production, entails the transformation of some set of inputs into output. Complementarity, the conventional way of conceptualizing mutually supportive relations between public and private actors with a clear division of labor based on contrasting properties of public and private institutions, creates the basis for and is the essential prerequisite of productive interaction (Evans 1995; Ostrom 1996). The complementary inputs of each sets of actors, be it land, labor, or capital, create more output than either can produce in isolation. And, without complementary inputs there would be little incentive, other than rent seeking, for trying to organize collective action across the public-private divide.

The impetus for coproductive partnerships emanates from both top-down state efforts, bottom-up grassroots civil society and is often the product of an interactive

feedback between the two. I argue that international migration that characterizes the contemporary globalized world system makes it possible such that coproduction does not need to emerge from within the domestic walls of the nation-state. The two dominant organizational features of coproduction are the complementary inputs from each side of the public and private divide and the social capital – the resources that adhere in particular networks of people, rather than in the people themselves – necessary to mobilize cooperative action between the set of collective agents. Migration creates novel opportunities for coproductive partnerships between state and non-state actors because migration changes the resources base of individuals through employment opportunities in the destination place. The evolving material status of migrants creates a new organizational basis for complementarity and public-private partnerships between transnational non-state actors and sending state agencies.

The complementary inputs hometown clubs generate through personal donations, fundraising, and membership dues, for example, facilitates the improvement of social welfare "back home". The cooperative partnerships that develop between migrants and sending state actors improve public service delivery, certainly more than either agent can produce in isolation. Motivations and incentives that drive migrant-state coproduction partnerships – facets of pre- and post-migration contexts, individual attributes and sending local, state and national political economies – are neither the same across cases nor are they frequently congruent. The sets of factors that bring migrant hometown associations and government agents together to coproduce community projects do not have to be harmonious for tangible goods and service to be produced.

Each group of actors on either side of the public-private divide through the mobilization of their respective resources can derive their own mutually beneficial, even if divergent, ends.

Migrant Hometown Associations, Collective Remittances and the 3x1 Program

Given the mammoth literature on immigrant associational activities one would think that every newcomer to their host society had a special disposition to join an immigrant organization. While this is certainly not the case, there is ample evidence to suggest that immigrants have created voluntary associations – secondary organizations that exist between the primary links of kinship and the equally non-voluntary arrangements of tertiary institutions like the state, among foreign-born immigrants – in different geographic context throughout history (Moya 2005: 833). There is well-documented evidence that immigrant associations were common across the globe when the host environment permitted the freedom to associate: in ancient Middle East, Greece, Rome, and India (Kloppenborg and Wilson 1996; Ross 1976), Asia and Latin America (Hong 2001; Marks 1996; Tostensen et al. 2001; Wallerstein 1964) and in the contemporary period in France (Bachelloni et al. 1995), Brazil (De Boni 1987), Canada (Harney 1984), Cameroon (Page 2007), Nigeria (Barkan et el. 1991; Trager 1994), Cote D'Ivoire (Woods 1994), Ghana (Mohan 2008; Lentz 1994), Uruguay (Corredera Rossi 1989) and Australia (Boncompagni 2001), just to name a few. Evidently, the origin and proliferation of immigrant associations are not a new phenomenon nor are they isolated to a specific geographic region. The diversity of their geography and history is as varied

as the kinds of organizations immigrants' created. Immigrants' voluntary organizations included secret societies, rotating credit associations, mutual benefit societies, religious groups, political and advocacy groups, and the organization most relevant to coproduction, the hometown association.

In the past two decades, sociological and anthropological work focused on contemporary migrant "transnationalism" has revitalized the idea – long held among historians of previous immigrant waves – that migrants do not always settle and assimilate into the host country, making a clean break with their countries of origin after exit (for e.g., Gordon 1964; Portes and Rumbaut 1996; Alba and Nee 1997; Wyman 1997). Flying in the face of the traditional assimilation framework, migrants have continued to participate "back home", challenging traditional ideas of community membership and citizenship (Glick Schiller et al. 1992; Smith and Bakker 2008; Portes and Landolt 2000; Guarnizo 1998; Itzigsohn 2000; Fitzgerald 2006), civil society (Fox 2005; Lanly and Valenzuela 2004), remittance transfers (Durand et al. 1996; de la Garza and Hazan 2003; Levitt 2007; Adida and Girod 2011), voting and political participation (Goodman and Hiskey 2008; Bravo 2008), and state-society relations (R.C. Smith 1997; Goldring 2002; Chaudhry 1997; Burgess 2008). Putting aside whether cross-border migrant practices amount to an "-ism" or whether their associational activities should be described as a "(trans) Migrant Civil Society" (Waldinger and Fitzgerald 2004, Fox 2005; Lanly and Valenzuela 2004; Portes et al. 2003; Waldinger 2007), it is safe to say that some migrant groups are regularly socially, politically, and economically engaged in their home countries as well as their host countries.

Since migration is a network phenomenon in which people migrate to common host places facilitated by their social ties and connections, "filial communities" and "sister colonies" emerge (Fitzgerald 2008). Out-migration becomes less risky and expensive as more and more people from the same place migrate to common host places. As the population of the foreign-born population becomes more populated, informal social networks give rise to associational activities based on common place of origin. To preserve and promote connections with the place of origin, migrants across the world organize into voluntary hometown associations. Some migrants organize or join HTAs to socialize at picnics, potlucks, and beauty pageants, to celebrate patron saint holidays and other cultural and religious traditions, and to enjoy recreational activities such as soccer, baseball and board games. The hometown association creates a space within the host society where newcomers from the same place of origin, be it region, micro-region, county or town can chat, reminisce, play, and support one another as well as sponsor different kinds of civic projects back home. The campanilismo societies of Italy, the Kenjinkai Japanese in Hawaii, the Jewish landsmanshaftn in New York, to site a few, provide a space for *paesani* (in Italian) and *paisanos* (in Spanish) or 'countrymen and women' to articulate collective identities and interests.[3]

The potential political and economic benefits of migrant hometown associations cross-border connections and affections for the hometown have not escaped migrant

[3] The following is a list compiled of sending countries whose emigrant populations have created voluntary migrant hometown associations: Guatemala, Ghana, Haiti, El Salvador, Nicaragua, Honduras, Dominican Republic, Bangladesh, Mauritania, Senegal, Mali, Yemen, Philippines, Tanzania, Cameroon, India, Germany, Italy, Greece, China, Japan, Mexico, Lebanon, Nigeria, and Côte d'Ivoire. See Moya (2005) for a complete review of the history of immigrant organizations.

sending states. The Mexican government as well as other countries with substantial emigration including the Philippines, Morocco, China, El Salvador and Colombia, for example, go to great lengths to court the collective remittances of the organized migrant diaspora for local development initiatives and business investment opportunities. The Mexican government, in conjunction with migrant HTA and state federations of HTAs, pioneered the federal 3x1 matching funds program, which has become the basis for other redistributive spending programs and matching funds schemas in migrant sending states (see Iskander 2010 and Garcia-Zamora 2010 for a extended discussion of the origins of the 3x1 Program in Mexico).

Since the federal version of the Mexican 3x1 Program launched in 2002, the number of participating municipalities and hometown clubs, the number of projects, and the total amount of collective remittances and government matching funds invested in projects has expanded significantly In the inaugural year, 17 Mexican states participated in the program, but by 2007, 27 of 30 Mexican states were involved in coproducing projects with migrant clubs. As the following table shows, the total amount of remittances and government funds invested in projects has multiplied as well: between 2002 and 2008, the total budget for coproduction budgets expanded from $424.2 million to $1.7 billion an increase of about 300%.

The core objective of the 3x1 Program is the development of social infrastructure and productive projects in high migration and poor Mexican localities (Sedesol 2008). The total budget for the 3x1 Program is second only to the central redistributive social spending program in Mexico, *Oportunidades*, in terms of the total anti-poverty budget,

although *Oportuninades* still commands the lion's share. This program was founded in 2002 and based on the previous programs, *Progresa* and *Pronasol,* introduced by the Zedillo and Salinas PRI administrations and. *Oportunidades*, like its predecessors, provides conditional cash transfer payments to families in exchange for regular school attendance, health clinic visits, and nutritional support. Currently, around 25% of Mexico's population is active in the program, which represents about 46.5% of Mexico's total federal annual anti-poverty budget (1.33% total federal budget), about $3.26 billion. While the total federal contribution to coproduction projects is only 25% of $1.717 billion, the total amount the program generates for local investment in public goods and services is noteworthy and will continue to expand as long as migrant collective remittance dollars mobilize the continuation of coproduction and matching funds of federal, state and local government contributors.[4]

[4] Interview with Director of the 3x1 Program in Mexico City, Ms. Irma Hidalgo, June 2009.

Table 1: 3x1 Program Total Projects & Amount by Type of Project, 2002 & 2008

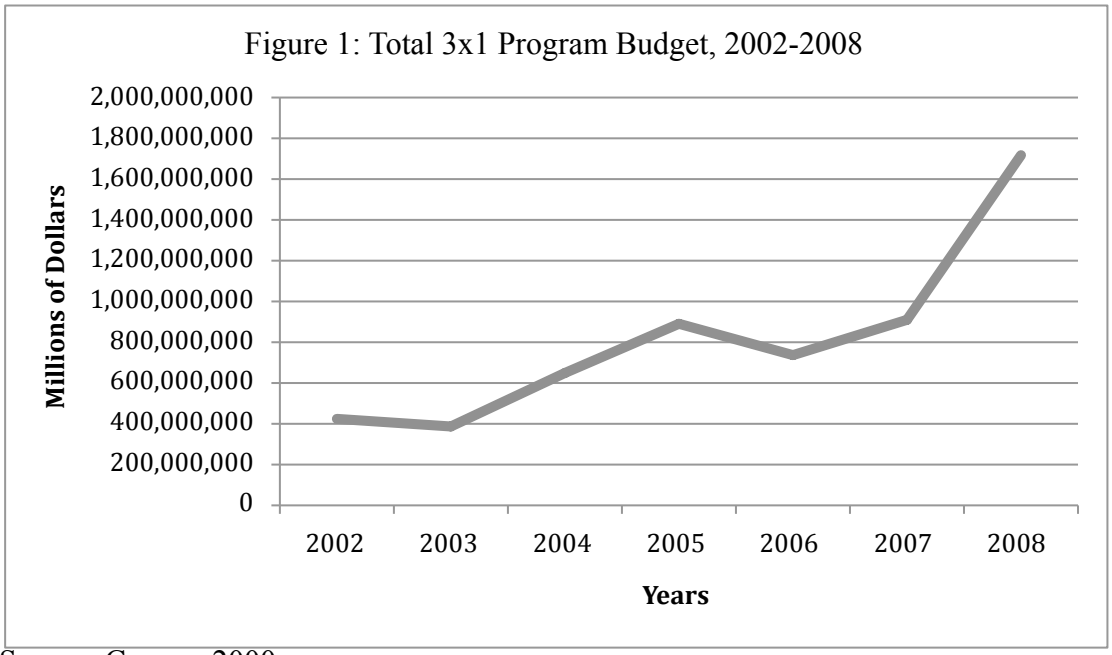
	Total Projects		Amounts ($Millions)	
Type of Project	2002	2008	2,002	2008
Urbanization/Pavement	277	979	101,258,250	714,897,493
Community Development	122	127	50,570,611	104,940,655
Education	113	232	18,057,332	164,683,868
Electricity	103	200	22,432,108	166,740,083
Potable Water	77	195	41,108,183	116,615,368
Sidewalks	67	103	116,146,495	86,548,507
Recreation	51	111	15,982,646	90,919,489
Sanitation	49	181	19,349,908	111,014,817
Other	36	125	28,142,162	91,453,408
Productive Projects	35	100	15,212,371	80,462,145
Health	28	49	8,558,643	52,143,322
Cultural Centers	9	49	3,854,447	39,172,912
Total	967	2,451	440,673,156	1,819,592,065

Note: Other includes: monuments, cemeteries, retirement homes, ambulances, rehabilitation centers, and firehouses; Source: Sedesol 3x1 Data obtained by author

Not only does spending on 3x1 coproduction projects account for proximate federal, state and local social welfare spending, the money also goes much further. Coproduction project budgets can be up to $800,000 pesos, but the bulk of projects seek to finance small scale public works including: urbanization and pavement, education and health infrastructure, electricity, potable water, sidewalks, sanitation, recreation,

historical, cultural and community development centers, and "productive" projects that create local job opportunities (e.g., hydroponic greenhouse tomatoes for sale in domestic and international markets). For example, a street pavement and drainage project in the town of Santiago Tlatelolco, Jalisco cost about $115,000 pesos to implement (about $14,000 U.S). The 3x1 Program budget may not comprise a significant share of Mexico's anti-poverty budget, but the small cost per coproduction partner can increase access to public goods for a sizeable share of local households: for a cost of $3,500 U.S. ($35 per capita) for each coproduction contributor (local, state, federal and migrant club), 350 residents (80 households) in Tlatelolco gained access to paved roads and public drainage.

Figure 1: Total 3x1 Program Budget, 2002-2008



Source: Conapo 2000

While the number and types of projects would seem to suggest, on the surface, that local citizens in coproduction recipient communities would be made better off by

participating in the 3x1 Program, recent research on the political economy of the Program suggests this may not be the case. First, Aparicio and Meseguer (2008, 2009) find that the 3x1 Program fails to serve as a progressive poverty reduction tool despite its state objective because migrant HTAs self-select into the program by creating clubs and proposing projects. Since migration is not as likely in poorer municipalities, the 3x1 Program is more likely to benefit wealthier municipalities to the detriment of poor ones. Moreover, they argue that the PAN is stronger in lower poverty municipalities with high migration, thus, participation in the 3x1 Program rewards PAN strongholds: PAN support increases with migration intensity in municipalities with medium to very low poverty (2008: 18). By contrast, they report that the PRI is more represented in high poverty municipalities regardless of migration intensity. The authors conclude that a political bias reinforces the self-selection bias they hypothesize yielding a regressive outcome of the 3x1 Program: "if the program has a bias in favor of the PAN, it will not only benefit high migration municipalities but also favor the relatively richer ones" (2008: 18). Second, Simpser et al. (2010) finds find that local political considerations, and not the objectives of the program as conceived by the national government, shape municipal implementation of the 3x1 Program at the local level. The authors argue that municipal strategic electoral decisions motivate local political officials to time matching funds disbursements according to local electoral cycles and by protecting politically-sensitive expenditure categories. While these studies demonstrate the ways in which local government can politically manipulate the program for electoral and party considerations, it remains unclear if this negatively affects coproduction of public goods provision

systematically or if the program functions to improve public service delivery in high migration areas as intended. This is an empirical question that requires an empirical answer.

Mexico in Comparative Context

Over the last thirty years countries across the world, including Mexico, adopted significant decentralization and democratization reforms that shift the responsibility for public goods provision to lower tiers of government, primarily local and state levels. In democratic and post-transitioning regimes where electoral institutions exist, greater political competition is believed to produce more responsive government. Citizens use their vote to select candidates and punish poor incumbent performance. Since incumbents prefer to stay in office and they face punishment for poor performance and/or the threat of losing office to a more competitive candidate in the next election, incumbents ensure their own survival through better performance during their administrative tenure in office. The citizenry uses prospective and retrospective accounting to select new representative officials and 'throw the bums out' when they need to (see Key 1966; Fiorina 1981; Downs 1957; A. Campbell et al. 1960; Riker 1982).

In the case of Mexico, there are prima facie reasons to believe that political competition does induce better government performance as O'Donnell (1991) and others have suggested (see Coppedge 1993; Lujambio 2000; Beer 2001). Mexico underwent considerable transformations during the 1980s and 1990s that should have had significant effects on government provision of public goods. First, decentralization initiated with

reforms of the de la Madrid administration in 1983, promised to improve efficiency, greater equity and higher responsiveness of governments to citizens' demands (Oates 1972; Agrawal and Gupta 2005). When decision-makers have greater access to information regarding the needs and preferences of the citizenry and must compete to garner the support of local constituencies to win electoral office or to advance within the ranks of the political party, the provision of public goods is believed to be more responsive to local needs.

Second, Mexico also experienced significant aperture of the political system during this period. Opposition parties at both the municipal and state level of government defeated the hegemonic ruling party in important elections leading up to the national presidential election in 2000, in which the PRI was defeated in a clear and fair election to the PAN (Dominguez and Lawson 2004). Moreover, previous studies of public goods provision have demonstrated qualitative improvements in water provision, sanitation and electricity between 1985 and 2000 (Hiskey 1993; Moreno 2004; Cleary 2007).

However, there are theoretical and empirical reasons to suspect that the effectiveness of elections to produce better local government performance through the accountability mechanism is limited (Cleary 2010). First, even though political competition has become more robust over the last two decades at all levels of the Mexican federal system, local incumbents may find that targeted transfers through patron-client ties and vote buying are more effective strategies for winning elections than investing in local public goods. Second, electoral institutional design in Mexico makes it difficult for citizens to sanction officials for poor government performance because there

is a strict constitutional law prohibiting incumbent re-election and a 3-year term limit for local mayors. While local officials may still be inclined to garner the approval of the electorate while in office to ensure future victory for their political party or their own personal career advancement, Grindle (2006) reminds us that "day to day governance in municipalities is in the hands of short-lived political representatives rather than a professional civil service" (see also Guillen Lopez 1996). Third, while decentralization brings elected representatives closer to the needs and preferences of the people reforms are often implemented incrementally. For these reasons, the ability of electoral institutions to induce government performance is indeterminate and suggests that there are additional mechanisms providing public works that require closer inspection.

In Mexico, fiscal decentralization has lagged behind administrative and political decentralization to lower tiers of government creating local governments that rely heavily on the state and federal government to fund public goods. Across Mexican municipalities 60% of total budgets are *participaciones and aportaciones*, which are revenue transfer funds that trickle down from the state and federal tiers. This system of intergovernmental finance creates perverse incentives for local taxation allowing local government to remain rather unaccountable to citizens in the provision of public goods at the local level (Diaz-Cayeros 1997; 2003). Moreover, the uneven sequence of decentralization reforms (Falleti 2005) creates institutional constraints on more ambitious, reform-minded mayors and local officials that need to find novel ways to liberate additional resources to be responsive (Grindle 2007). Finally, recent scholarship that empirically examines the link between electoral competition and improved government performance (measured by

public works expenditures and access to aggregate public goods and services) does not uncover a significant relationship (see Moreno-Jaimes 2007; Cleary 2007; and Ibarra 2009). Ibarra (2009) finds that political competition is associated with a decrease in the levels of investment in infrastructure and while there has been "an increasing trend in the coverage of both sewage and drinking water services over the 1990-2000 period, the change cannot be associated with the increasing pattern of electoral competition" (2009:19). Elections are limited as instruments of local government accountability in Mexico and public officials are no more likely to be responsive in places with competitive elections than elsewhere (Cleary 2010).

Incremental 'bottom-up' changes in the Mexican political system culminated in the defeat of the PRI in 2000 after 71 years of national rule to the PAN party that currently retains office. Clearly, elections are not irrelevant in Mexico and provide citizens some measure of control over their representatives in government. However, Mexico's uneven democratization and decentralization, challenges that many countries face gives reason to believe that public provision of public goods may be wanting and that additional collective mechanisms are also playing a role in the provision of public works at the local level.

Mexico is thus a propitious case to study the welfare effects of migrant-state coproduction in light of recent reforms that should ostensibly improve citizen access to public goods. as well as have substantial emigration producing migrant HTAs and collective remittance investment. It is an ideal case for study also because over 90 percent of the migrant population settles across the northern border in the United States (1 in 10

Mexicans). The concentration of the Mexican migrant population in one host country allows the researcher to hold constant macro-structural historical conditions such as regime type, political ideology, and institutional setup in both countries in order to isolate key variables key variables of interest and outcomes produced. The Mexican Ministry of Social Development (Sedesol) has recently made data available on migrant-state coproduction project locations and amounts and the Mexican government keeps data on municipal public works expenditures (Inegi Simbad) and disaggregated data on public goods (Conapo) that make longitudinal and cross-sectional analysis possible for the observation period. While data for the entire 3x1 Program active period is currently unavailable, I am able to assess changes in citizen access to public goods between 2000 and 2005, three years of possible migrant-state coproduction effects.

Finally, the subnational comparative research design at the local level permits many more observations than if at the state level alone and permits evaluation of the effects of 3x1 Program participation across municipalities with and without active HTAs. For these reasons, I have bound the scope of the research to migrant-state coproduction financed through the 3x1 Program that occurs transnationally between migrant hometown associations in the U.S. and Mexico between the years 2000 and 2005. While Mexico is the core case motivating theoretical and empirical puzzles, results may indicate the extent to which coproduction partnerships facilitated through federal matching funds public policies may be effective in other country contexts with emigration and an array of challenges in the provision of public goods.

Empirical Findings

Both qualitative and quantitative data reveal that migrant-state coproduction financed through the 3x1 Program for Migrants explains more of the variation in public goods provision across Mexican localities. Places that participate in the 3x1 Program and enjoy the active engagement of migrant HTAs are more likely to have better provision of public services than places without coproduction. The case studies do not permit causal inferences, but they help to describe how two "most similar" municipalities with and without migrant-state coproduction can have very different social welfare provision. The second part of the empirical section uses large-N data to assess the likelihood that participation in the 3x1 Program and levels of coproduction spending is systematically associated with greater citizen access to public services.

Comparative Case Studies

The two cases presented here describe two different municipalities: one that participates in the 3x1 Program and one that does not. The cases here do not permit generalization to a larger population, but they do begin to illuminate how the process of migrant-state coproduction helps explain more of the variation in public goods provision at the local level all other things equal.

Case One: No Participation in the 3x1 Program

Case Two: Participation in the 3x1 Program

[Do workshop participants think the addition of this section will add to the paper or is it unnecessary? It is already too long...]

Quantitative Data Analysis

To assess the affect of collective remittance financed coproduction projects on citizens' access to public goods and services, I constructed an original dataset with data on coproduction projects financed through the federal 3x1 Program (Sedesol), socio-demographic and municipal economic characteristics from the Mexican Census (Conapo and Inegi), and electoral data from the Mexican Federal Elections Institute (IFE). Since I am interested in identifying if there is a statistical relationship between public goods provision and 3x1 Program expenditures in public goods across Mexican municipalities, I evaluate places with and without migrant-state coproduction over the active years of the 3x1 Program for which data was available (2002-2005).

Three public goods indicators serve as dependent variables in the analysis: households' access to potable water and drainage as well as an aggregate indicator that indexes municipal levels of marginalization, all measured as five-year percent differences. Mexico's National Institute of Statistics and Geography (Inegi) collects annual information on municipal economic and socio-demographic characteristics as well as performing the population census every ten years and the economic census every five years. The National Council of Population (Conapo) calculates the index of marginalization and accounts for the percentage of illiterate population over 15 years of age, the percentage of population older than the age of 15 without elementary school, the percentage of population living in dwellings without toilet, electricity, access to water, household and dirt flooring, as well as localities with less than 5,000 inhabitants and with incomes lower than 2 minimum wages.

Disaggregated data on potable water access and drainage is available for 2000 and 2005. In order to evaluate the degree to which 3x1 collective remittances and matching funds affect household access to clean drinking water and sewerage, I only include indicators that capture some *public* provision of the service. For example, household access to water can be increased if citizens invest their own resources by building pipes that connect their home to the public system or purchasing a septic tank. When citizens use septic tanks, the government provides no infrastructure for the disposal of the household sewerage. Since I am interested in the effects of migrant-state *coproduction* I exclude household access to water and drainage that may be household driven (water carried from standpipes, rivers, wells, and other watercourses and households that report access to drainage through septic tanks). Water and drainage coverage are measures of the percent difference of households in a municipality that report having access to each of these two services between 2000 and 2005: water carried from the street; water carried from other dwellings and drainage provided through connection to the public system.

Even though it is the case that urbanization, street construction and pavement and sidewalks comprise the most common types of projects financed through migrant-state coproduction, data is unavailable to capture the effects. Since data is available for water and drainage and a significant share of coproduction projects target public provision of these services, they serve as indicators to identify the effects of coproduction at the municipal level. To capture the effects of migrant-state coproduction projects that focus on health, education and electricity I use the index of marginalization described above. While this indicator also indexes individual quality of life in household dwellings that

may be improved with family remittances or other sources of disposable income, it is the only alternative aggregate variable available for the observation period that captures the potential effects of other key 3x1 financed projects.

I use the five-year difference in annual total amount of 3x1 project expenditures in the municipality, which includes the collective remittances donated by migrant hometown associations and the corresponding shares of matching funds from the local, state and federal tiers of government. I expect that 3x1 project investment to have a significant and positive effect on household access to water and drainage and a negative effect on levels of marginalization. Higher levels of marginalization indicate a larger percentage of illiterate population and lack of elementary schooling, etc. If coproduced projects have a positive affect this would be interpreted as increasing levels of poverty or marginalization.

The model controls for economic, political and social factors in addition to the 3x1 expenditure central explanatory variable. To account for municipal government expenditures that contribute to public utility coverage, I include a measure of the five-year difference in municipal total share of public expenditures on public works over the observation period. Additionally, I control for municipal budget constraint and financial capacity and include a measure of the five-year difference in total revenue collected by municipal authorities from local sources, and revenue transfers from state and federal levels of government.

To capture the possibility that more democratic municipalities provide greater public goods access because citizens' hold their elected officials more to account for their

performance in office, I include a dichotomous variable that captures whether the municipality became more electorally competitive based on the change of effective number of parties[5] over the five year observation period (two electoral cycles). I expect competitive elections to negatively impact public goods provision given previous negative findings. Unfortunately, I do not have voter turnout data to include in the models to account for the ways in which non-electoral methods of participation may pressure local officials to provide more public goods.

In the models in which household access to water and drainage serve as the dependent variables, I include the index of marginalization, which captures literacy and educational attainment. This variable is also likely to be correlated with migrant-state coproduction since, as Meseguer and Aparicio (2009) show, municipal participation in the 3x1 Program is negatively related to levels of poverty. A priori, I suspect that poverty is negatively related to citizens' access to water and drainage across Mexican municipalities. Finally, I include the five-year difference in total population of the municipality to control for demographic pressure for public utility coverage during the period of observation.[6] And, to account for the possibility of time-invariant omitted

[5] The effective number of parties (ENP) is an indicator that takes both the number of parties and their relative weight (in terms of proportions of votes received) into account to produce a parsimonious operationalization of 'relevant' competing parties (Laakso and Taagepera 1979).

[6] Another social determinant of public goods coverage could be the presence of indigenous populations. Some scholars (see Diaz-Cayeros et al. forthcoming) posit that the percent of indigenous population might facilitate greater provision of public services because they have more social capital to pressure local government through collective action. While I do not have indicators that measure the percent of the population that is indigenous or speaks an indigenous language, I currently exclude municipalities with

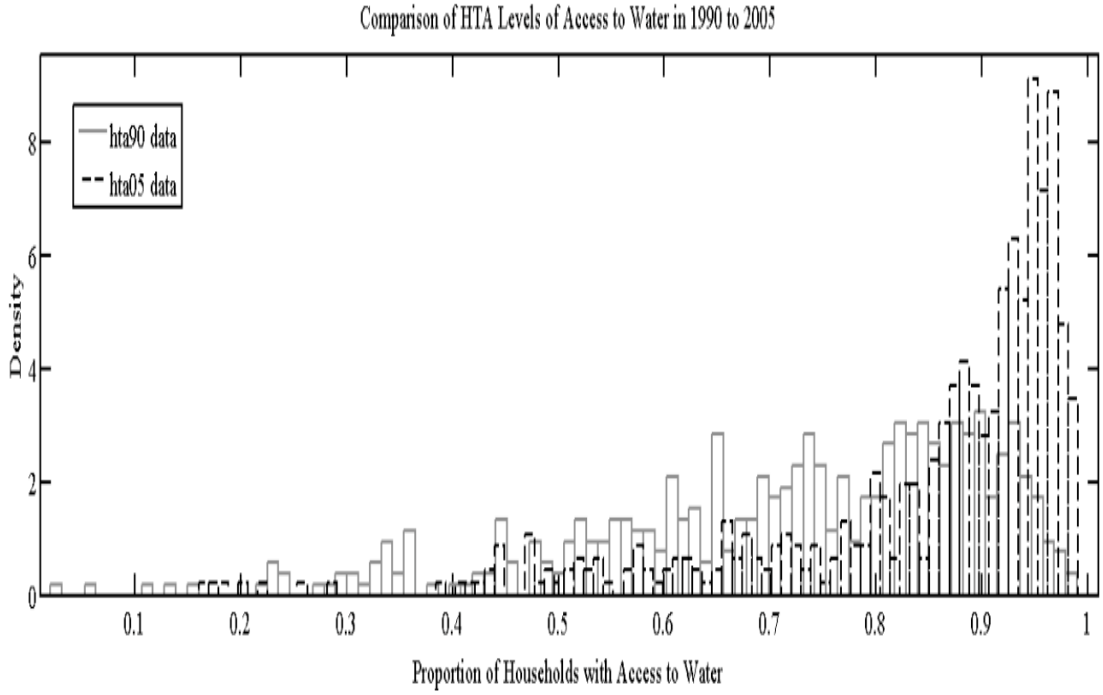
variable bias, I add state and year fixed effects. Robust standard errors are reported.

Bivariate and Multivariate Analysis

I begin by assessing the relationship between migrant-state coproduction and changes in public drainage and water coverage in bivariate analyses. In order to capture changes in public provision of drainage and water over a longer time horizon, I collect data on the citizens' access to public goods and services in 1990 and construct a variable that is the difference between 2005 and 1990 levels of access. In 1990, just six years after the first set of decentralization reforms were implemented during the de la Madrid presidency, Mexican municipalities spent on average $24 pesos per capita on public works and total revenue per capita was just $80. In the 15 years that elapsed between 1990 and 2005, local governments increased public goods expenditures to $626 pesos per capita, an increase of about 2,500%. Total revenue per capita has increased to $2,715 in both cases a substantial percent increase since democratization and decentralization reforms.

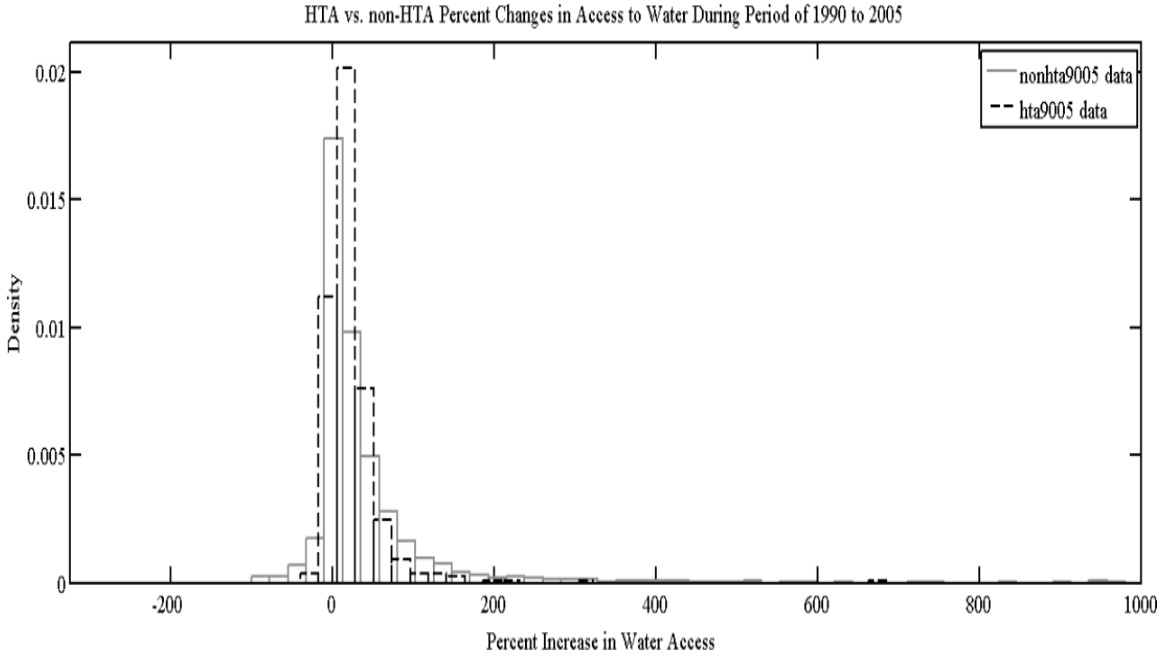
usos y costumbres since these municipalities (predominantly in the state of Oaxaca) do not have electoral data.

Figure 2: Comparison of HTA Levels of Access to Water, 1990-2005



Source: Author's Calculations

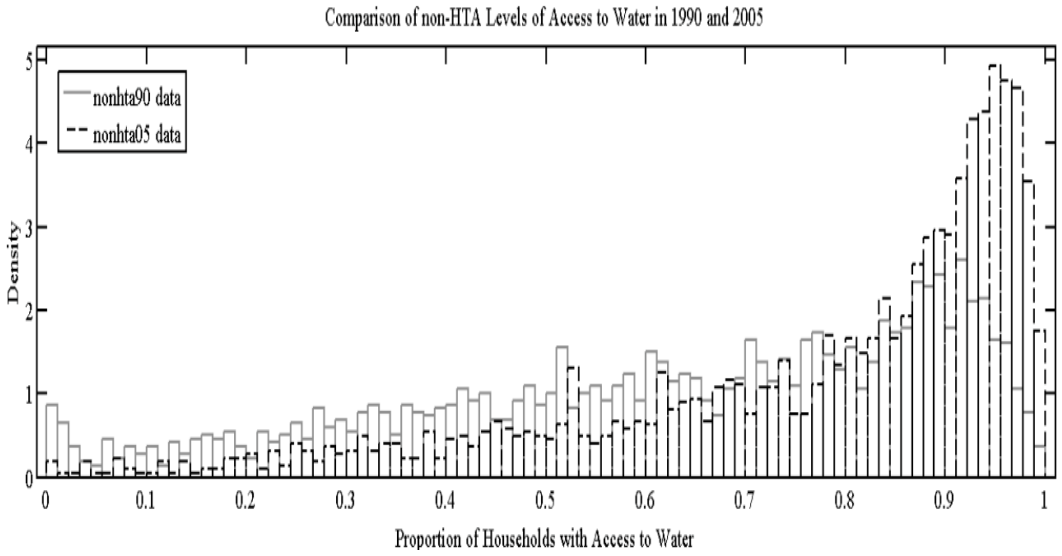
Figure 3: HTA vs. non-HTA Percent Change Access to Water, 1990-2005



Source: Author's Calculations

There are marked differences in household access to drainage and water over time as well. In 1990, household access to potable water and sanitation services was 65% and 32%, respectively. By 2005, household access had increased substantially: citizens' access to potable water in the home increased to 97% and access to drainage increased to 64%. On average over the 1990-2005 period, Mexican municipalities that participate in the 3x1 Program enjoy a change in access to water and drainage of 26% and 36%, respectively. Compared to municipalities that do not participate in the 3x1 Program the change in household access to water and drainage is less for water and slightly more for drainage: non-3x1 participating municipalities enjoy 34% more coverage in water and 33% more coverage in drainage. Classical t-tests suggest that places with migrant-state coproduction financed through the 3x1 Program provide 13% more households with drainage ($Pr(T < t) = 0.005$), although the null hypothesis that there is no relationship between migrant-state coproduction and changes in water coverage rates cannot be rejected.

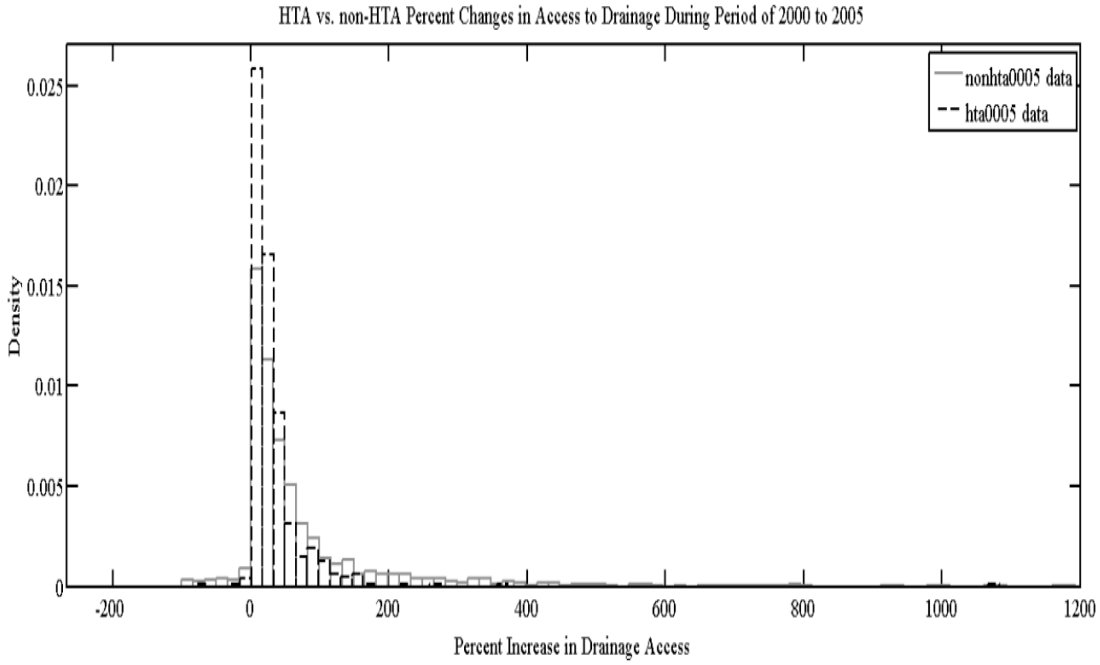
Figure 4: Comparison of non-HTA Levels of Access to Water, 1990 & 2005



Source: Author's Calculations

The figures in the appendix detail the proportions of households with access to potable water and the differences in the percent increase in water coverage across places with and without coproduction between 2002-2005. We can see from the difference in the density of the bins across municipality type (HTA vs. non-HTA) that the proportion of households with access to drainage was already higher in coproduction municipalities in 1990, especially as the proportion of total coverage approaches .95. However, when we look at figure 6?, it is clear that there is a substantial difference in the percent increase in water coverage between HTA and non-HTA communities in 2005. The density of percent increase is higher in HTA communities. The raw data for public water delivery suggests that there is a difference across municipalities and the resulting percent increases may be a result of coproduction efforts, but more sophisticated empirical tests are needed.

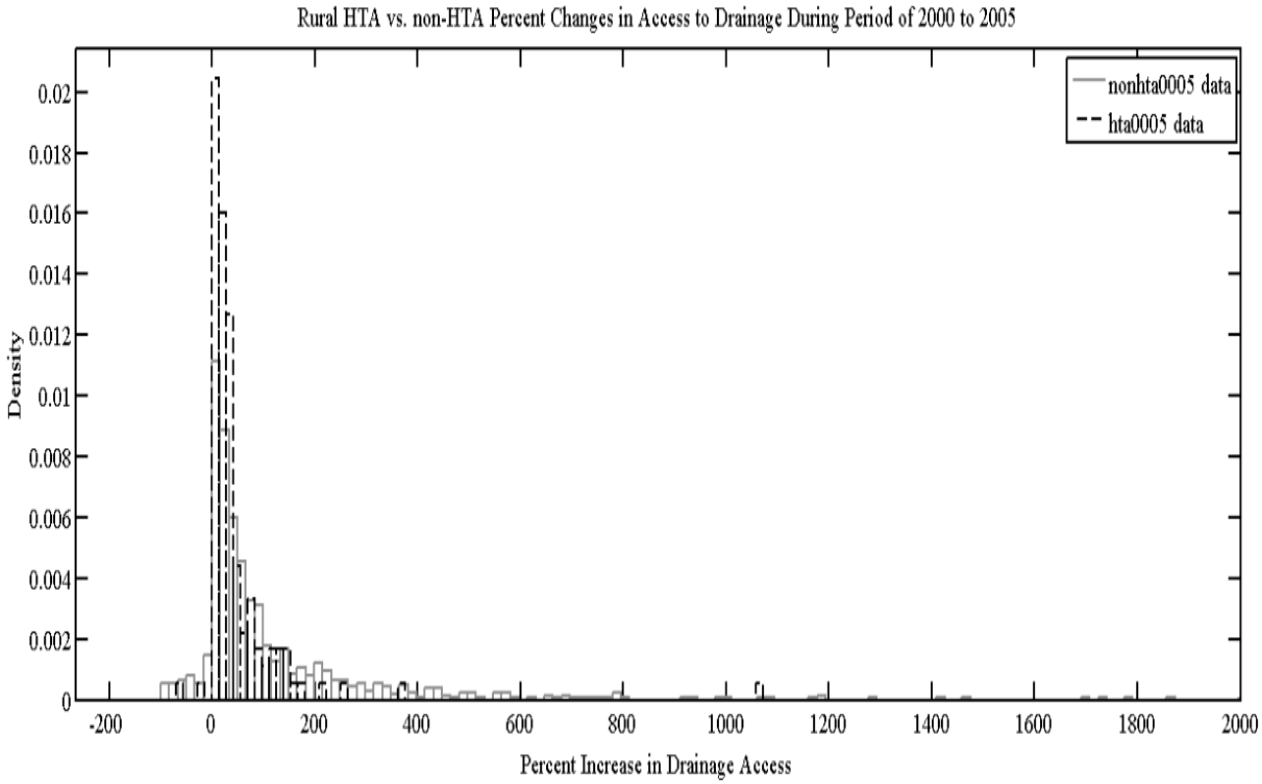
Figure 5: HTA vs. non-HTA Percent Change Access to Drainage, 2000-2005



Source: Author's Calculations

The differences in drainage coverage between HTA and non-HTA municipalities are a bit more perplexing. The figures show a higher density in each bin for percent increase in drainage in coproduction communities, although there are extreme increases in the right tail under the curve in non-HTA communities in the various time periods reported.

Figure 6: Rural HTA vs. non-HTA Percent Change Access to Drainage, 2000-2005



Source: Author's Calculations

What might be accounting for these extreme increases? Identifying municipalities as rural may shed some light on when we might witness 1,900% increases in drainage coverage. I construct a dummy variable that codes municipalities as "rural" if total population is less than 10,000 and 0, otherwise. Additionally, I code municipalities with HTA as rural and non-rural ("urban") to assess the variation across HTA and non-HTA municipalities that are both rural and non-rural. Dramatic changes in drainage increases appear more frequently in much smaller, rural localities. For example, in a municipality with 20 people this would mean that only 1 person had access to drainage in 2000, but by 2005 all 20 residents enjoyed drainage provision. The figures in the appendix chart rural municipalities against non-Rural municipalities over the period 1990 to 2005. We can see

that the rural municipalities have many more instances in which the percent increase in drainage coverage is extreme: in some cases rising beyond 8,000%. If these rural communities are systematically different than non-rural cases then it might unwise to compare them to HTA communities. In fact, comparing differences between rural HTA municipalities and non-HTA municipalities it becomes clearer that HTA communities with coproduction still have more cases in which the percent increase in drainage coverage is higher up to 200%, but non-HTA rural locals experience the most dramatic cases beyond 200%.

Evaluating the raw data we can see that the distributions are not normal and skewed to the right limiting the purchase of difference of means testing as the mean is not well-defined for the percent increase or levels for water and drainage provision in HTA and non-HTA municipalities. However, there is some evidence to suggest that coproduction places do outperform non-HTA communities, in both rural and non-rural locales in the coproduction period. Identifying the empirical relationship is an important first step. The next section analyzes *changes* in household access to public goods provision as the percent difference in household access over the five-year period.

[See Appendix for additional histogram bivariate data]

Across the entire sample during the observation period, 2,261 municipalities actively participated in the 3x1 Program over the five-year period. Public water and drainage services covered 79% and 59% of Mexican households, respectively, although the proportion of household coverage in coproduction municipalities was higher than other municipalities at 84% and 74%. Looking over the five-year period, migrant-state coproduction communities improved household access to water by a mere 1% of households, while improvements in public drainage coverage was 9%. The index of marginalization ranged from -2.32 to 3.63 (least marginalized to most marginalized) and the mean score was .008. The average marginalization index score for municipalities without migrant-state coproduction was slightly higher at 0.07 while the mean score for 3x1 municipalities was -0.33; for 3x1 municipalities this was an improvement of 0.11. Municipal governments that received 3x1 collective remittances spent on average $50 more on public works between 2000 and 2005 than other municipalities and total revenue per capita was about $252 higher (in real pesos per capita). Places with 3x1 expenditures are slightly more populated than municipal counterparts at 41,728 and 38,032, respectively.

The tables below report descriptive statistics and the estimates for each of the three models: Model 1 (water), Model 2 (drainage) and Model 3 (marginalization). The best way to capture coproduction affects on household access to water and sanitation is through first-differencing in which all of the variables were transformed as the five-year differences. As Liker, Augustyniak and Duncan (1985: 80) and Wooldridge (2001: 279-285) argues, the strength of first-differencing lies in the fact that it includes differencing out unmeasured and unchanging causes of the outcome measure that may be associated

with measured independent variables, eliminating measurement error biases under certain conditions and adequately representing dynamic processes under certain restrictive conditions. First-differencing the variables models how the changes in the explanatory variable (3x1 expenditures) affect changes in citizens' access to water and sanitation over the observation period.

Table 2: Descriptive Statistics of Collective Remittances and Public Goods

Variables	Obs.	Mean	Std. Dev.	Min	Max
Index of Marginalization	2,427	-0.0029	.1026881	-.4583161	.777894
Drainage	2,427	16.11	31.48293	-90.5	96.4
Water	2,427	17.95	18.71982	.0041821	97.07602
Public Works Per Cap	2,427	-3.81	541.8707	-4,250	3,020
Total Revenue Per Cap	2,427	427.44	1609.56	-13,594	14,578
Total Population	2,427	1381.82	7,615	-51,266	119,920
Collective Remittances Per Cap	2,427	16.41	176.97	-3,228	2,162
Competitive Elections	1,857	-		0	1
Party Turnover	1,857	-		0	1
Migration Intensity Index	2,427	0.0380	0.9862	-0.8787	6.3954

Source: Various sources including Sedesol, Inegi, Conapo, and IFE

The analysis reveals that migrant-state coproduction expenditures are significant and positively related to drainage coverage and significant and negatively related to marginalization levels. However, results do not indicate that changes in collective remittances are a significant predictor of changes in water coverage. Using CLARIFY, I assess the magnitude of the effect of per capita changes in collective remittances on household access to drainage. Setting all variables at their mean, collective remittances improve household coverage to public drainage services by 7.89%. This means that over the five-year observation period, collective remittances and corresponding financing from

local, state and federal levels of government in Mexico made it possible for almost 8% more of municipal households to have drainage services at their dwellings. Setting all explanatory variables at their mean and collective remittances at the minimum CLARIFY simulations produced a *decline* in household drainage coverage of 12%, whereas when collective remittances are at the their maximum, 17% more Mexican households obtain access to drainage between 2002 and 2005. To put this into perspective, if a 3x1 Program participating municipality with population 10,000 (or 2,000 households) had a 17% percent change in drainage coverage, 340 additional households would acquire public drainage services where they were not provided prior to 3x1 Program participation.

The model also reveals that the index of marginalization explains a great deal of the variation in drainage coverage across Mexican municipalities. As relative levels of marginalization increase, household access to drainage declines. Moreover, results also indicate that municipalities that had more competitive elections, measured as a dummy variable for a positive increased in the effective number of parties from one election to the next, is a significant and positive predictor of household access to drainage coverage. While previous studies have found a negative relationship between competitive elections and public goods provision, by contrast, I find that as more political parties become serious contenders in local electoral competitions, more households receive access to public drainage services.

Table 3: Migrant-State Coproduction and Public Goods Provision in Mexican Municipalities, 2002-2007

Municipal & Year FE	Model 1	Model 2	Model 3
	Marginalization	Water	Drainage
3x1 Total Expenditures	-0.000014	0.0030	0.006
	[0.00000]*	[0.0023]	**[0.0045]***
Competitive Elections	-0.000098	-0.0831	2.1074
	[0.00425]	[0.7594]	**[0.00503]**
Public Works Expenditures	0.0000006	0.00002	-0.00005
	[0.0000006]	[0.00098]	[0.0013]
Total Revenue	0.0000015	0.00046	0.000667
	[0.00000013]	[0.00027]*	**[0.00030]**
Total Population	0.00000068	-0.00005	-0.000225
	[0.0000001]***	[0.00003]*	**[0.00004]***
Poverty	---	-9.1005	-20.6717
		[4.6913]**	**[0.00416]***
Constant	0.00506	1.8572	7.7282
	[0.0044]***	[0.7648]***	[1.4862]***
R-Squared	0.19	0.22	0.17
Observations	1,688	1,688	1,688

Note: P-values in parentheses; *** p<0.01, **p<0.05, * p<0.1 and Robust Standard Errors reported in brackets rounded to four decimal places

Migrant-state coproduction financed through the 3x1 Program is important for many households in Mexico. Since it is the case that the majority of the municipal population resides in the *cabecera municipal* (county seat), citizens in the municipal center enjoy better provision of public goods and services, whereas many of the

coproduction projects occur in outlying communities (Bada 2008, Burgess 2009?). In Tlatelolco, for example, the last recorded public works project prior to the drainage and pavement project dates back to 1976 when clean drinking water and electricity were extended to their outlying community. Outlying communities receiving 3x1 projects mobilize the distribution of municipal resources to areas that may not have received municipal welfare spending or public works projects without migrant-state coproduction. For the 80 houses in Tlatelolco, access to public drainage and street pavement is a real improvement to their standard of living. In this section I find compelling evidence that 3x1 projects serve to improve municipal rates of coverage for drainage, albeit not water, as well as extending coverage to underrepresented communities.

I also find evidence that suggests collective remittances have a positive impact on the aggregate indicator for marginalization levels. One reason why migrant collective remittances may not have a systematic effect on water coverage is simply because most municipalities provide extensive public water coverage. Bivariate analysis revealed that a plurality of municipalities extended significant water coverage in much earlier time periods, especially over the 1990s. The basic takeaway point of the water models is that while public water services are still in demand, most localities already had access to water and as such, participation in the 3x1 Program does not have a systematic positive effect on changes in coverage rates from 2002-2005.

Implications for Policy and Avenues for Research

These findings offer a number of implications for the study of development, migrant-based transnational associations and practices, and global remittance flows. First,

the intermediary space between "public" and "private" is a fruitful arena for public service delivery. Even though migrant collective agents are no longer full-time residents of their hometown, the collective remittances they acquire in the host society made possible by the migratory process organizes collective action across the public provide divide improving access to some essential basic services. Coproduction between migrant actors and local government improves citizens' equity of access to public goods that they may not have had access to in the absence of municipal participation in the 3x1 Program.

Second, while the focus of this paper is on the welfare effects of migrant-state coproduction, it does not investigate how coproduction partnerships may be structured differently or how variation in the structural forms of these public-private partnerships may impact public goods provision across 3x1 Program participation municipalities. In other words, since not all coproduction partnerships are likely to be structured similarly how (and what kinds) of characteristics produce greater public goods provision or stymie citizens' access? Duquette (2011) finds the there are substantial political consequences for state-society relations between migrant HTAs, hometown community residents and local government based on the different kinds of inclusiveness and engagement of respective actors, however we know very little about the local level dynamics outside the Mexican case. How might other kinds of nonstate actors and coproduction – domestic and transnational – affect state-society relations? What are the implications for local accountability and local state authority (Tsai 2011)?

By the same token, while this paper provides some initial statistical support that coproduction partnerships financed through collective remittances and matching funds improve public provision of drainage and sanitation services, we no very little about the

extent to which migrant HTAs may be subsidizing or substituting for local government public works investment. In certain local contexts in may be the case that HTAs become they "apex" provider of social welfare or begin to challenge local state authority and legitimacy (R.C. Smith 1998). What local conditions are more likely to give rise to these challenges for local-migrant power and what are the repercussions for local governance and community development?

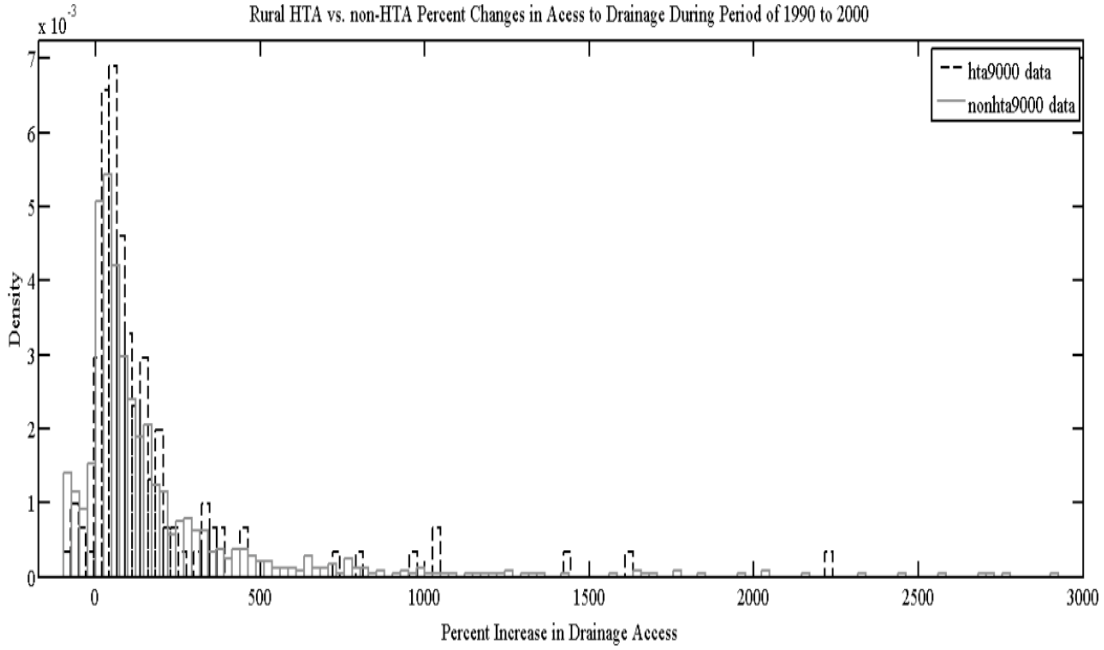
Third, several other countries have taken steps to mimic the Mexican federal, state and local outreach to the Mexican migrant community in the U.S. China has been quite successful attracting the Chinese immigrant investment in public works as well as local business investments. El Salvador and the Philippines have similar collective remittance matching funds programs that amplify the public works budgets of subnational levels of government. This begs the question: if countries with substantial emigration are essentially offloading or exporting social welfare investment onto their organized diasporas does this prevent future democratic and decentralization reforms that might give local governments the financial autonomy to raise local revenues to supply public goods independent of external social actors?

Finally, while this paper capitalizes on subnational variation across Mexican municipalities to assess the systematic impact of collective remittances on two disaggregate measures of public goods and poverty levels, it remains to be seen how well migrant HTAs collective remittances affect community development in other country contexts. Future research should take seriously the potential development effects of the migrant social actor and their collective remittances at the local level in diverse cases and not focus exclusively on family remittances, but additionally on the welfare effects of

collective remittances designed to improve community welfare in migrant sending localities.

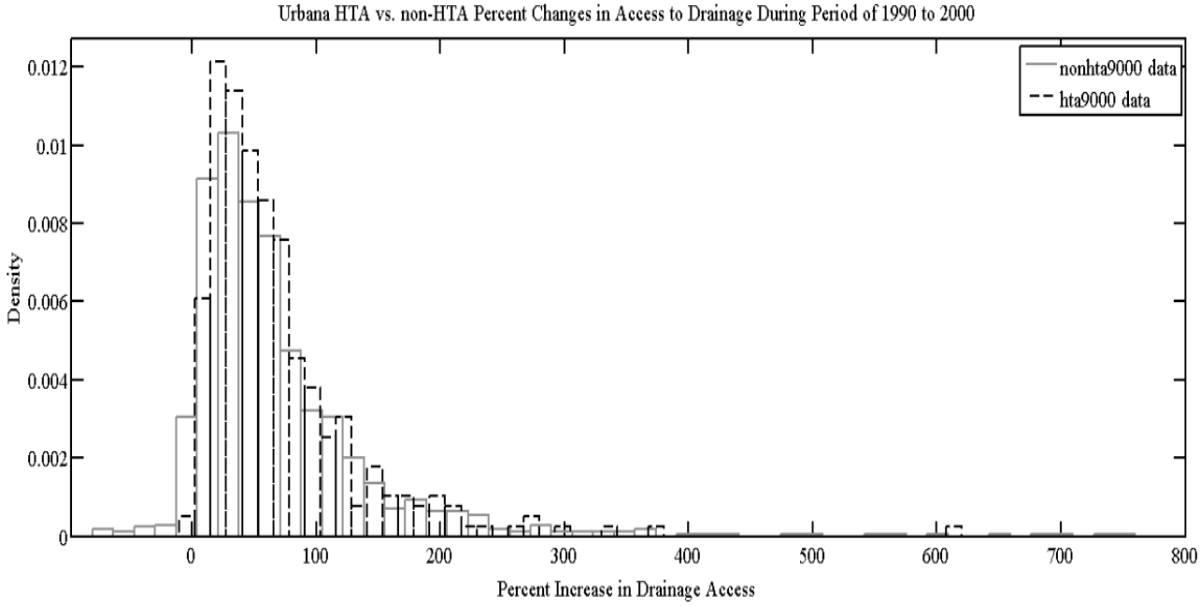
Appendix:

Figure 7: Rural HTA vs. non-HTA Percent Change Access to Drainage, 1990-2000



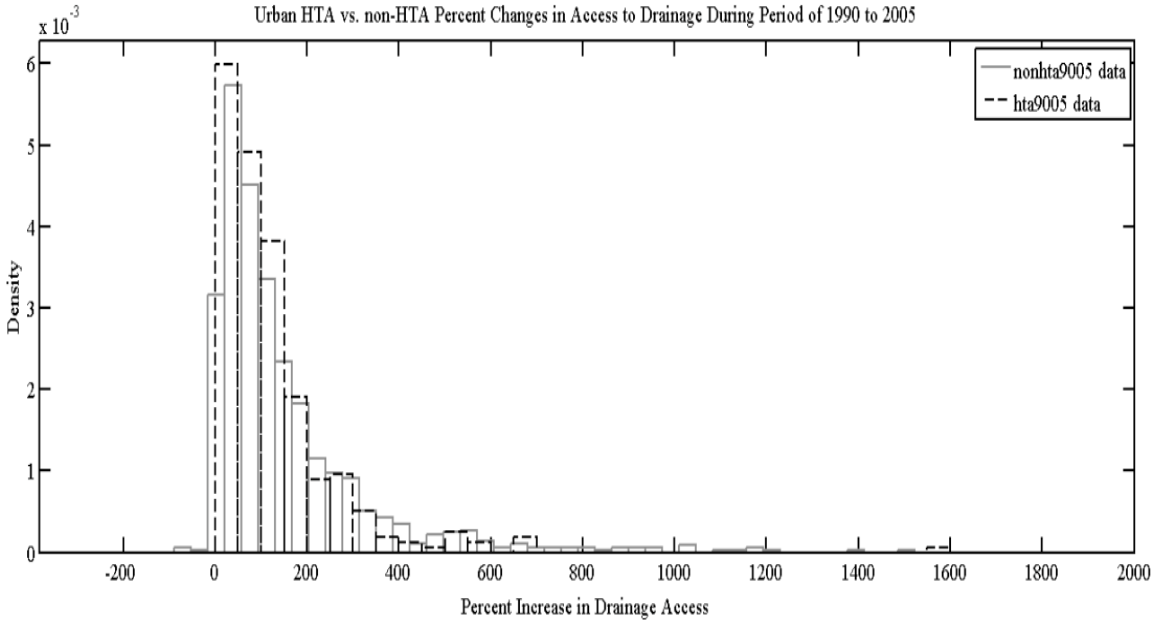
Source: Author's Calculations

Figure 8: Urban HTA vs. non-HTA Percent Change in Access to Drainage, 1990-2000



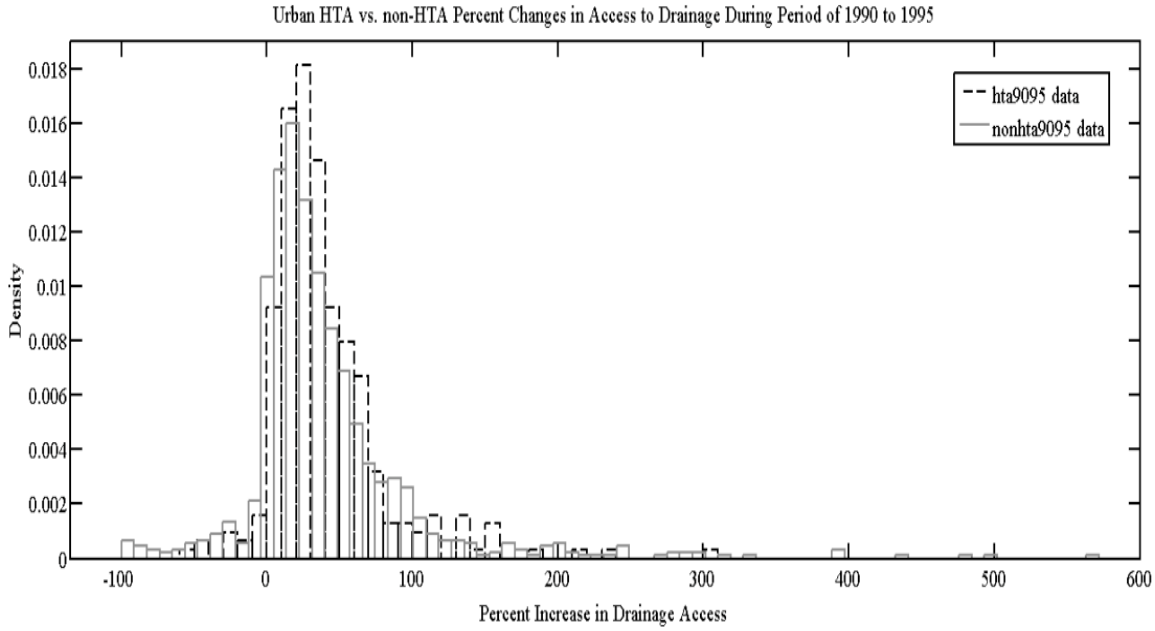
Source: Author's Calculations

Figure 9: Urban HTA vs. non-HTA Percent Change Access to Drainage, 1990-1995



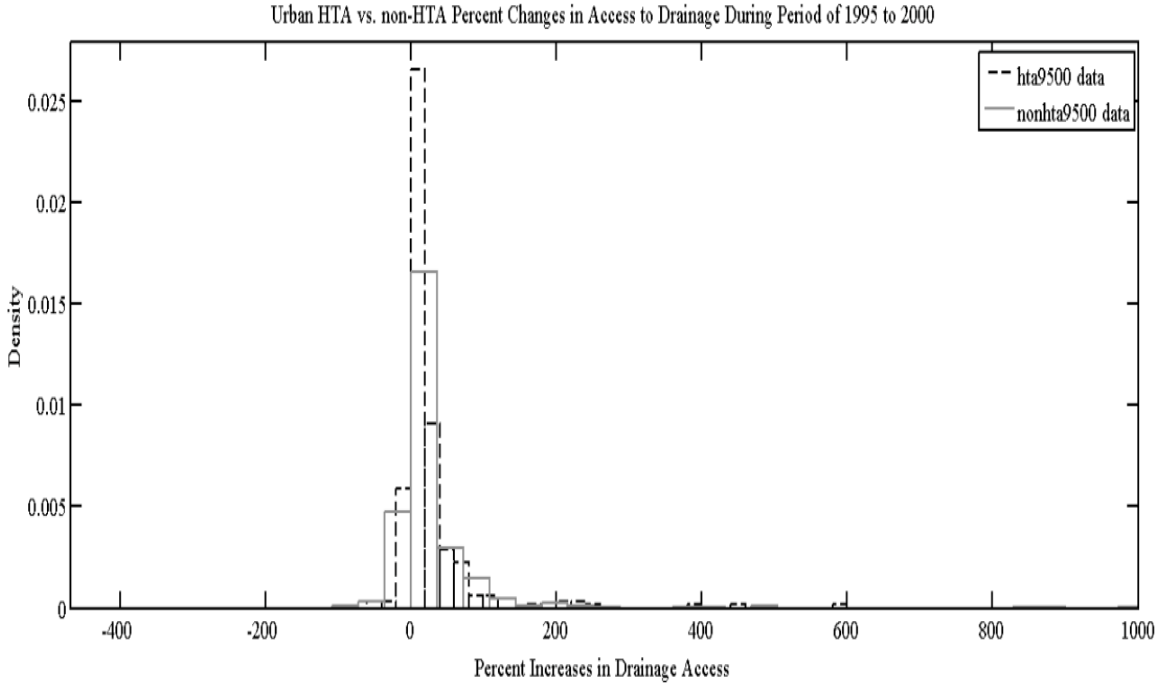
Source: Author's Calculations

Figure 10: Urban HTA vs. non-HTA Percent Change Access to Drainage, 1990-1995



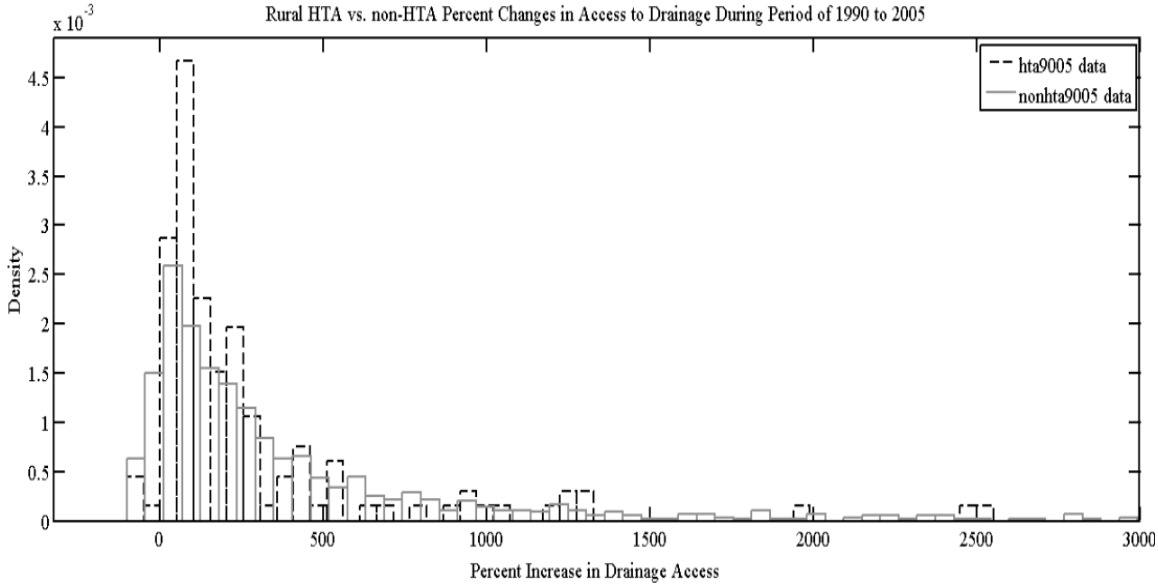
Source: Author's Calculation

Figure 11: Urban HTA vs. non-HTA Percent Change in Drainage, 1995-2000



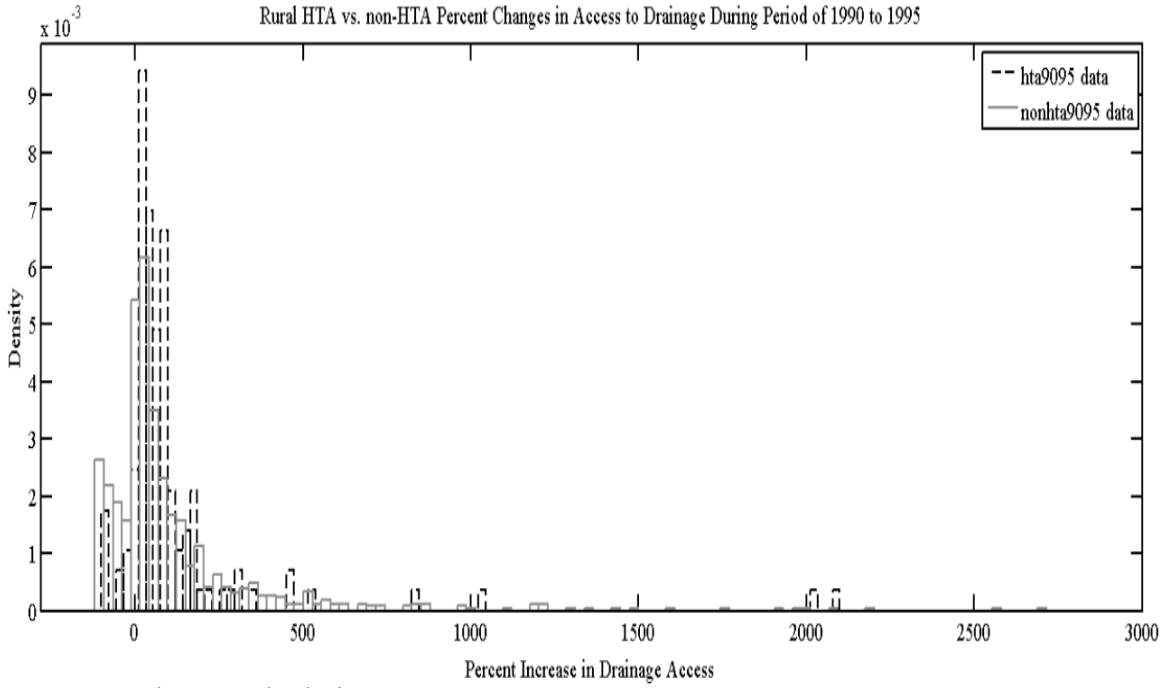
Source: Author's Calculations

Figure 12: Rural HTA vs. non-HTA Change in Access to Drainage, 1990-2005



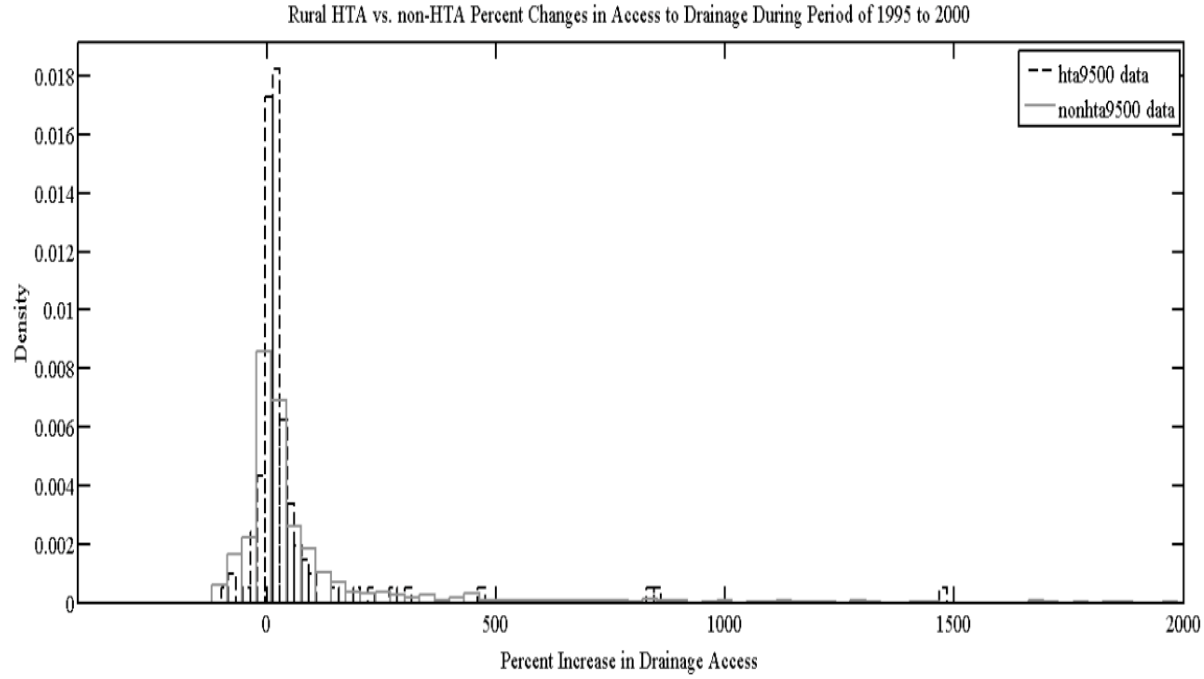
Source: Author's Calculations

Figure 13: Rural HTA vs. non-HTA Percent Change Access to Drainage, 1990-1995



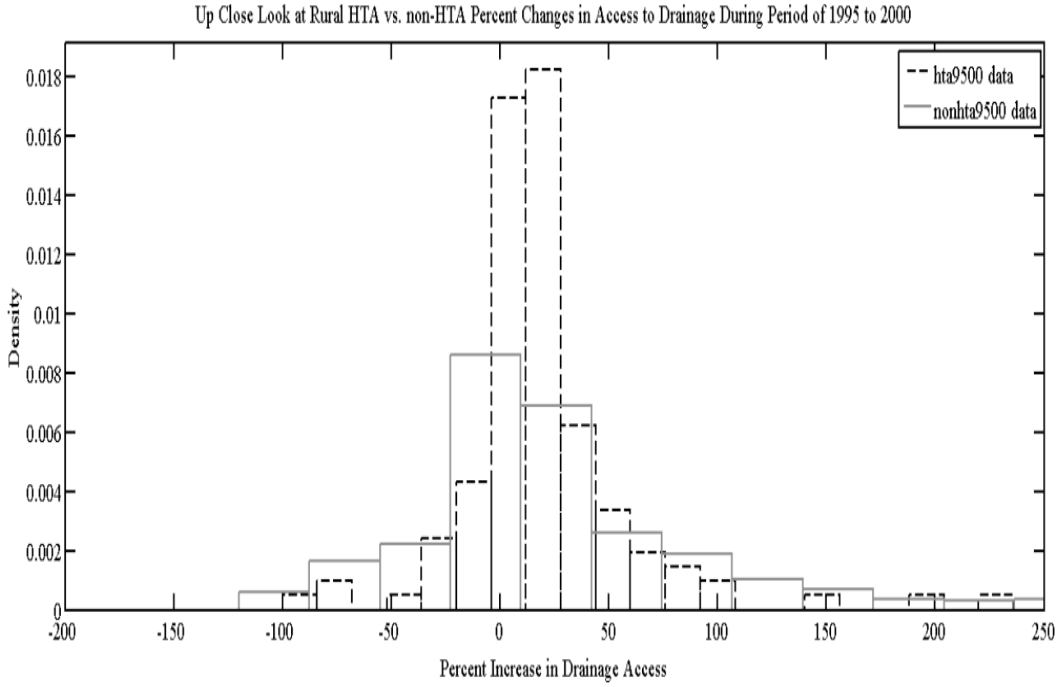
Source: Author's Calculations

Figure 5.14: Rural HTA vs. non-HTA Percent Change Access to Drainage, 1995-2000



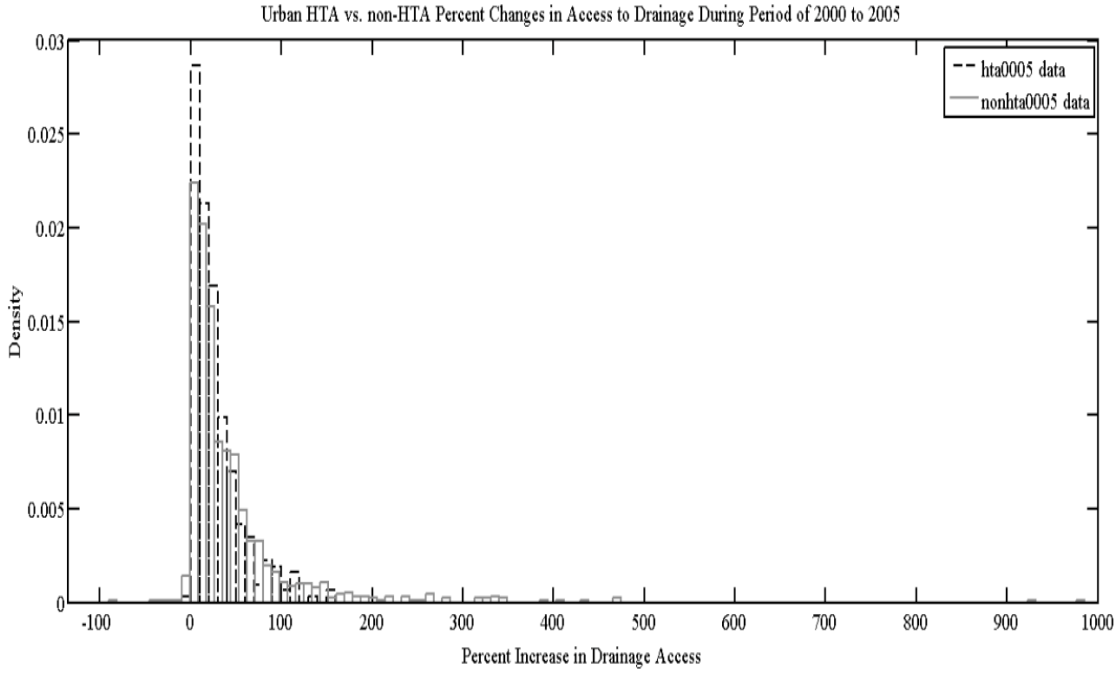
Source: Author's Calculations

Figure 5.15: Up Close Look at Rural HTA vs. non-HTA Percent Change Access to Drainage, 1995-2000



Source: Author's Calculations

Figure 5.16: Urban HTA vs. non-HTA Percent Change Access to Drainage, 2000-2005



Source: Author's Calculations