

PERSPECTIVES IN PUBLIC AFFAIRS

SCHOOL OF PUBLIC AFFAIRS

ARIZONA STATE UNIVERSITY

Volume 6

Spring 2009

INTRODUCTION

Table of Contents.....	i
Mission and Information.....	iii
Board of Editors.....	v
Faculty.....	vi
Message from the Director.....	ix
Letter from the Editors.....	x

ARTICLES

Big Questions in Fiscal Federalism: An Examination of Current Literature	1
Policy Diffusion and Municipal Wireless Initiatives.....	25
The Rise and Fall of the Participating Securities SBIC Program: Lessons in Public Venture Capital Management	51

Impediments to Citizen Participation in Government Affairs
in Post-Communist Countries69

BOOK REVIEW

Digital Government: Principles and Best Practices 89

INTERVIEW

Interview with Stephen A. Owens, former Director of the Arizona
Department of Environmental Quality 2003-2009 95

PERSPECTIVES IN PUBLIC AFFAIRS

THE ANNUAL STUDENT JOURNAL OF THE ARIZONA STATE
UNIVERSITY SCHOOL OF PUBLIC AFFAIRS

MISSION

The mission of *Perspectives in Public Affairs* is to provide a scholarly forum for student publications on matters of public affairs which advance urban governance in a global context.

INFORMATION

Perspectives in Public Affairs is the student run, peer-reviewed journal of the Arizona State University School of Public Affairs. Begun in 2003, *Perspectives in Public Affairs* engages students, faculty, and practitioners in ongoing discussion under the broad themes of leadership, governance, and public service, and within the specific content areas of public affairs, public policy, urban affairs and leadership.

Perspectives in Public Affairs is edited and produced yearly by students from the Arizona State University School of Public Affairs and welcomes original, unpublished works from public administration students, alumni and practitioners throughout the globe. Each spring, *Perspectives in Public Affairs* is distributed to over 250 schools of public affairs and administration internationally, and to numerous public and private organizations throughout Arizona.

Perspectives in Public Affairs welcomes original manuscripts under the broad themes of leadership, governance, and public service, and within the specific content areas of public affairs, public policy, urban affairs and leadership. Manuscripts must conform to APA standards. For submittal information, go to <http://www.asu.edu/mpa/aboutjournal.htm>.

Perspectives in Public Affairs is published by the Arizona State University School of Public Affairs, 411 North Central Avenue, Suite 450, Phoenix, AZ 85004-0687.

Compilation © 2009, Arizona State University School of Public Affairs.

ISSN 1948-1764 (Print)
ISSN 1948-1772 (Online)

The views expressed here are not necessarily those of the editors, the faculty, or the ASU School of Public Affairs.

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MESSAGE FROM THE DIRECTOR

Perspectives in Public Affairs is produced by students in the doctoral and master's programs in public administration and public policy at Arizona State University. Working with Faculty Advisor Larry Terry, these students, led by Editor-in-Chief, Timothy R. Dahlstrom and Managing Editor, Patsy Kraeger, have produced this year another important contribution to the scholarly literature in public administration and public policy. Articles included here were written by students at ASU and at other universities, following an international call for submissions and a rigorous review process insuring the highest quality standards for the journal.

The ASU School of Public Affairs has a special focus on "governance and public service," especially as these concerns are played out in urban areas around the world. Indeed, we often describe our work as "Advancing Urban Governance in a Global Context." This year's *Perspectives* reflects this commitment and gives the journal a special orientation consistent with the mission of the school. The journal also boasts a new and highly professional "look and feel," again one consistent with the school's aspirations.

Perspectives is a contribution our students can be very proud of. It represents the highest academic standards and has a broad and significant content. All those who worked on the journal deserve great credit. *Perspectives* will also be a source of pride for our faculty, many of whom have worked with these students in class and beyond, instilling in them the highest standards of excellence in their work. Finally, *Perspectives* will be a source of pride for our alumni, many of whom maintain strong connections to the ASU School of Public Affairs.

My congratulations to all involved in this effort. My best wishes to the many who will benefit from reading *Perspectives in Public Affairs*.

Robert B. Denhardt
Director, ASU School of Public Affairs

LETTER FROM THE EDITORS

Changes to Perspectives in Public Affairs:

The sixth issue of *Perspectives in Public Affairs* marks a new era for the journal. This year, we have defined a new mission for the journal and implemented a revised format. These two changes will strengthen and reshape *Perspectives* to position it as one of the leading student journals in the field.

The original mission in the early years of the journal was to provide a forum for student articles. Beginning this year, *Perspectives* has aligned itself with the mission of the Arizona State University School of Public Affairs; that of advancing urban governance in a global context. We believe it is important to focus not only on mission alignment with the school, but also to seek articles that focus on the school's four key areas: public administration, urban affairs, public policy, and leadership.

Additionally, we sought to build upon the original foundation and to strengthen our commitment to connect with the broader public affairs community. We sent our call for papers throughout the public affairs community via NASPAA, and our Director, Dr. Robert Denhardt also sent out a call for papers internationally to universities affiliated with the ASU School of Public Affairs. We sent the call to related graduate schools within the Arizona State University system as well. The submissions we received came from a variety of sources.

This year, the journal built upon a strong and standardized peer review process established for previous volumes, and added an Assistant Content Editor to ensure content quality. The commitment from the student Editorial Board consisting of 12 students has exceeded our expectations, and we are grateful for their work.

We are pleased to have a letter from the Director of the School of Public Affairs as a new addition to the journal. Other changes include a new

faculty advisor, Dr. Larry Terry, along with a new look and format. A significant accomplishment for the journal this year is that *Perspectives* has been accepted for listing in the ProQuest academic database.

These accomplishments could not have been achieved without a strong commitment from the Director of the ASU School of Public Affairs, our Faculty Advisor, and the Editorial Board. We believe this journal will provide a significant contribution to scholarship in the field.

It is with pleasure and a sense of pride that we invite the larger public affairs community to enjoy the new and improved *Perspectives in Public Affairs*. *Perspectives* will be distributed to over 250 NASPAA affiliated schools and to select international universities, as well as to key stakeholders in the public affairs community.

Sincerely,

Timothy R. Dahlstrom
Editor-in-Chief

Patsy Kraeger
Managing Editor

BIG QUESTIONS IN FISCAL FEDERALISM: AN EXAMINATION OF CURRENT LITERATURE

Jill Young
Arizona State University

The interdisciplinary nature of fiscal federalism literature requires constant desired outcomes and well delineated evaluation of the literature in order to efficiently study and improve our federal systems. This paper identifies and assesses the status of four current themes, or “big questions”, in fiscal federalism scholarship: 1) How can we better align fiscal federalism theory and practice?, 2) What should the role of the various levels of government be in response to exogenous shocks (such as natural disasters and terrorist attacks)?, 3) How should mitigation efforts be funded and managed both ex ante and ex post?, and 4) What are the effects of competition in decentralized systems? In examining these questions, “second-generation theory” is found to improve the relationship between theory and practice in its inclusion of political, institutional, and informational aspects into fiscal federalism frameworks, shifting from traditional static systems to dynamic systems. Further, this study identifies the need for normative dialogue to determine divisions of responsibility in practice to “solve” these challenging questions.

INTRODUCTION

The purpose of this paper is to examine the current status of fiscal federalism literature, focusing on contributions from the last decade. In doing so, I have identified several questions central to discussions of fiscal federalism – some old, some new – after first reviewing the basic tenets of the subject. The dialogue that ensues highlights the interdisciplinary nature of issues within fiscal federalism scholarship and the need for broader understanding of these concerns in order to effect future change and improvement in federal systems.

The first question addressed in this paper and an overarching theme is: How can we better align fiscal federalism theory and practice? Research must ultimately inform and explain practice, otherwise it falls short of its purpose; therefore, fiscal federalism models must include political, institutional, and informational aspects. I will highlight progress made to this end under the heading of Second Generation Theory of Fiscal Federalism.

Next, this paper examines the questions: What should the role of the various levels of government be in response to exogenous shocks (such as natural disasters and terrorist attacks) and how should efforts be funded and managed both *ex ante* and *ex post*? While the related questions are not new, they have come to the fore with recent tragedies, both human and nature caused, such as the 9/11 terrorist attacks and the aftermath of Hurricane Katrina. If dealt with properly in advance, these situations can be mitigated in the future. Thus discussions of which level of government should fund mitigation or post-disaster activities and how to best incentive pre-disaster planning must be scrutinized now.

Finally, this paper addresses the following vital questions of fiscal competition within federal systems: What are the effects of competition in decentralized systems? Does competition lead to greater efficiency or a “race to the bottom”? When programs and policies are devolved from federal to state and local government as with a number of environmental policies beginning in the 1980s and welfare reform in 1996 in the United States, competition ensues. We must examine the effects of these competitive forces on overall social welfare. Does interjurisdictional competition lead to a race-to-the-bottom, a race-to-the-top, or something in between?

This is, by no means, an exhaustive list of questions, however, it serves as a starting point to tie together the extensive and diverse research conducted in fiscal federalism and related fields.

FOUNDATIONS OF FISCAL FEDERALISM

Although federal systems have long existed, the literature on fiscal federalism has developed primarily in the last 50 years. Broadly defined, fiscal federalism refers to a system in which powers (including taxing and expenditure functions) are shared among different levels of government. Questions and theories of how to best structure responsibilities and

taxing and expenditure authority among the various levels of government were initially dealt with by Musgrave, Tiebout, Samuelson, and others. Musgrave (see, 1959) determined that the distribution and stabilization functions of a fiscal system should be carried out at the central level of government, whereas the allocation function could be carried out at various levels of government depending on the extent of those served (a service limited to citizens in one state could be carried out at the state level, however, if the benefits of a service were enjoyed by citizens across multiple states, it would best be handled centrally). Samuelson (1954) addressed the issue of an “optimal” public expenditure for collective consumption (public) goods assuming that market mechanisms could not determine preferences as with privately consumed goods. Tiebout (1956), however, challenged the previous Musgrave and Samuelson theory which claimed that there was no market type solution to determine the appropriate level of public expenditures (one of the biggest challenges in the public sector continues to be how to determine citizen tastes and preferences for public goods). Defining “local public goods” apart from those public goods provided at the central government level, Tiebout developed a model in which he proposed that individuals, being fully mobile, would move to the locality where the package of goods and taxes best fit their preferences thus creating a market like situation for local public goods.

Building upon the earlier theories of federal finance, Oates (1972) crafted the Decentralization Theorem. The theorem states that “in the absence of cost-savings from the centralized provision of a good and of interjurisdictional external effects, the level of welfare will always be at least as high (and typically higher) if Pareto-efficient levels of consumption of the good are provided in each jurisdiction than if *any* (original emphasis) single, uniform level of consumption is maintained across all jurisdictions” (p. 54). Simply put, decentralized provision is favored to centralized provision to achieve economic efficiencies.

These founding theories of fiscal federalism remain influential in fiscal federalism literature; however, scholars have increasingly observed that they foster a divide between theory and reality in public administration. The question of how to better align theory and reality is central to any subfield of public administration; fiscal federalism is not immune to this challenge. The assumptions present in the former models provide

useful theoretical frameworks, but do not include elements necessary to closely explain, far less predict real situations in federal systems.

A number of situations remain unaddressed due to the static nature of the original theories of fiscal federalism. For example, Oates' (1972) Decentralization Theorem is silent regarding the type of public good in question. Parameters change in response to whether a public good is a "pure public good" (non-rival and non-excludable), a "local public good" (where costs of congestion occur), or somewhere else on the continuum between purely private and purely public goods. Additionally, traditional theory assumes that centralized provision of goods would be uniform across all jurisdictions. This is not necessarily true in reality as demonstrated by the number of regional "pork barrel" projects passed by the United States legislature (Oates, 2005). A final example is that traditional theory assumes decisions are made by people who act benevolently, ignoring the political aspects of the decision making process (Qian & Weingast, 1997). Several scholars have addressed these and other gaps in fiscal federalism theory in recent years. The following section draws attention to these efforts and assesses their success.

SECOND-GENERATION THEORY OF FISCAL FEDERALISM

Recognizing that federal finance issues do not occur in a vacuum, it is necessary to incorporate political, institutional, and informational aspects into fiscal federalism frameworks to better align theory and reality. In the last decade, scholars have increasingly begun to consider these aspects in fiscal federalism theory. Employed by Qian and Weingast (1997) and others, the term "second-generation theory of fiscal federalism" describes the theoretical shift in focus from the traditional static systems to dynamic systems. As Oates (2005) and Weingast (2006) provide recent surveys of "second-generation theory of fiscal federalism" literature, I will highlight only a few points on second-generation theory here.

Second-generation theory literature infuses an institutional perspective into fiscal federalism ideas, whether it is organizational (Garzarelli, 2005), political (Besley & Coate, 2003; Lockwood, 2002), or the new theory of the firm (Qian & Weingast, 1997). In doing so, this focus generally moves beyond the sole objective of economic efficiency to include considerations such as accountability, political participation, and a broader view of incentives (see, for example, Inman & Rubinfeld, 1997).

The question at this juncture is how successful has second-generation theory been in closing the gap between fiscal federalism theory and reality. The answer that I think most scholars would agree upon is that progress has been made, but not enough. Krane, Ebdon, and Bartle (2004) offer empirical evidence to critically discuss the gap between theory and reality in devolution. Through their study of shifts in municipal government revenues, they find that existing theories neither offer explanation for their observations, nor do they offer advice to public officials to deal with devolution and the accompanying changes. In order to draw theory and reality closer together, Krane et al. suggest that, “institutional structures matter because they facilitate or hinder the behavior of actors operating within the institutional structure, and conversely, actors may alter institutional structures” (p. 528). Thus, they conclude that institutional structures must be included in the equation, especially because of the incentives they create. As Douglas North (1990) argues, we cannot examine the entire picture unless we consider institutions.

An alternate question might be if it is truly possible to close the gap between fiscal federalism theory and reality. Recognizing that institutional forces are at play, political, organizational, and otherwise, and that institutions vary from jurisdiction to jurisdiction, developing theory that mirrors reality poses a unique challenge. Under these circumstances, the search for “one best way” or a set of ideal circumstances seems undesired and removed from reality. A “tool box” approach, however, may offer a workable alternative. To this end, Weingast (2006) begins by studying first how and why a variety of existing systems function as they do. Within that context, he analyzes what changes to federal systems are possible by identifying common factors of success and failure. Thus his work advances theory in a manner congruent with reality. Continued research along these lines, tracking actual changes in federal systems, offers the promise of reducing the gap between fiscal federalism theory and reality. The pressing question of merging theory and reality leads the discussion of the “big questions” in fiscal federalism today as it plays a role in each of the following dialogues.

FEDERAL SYSTEM RESPONSES TO EXOGENOUS SHOCKS

While the issue of how to handle both natural and human caused (e.g. terrorist attacks) disasters is not new, it has come to the fore in recent

years. Tragedies such as the 9/11 terrorist attacks and Hurricane Katrina exposed flaws in the intergovernmental response to shocks to our federal system and caused the greatest financial losses to date. Failure to create workable ex ante and ex post policies to deal with such disasters continues to plague our federal system and should be addressed in both political and research agendas. The central questions here are: What should the role of the various levels of government be in response to exogenous shocks and how should efforts be funded and managed both ex ante and ex post? Further, discussions in this area should include secondary questions such as: What are the optimal mitigation strategies?, Which level of government should pay for mitigation activities?, What incentives can or should be employed to encourage the optimal levels of investment?, and What types and how much aid should be provided by the central government once a disaster has occurred?

Issues of Ex Ante Mitigation Investment and Ex Post Insurance

As demonstrated above, several issues, both positive and normative, arise within the bigger question of how efforts should be managed and funded in a federal system before and after disaster strikes. First, we must try to understand why we under prepare for disasters. Economic, political, and psychological reasons exist for underinvestment in disaster mitigation activities (Meyer, 2006). Congruent with the discussion of closing the gap between theory and reality, it is integral to consider the political and psychological aspects of fiscal decision making as well as those centered solely on economic efficiency. Additionally, this underscores the interdisciplinary nature of fiscal federalism issues and the need to expand our research agenda.

Political and psychological barriers to optimal ex ante policies appear to be self-perpetuating. One would anticipate that lessons learned from near misses and failed practices of disaster to improve mitigation efforts; however, history proves that not to be the case with the lack of emergency planning improvements from hurricane “close calls” prior to Katrina. Additionally, investment in mitigation efforts may even lead to future underinvestment. Without losses to encourage continued investment, it is difficult to “see” the benefits and garner support for mitigation expenditures (Meyer, 2006). The simple fact that risk is difficult to determine also promotes underinvestment policies. Meyer argues for poli-

cies to help people overcome the psychological barriers to accepting risk and adopting mitigation policies in addition to economic incentives.

Economic reasons for underinvestment stem from perverse incentives such as the expectation of bailouts (often in the form of transfers, grants or subsidies). Several scholars address the issue of bailouts and soft and hard budget constraints (see, for example, Goodspeed, 2002; Rodden, *Eskeland & Litvack*, 2003). When a lower level of government expects a higher level of government to bail them out of financial distress or debt, they may over commit resources, or in the case of disasters, under invest in mitigation to reduce future response costs resulting in soft budget constraints. While the United States is known to employ hard budget constraints in that the federal government does not bail out state or local governments from financial troubles (Inman, 2003), this new phenomenon of post disaster bailouts may be setting a different precedent. These soft budget constraints and resulting bailouts mean that the economic costs of these disasters are borne by the entire country, not just the local area in which they occur. Thus, the responsibility of these “local” disasters is being transferred to the central government. The political stakes are high in these situations; denying relief to disaster stricken citizens would likely interfere with reelection prospects.

The preceding discussions highlight the challenge of obtaining the optimal mix of ex ante mitigation and ex post insurance. The belief that some responsibility for disasters must be borne at the local or regional level, as mentioned above, is commonly held (see Eisinger, 2006). The question remains: How can we incentivize ex ante mitigation at the local level and how should it be funded? Wildasin (2006) addresses the funding issue first by considering an “isolated” state in which a government entity must manage its finances without any outside assistance or bailouts from higher levels of government. Single jurisdictions would typically consider instruments such as debt financing, “pay as you go” financing, or reserve financing (“rainy day funds”) to deal with a one-time shock. Distortions would occur with “pay as you go” financing through current taxation, leaving reserves and debt financing as the most efficient means to pay for a one-time shock. While interesting in theory, single jurisdictions are not left to fend for themselves when disaster strikes. Without federal mandates, the current precedent of bail-outs leaves few choices for incentivizing ex ante disaster mitigation. Options for federal planning mandates include mandatory “rainy day funds” and complete

control of areas prone to natural disasters. These options, however, lack political feasibility. Further work is required to develop solutions to these growing policy challenges.

Issues of Disaster Insurance

Central government bail outs of local governments after disaster strikes places the central government in the position of national insurer – with or without specific policies or programs to act as such (and offer dedicated repayment for expenditures). Several federal and state insurance programs, such as the National Flood Insurance Program and the California Earthquake Authority, exist in the United States to fill the gap left by private insurance due to excessively high risk. Kunreuther (2006) questions the practicality of the hazard specific insurance programs and calls for comprehensive national disaster insurance that would encompass all hazards and assess risk-based rates. Under his proposal, losses would be assumed first by policyholders, then private insurers, and lastly by government backed policies. Additional benefits could be realized through policies to link insurance with incentives to employ mitigation measures and incentives to abide by updated building codes. By simplifying the process, offering incentives for mitigation, and creating public-private partnerships, there are hopes of increasing the number of insurance policies and thus reducing the need for ex post government intervention.

While the Kunreuther model above deals mostly with incentivizing individual investment and policy compliance, Goodspeed and Haughwout (2007) discuss the complicated intergovernmental aspects of federal insurance and state investment. They discuss the tension that exists between federal and state governments in finding the optimal level of ex ante investment from the states and ex post financial assurance from the federal government using a model building upon that by Persson and Tabellini (1996). Without the proper incentives such as a credible commitment by the federal government to punish states for under investment, states are likely to under invest in disaster avoidance measures. The dilemma returns to the political challenges of decision making which must be considered in future research.

Networks as an Ex Ante and Ex Post Tool

The aforementioned policies all point toward the importance of networks in dealing with shocks to our federal system as well as other fiscal questions. The use of networks offers an alternative to the traditional hierarchical governmental structure that often does not meet the needs of the 21st century and beyond. Networks, defined by O'Toole (1997, p. 45) as "structures of interdependence involving multiple organizations or parts thereof, where one unit is not merely the formal subordinate of the others in some larger hierarchical arrangement," facilitate service coordination and enable interorganizational problem solving of those "wicked" and everyday problems that a single organization alone can no longer solve. Networks play a vital role in intergovernmental cooperation (*ubiquitous* in our federal system), emergency planning, preparedness and response, and public-private partnerships. In light of these realizations, we must question current practices and study new ways to deal with the unpredictable problems in our future. As previously mentioned, future research agendas must use an interdisciplinary approach. Incorporating network theory into the question of how to manage and fund disaster related efforts in a federal system promises to add valuable insights to this "big question."

FISCAL COMPETITION

As with the previous discussions, the question of how fiscal and regulatory competition plays out in a federal system requires a multidisciplinary approach. From that perspective, this section addresses the questions: What are the effects of competition in decentralized systems? Does competition lead to greater efficiency or a "race to the bottom"? At first blush, the question of whether fiscal competition leads to greater efficiency or a "race to the bottom" sounds reasonably straightforward. One would collect quantitative data before and after policy devolution or simply over some period of time to answer the question. In reality, however, the question involves numerous exogenous and endogenous variables such as policy changes, demographics, economic conditions, political environments, and so forth. In addition, this question spans discipline lines into areas of welfare reform, economic development, and environmental policy to name the most prevalent in the literature. The following discussion on fiscal competition highlights several pieces of the puzzle

and clarifies recent progress in this research as well as suggests goals for upcoming research agendas. This discussion is crucial during the current period of federal devolution and thus, increased state and local policy control.

What is Fiscal Competition?

Competition is a core aspect of federalism. We can look back to the Tiebout (1956) model for the origins of this concept and its application to local and state governments. In this model, local governments may compete for mobile factors that have the ability to “vote with their feet” (citizens, businesses, etc.) through their selection of goods, services, and revenue bases. This brings to mind stories of two neighboring cities offering large tax incentives to entice a new shopping development. While such battles over economic development do occur, competition also arises between jurisdictions regarding regulatory burdens, attracting desired population demographics, and service provision, for example.

The literature confirms empirically that interjurisdictional competition does exist, but falls short when considering the normative implications associated with such competition (see, for example, Oates, 2002; Wildasin, 2005). To this end, scholars have begun to broaden their research efforts to encompass more variables. Research efforts in the subfield of fiscal and regulatory competition have tried to incorporate the political realm into their analyses, similar to the movement of Second Generation Theory discussed earlier in this paper. Strategic interaction literature examines the political dimensions of how the decision variable for one jurisdiction depends on the choices of other jurisdictions. Brueckner’s (2003) overview of strategic interaction literature separates existing models into two categories: spillover models which deal with environmental standards, yardstick competition, and public expenditure spillovers, and resource-flow models which deal with tax competition and welfare competition. Brueckner concludes that while the empirical models he presents reveal the presence of strategic interaction through an estimated reaction-function slope of nonzero, they do not explain the nature of the underlying behavior observed. The questions of the source of the interaction and additional explanatory information are left for future research.

With the understanding that interjurisdictional competition does exist, the next step is to examine the effects of competitive behavior. In the private sector, we associate competition with efficiency; however, in the

public sector where non-appropriable goods are provided, competition may lead to the under provision of services. The devolution of welfare programs, for example, challenges Musgrave's (1959) theory that redistribution should be handled at the federal level to ensure a minimum level of provision across regions. Scholars refer to this phenomenon of under provision as a "race to the bottom" (RTB). While the phrase, RTB, sounds drastic, the theory behind it merely suggests a downward bias in provision or regulation (Brueckner, 2000). In order for jurisdictions to attract mobile resources (labor and capital), they must keep taxes (revenues) and expenditures in line with or less than neighboring jurisdictions. If a jurisdiction does not remain competitive, it may lose economic development opportunities. Such a loss would eventually lead to less revenue and the need to increase taxes, thus perpetuating the problem of an undesirable economic climate for future economic development.

The reverse argument extols the positive benefits of fiscal competition at the state and local level and alternately suggests a "race to the top" (RTT). Many of the potential benefits of fiscal competition mirror those of federalism more generally. Policies and programs may be tailored to local preferences and the unique circumstances that exist in each location regarding job opportunities, educational prospects, transportation needs, environmental factors, and so forth. The ability to adjust policies to a jurisdiction's particular needs may lead to greater efficiency and improved program success.

Another benefit of devolution and fiscal competition is the flexibility offered in policy decision making and program implementation. Jurisdictions may create their own programs; they may borrow successful programs from other states that face similar circumstances or learn from other states' failures and avoid their previously discovered pitfalls. Harold Demsetz identified the lack of experimentation in governments over three decades ago. He claimed the following:

[The] basic problem facing public and private policy [consists in] the design of institutional arrangements that provide incentives to encourage experimentation (including the development of new products, knowledge, and new ways of organizing activities) without overly insulating these experiments from the ultimate test of survival. (Demsetz in Garzarelli, 2006, p. 235).

Fiscal competition and devolution enable experimentation and allow states to act as policy laboratories. Grants have proven a useful tool in facilitating experimentation while accounting for spillover effects across

jurisdictions as conditions may vary by situation (Garzarelli, 2006). Accounting for externalities by utilizing grants coupled with minimum federal guidelines may serve as a hybrid solution to tip the scales toward a “race to the top” for devolution and competition instead of a “race to the bottom”. Through examination of policy changes in the Children’s Health Insurance Program between 1998 and 2001, Volden (2006) empirically establishes the policy laboratory function of states. He observes that successful programs and cost-saving initiatives are most likely to be diffused among states based on similarities other than geography.

Beyond the theoretical facts of potential advantages or disadvantages to fiscal competition, one must examine the existing empirical literature. To this end I will review two areas: welfare reform and environmental regulation. While the literature to date is, unfortunately, neither conclusive nor compelling, it highlights the quandary in which we find ourselves when trying to answer the question of the effects of fiscal competition.

Welfare Reform

A growing literature exists in the area of welfare reform and fiscal competition. The question of competition’s effects on welfare reform is now timelier than ever with the recent 10th anniversary of the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). Passed in 1996 under President Clinton, PRWORA transformed welfare policy by changing program activities, eligibility requirements, and the relationship between the federal, state, and local level in the provision of welfare programs through the creation of the state-initiated Temporary Assistance for Needy Families (TANF) program. The reforms altered the funding mechanism from the federal government to states, replacing the open-ended matching grants with block grants. These changes left states relatively free to create programs appropriate for their particular circumstances, tastes, and preferences. Since the passage of reform, a variety of state TANF programs and policies have been implemented with some more generous than others.

A key concern of states in selecting their welfare policies both before and after the new TANF program is the fear of becoming a “welfare magnet”. This fear leads the RTB argument and is perhaps the most widely debated disadvantage of welfare devolution. When faced with fis-

cal competition, states and local governments are assumed to provide suboptimal redistributive programs. The belief is that by providing the most attractive welfare benefits in a region, the poor and unemployed will move to enjoy the most generous benefits. Ultimately the costs of attractive welfare programs would rise because of additional enrollments due to “in-migration”, while at the same time the general revenue would decrease due to an “out-migration” of higher-income households and businesses who no longer wanted to pay for large welfare roles. In reality, however, studies provide mixed conclusions as to whether welfare migration exists in reality, and at best demonstrate a mildly positive outcome in favor of the welfare migration hypothesis (see Brueckner, 2000 for a summary of pre-reform studies). In fact, Berry, Fording, and Hanson (2003) and others (see, for example, Allard & Danziger, 2000) suggest that migration occurs largely for reasons other than more generous benefits. Using Aid to Families with Dependent Children (federal welfare assistance program prior to TANF) data from 1960 to 1990, Berry et al. (2003) determine that economic considerations other than welfare benefits (such as wages and availability of jobs in the private sector) are more likely to determine migration patterns of lower-income households. They assert that in reality low income people do not migrate in large numbers for more generous welfare benefits. For example, if a neighboring state decreased their welfare benefits by 10% while the state in question left benefits unchanged, Berry et al. estimate that their welfare liabilities would rise by only 0.05% the following year. Despite the existing empirical evidence suggesting that welfare migration is not the threat it appears to be, what may be more important in this debate is not necessarily whether welfare migration exists, but that the *perception* of welfare migration exists. The perception alone affects policymakers’ decisions regarding welfare programs and spending levels, likely leading to a downward bias and welfare provision lower than socially optimal levels (Dahlberg & Edmark, 2004). This reinforces the need to include politics and strategic interaction in the study of fiscal competition. Only when these institutional forces enter the analytical framework can we hope to create useful research that brings theory closer to reality.

In his study of competition and welfare benefits, Volden (2002) cautions us against assuming a RTB exists in welfare policies and argues that there is more to changes in welfare benefits than meets the eye. He contends that a number of internal factors must be controlled for before

assessing whether or not external forces affect state decision making. Once this is done, he asserts that while competitive federalism affects states' decisions regarding welfare (states take into account the policies of other states), the data do not support a race to the bottom. Declines in welfare benefits are not due to legislated cuts aimed at undercutting other states' benefits. Alternately, benefit reductions can be attributed to inflation and political games.

One of the most recent contributions to this debate, "Measuring State TANF Policy Variation and Change After Reform", seeks to describe the post-reform policy environment and analyze welfare policy stringency and any patterns of policy diffusion (De Jong, Graefe, Irving & Pierre, 2006). The analysis utilizes the Urban Institute's Welfare Rules Database information on TANF from 1996-2003. The research group concludes that while a variety of TANF policy variations exist (for example, in payment levels and eligibility rules); their findings do not support an unwavering RTB hypothesis. While this study provides a useful benchmark in the post-reform era, it falls short by ignoring the political element in the equation. The De Jong et al. (2006) study begins a conversation that requires additional contributions to determine the effects of a decade of welfare policy devolution.

Listing all of the individual studies that fall on either side of the RTB argument is beyond the scope of this article. Suffice to say that there is no overwhelming evidence to support a perpetual RTB hypothesis in welfare policy. Research is needed, as noted above, to expand on the outcomes after the 1996 PRWORA as well as more descriptive studies on policy innovation, the potential of policy diffusion, and the magnitude of distortions that occur if detected. Policy decisions involve compromise; perhaps minor disadvantages are a small price to pay for the benefits of competition in welfare provision.

Environmental Policy and Regulation

Environmental policy and regulation, like welfare policy, is seen as an area which is also prey to the RTB hypothesis. The devolution of environmental management from federal to state governments beginning in the 1980s provides a background to study policy changes and the ensuing competitive forces. As with welfare reform, in-migration and out-migration are an issue for governments concerning environmental policy,

but in a much different sense. States are cautious of implementing stringent policies which may lead to an out-migration of factories or businesses that provide jobs and economic benefits to more “business-friendly” states, followed by an out-migration of their employees. Such migration would lead to revenue loss in all sectors and fiscal sustainability issues. The preceding argument, however, ignores any efforts by states to provide a good quality of life through environmental standards for their residents.

A few unique factors exist surrounding the discussion of the relationship between competitive forces and environmental policy. First, we must acknowledge the special challenge presented by externalities. Pollution moves through air and water, plaguing not only local residents, but also spilling over to residents of neighboring states and sometimes beyond. These externalities make it easy to push costs off on other jurisdictions, leading to potential inefficiencies (Woods, 2006). Secondly, we must consider the mobility of industry. Polluters may choose to move to benefit from less stringent regulation. I do not wish to overstate this possibility, however, because it ignores other transactions costs involved in relocation such as coordination, contract enforcement, new facilities, training new employees, and so forth (Prakash & Potoski, 2006). As with welfare policy, I propose that the key to the RTB debate and the resulting strategic interaction among governments is the *perception* of industry fleeing to states that are lax on environmental regulation.

Empirical studies of competition’s effects on environmental policy, similar to welfare policy, yield mixed outcomes. Many recent theoretical models appear in the literature with varying outcomes of a RTB, RTT, or no change regarding the devolution of environmental policy. Fredriksson and Millimet (2002) assert that a strategic interaction takes place among governments, but they present no evidence supporting the RTB hypothesis. Kunce and Shogren (2006) refute an earlier RTT study and conclude that due to externalities, the devolution of environmental regulation is inefficient. Also siding with the RTB hypothesis, Woods (2001) offers empirical evidence of reduced environmental enforcement efforts based on neighboring states. Alternately, Potoski (2003) and Millimet (2007) offer empirical evidence of the efficiency enhancing qualities of competition through increasing regulation stringency and lower levels of pollution as a result of the strategic interaction among states which support the RTT hypothesis. Most recently, Garcia-Valiñas (Oates, 2002) determined that

in the presence of homogenous preferences decentralized environmental policy authority is most efficient, dispelling the RTB proposition.

Similar to the state of research regarding the effects of competitive forces on welfare policy, there is no consensus in the realm of environmental policy. Oates (2001) offers a solution to this dilemma through the division of responsibilities. He suggests assigning the responsibility of setting environmental standards and designing programs to decentralized governments. The more overarching duties of research in environmental science and pollution control technology and information dissemination as well as responsibility to set standards for national pollution issues, he recommends assigning to the federal government. It is this type of hybrid solution that promises the greatest overall gains in social welfare and should be at the fore of future discussions.

Government Size

A final aspect I wish to consider briefly regarding competition and governments is the effect competition may have on government size. The public choice perspective claims that competition leads to smaller government. In *The Power to Tax*, Brennan and Buchanan (1980) proffer the "Leviathan" hypothesis relating to government size, which explains that public entities will continuously seek to maximize budgets (e.g., enhancing power and influence, large staffs, higher salaries). This behavior by public officials and bureaucrats is possible because of the monopolistic hold governments have on public good provision. Decentralization and competition, from this view, allow local governments to break the cycle of growth and monopolistic behavior that plagues centralized governments and effectively reduce government size. Brennan and Buchanan's resulting decentralization hypothesis posits that "total government intrusion into the economy should be smaller, *ceteris paribus*, the greater the extent to which taxes and expenditures are decentralized" (p. 185). The results of competition would thus be increased state and local expenditure, decreased federal expenditures, with an overall decrease in government expenditures. A second Brennan and Buchanan collusion hypothesis further clarifies this relationship. The hypothesis states that revenue sharing (through economic instruments such as intergovernmental grants) circumvents the natural competitive forces of federalism and leads to increased government size.

A number of empirical studies exist to test whether decentralized governments follow the Brennan and Buchanan hypotheses, most notably beginning with Oates (1985). His study examines the relationship between government size and the extent of fiscal decentralization in 57 countries. The results fail to find strong evidence to support Brennan and Buchanan's decentralization hypothesis. Oates concludes that perhaps Leviathan is a "mythical beast". Scholars have continued to scrutinize the question of whether or not competition succeeds in constraining the budget maximizing behavior of public officials using different approaches. As with the literature on the effects of competitive forces among jurisdictions in the areas of welfare and environmental policy, however, the literature regarding competition and government size is vast and complicated (see, for example, Oates, 2002; Shadbegian, 1999).

More recent literature seeks to clarify the issue and to provide evidence of the two Brennan and Buchanan hypotheses. Rodden (2003) determines that in countries with comprehensive own-source revenue authority, decentralization results in smaller government. However, when local expenditures are funded through intergovernmental transfers (grants), a tendency toward faster government growth exists. The struggle to find conclusive empirical evidence lies in the ability to define and measure "fiscal decentralization" and the availability of appropriate data. Fiva (2006) advances the research in this area with a focus on improving measurement and data. He determines, similar to Rodden, that decentralized tax revenue is associated with smaller government and conversely, that expenditure decentralization is associated with larger government. These two studies highlight the important nuance between own-source revenue and intergovernmental transfers which is related to the "tax assignment" problem, another facet of fiscal federalism study. Again, the normative dimension of this discussion raises red flags. Intergovernmental transfers are often based on interjurisdictional spillovers and serve an equalizing or equity function. From a public choice perspective, smaller (and presumably more efficient) government is optimal; however, other perspectives challenge those assumptions. In light of the success of recent research in refining parameters of the question of competition's influence on government size future research must expand on this and delve into the normative aspects of the issue.

Concluding Thoughts on Fiscal Competition

Although, it may appear that this discussion on fiscal competition has muddied the waters more than it has solved any big questions, it serves a valuable function in bringing together the vast literature in this area. I have highlighted the central issues and identified where current research is lacking and thus in which direction future research should proceed to help us answer the question of what the effects of interjurisdictional competition are and what the role of decentralized governments should be in many policy areas traditionally deemed best handled at the federal level. It is generally agreed upon that fiscal competition constrains the ability of government to redistribute income and may distort environmental policy. It is unclear, however, to what extent this occurs and if it is truly a disadvantage. Scholars have long identified the need for research to examine the magnitude of distortion that may be caused by economic competition among jurisdictions. The level of distortion weighed against the benefits of competitive forces (e.g., ability to adjust to local tastes and preferences, budget-minimizing tendencies) must be at the top of the research agenda.

The focus of this section largely relates to the United States experience. It is important to note that the European Union experience with devolution and competition differs from that of the United States. The lack of central capacity in the European Union compared to that of the federal United States government exacerbated by future expansion plans leave governments with additional constraints on local policy setting (Oates, 2002; Wildasin, 2005). One solution scholars have suggested in welfare policy places the responsibility for welfare liabilities on the country of citizenship no matter where the individual resides to counteract the RTB on an international basis (Sinn, 2004; Wilson, 2006). While attractive theoretically, the aforementioned proposal contains many flaws in obtaining multi-national agreement and enforcement. Even within the United States, efforts to limit welfare migration with a wait period for new state residents have been deemed unconstitutional. These complications confirm the earlier point that devolution with safeguards of central minimum standards offers perhaps an appropriate hybrid solution to fiscal competition benefiting from the advantages of both centralization and decentralization.

As a final point, the normative aspects of fiscal competition remain especially troubling. Assuming that policymakers create programs based

on the preferences of their constituents and in the best interest of society, perhaps lower levels of welfare spending are the optimal and previous spending levels were too high. The historic overspending could be due to a disconnect between citizens and federal program decisions. The divide between citizen preferences and federal policy is evident through local implementation of more stringent environmental standards in some cases based on citizen input. Competition through devolution can provide greater accountability and an environment in which taxpayers can offer more input when decisions are made “closer to home”. Benefits of increased transparency and citizen participation improve governance and extend well beyond the economic benefits of fiscal competition.

CONCLUSION

Fiscal federalism literature spans across many fields making it particularly challenging to draw together. In this paper, I have attempted to summarize some of the most pressing “big questions” within the fiscal federalism literature. What stands out in the preceding discussions is the need to include political and institutional factors into fiscal federalism theory to bring it closer to reality. Accounting for all of the circumstances that occur in the policy-making process holds the promise of allowing research to predict and explain practice. The ability to apply scholarly findings will help inform and hopefully improve horizontal and vertical governmental relationships as well as the division of responsibilities in federal systems.

In addition, this paper addresses two more instrumental questions regarding how federal governments can best deal with and plan for exogenous shocks, and how interjurisdictional competition affects social welfare. With so many competing theories in both areas, I hesitate to claim any definitive conclusions; however, we can see that several themes emerge. First, we must engage in normative dialogue. Scholars have produced numerous models and empirical studies, but without the tough discussions covering questions such as what we mean by optimal social welfare, do we feel that downward bias (if it does exist) in revenues and expenditures due to competition is good or bad, and who should be responsible for individual choices to take on risk we cannot move forward towards conclusions. Another significant theme is the need for shared responsibility, both vertically and horizontally, to work towards solutions

to these difficult questions. “Hybrid” arrangements, such as Oates’ (2001) suggestion in regards to environmental policy where responsibilities are parceled out by function, not as a zero-sum game, to optimize the benefits of decentralization at all government levels. Networks should be utilized to maximize resources with governmental and non-governmental organizations alike. Scholars must also work to refine the questions and data available. This is not a new phenomenon, but worth mentioning as there will always be new “big questions” for which we will need to uncover new “big answers”.

REFERENCES

- Allard, S. W., & Danziger, S. (2000). Welfare magnets: Myth or reality? *The Journal of Politics*, 62(2), 350.
- Berry, W. D., Fording, R. C., & Hanson, R. L. (2003). Reassessing the “race to the bottom” in state welfare policy. *The Journal of Politics*, 65(2), 327-349.
- Besley, T., & Coate, S. (2003). Centralized versus decentralized provision of local public goods: A political economy approach. *Journal of Public Economics*, 87(12), 2611.
- Brennan, G., & Buchanan, J. (1980). *The power to tax: Analytical foundations of a fiscal constitution*. Cambridge, MA: Cambridge University Press.
- Brueckner, J. K. (2000). Welfare reform and the race to the bottom: Theory and evidence. *Southern Economic Journal*, 66(3), 505.
- Brueckner, J. K. (2003). Strategic interaction among governments: An overview of empirical studies. *International Regional Science Review*, 26(2), 175-188.
- Dahlberg, M., & Edmark, K. (2004). Is there a “race-to-the-bottom” in the setting of welfare benefit levels? Evidence from a policy intervention (Vol. 2004:19). Working Paper Series, Department of Economics, Uppsala University, Sweden.
- De Jong, G. F., Graefe, D. R., Irving, S. K., & Pierre, T. S. (2006). Measuring state TANF policy variations and change after reform. *Social Science Quarterly*, 87(4), 755-781.

- Eisinger, P. (2006). Imperfect federalism: The intergovernmental partnership for homeland security. *Public Administration Review*, 66(4), 537-545.
- Fiva, J. H. (2006). *New evidence on the impact of fiscal decentralization on the size and composition of government spending*. Paper presented at the European Public Choice Society, Turku, Finland.
- Fredriksson, P. G. & Millimet, D. L. (2002). Strategic interaction and the determination of environmental policy across U.S. states. *Journal of Urban Economics*, 51, 101-122.
- Garcia-Valiñas, M. (2007). What level of decentralization is better in an environmental context? An application to water policies. *Environmental and Resource Economics*.
- Garzarelli, G. (2005). Old and new theories of fiscal federalism, organizational design problems, and tiebout: Public Economics 0509009: EconWPA.
- Garzarelli, G. (2006). Cognition, incentives, and public governance: Laboratory federalism from the organizational viewpoint. *Public Finance Review*, 34(3), 235.
- Goodspeed, T. J. (2002). Bailouts in a federation. *International Tax and Public Finance*, 9(4), 409.
- Goodspeed, T. J., & Haughwout, A. (2007). On the optimal design of disaster insurance in a federation: CESifo Working Paper No. 1888.
- Inman, R. P. (2003). Transfers and bailouts: Enforcing local fiscal discipline with lessons from u.S. Federalism. In J. Rodden, G. S. Eskeland & J. I. Litvack (Eds.), *Fiscal decentralization and the challenge of hard budget constraints* (pp. 35-83). Cambridge, MA: MIT Press.
- Inman, R. P., & Rubinfeld, D. L. (1997). Rethinking federalism. *The Journal of Economic Perspectives*, 11(4), 43.
- Krane, D., Ebdon, C., & Bartle, J. (2004). Devolution, fiscal federalism, and changing patterns of municipal revenues: The mismatch between theory and reality. *Journal of Public Administration Research and Theory*, 14(4), 513.

- Kunce, M., & Shogren, J. F. (2005). On interjurisdictional competition and environmental federalism. *Journal of Environmental Economics and Management*, 50(1), 212.
- Kunreuther, H. (2006). Has the time come for comprehensive natural disaster insurance? In R. J. Daniels, D. F. Kettl & H. Kunreuther (Eds.), *On risk and disaster: Lessons from hurricane katrina* (pp. 175-201). Philadelphia, PA: University of Pennsylvania Press.
- Lockwood, B. (2002). Distributive politics and the costs of centralization. *The Review of Economic Studies*, 69(2), 313.
- Meyer, R. J. (2006). Why we under-prepare for hazards. In R. J. Daniels, D. F. Kettl & H. Kunreuther (Eds.), *On risk and disaster: Lessons from Hurricane Katrina* (pp. 153-173). Philadelphia, PA: University of Pennsylvania Press.
- Millimet, D. L. (2003). Assessing the empirical impact of environmental federalism. *Journal of Regional Science*, 43(4), 711-733.
- Musgrave, R. A. (1959). *The theory of public finance: A study in public economy*. New York: McGraw-Hill.
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, England; New York: Cambridge University Press.
- O'Toole, L. J., Jr. (1997). The implications for democracy in a networked bureaucratic world. *Journal of Public Administration Research and Theory: J-PART*, 7(3), 443.
- Oates, W. E. (1972). *Fiscal federalism*. New York: Harcourt Brace Jovanovich.
- Oates, W. E. (1985). Searching for leviathan: An empirical study. *American Economic Review*, 75(4), 748.
- Oates, W. E. (2001). A reconsideration of environmental federalism: Discussion Paper, 01-54; Resources for the Future.
- Oates, W. E. (2002). Fiscal and regulatory competition: Theory and evidence. *Perspektiven der Wirtschaftspolitik*, 3(4), 377-390.
- Oates, W. E. (2005). Toward a second-generation theory of fiscal federalism. *International Tax and Public Finance*, 12(4), 349.
- Persson, T., & Tabellini, G. (1996). Federal fiscal constitutions: Risk sharing and redistribution. *The Journal of Political Economy*, 104(5), 979.

- Potoski, M. (2001). Clean air federalism: Do states race to the bottom? *Public Administration Review*, 61(3), 335-343.
- Prakash, A., & Potoski, M. (2006). Racing to the bottom? Trade, environmental governance, and iso 14001. *American Journal of Political Science*, 50(2), 350-364.
- Qian, Y., & Weingast, B. R. (1997). Federalism as a commitment to perserving market incentives. *The Journal of Economic Perspectives*, 11(4), 83.
- Rodden, J. (2003). Reviving leviathan: Fiscal federalism and the growth of government. *International Organization*, 57(4), 695.
- Rodden, J., Eskeland, G. S., & Litvack, J. I. (2003). *Fiscal decentralization and the challenge of hard budget constraints*. Cambridge, Mass.: MIT Press.
- Samuelson, P. A. (1954). The pure theory of public expenditure. *The Review of Economics and Statistics*, 36(4), 387.
- Shadbegian, R. J. (1999). Fiscal federalism, collusion, and government size: Evidence from the states. *Public Finance Review*, 27(3), 262.
- Sinn, H.-W. (2004). The new systems competition. *Perspektiven der Wirtschaftspolitik*, 5(1), 23-38.
- Tiebout, C. M. (1956). A pure theory of local expenditures. *The Journal of Political Economy*, 64(5), 416.
- Volden, C. (2002). The politics of competitive federalism: A race to the bottom in welfare benefits? *American Journal of Political Science*, 46(2), 352.
- Volden, C. (2006). States as policy laboratories: Emulating success in the children's health insurance program. *American Journal of Political Science*, 50(2), 294-312.
- Weingast, B. R. (2006). Second generation fiscal federalism: Implications for decentralized democratic governance and economic development.
- Wildasin, D. E. (2005). Fiscal competition: IFIR Working Paper No. 2005-05.
- Wildasin, D. E. (2006). Disasters: Issues for state and federal government finance: IFIR Working Paper No. 2006-07.

- Wilson, J. D. (2006). Protecting the welfare state from international migration, *New Directions in Fiscal Federalism*. Lexington, Kentucky: IFIR and CESifo.
- Woods, N. D. (2006). Interstate competition and environmental regulation: A test of the race-to-the-bottom thesis*. *Social Science Quarterly*, 87(1), 174-189.

POLICY DIFFUSION AND MUNICIPAL WIRELESS INITIATIVES

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The diffusion of municipal wireless initiatives in the United States has led to questions about why municipalities undertake these costly and sometimes politically risky policies. This study is a first attempt at understanding why wireless initiatives diffuse between municipalities. An examination of cities in the Northeastern U.S. suggests that population size and competition are the only significant factors in the decision to adopt these initiatives, though reduced regression models suggest the influence of other factors.

INTRODUCTION

The proliferation of wireless computing technology over the past 10 years has had a significant impact on the public sector. Governments have recognized the transformative power of “computing on the go” and, as a result, have begun a number of initiatives designed to utilize this technology for the public good. One of the more popular policy approaches has been the concept of municipal wireless initiatives. Policies designed to encourage or fund the spread of a wireless computing network across a municipality, county, or region have quickly become commonplace. Along with this mass movement have come questions about the rationale for such policies, the expected public benefits and costs, and the proper role of government in the telecommunications market.

Municipalities, seeing the potential gains in public safety, prosperity and quality of life, have begun to see broadband technology as a public utility. The diffusion of public policies in support of wireless broadband networks has, on the surface, been unpredictable. A diverse set of municipalities have undertaken these policies, including first tier cities (e.g. Philadelphia, San Francisco) and smaller, more rural areas (e.g. Island

Pond, VT). The existing literature on policy diffusion gives some hints as to the factors which compel a municipality to adopt an innovation, including forces of competition, emulation, and imitation (Karch, 2007). However, the diversity of municipal wireless initiatives and the absence of defined policy results complicate our understanding of how and why these policies spread. These factors suggest that municipal wireless initiatives are a logical candidate for diffusion research.

This study extends the body of policy diffusion research by empirically examining the diffusion of municipal wireless initiatives using Event History Analysis (EHA). This paper also contributes to the research on municipal wireless initiatives, given that most of the existing research is case-study driven (Stone & Madigan, 2006). The analysis includes variables related to both internal determinants (demographic, political, and economic characteristics of the sample municipalities) and national and regional effects (competition). This study is intended to be an initial attempt at understanding the policy phenomena known as municipal wireless.

BACKGROUND: POLICY DIFFUSION

The study of policy diffusion represents an attempt to examine the factors that compel a particular government (federal, state, or local) to adopt new policies. These policy *innovations* are often emulated from other governments, either in identical form or with modification. The compelling factors studied in policy diffusion research are most often internal (social, economic, and political) or external (e.g. regional influence). The spread of innovative policies is therefore the focus of diffusion research: by examining the compelling factors researchers hope to gain insight into how and why such innovations diffuse.

Central to the study of diffusion is the idea of a policy *innovation*. Policy innovations are seen as programs or policies that are “new” to the particular jurisdiction which adopts them (Mohr, 1969; Walker, 1969). This definition is consistent throughout the modern literature. The *adoption* of a policy innovation is normally defined as enactment of a legislative statute. The primary research questions in the study of policy diffusion are twofold. First, what factors enable or influence some states to adopt a new innovation when others have not – in other words, what en-

ables a state to be a policy “pioneer”? Second, what factors impact the probability that a jurisdiction will adopt a policy innovation?

Policy diffusion studies have been applied to a diverse mix of policy areas. Morality policies are common subjects of diffusion studies (e.g. Berry & Berry, 1990). Other policy areas that have been the subject of diffusion research include state welfare policies (e.g. Allard, 2004), public management (e.g. Ingraham, 1993), gun control policy (e.g. Godwin & Schroedel, 2000), and school choice (e.g. Mintrom, 1997).

One of the primary research questions involved in the study of policy diffusion involves the factors driving diffusion. What factors compel a given jurisdiction to adopt a policy innovation? A variety of candidate factors have been proposed, some with more endurance than others. The existing body of research has focused on two main determinants of diffusion: factors internal to the jurisdictions adopting the innovation (*internal determinants*) and external factors from neighboring or spatially proximate jurisdictions (*regional diffusion*).

The internal determinants thought to determine the diffusion of a particular policy innovation are the political, economic, and social characteristics of the jurisdiction (Berry & Berry, 1990). Examples of those characteristics thought to influence the probability of adoption include per capita income and other measures of urban and rural populations. The availability of resources and the relative “size” of a jurisdiction are considered especially important determinants of adoption (Berry, 1994; Walker, 1969).

Regional diffusion is said to occur for a variety of reasons. One of the primary factors is the boundedly-rational nature of decision-makers. Overwhelmed with potential solutions to a given problem, decision-makers look to the experiences of nearby states in order to simplify the policy process. Regionally proximate states often share economic, political, and demographic characteristics with the state considering an innovation as well as having an overlap in major media markets (Berry & Berry 1999; Boehmke & Witmer 2004). Therefore, by considering the experiences of nearby states, decision-makers can learn from the policy experiences of similar actors and, through emulation, lower the policy and political risks of adoption (Mooney, 2001).

Regional diffusion has also been suggested to be the result of economic competition. States in close spatial proximity often compete economically due to constraints on firm and individual mobility (Berry &

Berry, 1999). As spatially proximate jurisdictions enact innovations designed to boost their economy, other jurisdictions may fear a negative economic impact of their own. This uncertainty resulting from external pressure (both real and perceived) influences the probability of adoption (Walker, 1969).

Other sources or determinants of diffusion that have produced substantive research include social learning, policy legitimacy, and policy networks and entrepreneurs (Mossberger & Wolman, 2004). As a policy diffuses over time, it can be expected to gain legitimacy and, thus, influence new jurisdictions to emulate the behavior of previous adopters. Therefore, it is expected that as an innovation gains legitimacy it has a greater probability of adoption by new jurisdictions. Greater legitimacy is also indicated by greater visibility, especially in popular media reports and in the communications which occur between policy entrepreneurs and government officials. As a policy gains legitimacy and visibility, social learning among other governmental units is likely to occur. Recent research by Boehmke and Witmer (2004) found social learning to have a significant impact on policy innovation but also found that the impact may not be consistent.

The body of research on policy diffusion suggests the effects of the preceding determinants do not act in isolation. The probability that one or more determinants will effect the decision to adopt an innovation is both context- and time-dependent. In the following section we will consider the predominant empirical methodologies in the study of policy diffusion, as well as some new perspectives that have been offered in the more recent literature. All of these approaches are intended to determine what combinations of determinants affect the probability that a jurisdiction will adopt a particular innovation.

Event History Analysis

Since 1990, the dominant methodology for examining the diffusion of public policy has been the use of discrete Event History Analysis (EHA) models. First introduced into diffusion studies by Berry and Berry (1990), the use of EHA models is an attempt to merge the internal determinants and regional diffusion models predominant in the pre-1990 literature. EHA models attempt to identify the characteristics which deter-

mine the probability that a jurisdiction will adopt an innovation in any given year (Berry & Berry, 1990).

Researchers employing an EHA model begin by selecting a starting point (year) for the analysis. Once a starting point is chosen, each of the individual jurisdictions in the research population is placed into a *risk set*. The risk set includes all of those jurisdictions that have a non-zero probability of adopting the particular innovation at a particular point in time. The model progresses through a series of discrete time steps (years) whereby the adoption of the particular innovation by a jurisdiction causes that jurisdiction to be removed from the risk set. Consequently, the size of the risk set decreases over time. A regression model is used to examine the diffusion of the innovation. Coefficients and standard errors for these models are estimated using logistic regression, probit, or logit analyses.

The datasets used by EHA models can be classified as pooled, cross-sectional time-series data. Data is collected for each jurisdiction over a defined period of years. For each jurisdiction, the observed dependent variable is a dichotomous, dummy variable indicating whether or not the jurisdiction adopts the innovation in a given year. This observed value corresponds to the conceptual dependent variable: the probability that the jurisdiction will adopt the innovation in the given year (i.e. the *hazard rate*) (Berry & Berry 1990).

While EHA models still remain dominant in the more recent diffusion literature, the field has struggled with how to properly measure the temporal nature of diffusion. Mooney (2001) and Buckley and Westerland (2004) have shown that the effect of time is more complex than a simple, unidirectional effect. Concerns over the temporal nature of diffusion have led many researchers to include temporal measures as part of their regression models. Still others have employed a proportional hazards regression model instead of the logit/probit approach of EHA (e.g. Hoyman & Weinberg, 2006). Proportional hazards regression models are *duration* models, and are best used when time is considered a continuous rather than a discrete event. Other variations on EHA have included such techniques as dyad-year analysis (e.g. Volden, 2006) and event count models (e.g. Boehmke & Witmer, 2004).

THE DIFFUSION OF MUNICIPAL WIRELESS

A prime example of the diffusion of a policy innovation involves the policies known as municipal wireless initiatives. The concept of municipal initiatives designed to foster, fund, and/or implement a broadband wireless network is a relatively new phenomenon. Spurred by the rapid maturation of broadband wireless technology and a steep drop in prices, more and more municipalities are going forward with these initiatives. Estimates from the Yankee Group indicate that approximately 154 municipalities across the U.S. have begun implementation of a broadband wireless network while 132 municipalities have either proposed them or begun construction (Malykhina, 2006).

Municipal wireless initiatives are motivated by a variety of social, political, and economic goals. The rapid ascension of the Internet and the World Wide Web has made broadband telecommunications access a critical component of economic success. Broadband telecommunications technologies have made it possible for even remote areas to compete economically with first-tier cities across the globe; to paraphrase Thomas L. Friedman, technology has made the world flat (Pink, 2005). Wireless technologies such as Wi-Fi and WiMAX accelerate the “flattening” process by making it easy and affordable to overcome traditional information and communication barriers like time and distance.

Prior research has suggested that economic competition plays a role in the decision to adopt a municipal wireless initiative. The fear of getting left behind in the digital, global economy has been noted as motivation for the adoption of such initiatives (Stone & Madigan, 2006). For example, adoption may be influenced by the loss of manufacturing jobs; in these cases, affordable broadband access is seen as a tool to attract new businesses and residents. The maturation of wireless technology coupled with the rapid spread of municipal wireless initiatives means that these innovations are now both politically and economically feasible. Pioneers such as Philadelphia and San Francisco have made municipal wireless initiatives legitimate. Only time will tell if the underlying assumption (municipalities can use wireless broadband technology to ensure economic viability) is correct. Besides economic viability concerns, municipalities have also adopted wireless initiatives to enhance their services (such as emergency response) or to promote a social agenda (such as lessening the digital divide).

The obstacles to innovation are both economic and political. Creating a broadband wireless network to cover an entire municipality is no small endeavor. Such an effort requires technical expertise, access to physical resources, and heavy funding. One potential resource for overcoming these economic obstacles is the presence of a municipally-operated electric utility (MEU). An MEU can make a municipal wireless initiative more attractive, since many of the fixed and sunk costs (such as equipment, personnel, and infrastructure access) have already been incurred (Lehr, Sirbu, & Gillett, 2004). Political obstacles come in the form of intense lobbying by private-sector providers. Private providers have successfully lobbied for restrictions on or prohibitions against municipal telecommunications involvement in at least 10 states (Tapia, Stone, & Maitland 2005).

Municipal wireless initiatives have many different forms, i.e. different business models, implementation technologies, and policy goals. The rapid spread of these initiatives would suggest that municipal policymakers would be likely to emulate the initiatives of so-called pioneers. However, there exists heterogeneity amongst municipal wireless initiatives: while adopting municipalities may seek to emulate or learn from previous adopters, many have chosen a unique solution. Some municipalities have created non-profit organizations that manage the Request For Proposal (RFP) process. Private vendors actually build and maintain the network, but the municipality (through the non-profit organization) is able to negotiate terms amenable to the project goals. Other cities have adopted a business model that allows the municipality to exert greater control over the network.

Municipal wireless, representing a policy innovation, has spread rapidly across the United States in a relatively short period of time. A study of the factors which may affect the likelihood of a municipality to adopt a wireless initiative is warranted. The following conceptual model and study are designed to be a first attempt at understanding why these policies spread between municipalities.

RESEARCH MODEL

This study is primarily concerned with identifying the factors which influence the likelihood that a municipality will adopt a wireless initiative. The variables and hypotheses employed in this conceptual model

are based on prior research and the expected drivers behind municipal wireless initiatives. For our purposes, we will define *municipal wireless initiative* as any public initiative designed to propagate a wireless network within a municipality. This includes public efforts to foster, fund, and/or implement such a network for public consumption and/or municipal use. This study will address the following research questions:

- Q₁: Is there a relationship between the level of regional and national competition and the likelihood of a municipality adopting a wireless initiative?
- Q₂: Is there a relationship between the economic characteristics of a municipality and the likelihood of that municipality adopting a wireless initiative?
- Q₃: Is there a relationship between population demography and the likelihood of a municipality adopting a wireless initiative?
- Q₄: Is there a relationship between the political climate and the likelihood of a municipality adopting a wireless initiative?

These research questions can be expanded into four distinct sets of factors – National & Regional, Economic, Demographic, and Political. This conceptual model is visualized by the diagram in Figure 1.

National and Regional Factors are those factors which impact the diffusion of municipal wireless initiatives either within the region or within the nation as a whole. While regional diffusion has long been considered, national effects cannot be discounted. The availability of real-time information and communication technologies has eliminated the time and distance barriers which previously existed between far-flung areas. The policy factors to be measured include the effects of visibility and the effects of competition. The following hypotheses result from these factors:

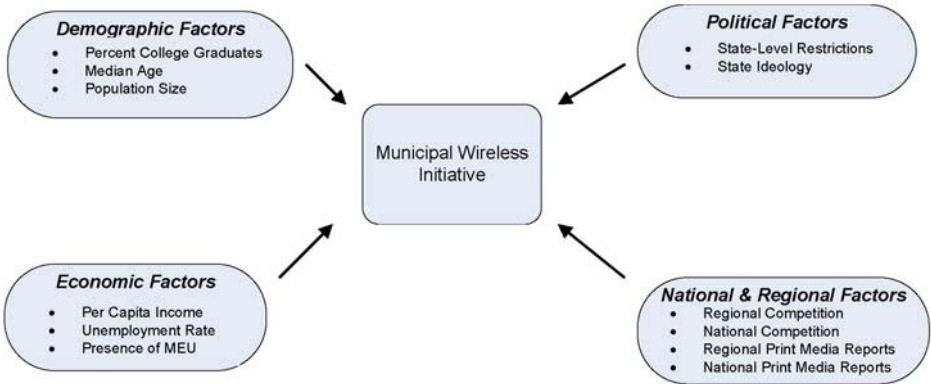


Figure 1: Conceptual Model

- H₁: The level of national competition is directly related to the probability that the municipality will adopt a municipal wireless initiative.
- H₂: The level of regional competition is directly related to the probability that the municipality will adopt a municipal wireless initiative.
- H₃: The number of national print media reports on municipal wireless is directly related to the probability that the municipality will adopt a municipal wireless initiative.
- H₄: The number of regional print media reports on municipal wireless is directly related to the probability that the municipality will adopt a municipal wireless initiative.

Economic Factors include those factors which represent the economics behind the decision to adopt municipal wireless initiatives. The per capita income level of the population, the unemployment level of the population, and the presence of an existing MEU are considered the primary attributes affecting the decision of a municipality to adopt a wireless initiative. It is hypothesized that a higher level of unemployment will encourage municipalities to undertake initiatives designed to lure businesses to that municipality, thus leading to job creation. The existence of an MEU makes the decision more palatable as the high fixed and sunk costs associated with wireless initiatives are lessened. A lower per capita income among residents suggests a greater need for the economic bene-

fits expected from a municipal wireless initiative. The formal hypotheses are as follows:

- H₅: The unemployment rate of a given municipality is directly related to the probability that the municipality will adopt a municipal wireless initiative.
- H₆: The per capita income of a given municipality is inversely related to the probability that the municipality will adopt a municipal wireless initiative.
- H₇: The presence of a municipal electric utility is directly related to the probability that the municipality will adopt a municipal wireless initiative.

Demographic Factors that may influence the likelihood of adoption include the size of the municipality (as measured by population) as well as the relative youth and education level of the municipal population. It is hypothesized that those areas with a younger, less educated, and larger population will be more likely to adopt a municipal wireless initiative. Municipalities which exhibit these traits are often more likely to desire the expected economic development gains resulting from wireless initiatives. The formal hypotheses are listed as follows:

- H₈: The percentage of college graduates in a given municipality is inversely related to the probability that the municipality will adopt a municipal wireless initiative.
- H₉: The median age of a given municipality is directly related to the probability that the municipality will adopt a municipal wireless initiative.
- H₁₀: The population of a given municipality is directly related to the probability that the municipality will adopt a municipal wireless initiative.

Political Factors include state-level measures intended to gauge the political environment of a municipality. The aforementioned existence of state-level restrictions on municipal involvement in telecommunications (wireless or otherwise) is expected to have an impact on the decision to adopt, as is the relative liberalism of the municipality. A state-level measure of liberalism will be used as a proxy for the municipality's ideo-

logical profile due to the absence of municipal-level data. The formal hypotheses are stated as follows:

- H₁₁: The existence of state-level restrictions on municipal wireless initiatives is inversely related to the probability that the municipality will adopt a municipal wireless initiative.
- H₁₂: The liberalism index value (state-level ideology) is directly related to the probability that a municipality within that state will adopt a municipal wireless initiative.

Data and Methods

In order to test the hypotheses, a discrete-time Event History Analysis (EHA) model was constructed for the years 2000-2006. Given the relative youth of this subject area, a truly longitudinal study is not yet possible. The study population consisted of municipalities in the Northeastern United States. The states represented in this study were determined by the U.S. Census Bureau classification for the Northeast (see Table 1).

The “adopting” municipalities included in this study were selected by random oversampling. This method was necessary due to the low percentage of municipalities in the Northeast who had adopted municipal wireless initiatives through 2006. The result was that 20 “adopting” municipalities were selected for this study. A list of the participant states and their level of participation in this study can be found in Table 1.

Table 1: Participant States and Proportional Contributions

State	<i>N</i> of Municipalities	<i>N</i> of Adopters
Vermont	4	1
New Hampshire	5	2
Rhode Island	3	1
Pennsylvania	7	5
New York	6	3
New Jersey	7	2
Massachusetts	7	3
Maine	5	1
Connecticut	6	2

For those municipalities that had not adopted municipal wireless initiatives, a modified multistage cluster sampling method was used. Each state was stratified into four population clusters and a random sample of municipalities was taken from each cluster. Geographic clustering and the lack of available data for some of the municipalities required repetition of the process. In the end, 30 “non-adopting” municipalities were selected from the participant states.

Once the sample municipalities were chosen, data were collected for the necessary variables (see the Appendix for the list of variables and their sources). Sampling and data collection resulted in a dataset of 323 records. The observed dependent variable ($ADOPT_{i,t}$) was a dichotomous dummy variable in all models. The variable was coded “1” if the municipality adopted a wireless initiative within that year, “0” if it did not. This observed value corresponds to the conceptual dependent variable, i.e. the likelihood that a municipality will adopt a municipal wireless initiative in the given year. This method was chosen due to its long history and general acceptance; such analysis provides a methodological foundation for future research. The combined model is described by the following logistic regression equation:

$$\begin{aligned}
 ADOPT_{i,t} = & b_0 + b_1 INCOME_{i,t-1} + b_2 UNEMP_{i,t-1} + b_3 MEU_{i,t} + b_4 GRAD_{i,t} \\
 & + b_5 AGE_{i,t} + b_6 POPULATION_{i,t} + b_7 SLEGIS_{i,t-1} + b_8 SIDEOL_{i,t-1} \quad (1) \\
 & + b_9 COMP_{i,t-1} + b_{10} NPRINT_{i,t-1} + b_{11} RPRINT_{i,t-1} + b_{12} RCOMP_{i,t-1}
 \end{aligned}$$

The analysis utilized this “full” model, as well as four “partial” regression models (one for each of the four set of factors).

It was expected that temporality had an impact on the diffusion of municipal wireless initiatives, given the increasing number adoptees over the last five years. In order to account for any temporal trends, a control variable ($TIME$) was included in a secondary model. This variable is defined as the square root of the difference between a given municipal-year and the year with the largest hazard rate for adoption. The regression equation for this model is as follows:

$$\begin{aligned}
 ADOPT_{i,t} = & b_0 + b_1 INCOME_{i,t-1} + b_2 UNEMP_{i,t-1} + b_3 MEU_{i,t} + b_4 GRAD_{i,t} \\
 & + b_5 AGE_{i,t} + b_6 POPULATION_{i,t} + b_7 SLEGIS_{i,t-1} + b_8 SIDEOL_{i,t-1} \\
 & + b_9 COMP_{i,t-1} + b_{10} NPRINT_{i,t-1} + b_{11} RPRINT_{i,t-1} + b_{12} RCOMP_{i,t-1} + b_{13} TIME_{i,t}
 \end{aligned} \quad (2)$$

Data values for the *TIME* variable were computed based on the values of the dependent variable. The use of this variable is similar to its usage in prior research (e.g. Chamberlain & Haider-Markel, 2005; Hays & Glick, 1997; Mooney & Lee, 1995).

RESULTS

Data Screening

Initial data screening led to a reduction in the number of independent variables. Problems of multicollinearity among the regional and national factors led to the removal of the national-and regional-level variables for media visibility (NPRINT and RPRINT) and the construction of a composite variable for competition (COMPIND). The *Competition* variable represents the average of the COMP and RCOMP values for each municipal-year. Tolerance statistics for the remaining nine variables all exceeded 0.5.

Regression Model Results

The hazard rates for the seven years of this study are shown in Table 2. The results show that the hazard rate is linear and positive overall, although there is a slight dip in 2005.

Table 2: Estimated Hazard Rate for Municipal Wireless Adoption

Year	Number At Risk	Number of Adopters	Hazard Rate
2000	50	0	0.00
2001	50	0	0.00
2002	49	1	0.02
2003	46	3	0.07
2004	41	5	0.12
2005	37	4	0.11
2006	30	7	0.23

The results of the four partial (factor-specific) logistic regression models are shown in Table 3. The results of the two combined regression models (with and without time as a regressor) are shown in Table 4. Each of the four partial models correctly classified 93.8% of the cases, whereas each of the full models correctly classified over 94% of the cases.

Demographic Factors Model. Regression results indicated that the overall model fit was good (-2 Log Likelihood = 140.039) and was statistically reliable in distinguishing between Adoption/Non-Adoption cases ($\chi^2(3) = 9.973, p < 0.05$). The results show that two variables (*Population*, *Median Age*) were significant predictors of the decision to adopt (*Population* $p < 0.01$; *Median Age* $p < 0.05$). The odds ratios for *Population* indicates little change in the likelihood of adoption ($\Psi = 1.519$) and a slightly smaller change in the likelihood of adoption for *Median Age* ($\psi = 1.489$).

Political Factors Model. Regression results indicated that the overall model fit was good (-2 Log Likelihood = 145.720) but was not statistically reliable in distinguishing between Adoption/Non-Adoption cases ($\chi^2(2) = 4.292, p > 0.10$). The results show that one variable (*State-Level Restrictions*) was a significant predictor of the decision to adopt ($p < 0.05$). The odds ratios for this predictor ($\psi = 6.672$) indicates a large change in the likelihood of adoption.

Economic Factors Model. Regression results indicated that the overall model fit was good (-2 Log Likelihood = 138.551) and was statistically reliable in distinguishing between Adoption/Non-Adoption cases ($\chi^2(3) = 11.461, p < 0.01$). The results show that two variables (*Per Capita Income*, *Unemployment Rate*) were significant predictors of the decision to adopt ($p < 0.05$). The odds ratios for both *Per Capita Income* ($\psi = 16.858$) and *Unemployment Rate* ($\psi = 1.707$) predictors indicate substantial change in the likelihood of adoption.

National and Regional Factors Model. This model was reduced due to the aforementioned multicollinearity problems. Regression results for the competition index variable indicated that the overall model fit was good (-2 Log Likelihood = 136.546) and was statistically reliable in distinguishing between Adoption/Non-Adoption cases ($\chi^2(1) = 13.466, p < 0.01$). The results show that *Competition* was a significant predictor of the decision to adopt ($p < 0.01$). However, the odds

ratio for *Competition* ($\psi = 1.016$) indicates only a minor change in the likelihood of adoption.

Full Model. Regression results indicated that the overall model fit was good (-2 Log Likelihood = 122.766) and was statistically reliable in distinguishing between Adoption/Non-Adoption cases ($\chi^2(9) = 27.246, p < 0.01$). The results show *Population* ($p < 0.05$), *Competition* ($p < 0.01$), and *Unemployment Rate* ($p < 0.10$) were significant predictors of the decision to adopt. The odds ratios for *Population* ($\psi = 1.467$) and *Unemployment Rate* ($\psi = 1.671$) indicated a substantive change in the likelihood of adoption, whereas the effect of *Competition* was small ($\psi = 1.015$).

Full Model (with Time). Regression results indicated that the overall model fit was good (-2 Log Likelihood = 116.100) and was statistically reliable in distinguishing between Adoption/Non-Adoption cases ($\chi^2(10) = 33.912, p < 0.01$). The results again showed *Population* as a significant non-temporal predictor of the decision to adopt ($p < 0.05$). *Competition* also maintained its significance from the non-temporal model ($p < 0.10$). The odds ratio for *Population* ($\psi = 1.651$) indicates a substantial change in the likelihood of adoption. *Time* was also a significant predictor ($p < 0.05$), but the small odds ratio ($\psi = 0.000$) suggests no real change in the likelihood of adoption.

Table 3: Regression Results (Partial Models)

	<i>Demographic Model</i>		<i>Political Model</i>		<i>National and Regional Model</i>		<i>Economic Model</i>	
	Estimate (S.E.)	Odds Ratio	Estimate (S.E.)	Odds Ratio	Estimate (S.E.)	Odds Ratio	Estimate (S.E.)	Odds Ratio
<i>Demographic</i>								
Population	.418*** (.157)	1.519	----	----	----	----	----	----
Median Age	.398** (.192)	1.489	----	----	----	----	----	----
% College Graduates	.006 (.051)	1.006	----	----	----	----	----	----
<i>Political</i>								
State Restrictions	----	----	1.898** (.872)	6.672	----	----	----	----
State-Level Ideology	----	----	.010 (.012)	1.01	----	----	----	----
<i>National and Regional</i>								
Competition Index	----	----	----	----	.016*** (.004)	1.016	----	----
<i>Economic</i>								
Per Capita Income	----	----	----	----	----	----	2.825** (1.119)	16.858
Unemployment Rate	----	----	----	----	----	----	0.535** (.214)	1.707
MEU	----	----	----	----	----	----	0.813 (1.105)	2.254
Intercept	- 22.890*** (7.760)	0	-3.691*** (.438)	0.025	-3.476** (.363)	0.031	-34.745*** (12.016)	0
-2 Log Likelihood	140.039		145.720		136.546		138.551	
Chi-Square (df)	9.973(3)**		4.292(2)		13.466(1)***		11.461(3)***	
Percent Cases Predicted	93.8		93.80		93.80		93.80	
Significance Levels: *** < 0.01; ** < 0.05; * < 0.10.								

Table 4: Full (Combined) Regression Models

Significance Levels: *** < 0.01; ** < 0.05; * < 0.10.

	<i>Full Model</i>		<i>Full Model w/Time</i>	
	Estimate (S.E.)	Odds Ratio	Estimate (S.E.)	Odds Ratio
<i>Demographic</i>				
Population	.383** (.186)	1.467	.501** (.212)	1.651
Median Age	.161 (.212)	1.175	-.029 (.225)	0.971
% College Graduates	-.088 (.073)	0.915	-0.62 (.072)	0.940
<i>Political</i>				
State Restrictions	-.425 (1.059)	0.654	-.869 (1.103)	0.419
State-Level Ideology	.004 (.015)	1.004	.001 (.016)	1.001
<i>National and Regional</i>				
Competition Index	.015*** (.006)	1.015	-.092* (.047)	0.912
<i>Economic</i>				
Per Capita Income	2.251 (1.595)	9.498	1.293 (1.695)	3.644
Unemployment Rate	.514* (.277)	1.671	.001 (.355)	1.001
MEU	-1.113 (1.181)	0.329	-.910 (1.211)	0.402
Time	----	----	-7.622** (3.450)	0.000
Intercept	-35.862** (18.073)	0	-2.837 (21.842)	0.059
-2 Log Likelihood		122.766		116.100
Chi-Square (df)		27.246(9)***		33.912(10)***
Percent Cases Predicted		93.8		94.4

DISCUSSION

The results of the regression analyses show support for only one original hypothesis (H_{10}) in all cases. While the partial models show the significant influence of several other factors, only a few of the variables were found to be significant in the full models. Population size and unemployment rate were found to be significant in the non-temporal full

model, but the influence of unemployment rate is negated by the introduction of temporality into the model. Competition is also shown to be a significant factor in all models, representing an average of both regional and national competition. The results also point out some potential shortcomings of the conceptual model.

The partial model results show a greater number of influencing factors than the full model results. The *Demographic Factors Model* clearly shows the influence of *Population* in a municipality's decision to adopt a municipal wireless initiative. Therefore H₁₀ is supported by the partial regression model. *Median Age* is also found to be a significant factor in the partial model, supporting H₉. The influence of *Percent College Graduates* is not found to be significant in any of the models, so H₈ is not supported.

The *Political Factors Model* indicates that state-level restrictions on municipal telecommunications represent a significant influence on the decision to adopt, but the partial model's lack of statistical reliability means that H₁₁ is not supported. The fact that this variable loses its significance in the combined models also suggests that the influence of state-level restrictions is lesser than other factors. Since only one of the states in the study (Pennsylvania) had such restrictions at the end of 2006, these results make sense. The *State Restrictions* variable would be expected to have more of an influence in the Southern and Western United States where state-level restrictions are more common. H₁₂ is not supported as *State-Level Ideology* is not found to be significant factor in any of the models.

The results of the *National and Regional Factors Model* support one of the original research questions (Q₁). The reduction in variables due to multicollinearity and the resultant index variable for *Competition* resulted in a highly significant factor for the decision to adopt. The results show that as more municipalities adopt municipal wireless initiatives the pressure increases for other municipalities to do likewise. However, the influence of *Competition*, while significant, is small. Given the diversity of conditions across municipalities (even within the same state) it stands to reason that other factors might play a greater role in the decision to adopt.

The *Economic Factor Model* results give support to H₅ and H₆. The influence of *Unemployment Rate* is in the expected direction – as the unemployment rate rises, so does the likelihood of adoption. However, the

relationship between *Per Capita Income* and the decision to adopt is significant but not in the expected direction. We can hypothesize that while a desire to fuel job growth is a motivational factor in the decision to support the growth of a municipal wireless network, areas with higher income levels may see the initiative as a response to the needs of a highly educated population – one that increasingly is using wireless technology for business, social interaction, and recreation.

The results of the combined models lead us to several conclusions. When the variables are combined, *Population* and *Competition* maintain their significance as predictors of adoption regardless of temporality. This is not unexpected, as larger municipalities often have a higher defined (or perceived) need for the expected benefits of municipal wireless initiatives, and a greater number of adopters increases both the salience of these initiatives and the resultant pressure to follow the herd. Therefore H_{10} is the only hypothesis fully supported by both the partial and full regression models and the only original hypothesis that can be fully accepted. However, the significance of *Competition* in all models lends support to a composite hypothesis of H_1 and H_2 . Therefore, our results suggest that there is a direct relationship between the level of regional and national competition and the decision to adopt a municipal wireless initiative. The influence of *Time* is also found to be significant. The influence of *Time* is felt most by the *Unemployment Rate* variable, which loses its significance in the full, temporal model.

The regression analyses also point out some shortcomings of the conceptual model. One of the variables (*State-Level Ideology*) has almost no effect in the combined models. When *Time* is included as an independent variable, the estimated coefficient shrinks to almost zero. While this measure was intended to be a proxy for the municipal-level ideological leanings, these results, combined with the *National and Regional Factors Model* results, suggest that the measure is likely irrelevant. As previously mentioned, the only state in our dataset with restrictions on municipal involvement in the telecommunications market is Pennsylvania. It should be noted that these restrictions took effect after several Pennsylvania municipalities had already begun their municipal wireless efforts.

LIMITATIONS AND FUTURE DIRECTIONS

The biggest limitation of this study is the dataset itself. The limited nature of this dataset makes generalization problematic. This study was designed to be a first attempt at understanding the phenomena of municipal wireless and therefore was restricted to a small geographic area. Many of the variables that were not found to be significant factors in this model may have different effects in a larger, more national dataset or a dataset from a different region. In addition, the absence of municipal-level data for some of the independent variables leads to questions of validity. The need to use proxy (metropolitan/micropolitan-level and state-level) data for some of the variables may not be truly representative of a particular municipality, especially in those states with large rural populations and/or few urbanized areas.

One issue not addressed by the conceptual model is the particular policy approach taken by a municipality. A diversity of approaches exists by which municipalities enter into wireless policies, as well as a number of different business models. Future studies may wish to examine the factors which influence the approach and/or business model that a municipality undertakes in achieving the expected benefits of wireless initiatives, as well as the stated motivations for the policy (e.g. public safety communications, enhanced public access). As these initiatives begin to mature, a more longitudinal study will be possible. A diversity of state-level restrictions on municipal involvement in telecommunications also complicates the diffusion analysis. Future studies may wish to examine the effects of this state-level policy diversity on municipal-level wireless policies.

Another avenue of investigation may be at the county level. An increasing number of wireless initiatives are being undertaken by counties rather than municipalities, suggesting a more comprehensive approach to providing wireless access. While many of the aforementioned motivators may play a role in the decision to adopt municipal wireless policies, the dynamics of county-level government suggest a revised model. These issues are left for future investigation.

The adoption of a wireless initiative, whether it is run by the municipality or the county, will be impacted by their choice in partners in deploying the infrastructure. Two high-speed technologies are dominating the market, WiMax or Long Term Evolution (LTE). Carriers who use the GSM (Global System for Mobile communications) will use LTE as

their pathway, even though standards have not yet been set. Even though the WiMax network dominates the current market, LTE is viewed as the dominate global technology (Hamblen, 2008).

CONCLUSION

Municipal policies designed to foster, fund, or implement wireless broadband networks have spread rapidly in the past seven years. A variety of rationales and approaches have been used to leverage the power of wireless technologies for the public good. Whether for public safety communications or for public consumption, municipal wireless represents a policy area that will continue to evolve. This study has been a first attempt to determine the factors which compel municipalities to undertake this potentially transformative innovation. The results suggest that population size and competition pressures are the only significant determining factors in whether or not a municipality adopts a municipal wireless initiative. Future studies that examine the diversity of policy approaches and examines a larger, more national dataset would help to more clearly identify the compelling factors (geographic, economic, demographic, and political) behind municipal wireless policies.

The success or failure of a municipal wireless initiative is a complex issue that involves the commitment by the community to fund it as well as the legal issues associated with whether muni wifi systems constitute an unfair competition to local ISP's. Many municipalities underestimate the number of access points and have little or no staff to maintain them. Availability to the community is another area to consider, if the community is providing wireless to the economically disadvantaged it must also take into account that these citizens may not have a computer. Any policy that is being developed must be done with a clear understanding of needs of the community and the total cost of ownership of the wireless network.

REFERENCES

- Allard, S. (2004). Competitive pressures and the emergence of mothers' aid programs in the United States. *The Policy Studies Journal*, 32, 521-544.

- Berry, F. (1994). Innovation in public management: The adoption of strategic planning. *Public Administration Review*, 54, 322-330.
- Berry, F., & Berry, W. (1990). State lottery adoptions as policy innovations: An event history analysis. *The American Political Science Review*, 84, 395-415.
- Berry, F., & Berry, W. (1999). Innovation and diffusion models in policy research. In P. Sabatier (Ed.), *Theories of the Policy Process* (pp. 176-200). Boulder: Westview.
- Boehmke, F., & Witmer, R. (2004). Disentangling diffusion: The effects of social learning and economic competition on state policy innovation and expansion. *Political Research Quarterly*, 57, 39-51.
- Buckley, J., & Westerland, C. (2004). Duration dependence, functional form, and corrected standard errors: Improving EHA models of state policy diffusion. *State Politics & Policy Quarterly*, 4, 94-113.
- Chamberlain, R., & Haider-Markel, D. (2005). "Lien On Me": State policy innovation in response to paper terrorism. *Political Research Quarterly*, 58, 449-460.
- Godwin, M., & Schroedel, J. (2000). Policy diffusion and strategies for promoting policy change: Evidence from California local gun control ordinances. *Policy Studies Journal*, 28, 760-776.
- Hamblen, M. (2008, May 14). WiMax vs. Long term evolution: Let the battle begin. *ComputerWorld*. Retrieved February 12, 2009 from <http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9085202>.
- Hays, S., & Glick, H. (1997). The role of agenda setting in policy innovation: An event history analysis of living-will laws. *American Politics Quarterly*, 25, 497-516.
- Hoyman, M., & Weinberg, M. (2006). The process of policy innovation: Prison sitings in rural North Carolina. *The Policy Studies Journal*, 34, 95-112.
- Ingraham, P. (1993). Of pigs in pokes and policy diffusion: Another look at pay-for-performance. *Public Administration Review*, 53, 348-356.
- Karch, A. (2007). Emerging issues and future directions in state policy diffusion research. *State Politics and Policy Quarterly*, 7, 54-80.

- Lehr, W., Sirbu, M., & Gillett, S. (2004, April). Municipal wireless broadband: Policy and business implications of emerging access technologies. Paper presented at the London Business School Conference on Competition in Wireless and Wireline Services, London, England.
- Malykhina, E. (2006, November 20). Sky's the limit. *InformationWeek*, 23-26.
- Mintrom, M. (1997). The state-local nexus in policy innovation diffusion: The case of school choice. *Publius*, 27, 41-59.
- Mohr, L. (1969). Determinants of innovation in organizations. *The American Political Science Review*, 63, 111-126.
- Mooney, C. (2001). Modeling regional effects on state policy diffusion. *Political Research Quarterly*, 54, 103-124.
- Mooney, C., & Lee, M. (1995). Legislating morality in the American states: The case of pre-Roe abortion regulation reform. *American Journal of Political Science*, 39, 599-627.
- Mossberger, K., & Wolman, H. (2004). Policy transfer as a form of prospective policy evaluation: Challenges and recommendations. *Public Administration Review*, 63, 428-440.
- Pink, D. (2005, May). Why the world is flat. *Wired*, 13. Retrieved December 01, 2006 from <http://www.wired.com/wired/archive/13.05/friedman.html>.
- Stone, J., & Madigan, E. (2006, November). IT as public policy: Assessing the impact of municipal wireless initiatives. Paper presented at the Northeastern Political Science Association 2006 Annual Meeting, Boston, MA.
- Tapia, A., Stone, M., & Maitland, C. (2005, September). Public-private partnerships and the role of state and federal legislation in wireless municipal networks. Paper presented at the 33rd Research conference on communication, information, and internet policy, Telecommunication Policy Research Conference (TPRC), Virginia, USA.
- Volden, C. (2006). States as policy laboratories: Emulating success in the children's health insurance program. *American Journal of Political Science*, 50, 294-312.

Walker, J. (1969). The diffusion of innovations among the American states. *The American Political Science Review*, 63, 880-899.

APPENDIX: VARIABLE DESCRIPTIONS AND SOURCES

^aData obtained from the U.S. Bureau of Economic Analysis.

^bData obtained from the U.S. Census Bureau.

^cData obtained from the U.S. Bureau of Labor Statistics.

^dData obtained from the Inter-University Consortium for Political and Social Research Web site (<http://www.icpsr.umich.edu>)

^eData obtained from <http://www.muniwireless.com>.

^fData obtained from the *LexisNexis* Academic Database

Variable	Description
ADOPT	Dichotomous variable indicating whether the municipality adopted a municipal wireless initiative in the specific time period (1 = yes).
INCOMELN ^a	The natural log of the per capita income for a municipality. Where municipal-level data was not available, metropolitan or micropolitan area data was substituted.
AGE ^b	The median age for residents within a municipality. Where municipal-level data was not available, metropolitan or micropolitan area data was substituted.
GRAD ^b	The percentage of municipal population holding college degrees. Where municipal-level data was not available, metropolitan or micropolitan area data was substituted.
UNEMP ^c	The unemployment rate of a municipality. Where municipal-level data was not available, metropolitan or micropolitan area data was substituted.
MEU	Dichotomous variable indicating the presence of a municipal electric utility (1 = yes).
SIDEOL ^d	The ideological leaning of state governments. Higher scores = greater liberalism, lower scores = higher conservatism.
SLEGIS	The presence of state-level restrictions on municipal broadband and/or initiatives.
POPLN ^b	The natural log of the population for the given municipality in the given year.
NPRINT ^f	The number of national print media reports addressing municipal wireless initiatives in the previous year.
RPRINT ^f	The number of regional print media reports addressing municipal wireless initiatives in the previous year.
COMP ^e	The number of municipal wireless initiatives already in place nationally in the previous year.
RCOMP ^e	The variable represents the number of municipal wireless initiatives already in place within the Northeastern United States in the previous year.
COMPIND	An index variable representing the average of COMP and RCOMP for a given municipal-year.
TIME	The square root of the difference between a given municipal-year and the year with the largest hazard rate for adoption.

THE RISE AND FALL OF THE PARTICIPATING SECURITIES SBIC PROGRAM: LESSONS IN PUBLIC VENTURE CAPITAL MANAGEMENT

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A watershed event took place in 1958 when the Small Business Administration (SBA) began licensing Small Business Investment Companies (SBICs) as public-private partnerships for the purpose of providing growth capital to small businesses. Initially, the SBA loaned money to SBICs, but in 1991 Congress established the Participating Securities program to make equity investments in equity-oriented SBICs. By the mid 2000s, both new licensing and new investment funding for this program were discontinued due to policy changes and performance problems. Since then, the SBA has managed the Participating Securities program in an effort to get the most out of its remaining SBICs. The history of the program is one of politics and performance, and the public servant's challenges in managing a venture capital program. The rise and fall of the program provides lessons for designing and managing public business financing programs.

INTRODUCTION AND HISTORY

While the venture capital industry was still in its infancy, the United States Government started a ground breaking program to provide venture capital to small businesses. This watershed event took place in 1958 when Congress established the Small Business Investment Company (SBIC) program (Bygrave & Timmons, 1992). The new venture capital program came under the auspices of the US Small Business Administration (SBA), an independent agency which itself was only five years old at the time. This paper will analyze the history of one version of the SBIC program in order to discover the lessons it provides for designing and managing public venture capital programs.

From the beginning, the SBIC program has been structured as a public-private partnership. Small Business Investment Companies (SBICs) are privately managed venture capital companies that use private funds supplemented with government funds to provide financing for small businesses (Hearing, 1995). The purpose of the SBIC program was to “improve and stimulate the national economy in general and the small-business segment thereof in particular by establishing a program to stimulate and supplement the flow of private equity capital and long-term loan funds which small business concerns need for sound financing of their business operations and for their growth, expansion, and modernization, and which are not available in adequate supply. . .” (NASBIC, 2006). In practice, the program helps small U.S. businesses meet long-term capital needs not available through banks or other private capital sources (NASBIC, 2007). Both debt and equity capital are available through SBICs.

The SBIC program finances small businesses, primarily in the private equity markets. Private equity is investment in private, non public companies (Center for Private Equity and Entrepreneurship, 2005). Venture capital financing is a component of the private equity market which has been described as patient and brave money, an apt description of the long-term investment horizon and high risk nature of investing in young, growing businesses.

The SBA has a broad oversight and management role in the program. It licenses the SBICs, acts as co-investor in these venture capital funds alongside private investors, provides regulatory oversight of the SBICs, and receives from these companies a return of interest or profit, in addition to repayment of its investment principal. The SBA does not make direct investments in the ultimate beneficiaries, the small businesses. Rather, the SBA invests in the SBICs which in turn invest in small businesses (See Exhibit 1). Accordingly, the program operates as a ‘fund of funds’ in which the government outsources the portfolio management and investment decisions to qualified private fund managers (SBA, 2002).

The SBIC program has been one of the most successful and long lasting public-private partnerships in the Federal government, funding such notables as America Online, Intel, Federal Express, Staples, Calloway Golf Clubs, and Outback Steakhouse among others (SBA, 2002). Some claim the program was the launching pad for the U.S. venture capital in-

dustry (NASBIC, 2006). As the SBA's Deputy Associate Administrator for Investment noted, it helped institutionalize the venture capital industry, bringing the government's imprimatur (Wirtz, 2001).

Currently, the SBA manages three permutations of the SBIC program, the Debenture program, the Specialized SBIC program and the Participating Securities program. Other studies have detailed issues surrounding the Debenture program and the Specialized SBIC programs. In 1996, the statute authorizing Specialized SBICs was repealed, so no new Specialized SBIC licenses have been issued since that time (SBA, 2002). The original program, the Debenture program, has been in existence since 1958 and is smaller in total capital and number of licensed funds than the Participating Securities program. Academic studies of the Debenture program preceded the establishment of the Participating Securities program. This paper will focus on the newer and larger Participating Securities program.

THE EQUITY GAP AND PROGRAM NEED

According to the Government Accountability Office (GAO, 2000),

Small businesses have four major sources of external equity capital: wealthy individuals, known as business angels; venture capital funds; private placement of securities; and public offerings of securities. These sources of external equity capital tend to be relevant at different stages of a business' growth. The need for, and the availability of, external equity capital can change with economic conditions that affect such factors as the number and wealth of investors in capital markets and the number and type of start-up companies. (p. 8).

Researchers have noted the inefficient nature of the private capital markets for venture investments, and such inefficiencies have the potential to leave gaps in the access to capital for entrepreneurs (Center for Private Equity, 2005). A 2005 Tuck School of Business, Center for Private Equity and Entrepreneurship report summarizes the effect of this inefficiency, known as the "Equity Gap."

The "Equity Gap" can be broadly defined as the lack of capital to early stage companies with these characteristics:

- Requiring initial funding of less than \$5 million

- Located away from the Silicon Valley, Boston, New York or Chicago areas
- Focused on industry sectors other than information technology, life sciences or financial services (p. 3)

The SBIC program helps fill this equity gap. It is structured so that a base of private investor capital is supplemented with government capital, known as leverage, of up to three times the private capital base. The government matching funds multiply an SBIC's investment returns by permitting it to raise large additional sums at low cost (Selz, 1995). Additionally, the matching funds allow a small fund to substantially increase its total capital, which is important for those funds which may have limited fund raising ability because they are not located near a financial center (J. Blanchard, personal communication, October 16, 2008).

Prior to the Participating Securities program, the SBA funded SBICs via long term, unsecured loans (debentures). The Debenture program is still funded this way. These loans carry a ten year term, and require semi-annual interest payments as well as repayment of the principal at maturity. The SBIC programs ran into liquidity problems in the late 1980s due to a mismatch between the debenture funding received from the SBA and the equity investments the SBICs were making. Many SBICs had to make equity or long-term investments (which did not pay current income) using borrowed funds, and they ran into trouble because they had to repay those loans on a regular basis (Saddler, 1992).

PARTICIPATING SECURITIES

In response to this problem, Congress created the Participating Securities program in 1991 to provide long-term capital for SBICs and cure a mismatch between the type of financing from SBA and the types of investments the SBICs made (Hearing, 1995). At this time, structural changes in the existing programs were also made to address some of the problems that became apparent in these programs. Relevant portions were incorporated into the new Participating Securities program. These changes included raising minimum capital requirements for SBICs and transferring the SBA's audit function from the Inspector General's office back to the SBA's Investment Division which administers the program (Bates, Bradford, & Rubin, 2006). The changes accounted for an increased popularity in the program (Selz, 1995).

The new Participating Securities structure was also anticipated to attract new investors such as pension-funds (which provided almost half the money used by the venture capital industry), because it simplified tax implications for investors (Saddler, 1992). As in the previous SBIC programs, the Participating Securities program was attractive to banks because it provided Community Reinvestment Act (CRA) credits for their investments (SBA, 2002). Yet, political risk was an issue from the beginning of the program. At the time, the (George H. W.) Bush administration wanted to spur investment in businesses with high potential, yet its support for this new and relatively complex idea still was unknown (Saddler, 1992).

The Participating Securities program was intended to encourage Small Business Investment Companies to provide *equity* (emphasis added) capital to small businesses by having SBICs issue ‘Participating Securities’ to the SBA in return for the SBA’s leverage investment in the SBIC (US House of Representatives, 1992). The term Participating Securities includes preferred stock, a preferred limited partnership interest, or a similar instrument. . .under the terms of which interest is payable only to the extent of earnings (US House of Representatives, 1992). The government pools these Participating Securities and sells them in the public capital markets through an investment trust. The SBA guarantees payment by the Trust of all principal and interest (See Exhibit 1). Thus, the money for leverage is raised by the sale of SBA-guaranteed securities (NASBIC, 2007). In actual practice, the SBA makes an annual appropriation to cover the anticipated amount of leverage investments to be made in the SBICs that year, and makes those leverage investments with appropriated funds (T. Jamerson, personal communication, December 11, 2008). The SBA then recoups the investments through the sale of pooled securities. Money for the debenture leverage used in the Debenture program is raised in the same way.

In contrast to debenture funding, where the SBICs pay interest to SBA semi-annually, the Participating Securities interest payments (known as prioritized payments) are deferred and paid only if the SBIC makes a profit. According to the act, “The term ‘prioritized payments’ includes dividends on stock. . .or priority returns on preferred limited partnership interests which are paid only to the extent of earnings.” (US House of Representatives, 1992). This key provision, that interest on Participating Securities is payable ‘only to the extent of earnings’, means in

simple terms that interest is payable only if the SBIC makes a profit. As a result, the SBA advances interest (prioritized payments) to the Participating Securities pool investors and is only reimbursed when an SBIC has earnings (SBA, 2002).

As a result, no longer was the SBA's interest guarantee to pooled security holders a contingent liability, active only in the event of SBIC default. Now, upon issue of the pooled securities, the liability was active on the SBA's balance sheet and the only contingency was whether the SBA would be repaid by the SBIC. This contingency later proved to be devastating to the program.

PROGRAM PERFORMANCE

In 1994, the first Participating Securities SBICs received their licenses and began drawing down SBA funding, known as leverage. Shortly thereafter, because of the intensified cost-cutting mood in Washington, venture capitalists feared the government might renege on its commitment to match the nearly \$600 million they raised to invest in small companies, and that breaking the promise would endanger a small business financing program that had recently shown rapid growth (Selz, 1995). However, the Participating Securities structure along with a surging stock market in the mid to late 1990s created a mini-boom in SBICs (Korn, 1999). A total of 250 Participating Securities funds were licensed from 1994, through October 1, 2004 when new licensing was discontinued. From 1994 through 1999, the SBA licensed a total of 167 SBICs with more new private capital than had been invested in the preceding 40 years (Korn, 1999). In 2001, the SBA licensed a fiscal year high of 36 Participating Securities funds. By comparison, in 2002 the SBA licensed 29 Participating Securities funds, but only 10 Debenture funds.

During the mid to late 1990s, profitability also increased and the overall rate of return on invested capital had been in double digits, peaking at nearly 19% in 1998 (Korn, 1999). During this period, the internal rate of return (IRR) for vintage years 1995 to 1999 SBICs averaged 42.7%, as compared to a decade earlier, with vintage years 1985 to 1989 producing an average IRR of 9% (SBA, 2002). In fact, vintage years 1994-1998 represent a high point of the cycle and produced some of the best performing vintage years in venture history. During this period, the

SBA received \$278 million of the \$280 million net profits it received through 2002 (SBA, 2004).

In general, the returns (as measured by IRR) of venture funds are tied to the rise and fall of the stock market (SBA, 2002). Accordingly, anyone invested in venture capital began to feel pain associated with the decline in private equity markets beginning in 1999-2000, and the SBICs were not immune to that decline (SBA, 2002). This period represented the downward portion of the cycle in venture capital (SBA, 2004). As a result, not only did portfolio valuations decline, but the anticipated time to payback for the SBIC funds' investments was extended, decreasing the IRR the funds would eventually produce. SBIC funds in vintage years 1996 and 1997 returned investors' capital in as little as three years. It is possible that the payback time could stretch anywhere from 5-10 years for funds in the 1998-2004 vintage years (SBA, 2002).

At fiscal year-end 2004, with the market downturn beginning to show its long term effect, the SBA analyzed the performance of the 10 year old Participating Securities program and compared it with the Debenture program for cohorts 1994-2004 (SBA, 2004). By every measure, the Participating Securities program fared much worse than the Debenture program. For example, the SBA's total financial exposure was \$11.25 billion for the Participating Securities program compared to \$2.84 billion for the Debenture program. \$1.1 billion of Participating Securities leverage had been transferred to liquidation, representing 18% of the Participating Securities leverage issued, while only \$180 million of Debenture leverage had been transferred to liquidation, representing 7% of all debenture leverage issued. Finally, the Participating Securities program's cash balance (the cumulative sum of net cash flows) was negative \$1.1 billion, while the Debenture program's cash balance was positive \$66.3 million (SBA, 2004).

Distributions to SBA also fell far short of the agency's leverage investment in the Participating Securities funds. The low level of distributions was the result of the market downturn, and because of distribution rules which heavily favored private investors. The SBA acknowledges that one problem associated with the performance of the program has been the rules regarding distributions of capital and profits from the SBICs to private partners and SBA (SBA, 2004). Profitable Participating Securities SBICs make distributions based on a fairly complex formula. In simplified terms, the order of distributions required is: 1) Prioritized

payments, if profitable, 2) Optional tax distributions, which SBA receives a share of, 3) Distributions of remaining profits, and 4) Distribution of remaining liquidity as a pro rata return of capital.

A wrinkle in the distribution of remaining profits provision has substantially lowered SBA's returns. If the SBA has over 50% of the capital in a fund, the SBA and private investors split distributions 50-50. If SBA has less than 50% of the capital in a fund, SBA gets a profit participation only, and private investors get the remainder. SBA's profit participation is based on a formula, but is typically less than 10% (SBA 2004). These distribution rules strongly favor private investors, and because of these rules, while 49 Participating Securities SBICs distributed profits through September 30, 2004, 75% of SBA's net profits came from only eight of these SBICs (SBA 2004).

The result of these distribution rules is that, through September 30, 2004, SBA received less than a third of the capital it either guaranteed or advanced (not including distributions on prioritized payments). Even when including the residual value of existing investments, a shortfall would still exist and the SBA does not expect to recover all of its leverage investment. With distributions on prioritized payments included, the SBA received about half of its total investment. Yet, during the same period, private investors received about 1.9 times their total capital investment. In fact, the SBA's analysis shows that private investors have consistently received far greater returns than the SBA (SBA, 2004).

SUBSIDY COSTS AND FUNDING TERMINATION

The costs of the loan guarantees, such as the SBA's guarantee to Participating Securities pooled securities holders, must be subsidized through appropriations or paid for by program related fees. The downturn in performance of the Participating Securities program negatively affected these subsidy costs, as well as budgetary estimates of future costs. Subsidy cost estimates provide important information in budgetary decisions, and became the operative factor in the termination of Participating Securities funding.

Budgetary accounting for the SBIC's guarantee program is governed by the Federal Credit Reform Act (FCRA) of 1990, which requires an appropriation of subsidy and administrative costs associated with loan guarantees and loan operations. The subsidy cost is the estimated long-

term cost to the government of a loan guarantee, calculated on a net-present-value basis, excluding administrative costs. Administrative costs, recorded on a cash basis, include activities related to making, servicing and liquidating loans as well as overseeing the performance of lenders (CBO, 2005). Throughout its tenure, the (George W.) Bush administration required that all of SBA's major finance programs must run at a 'zero' subsidy rate (Mercer, 2006). In other words, the loan guarantees must pay for themselves, without being subsidized through appropriations. However, the Participating Securities program incurred costs in excess of the estimates used to run it at a zero subsidy rate, which was a problem for the program since remediation required additional appropriations.

In its fiscal year 2004 financial performance report, the SBA detailed its estimate of subsidy costs, noting:

As of September 30, 2004, total lifetime subsidy re-estimates for cohorts 1992 through 2003 for the Debentures Program were negative \$77 million, indicating that the actual program costs to date and current future estimates of program costs for those years are slightly lower than originally anticipated. Total lifetime subsidy re-estimates for the Participating Securities Program (cohorts 1994-2004) including interest were positive \$2.7 billion, indicating that the actual program costs to date and current future estimated program costs are higher than originally anticipated. (p. 3)

Eventually, these increased costs would bring the program to the attention of the Bush administration. From its inception and until March 2005, the Participating Securities program was viewed as a credit program under the FCRA, so costs for the loan guarantees were recorded on a net-present-value basis (CBO, 2007). In a sudden reversal of opinion, in March 2005 the Administration informed the Congressional Budget Office (CBO), that it no longer viewed the Participating Securities program as a credit program and that it would record its costs on a cash basis rather than a net-present-value basis under FCRA (CBO, 2005). While the exact reason for such a reversal of opinion remains unclear, some have opined that the Bush Administration was ideologically opposed to the Participating Securities program because it competed with private sector capital sources (L. Mercer, personal communication, July 31, 2008). Others note the Bush Administration's position that there was no demonstrated need for an equity investment program (NASBIC, 2006).

Whatever the reason, the increased costs seem to have provided an opportunity for the administration to end the program.

One of the main features of the Participating Securities program that merited this revision of budgetary treatment is that scheduled payments of principal and interest are contingent on profits earned by SBICs, and failure to make scheduled payments does not necessarily result in default (CBO, 2007). Now viewed as equity investments in the operation of SBICs, the full costs of the program's authorized investment level would be recognized in the year it is authorized. For example, based on historical demand under the program, the estimated cost of implementing this provision would be \$225 million in 2008 and \$1.5 billion over the 2008-2012 period (CBO, 2007).

Such appropriations levels were politically untenable and the issuing of Participating Securities leverage effectively ended. Some remaining commitments were funded through September 30, 2008, but the SBA did not fulfill its total outstanding commitments for Participating Securities leverage to the SBICs. In November 2005, the SBA offered Debenture commitments and leverage for Participating Securities SBICs to be granted under certain, limited circumstances (US Small Business Administration, 2005). However, the limitations left a number of Participating Securities SBICs with unfunded commitments, requiring them to search for additional funding to fulfill their business plans. The fears of SBIC managers a decade earlier had been realized.

ADMINISTRATIVE CONSIDERATIONS

In addition to the problems with distributions, another factor that may have contributed to the performance woes of the program is the amount of licensing and associated leverage issued while market valuations were increasing. The timing of the licensing meant funds were investing during one of the most significant valuation increases in history. The SBA may have been able to anticipate the market up turn, but whether there was anything they could have done administratively to mitigate downside risk remains an open question and outside the scope of this paper. Historically, SBIC licensing under the Participating Securities program paled in comparison to the licensing frenzy that occurred at the advent of the original Debenture SBIC program in 1958. By the end of 1961, just three years after the SBIC program was signed into law, over 500 li-

censes had been issued. By 1964, the number of active licensees peaked at 649, dropping to 248 in 1973 before stabilizing (Wilson, 1986). Currently, that original program-the Debenture program-consistently maintains approximately 130 licensed SBICs.

SBA is further restricted by its dependence on the annual budget ritual, in which the SBIC program is a favorite sacrificial victim (Wilson, 1986). During the life of the Participating Securities program, the SBA, including the SBIC program, has been the focus of significant budgetary and staff reductions, which have affected the agency's ability to run program and caused morale to plummet. During the 1990s, SBA's workforce decreased from more than 3,800 employees, to about 3,100 employees-a change of about 19% (Kaplan, 2008). Furthermore, between 2000 and 2007, SBA's workforce decreased by another 26%. As of September 2007, the SBA had 2,166 employees (Kaplan, 2008). Because of such budgetary and organizational vicissitudes, one group of researchers opined that the SBA is too unstable an agency for promoting the venture capital industry for minority owned businesses (Bates, Bradford & Rubin, 2006). The same might be argued for the equity investment portion of the venture capital industry.

In the beginning of the program, it is not clear that SBA had the expertise to evaluate equity funds and their managers. Its previous experience was in making loans to debt oriented funds and, as one fund manager noted, there is big difference from lender to investor (J. Blanchard, personal communication, October 16, 2008). One researcher noted that many SBIC funds are run by great individuals who are targeting underserved markets, but too many SBIC participants in recent years have been marginal venture funds whose approaches did not really differ from their peers (Lerner, 2005).

Originally, the licensing application focused more on character than performance. The process gave weight to background checks and character references. But with experience, the SBA began to amplify its emphasis on performance. In the early 2000s, the SBA began to increase the importance of track record and in January of 2004, the application was officially revised to increase the focus on historical track record and investment returns, a practice consistent with pension funds and other potential co-investors investors. Presumably, poor performers that may have slipped through early in the program would now be eliminated from consideration.

FUTURE DIRECTION

In its current configuration, the Participating Securities program will run its course by about 2014. When it does, the only substantive iteration of the SBIC program will be the original Debenture program.

New versions of the Participating Securities program have been proposed, but none have gained traction in Congress. The most significant change proposed is eliminating the profit requirement for repayment of interest. The new Participating Debentures program, as it has been called, would require repayment of interest regardless of profits. But, the payments would be deferred for the first 5 years in order to enhance SBIC liquidity. The Congressional Budget Office has opined that such a program would qualify as a credit program under FCRA (CBO, 2005). Other proposals have also attempted to change the nature of the SBA's profit participation by simplifying distribution rules, such as making distributions to SBA pro-rata alongside private investors.

Throughout the life of the Participating Securities program, the SBA has made a number of internal administrative improvements which presumably would be used in a future program. Since 2002, SBA has developed and maintained consolidated financial statements for the Participating Securities and Debenture programs corresponding with typical financial statement items (SBA, 2002). These financial statements, along with enhanced risk assessment and monitoring tools developed by SBA, have improved administrative oversight.

As the SBA explains, while the SBIC program is not designed to make a profit, it is SBA's intention to ensure that the program – over time – does not lose money either, given appropriations and subsidies (SBA, 2002). A new program with the proposed changes has the potential for such long term success. It is certainly possible that the SBICs will be called upon once again, as they were in the dark days of the mid-1960s and the mid-1970s, (and today) to keep the venture business going during a cyclical shakeout (Wilson, 1986).

LESSONS FOR PUBLIC VENTURE CAPITAL

The SBIC Participating Securities program provides important lessons for public servants designing and managing similar investment programs. Overall, a public venture capital program must be a strategically focused, flexible and dynamic program, adapting to changes in the envi-

ronment and in light of program performance, in order to ensure the long-term viability necessary in the field of venture capital. Inherent in these requirements seems to be a spirit of public entrepreneurship, a spirit which is necessary because of the nature of venture capital.

A valuable perspective informing the design and management of such a program might be toward stewardship of the public trust. Public administrators have accepted the responsibility to serve citizens by acting as stewards of public resources and conservators of public organizations (Denhardt & Denhardt, 2000). This long-term view is concerned not only with impact of the program, but also with the health of the organization. The SBA has affirmed this perspective in its management of the Participating Securities program, and any public venture capital program will have to incorporate some form of conservatorship because of the long-term nature of the venture capital industry.

Modeling and risk mitigation - from a government perspective

The Participating Securities program is financially complex, particularly when considering the distribution scheme of profits and capital from the SBIC to the investors. It appears that the program was not well modeled from the *government's* perspective. The distribution rules, when modeled from this perspective, should have demonstrated significant risk to SBA as a result of the distribution scheme, which would unduly favor private investors. A number of private organizations and individuals were involved in the design of the program, but it is not clear, from my limited review, that they had the SBA's best interests in mind. In light of this apparent oversight and the program's operating history, the lesson to be learned is that similar programs would benefit from a fiscal risk analysis from the government's perspective. Risk mitigation and management measures then could be built into the program in order to ensure its fiscal resilience and long-term program viability.

Organizational learning

In the fluid environment of venture capital, it is imperative that a public organization promotes and practices organization learning. Senge (1990) describes such organizations as those where people continually expand their capacity to create the results they truly desire, and where

new patterns of thinking are nurtured. The challenges in running a public venture program are myriad, and the dynamic environment demands learning and adaptation. As demonstrated in this case, informed, proactive management is necessary for a successful program, as well as to mitigate deficiencies in program in order to limit losses.

Insulate investment funding mechanisms

Sufficient long-term funding for investments is also essential for program sustainability. Operating budgets can vary without jeopardizing program, but the life blood of an investment program is its investment capital. Venture capital by its nature is long-term. Funding sources for investments must have a similarly long-term orientation in order to achieve the desired results. To the extent possible, this funding must be isolated from the political machinations of the larger organization. One model that is being emulated around the globe is the Israeli Yozma program where the government makes a one-time investment, and private partners can later buy out the government (Lerner, 2005). Other financing methods, such as block funding or separate trust account funding may be more appropriate than using ongoing appropriations, so that investment capital is available when needed and may be deployed for the long term.

This history of the Participating Securities SBIC program has highlighted the public servant's challenges in managing a venture capital program and has provided some preliminary lessons for designing and managing public business financing programs. However, as a first look, this review has been necessarily limited. Much work remains to be done in assessing the impact and management of this program. Areas calling for attention include issues related the financial performance of the program, as well as comparisons to other public equity programs and the venture capital industry as a whole. Other significant areas for analysis are potential risk mitigation and fiscal sustainability issues, as well as determining to what extent the program fulfilled its mission.

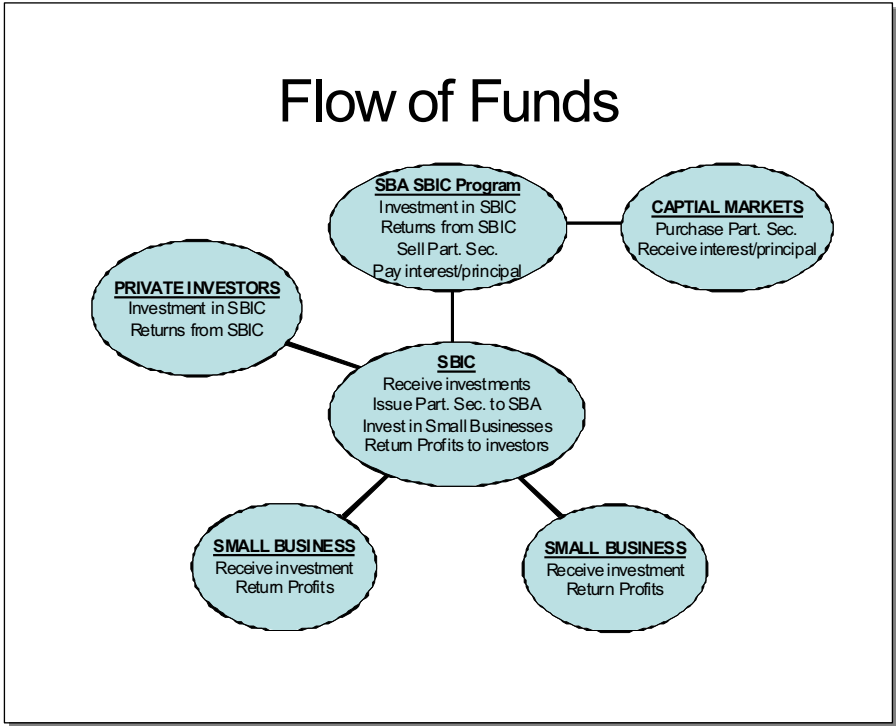
REFERENCES

- Bates, T., Bradford, W., & Rubin, J. (2006). The viability of the minority-oriented venture-capital Industry under alternative financing arrangements. *Economic Development Quarterly*, 20(2), 178-191.
- Brewer III, E., & Genay, H. (1996). Performance and access to government guarantees: The case of small business investment companies. *Economic Perspectives*, 20(5), 17.
- Bygrave, D., & Timmons, J. (1992). *Venture capital at the crossroads*. Boston: Harvard Business School Press.
- Center for Private Equity & Entrepreneurship, Tuck School of Business at Dartmouth. (2005, April 13). Statement of Colin C. Blaydon before the Committee on Small Business. Hanover, NH: Tuck School of Business at Dartmouth.
- Congressional Budget Office (CBO). (2005). Douglas Holtz-Eakin (Director), Letter to chairman, Committee on the Budget (October 17, 2005). Washington, DC: Congressional Budget Office.
- Congressional Budget Office (CBO). (2007). Congressional Budget Office Cost Estimate S. 1662 (S. 1662, Small Business Venture Capital Act of 2007, October 2, 2007). Washington, DC: Congressional Budget Office.
- Denhardt, R. V., & Denhardt, J. V. (2000). The new public service: Serving rather than steering. *Public Administration Review*, 60(6), 549.
- Hearing Before the Committee on Small Business, 104th Congress. (1995). Review of the SBIC and SSBIC programs (Serial No. 104-21). Washington, DC: U.S. Government Printing Office.
- Kaplan, R. (2008, October 21). SBA still needs to improve, says GAO report. *HispanicBusiness.com*.
- Korn, D. (1999, August 1). Small wonders: Many of today's hot growth companies received early financing from small business investment companies, "The best-kept secret in Washington". *Financial Planning*, 1.
- Lerner, J. (2005). Statement of Josh Lerner. In Committee on Small Business, US House of Representatives, hearing on proposed legislative remedy for the participating securities program (July 27, 2005) Washington, DC.

- Mercer, L. (2006, August). President's report. NASBIC News, 2.
- National Association of Small Business Investment Companies (NASBIC). (2006, June 26). SBIC program background memorandum. (Available from www.nasbic.org, 666-11th Street NW, Washington, DC, 20001)
- National Association of Small Business Investment Companies (NASBIC). (2006, September 6). Letter to the honorable Steven C. Preston. (Available from www.nasbic.org, 666-11th Street, NW, Suite 750, Washington, DC 20001)
- National Association of Small Business Investment Companies. (2007). 2007 SBIC program guide. Washington, DC: NASBIC.
- Saddler, J. (1992, March 11). Washington update: SBA panel would re-vamp venture-capital program. *The Wall Street Journal*, p. B2.
- Selz, M. (1995, February 3). Venture capitalists fear the U.S. may renege on SBICs—commitment to match nearly \$600 million may not survive in congress. *The Wall Street Journal*, p. B.2.
- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. Atlanta, GA: Doubleday.
- US Government Accountability Office (GAO). (2000). In GAO report, Effort to facilitate equity capital formation (GAO/GGD-00-190, pp. 84). Washington, DC: US Government Accountability Office.
- US House of Representatives. (1992, September 4). Public Law 102-366 [HR 4111], Small business credit and business enhancement opportunity act of 1992 (HR 4111). Washington, DC: Matthew Bender & Co., (c) 2006.
- US Small Business Administration. (2002). Fiscal year 2002 special report. At www.sba.gov/inv (Draft Special Report V1.2public-8/1/03, pp. 1-56). Washington, DC: US Small Business Administration.
- US Small Business Administration. (2004). Small business investment company financial performance report for cohorts 1994-2004 (Through September 30, 2004, pp. 32). Washington, DC: US Small Business Administration.
- US Small Business Administration. (2005, November). Tech note 11. (Available from www.sba.gov/inv_sbic_technotes).

- Wilson, J. (1986). *The new venturers: Inside the high-stakes world of venture capital*. Reading, PA: Addison-Wesley Publishing Co.
- Wirtz, R. (2001, September). The granddaddy of VC. *Fedgazette*, 13(5), 13-14.

Exhibit 1



IMPEDIMENTS TO CITIZEN PARTICIPATION IN GOVERNMENT AFFAIRS IN POST-COMMUNIST COUNTRIES

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Citizen participation in government in post-communist countries is bounded by unique impediments that are either less prevalent or not found in developed Western countries. Some examples include the lack of citizen motivation, absence of or inadequate civic education, and administrative processes that exclude the public from decision making. Recognizing the idiosyncratic challenges for each country may help the government design reforms that will foster democracy beyond just political representation.

“Citizenship participation is the cornerstone of democracy, but there is a deep ambivalence about citizens directly participating in their government.” (Roberts, 2004, p.315)

INTRODUCTION

Civic engagement in Western developed democracies has become a part of the day-to-day procedures in the work of the government. Administrators in these countries seem to understand the role of citizens in the creation and implementation of public policies, and as Denhardt & Denhardt (2007) note, the inclusion of citizens in the work of government enables the citizens to do what they “are supposed to do – *they would run the government*” (p.31). However, while many developed countries have traditions of more direct forms of democracy, the concept of direct citizen engagement in post-communist countries is still in its rudimentary phase (Frost & Makarov, 1998). Many factors contribute to impede or even forbid greater civic engagement in these, frequently called young and/or transitional democracies.

The purpose of this paper is to shed light on some of the impediments to citizen participation in post-communist countries. This paper first explains the meaning and benefits from civic participation, including mechanisms for participation that are already in place in the developed countries. Then, it enumerates several major dilemmas for greater inclusion common to these countries. The paper then presents a brief history of civic engagement in post-communist countries; and finally, it introduces some of the factors that inhibit greater citizen inclusion in government affairs that are either specific to the post-communist countries or are greater in magnitude when compared to those in developed countries. The major argument presented in this paper is that history and communist practices from previous periods present special challenges that should be addressed properly in order to facilitate democracy that goes beyond representation.

CITIZEN PARTICIPATION

Definitions and Mechanisms in Developed Western Countries

The inclusion of citizens in the process of creating, formulating, and implementing government policies is certainly not a novel idea in the field of public administration. Many authors since the 1960s (Skilling, 1966; Krause, 1968; Ulc, 1971; Herbert, 1972; Hart, 1972; Abrbach & Rosckman, 1978; Kweit & Kweit, 1980; Roberts, 2004; Denhardt & Denhardt, 2007) have analyzed different aspects of civic engagement in a variety of countries, thus promoting the idea that meaningful citizen engagement in public affairs constitutes the basic philosophy of democracy. According to all these authors, direct democracy is advocated as the only form of organizing society that will assure higher levels of responsiveness, responsibility, and accountability reflected in the work of not only the elected and appointed officials, but in that of public administrators as well. The core of this doctrine lies in the assumption that government should serve its citizens and that the needs of the citizenry will not be met unless citizens are involved in the process of policy deliberation and policy implementation (Denhardt & Denhardt, 2007). Civic participation, therefore, represents the very basis for legitimizing the democratic government (Watson, 2007, p.96).

While civic participation is widely recognized as both necessary and unavoidable (especially in developed democratic countries), students of

public administration and the broader academic community face challenges to finding an operational definition that will include all aspects of civic engagement (Roberts, 2004; Cooper, Bryer, & Meek, 2006). As Nancy Roberts (2004) emphasizes, the definition of citizen participation is determined from the concept of citizenship (i.e. the understanding of the term citizenship). Some authors (Cooper & Walzer, in Roberts, 2004) employ a legal definition of citizenship so that citizen participation is delineated from the legal institutional background, which is reflected in the constitution and the laws of the country. Other authors (Hart, Dimock, Backer & Lippman, cited in Roberts, 2004) go beyond the legal concept and embrace ethical and sociological aspects of the term citizenship, thus pointing out that citizen participation should be analyzed not only as a right, but also as a duty and part of the social relations in one society. Some authors, however, offer broad definitions that embrace all aspects of civic engagement. For example, Macedo et al. define civic participation as “any activity, individual or collective, devoted to influencing the collective life of polity” (cited in Cooper, et al. 2006, p. 76).

Apart from the difficulty of defining civic participation in public affairs, students interested in this sphere are also challenged with understanding the development of the actual mechanisms and institutions that will enable civic inclusion in public deliberations. One of the major problems is certainly in relation to what Olson defines as “the logic of collective action” (1965). Olson argues that the members of groups and organizations will not always act rationally and that as a group increases in size, more members will “free ride” and will not work for the common interest of the group. They will, instead, expect others to contribute to the provision of the “public good”, unless coercion or selective incentives are used to motivate these free riders to become active contributors. This theory, which is still very influential, warns that the mechanisms and institutions for civic participation should be designed in a way that will attract citizens to take part in government affairs. Despite the difficulties of creating avenues for civic participation, some Western democracies, have been somewhat successful with the institutionalization of citizen participation. Nancy Roberts (2004) enumerates several “conventional” mechanisms primarily utilized in the U.S., among which are “serving on juries, attending public hearings, participating in advisory boards, commissions, and task forces, responding to telephone polls and newspaper clip-out questionnaires, contacting and meeting public officials, and writing let-

ters to the editor expressing interest or opposition to some governmental action.” (p. 331). Some of these strategies, such as participating in advisory boards, telephone polls, citizen performance assessment, and task forces are also elaborated by Denhardt and Denhardt (2007), illustrating their practical application not only in the U.S., but in China and Italy as well.

Although the merit of these conventional mechanisms may not be reduced, the need for creating institutions that will include greater citizen participation has only partially been met through public forums, public networks, and public-private partnerships (Denhardt & Denhardt, 2007; Roberts, 2004; Lyn & Martin, 1991). The mechanisms and institutions that foster civil participation, although not completely successful, have been most successfully introduced at the local and community levels. The citizens in many cities (and states) in developed democracies have been granted instruments for expressing their opinions about policies that affect them. Overall, citizen participation and the instruments for engaging citizens in public discourse in Western countries have gone beyond the rhetorical use of the terminology in academia and within public administration.

CHALLENGES FOR CITIZEN PARTICIPATION IN DEVELOPED COUNTRIES

The benefits from citizen inclusion in government affairs are frequently related to more responsive, responsible, accountable, and even more effective government, which legitimizes the role of the government as representative of the people, and also, as a partner who provides services to its citizens (Watson, 2007; Denhardt & Denhardt 2007; Roberts, 2004; Ly & Martin, 1991; Kweit & Kweit, 1980). However, the inclusion of citizens has been criticized from many aspects, including the feasibility of real civic contribution in public deliberation.

One of the major remarks for meaningful citizen participation has been the argument that citizens do not have the expertise and the relevant information to give suggestions as to which policy may yield the best results (Roberts, 2004). “Administrative and technical elites crowd out both citizens and their representatives in the participatory process” (Roberts, 2004, p.326). Kirlin and Kirlin (2002) extend the argument by presenting three conditions for effective citizen participation: the citizens should be motivated to participate, they should have the knowledge to

participate, and they should be connected with at least one network that will enable them to participate (p. 80). In addition to the lack of expertise, the arguments against civic participation include the citizens' lack of time. Citizens should have time to learn about the policy and to attend the often-lengthy meetings in order to articulate their opinions (Roberts, 2004). The time dimension has been cited as an impediment not just for the citizen, but also for the public administrator, who is often challenged by urgent timeframes and deadlines that require immediate action (Lynn, 2006; Roberts, 2004; Denhardt & Denhardt, 2007).

Defining the common good is yet another dilemma for citizen participation (Roberts, 2004). As Roberts points out, the government cannot have a sense of the common good if only conventional mechanisms for public participation are existent (such as polls, telephone interviews, or board meetings). Perhaps, the argument for the common good goes in favor of greater civic inclusion because if everyone were included, the common good for the community could be recognized and well defined.

Finally, the critique that comes from the application of the basic principles of New Public Management are most pervasive, especially because New Public Management has been an influential doctrine not only in the U.S. and the other developed democracies, but in the developing world as well (Denhardt & Denhardt, 2007; Lynn, 2006; Kilby, 2004). The effective work of government, according to advocates of New Public Management, is seen through the lenses of privatization, smaller government, and competition within government. What becomes obvious, however, is that New Public Management seems to have adopted the language of economics and thus neglects the citizen with his/her rights and obligations, treating him/her only as a customer. The throne given to the entrepreneur has become a dominant paradigm reflected in the reforms enacted in various countries around the world.

The dilemmas that obviously create a burden to effective and meaningful citizen participation in developed democratic countries are even more pronounced in the countries that once were under the communist regime. The system, which was totalitarian (Skilling, 1966), crashed in the beginning of the 1990s in Central and Eastern Europe. The consequences from the failure of this system can be seen in the emergence of many nations that formed from prior (larger) states. These nations were firmly decided to transform themselves into democracies. The road to democracy, however, was neither easy nor well supported by institutions

that promote democratic governance. The next part of this paper will present a brief summary of the conditions that were dominant during the communist era and the period of transition. It is important to clarify that these countries differ with regard to their idiosyncratic history, institutions, and problems, and that there are characteristics that may be identified as common to all of the former communist countries from Central and Eastern Europe.

GENERAL TRENDS OF CITIZEN PARTICIPATION IN POST-COMMUNIST COUNTRIES: BRIEF HISTORY

The communist regime that developed in the former USSR and other Central and Eastern European countries was frequently called totalitarian. Totalitarian regimes in the 20th century were described as highly centralized dynamic systems that maintained their power by “isolation of the individual and the mass monolithic homogeneity,” using means of coercion and institutionalizing an atmosphere of fear through a “system of secret police” (Brzezinski, 1956, pp.751-752). The absence of free elections and the monopoly of one party (communist party), as Ulc (1971) explains, restricted an active citizen involvement in government affairs and forced citizens to support and obey “a set of policies he had no part in formulating” (p.422). The policies were created from the top, often translated into five-year plans that could not be questioned (Hough, 1976; Ulc, 1971; Brzezinski, 1956). These state plans included many details, such as how much each enterprise would produce, what would be produced and where, and who would be held responsible for implementing the plan. This responsibility, however, was held by the political party and the citizens were not granted the right to participation either in creating or controlling the outcome of these policies. In addition, the individual could not own property above a certain value, again determined by the communist party. Freedom of speech was also limited and the mass media, in most cases, was supposed to conform to the rules imposed on them. The top political “bosses” vigilantly followed every deviation and imposed severe punishments for those who did not comply with the communist ideology (Ulc, 1971; Brzezinski, 1956). Although under these conditions it is hard to imagine any meaningful participation, especially if it meant for expressing a voice of dissatisfaction. Some authors write about the emergence of different groups and factions that could and did

confront the powerful politics at that time (Skilling, 1996; Havel in Keane, 1985; Hough 1976).

Among the groups that raised their voices in order to influence centrally imposed policies were Trade Unions, which were associations of different professional groups (such as councils at the university level, medical workers, or writers' associations), and youth associations. Skilling (1996) analyzes the work of these "non-government" groups, emphasizing that it is not well known whether different factions affected the work of the communist government. He does not accept the notion that there was no conflict of interests even during the Stalin era (when totalitarianism was first described). According to this author, the intelligentsia (meaning the academia) expressed their opinion with regards to concrete policies, and many times their opinions were included in the state plans. And, in some cases, the reforms were undertaken in many communist countries. Havel and other authors (in Keane, 1985), to the contrary, write about the emergence of factions in the former Czechoslovakia, which at that time were labeled as anti-state oriented dissenters. Many of these interest groups were restrained from any activity that could endanger the stability of the communist regime. Empowered officials decided which activities threatened the regime. Their decisions were not often based on any legal criteria; instead, decisions were derived from their own personal judgments. Vaclav Havel, who was an activist in these non-communist groups, (he later became the first President of the Czech Republic) experienced the post-totalitarian communism as a regime where people were "living in lies" (Havel in Keane, 1985).

It is important to note that the language used by the party representatives included constructs such as "people's state", "people's government", etc. (Hough, 1976). Judging from the current perspective, these constructs were nothing more than an ideology used to maintain the stability of the system itself and to increase the power of the state. The state interfered with the lives of individuals, restraining their basic civil rights and liberties, and yet, many wanted to believe (or more likely were forced to believe) that the people were running the state. Some authors (Boukhalov & Ivannikov, 1995; Reisinger, Miller & Hesli, 1995; Weigle & Butterfield, 1992; Ulc, 1971) openly assert that the rhetoric used to indicate the broadest possible inclusion "of the people" was a form of "paperwork inclusion" where the 'delegates' were only names on a paper who actually did not take part in the decision making processes. Partici-

pation often was manipulation, strategically and skillfully exercised by the higher echelons of government, who with use of ideology and social institutions were providing a source of stability for the system.

The conditions that contributed to failure of the communist regime in the early 1990s in Central and Eastern Europe, although studied by many, are still not clear. Havel and his colleagues in the mid 1980s predicted that a system that did not rely on truth, i.e., a system that failed to provide inclusion of diverse opinions, would eventually die (in Keane, 1985). The lack of legitimacy and legitimate authority, according to Černý, was one of the major concerns for the post-totalitarian systems: "It is folly to rely on totalitarian power. It arouses fear, not respect and esteem. You have power, but no authority" (Černý in Keane, 1985, p.130). Almost twenty years after the crash of communism, it is still not known whether the internal flaws or the external pressures were the reasons for the failure. However, it remains a fact that communist regimes had a deep impact on the lives of individuals, and some formal and informal institutions still persist that define the behavior of the population in these countries.

In 1994, Miroslav Kusy in an essay on Human rights' education, reported his disappointment with the course of the democratic transition in the post-communist countries: "Unfortunately, the armor of the elitist democracy of political parties in our post-communist countries has not been broken up to now, and the compensating system of participative democracy does not have a chance to make a rapid progress" (Kusy, 1994, p. 385). Although the conditions since 1994 have changed, especially if analyzed through the emergence of non-governmental organizations in many post-communist countries, the question of whether citizens exercise their right for direct participation in government affairs still remains unanswered. Some of the factors that are either unique or greater in magnitude in post-communist countries includes the lack of citizen motivation and knowledge for effective participation, expectations and beliefs of administrators that do not account for civic participation, and influence from international institutions that foster or impede participation.

LACK OF CITIZEN MOTIVATION AND KNOWLEDGE TO PARTICIPATE IN GOVERNMENT AFFAIRS

Some of the factors that impede meaningful participation in post-communist countries include the absence of motivation due to learned helplessness and lack of civic education, which would provide the citizens with the basic knowledge about the benefits of civic engagement.

Learned Helplessness and Motivation

The motivation for civic engagement was identified as a factor that affects the inclusion of citizens in public deliberations. Western democratic countries face this problem and they attempt to design mechanisms (such as advisory boards, councils, partnerships) that increase civic awareness of the benefits from participation and the impact that citizens may have if their voices are included in the creation and implementation of public policies (Denhardt & Denhardt, 2007; Roberts, 2004; Denhardt, Denhardt & Aristigueta, 2002). Countries, such as the United States, have a tradition of civic organizations and many citizens have the expectation that they can make a difference (Roberts, 2004).

Citizens in post-communist countries, on the other hand, have experienced setbacks and even repression if they expressed their opinions. They were not allowed to develop initiatives that would in any way threaten the communist system, and as Watson notes (2000), citizens were not given opportunities to organize around in support of their interests. Furthermore, as accentuated by Battek, "Under totalitarian systems of government, opposition assumes dramatic forms, because any open criticism of the system, both as a whole and in part, is forbidden, prosecuted and punished. Simple opposition becomes dissidence" (Battek in Keane, 1985, p.103).

As a result of this long-term repression, citizens' expectations that their involvement will result in positive outcomes (for them) are considerably diminished. The lack of expectations for controlled and desired outcomes, and the long-lasting setbacks that "undermine the attainment of most if not all of one's goals", as explained by the authors in the motivation literature, will result in learned helplessness, which ultimately will cause a deficit of future learning as well as motivational disturbances (Locke & Latham, in Ott, Parkers, & Simpson, 2008, p.198).

Learned helplessness as a concept in the social sciences has been explored by Peterson, Maier, and Seligman (1993). The authors, through many examples, illustrate what instigates feelings of helplessness among individuals and the consequences that result from their helplessness. The authors explain three essential components of this theory: contingency, cognition, and behavior. Contingency is related to the outcomes of one's actions, i.e. the negative experience of the individual with regards to the action that she/he is undertaking. The individual that does not control the outcome is most likely to develop helplessness (Peterson et. al, 1993, p.8). Cognition, as the authors explain, reflects the perception that individuals have about their actions and the inability to control the outcomes. Behavior is the last dimension and derives from the ultimate absence of controllable results, such that the individual does not expect positive results and will most probably refrain from any action. Although the authors do not talk about learned helplessness within a culture, i.e., learned helplessness among many individuals in one society, one can infer that conditions that suppress individual freedom of thought and expression for more than 40 years may affect motivation in the long run. They will certainly have experienced what the authors called contingency, which will have had an impact on their perceptions and behavior.

The literature that studies the transition in post-communist countries does not directly refer to learned helplessness as a reason for the lack of civic participation, but it does report a lack of motivation for participation and a lack of trust in government (Boukhalov & Ivannikov, 1995; Reisinger et al., 1995; Kusy, 1994). Bianci (1997) explains this phenomenon as "self-censorship" in which a society is divided up between those who are allowed to speak and those who will listen. Moreover, the effects of failure to empower lower levels of government (local government) that would include the citizens' voice in the creation and implementation of policies, as reported by Boukhalov & Ivannikov (1995), translates into helplessness: "most [local leaders] do not see any opportunity to do anything constructive" (p.136).

Civic Education

In addition to a lack of motivation and potential learned helplessness, civic education in post-communist countries is either absent or has a very short history, which presents another impediment to civic engagement

(Kusy, 1994). The importance of civil education and the role of government in providing it is well illustrated in the words of Woolcock and Narayan (2000, p.227): “Weak, hostile, or indifferent governments have a profoundly different effect on community life and developmental projects, for example, than do governments that respect civil liberties, uphold the rule of law, honor contracts and resist corruption.”

Many authors would agree that the education under socialism was ideologically oriented and that studies of civil rights and liberties were almost non-existent (Bianci, 1997; Kusy, 1994; Weigle & Butterfield, 1992). Bianci (1997) suggests that there is a need for democratic training that will equip citizens with the knowledge necessary for meaningful participation. Kusy (1994) discusses two types of education that should take place in post-communist countries: education on constitutional rights and education on human rights. Democratic constitutions, which are necessary for establishing rules and regulations, are not sufficient in establishing democratic practices. Constitutionalism, therefore, should be complimented with education about human rights, which according to the author, will contribute to more democratic governance.

While the education advocated by both Bianci (1997) and Kusy (1994) is a very important step for the development of democratic forms of governance, the next steps in civil education should probably go beyond the lectures on human rights and perhaps incorporate some of the approaches developed in Western countries. Mathie & Cunningman (2003) propose a model called Asset-Based Community Development (ABCD). ABCD “can be understood as an approach, as a set of methods for community mobilization, and as a strategy for community-based development” (p.477). This model has the development of the community at the center of its interest and basically advocates techniques for community learning. The potential for the community is enormous when cooperation and continuous learning is its main goal. If citizens and communities in post-communist countries utilize these approaches and techniques, they may ultimately increase the level of citizen inclusion in government affairs.

THE ROLE OF THE ADMINISTRATORS AND BUREAUCRATIC PROCESSES

Besides civic education and citizen motivation, perceptions of the administrators and the way administrative decision making is institution-

alized makes a huge difference as to whether citizens will or will not be allowed to participate in defining governmental affairs. Highly hierarchical structures accompanied by a nurtured culture of civic exclusion become an enormous obstacle to overcome.

Administrators' Perceptions of Citizen Participation

The need for citizen participation in Western countries, as some studies report (King et al, 1998), is recognized by administrators and citizens alike. Administrators in the United States believe that the input of citizens is both important and necessary. The research conducted three decades ago by Aberbach and Rockman (1978) with the administrators employed in the Federal Government, implies that some administrators see close relationships with the affected citizens to be a constraint for administrative decisions. This certainly leads the discussion of civic participation to a higher level, i.e., what King, Feltey, and O'Neill (1998) would call authentic participation where the role of the citizen is seen as critical to the very process of administrative decision making and very close to the problem or the issue of interest. The role of the citizen in authentic participation is cooperative and the citizen becomes a partner whose word has equal rank to that of the administrator.

While participation in Western countries, especially on the local level has become part of day-to-day practice and the basis for decision making, the inclusion of the citizen in public deliberation and forums in post-communist countries is still in a rudimentary phase. Frost and Makarov (1998), discuss the introduction of Public Deliberation Methodology (PDM), which is used as a tool for citizen involvement in public debates in some Russian cities. Although they focus their discussion on the beliefs held by citizens, who after participation in the deliberative process favor greater inclusion, the study is important from the aspect of changing values and beliefs that can have an important impact on civic engagement in this post-communist country.

Clearly the values held by both citizens and administrators have an impact on their expectations, and ultimately, on their behavior. While there is a vast amount of research related to the values, expectations, and behavior of citizens, the research that deals with administrative beliefs, expectations, and behavior is limited or non-existent. In an older study, Krause (1968) discusses the role of bureaucratic ideology and how it af-

fects the mechanisms that the bureaucracy develops to protect its interests. And, as Krause would note, administrators have a huge impact in creating and implementing public policies.

One can argue that public administrators in post-communist countries do not even consider inclusion of the public as part of their work. They do not expect citizens to have a meaningful impact in creating or executing public policy. As a result of their lack of expectations for public participation, administrators do not develop mechanisms and institutions (such as councils, open forums, and partnerships), and thus, impede citizen participation in public debates. The absence of participatory mechanisms and institutions restrains citizen access to public deliberation. This effect, where the expectations (or lack of expectations) of one group (administrators) affects the behavior of another group (citizens), is known as a self-fulfilling prophecy or Pygmalion effect (Wong & Hui, 2006). The Pygmalion effect may explain the impact that the administrators' expectations have on both the absence of mechanisms and institutions for civic participation and the actual civic participation in post-communist countries.

Administrative Decision Making: Who Makes the Decisions

Traditional theories of public administration emphasize hierarchy, legality, unity of command, and efficiency as basic principles for the organization of public administration (Herbert, 1972). Bureaucratic decision making based on these principles of centralization certainly resists the ambiguity related to the possible outcomes that come from citizen inclusion. Many authors, therefore, advocate decentralization. Hart (1972) claims that "participatory democracy is impossible without the extensive decentralization of public organizations" (p.604).

Decentralization of bureaucratic decision making becomes the basic premise for effective government that will include the citizens in policy making. Herbert (1972) concentrates his discussion on the forms that decentralization may take and the skills that public administrators should have in order to assure better participation. Among the skills listed in Herbert's analysis are exceptional communication and bargaining skills, complimented with the ability to work in uncertain conditions.

Another way of looking at administrative decision making, which does not exclude decentralization, is the model suggested by Kweit and

Kweit (1980). The authors suggest four avenues for civil participation in bureaucratic decision making: insulation, symbolic participation, cooperation, and cooptation. Cooptation, in their view, is the highest form of citizen inclusion “which permits citizens to become an integral part of bureaucratic decision making” (p. 661). Kweit and Kweit use cooptation to mean positive inclusion and not the manipulation of the citizen by the administrator or administrative body.

The models, developed in the U.S. that offer better inclusion of the citizen in bureaucratic decision making processes are not well developed in post-communist countries. Post-communist countries have inherited highly centralized bureaucracies; therefore, they are experiencing reforms that emphasize decentralized decision making as a way of ‘bringing the government closer to the people’. Boukhalov and Ivannikov (1995) conducted research of local leaders in Ukraine and discovered that they do not have the autonomy to make decisions without being ‘censored’ from above and that they do not trust the people. In such conditions, even if the government is decentralized, much work still has to be done in order to increase leaders’ trust in citizens.

THE ROLE OF INTERNATIONAL ORGANIZATIONS IN ADMINISTRATIVE CHANGES IN POST-COMMUNIST COUNTRIES

Since the fall of communist regimes in Central and Eastern Europe, some international organizations including the International Monetary Fund (IMF) and the World Bank (WB) have increased their presence, which many times has translated into influence over these countries’ administrative policies. The kinds of changes suggested, or more likely imposed by the international organizations, has had implicit and explicit effects on administrative structures. The demands of these international organizations resulted in institutionalized rules and regulations that promoted economic and political stability, but did not necessarily assume civic inclusion in government affairs. The emphasis on business and managerial approaches within government was driven by the prevailing ideology, which in the Western world came to be known as a New Public Management.

New Public Management is not only a philosophy that is supposed to foster good governance in the field of public administration, but also provides a set of prescriptions that if well implemented should produce

small, efficient, and responsible government (Denhardt & Denhardt, 2007; Lynn, 2006, Kilby, 2004). This approach emphasizes the positivistic view that public administration (everywhere) have generic characteristics, and moreover, that a panacea can be found by employing business strategies and competition within the government. NPM has become a new paradigm accepted around the world (Lynn, 2006; Kilby, 2004).

The acceptance of NPM in post-communist countries (and in other developing countries) has been contingent on policies imposed by international financial (and other) organizations such as the IMF and the WB. These organizations come to post-communist countries to assist their efforts to build democratic societies. The IMF and the WB compel acceptance of certain conditions by tying them to monetary support such as loans or donations (Kilby, 2004). The consultants, who come as technical support, help these countries adopt and implement new budgets, treasury systems, and other policies. Often they propagate approaches that will ensure accountability to the donor and/or the creditor, but not necessarily to the people (Kilby, 2004). This set of policies, known as Washington Consensus (Naim, 2000), is readily imposed on rather than negotiated with the governments, including the governments in the post-communist countries. Given the dependence of many post-communist countries (excluding Slovenia) on the IMF and the WB's loans, the reforms in the sphere of public administration that took place in the 1990s were more likely delegated from above than adopted as the will of the people. The imported democracy, in this case, may easily be questioned, especially because the inclusion of people in government affairs was not even a topic to be discussed. It is only recently that the WB has recognized the need for more direct civic participation as a condition for more responsive and more efficient government (World Development Report 2004, 2006).

CONCLUSION

After the failure of communism, post-communist countries in Central and Eastern Europe that once had totalitarian or post-totalitarian regimes, face numerous challenges in building their new democratic regimes. In addition to all of the economic reforms that took place at the beginning of the 1990s (privatization of society/state owned property, liberalization of their markets), they continue to struggle to implement democratic re-

forms because of the required change in the core values held by the government officials, the bureaucracy, and citizens. Democracy in these countries was initially understood as pluralism, i.e., more political parties that would compete in general elections to win seats in the national parliaments and positions in local governments. Representation was used as a synonym for democratic processes. Democracy, however, is more than just representation. It assumes inclusion of multiple and diverse interests, not just electing representatives, but also the involvement of citizens in creating, formulating, and implementing public policies. While civil society, usually represented by numerous nongovernment organizations (NGOs), has slowly started to develop, concrete forms of direct democracy are still absent. Post-communist countries also have begun the process of decentralization, which is supposed to bring the government closer to the people, but many times this process is not implemented in a way that will enable citizen participation. The values and the expectations held by both citizens and administrators play an important role in determining the outcome for every reform that is intended to strengthen democracy.

The impediments that are identified in this paper are certainly not a complete list of the challenges that need to be overcome, but they offer a good starting point for changing the course of the dialogue between the government and its citizens. The practices that are traditionally implemented in Western developed countries may serve as guidelines for how to increase and improve citizen participation, but in no way should they be understood as practices to be copied. Post-communist societies are very different from the Western democracies where these practices were first implemented. Every reform intended to introduce more democratic approaches must be modified so that it respects the internal and the external factors that define the climate of each particular country. The values of democracy are important, but each country's idiosyncrasies may require a unique understanding of those values. That is why we cannot rely on the one best way to implement a reform as New Public Management does, but must extend our discussion so that the culture, the history, and the specific conditions in each country determines the course of democratic reforms. What matters are democratic values and the voices of the people, and although they may be diverse and complex, their diversity must shape the changes in every country, including the post-communist countries.

REFERENCES

- Aberbach, J. D.; Rockman, B. A. (1978). Administrators' beliefs about the role of the public: The case of American federal executives. *The Western Political Quarterly*, 31, 502-522.
- Battek, R. (1985). Spiritual values, independent initiatives and politics. In Keane J. (Ed.), *The power of the powerless, citizens against the state in Central-Eastern Europe* (pp.97-110). London: Hutchinson.
- Bianchi, G. (1997). Training in skills for coping with democracy. *Annals of the American Academy of Political and Social Science*, 552, 114-124.
- Boukhalov, O. & Ivanniko, S. (1995). Ukrainian local politics after independence. *Annals of the American Academy of Political and Social Science*, 540, 126-136.
- Brzezinski, Z. (1956). Totalitarianism and rationality. *The American Political Science Review*, 50, 751-763.
- Cooper, L. T., Bryer, A. T., & Meek, W. J. (2006). Citizen centered collaborative management. *Public Administration Review*, 66: 76-88.
- Černý, V. (1985). On the question of chartism. In Keane J. (Ed.), *The power of the powerless, citizens against the state in Central-Eastern Europe* (pp.125-134). London: Hutchinson.
- Denhardt, V. J. & Denhardt, B. R. (2007). *The New Public Service, serving not steering*, M.E. Sharpe.
- Denhardt, B. R., Denhardt, V. J., & Aristigueta, P. M. (2002). *Managing human behavior in public and nonprofit organizations*. Sage Publications.
- Frost S. & Makarov D. (1998). Changing post-totalitarian values in Russia through public deliberation methodology. *PS: Political Science and Politics*, 31, 775-781.
- Hart, D. K. (1972). Theories of government related to decentralization and citizen participation. *Public Administration Review*, 32, 603-621.
- Herbert, A.W. (1972). Management under conditions of decentralization and citizen participation. *Public Administration Review*, 32, 622-637.

- Havel, V. (1985). The power of powerless. In Keane J. (Ed.), *The power of the powerless, citizens against the state in Central-Eastern Europe* (pp.23-96). London: Hutchinson.
- Hough, J. F. (1976). Political participation in the Soviet Union. *Soviet Studies*, 28: 3-20.
- Kilby, P. (2004). Is empowerment possible under a new public management environment? Some lessons from India, *International Public Management Journal*, 7, 207-225.
- King, C. S., Feltey, M. K., and O'Neill, S. B. (1998). The question of participation: Toward authentic public participation in public. *Public Administration Review*, 58, 317-326.
- Kirlin, J. J, & Kirlin, M. K. (2002) Strengthening effective government Citizen connections through greater civic engagement. *Public Administration Review*. 62, 80-85.
- Krause, E. A. (1968). Functions of a bureaucratic ideology: "Citizen Participation". *Social Problems*, 16, 129-143.
- Kusy, M. (1994). Human rights education, constitutionalism and their interrelations in Slovakia. *European Journal of Education*, 29, 377-389.
- Kweit, W. R. & Kweit, G. M. (1980). Bureaucratic decision-making: Impediments to citizen participation. *Polity*, 12, 647-666.
- Lyn, K. & Martin, J. A. (1991). Enhancing citizen participation: Panel designs, perspectives, and policy formation. *Journal of Policy Analysis and Management*, 10, 46-63.
- Lynn, E. L., Jr. (2006). *Public management: Old and new*. New York and London: Routledge, Taylor & Francis Group.
- Olson, M. (1965). *The Logic of Collective Action: Public Goods and Theory of Groups*. Cambridge, Massachusetts, London: Harvard University Press.
- Mathie, A. & Cunningham, G. (2003). From clients to citizens: Asset-based community development as a strategy for community-driven development. *Development in Practice*, 13, 474-486.
- Naím, M. (2000). Washington consensus or Washington confusion? *Foreign Policy*, 118, 86-103.

- Ott, J. S., Parkers, J. S. & Simpson, B.R. (Eds.). (2008). *Classic readings in organizational behavior*. (4th ed.). Belmont, CA: Thomson Wadsworth.
- Peterson, C, Maier, F. S., & Seligman, E. P. M. (1993) *Learned helplessness: A theory for the age of personal control*. New York, Oxford: Oxford University Press.
- Reisinger, W. M., Miller, A. H., & Hesli, V. L. (1995). Public behavior and political change in Post-Soviet States. *The Journal of Politics*, 57, 941-970.
- Roberts, N. (2004). Public deliberation in an age of direct citizen participation. *American Review of Public Administration*, 34, 315-353.
- Skilling, H. G. (1966). Interest groups and communist politics. *World Politics*, 18, 435-451.
- Ulc, O. (1971). Political participation in Czechoslovakia. *The Journal of Politics*, 33, 422-447.
- Watson, D. J. (2000). The international resource cities program: Building capacity in Bulgarian local governments. *Public Administration Review*, 60, 457-463.
- Watson, L. (2007). Constituting politics: Power, reciprocity, and identity. *Hypatia* 22, 96-112.
- Weigle, M. A., & Butterfield, J. (1992). Civil society in reforming communist regimes: The logic of emergence. *Comparative Politics*, 25, 1-23.
- Woolcock, M. & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer*, 15, 229-249.
- Wong, T.Y. J., & Hui, C.M. E. (2006) Research notes – power of expectations. *Property Management*, 24, 496-506.
- World Bank (2004). *World Development Report 2005: A better investment climate for everyone*. Retrieved April 14, 2008 from <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR2005/0,,menuPK:477681~pagePK:64167702~piPK:64167676~theSitePK:477665,00.html>

World Bank (2006) World Development Report 2007: Development and the next generation. Retrieved April 14, 2008 from <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR2007/0,,contentMDK:21055591~menuPK:1489854~pagePK:64167689~piPK:64167673~theSitePK:1489834,00.html>

DIGITAL GOVERNMENT: PRINCIPLES AND BEST PRACTICES

G. David Garson and Alexei Pavlichev (Eds.)

London: Idea Group Inc., 2004, 379 pages, ISBN 1591401224, \$57.50

Reviewed by Kim A. Kaan

An informed government is a government that is connected to the World Wide Web. As such, electronic government, or e-government, today is not about having just a Web presence; it is about tapping into technology and using the Internet to share information and provide enhanced service delivery to all of government's constituents. Editors Alexei Pavlichev and G. David Garson have harnessed the concept of technology in government in their book, *Digital Government: Principles and Best Practices*.

Since the evolution of the Internet in the 1990s, the Web has been viewed as the impetus of major technological change in modern-day government. The topic of how to significantly impact the relationship between citizens and government has public organizations wondering what is the best way to move forward in the digital age. *Digital Government* provides a succinct and useful guidebook for those in government who are tasked with implementing e-government initiatives. This compilation of tips and insights assists with the understanding of how to make government responsive and accessible using Web-based technology. The book also offers a practical look at what is currently happening in the realm of e-government, which is particularly useful to students of government, policymakers and other audiences of interest.

According to the authors, the book's primary purpose is to call to attention the transformational potential of e-government (p. 2). To accomplish this, the editors divide the book into five sections. In the introductory section, Garson outlines the "promises" of e-government. What can be expected by implementing an e-government strategy? He argues that there are five main reasons for doing so: 1) to make citizen access more convenient, 2) to create an interactive level of services through online transactions, 3) to combat the perception of "disaffection" for government, 4) to cut transaction costs and produce a savings, and 5) to rein-

force the freedoms and civil liberties that distinguish a public organization from a private one (p. 2-4). It becomes clear from his essay that there is a need for a theoretical framework to evaluate the success of such initiatives. Garson recognizes that any successful e-government strategy highly depends on how well practitioners embrace the promise of such a powerful tool. Despite the challenges and limitations that such a force can bring, governments would benefit from having practitioners who are not steeped in “techno-speak,” but rather, embrace the vision of e-government by approaching it holistically.

The essays in section one highlight e-government initiatives from both the United States and abroad. The second chapter in this section, titled “A Brief History of the Emergence of Digital Government in the United States,” examines the development of digital government. Authors Harold Relyea and Henry Hogue look at the evolution of e-government and consider the ramifications of its development in the context of public performance. Fortunately, there are a number of individuals in the public sector who have a genuine interest in starting such reform and who play a pivotal role in advancing digital government. Their strategies are highlighted throughout the book. The final chapter of section one, by Laura Forlano, reviews the implication of e-government on the international front. Perhaps, the most significant part of the chapter is the review of the five stages of e-government: “emerging, enhanced, interactive, transactional and seamless” (p. 34). These stages are used to evaluate the extent to which online services have been implemented. She uses the methodology completed by the United Nations to provide a framework for evaluation of these Web sites and further explains that the Top 20 sites reviewed in her chapter were chosen for their well-documented and significant progress with e-government initiatives. This chapter is compelling because it shows the significance of innovation and technology on a global level. Folano’s case-study summary of international sites at each stage of e-government is an excellent addition and an important segue to the next section.

Section Two focuses on the look and feel of government Web sites, what is termed, “The New Face of Government.” This section focuses on what should be presented on a site to engage visitors who are looking for official and reputable information about a government entity. The chapters in this section summarize the steps made by the Federal government and several states to promote citizen interactions on the Web and to

change the way government does business. In the first chapter of this section, Patricia Diamond Fletcher takes the e-government strategies of the federal government to evaluate the policies in place in creating a Web “portal” to enhance service delivery. A “portal” is very similar to a Web site; its main difference is that it is a gateway to many other Web sites. It often is used by organizations where there are many agencies or divisions under an “umbrella” department. Specifically, Fletcher provides an overview of FirstGov project, a Web site that links all federal agencies onto one Web page, or portal, to facilitate all the information and services available at the federal level of government. In fact, Fletcher argues that the U.S. federal government is “the world’s largest creator, maintainer and disseminator of information” (p. 53). The reason this is significant is because e-government continues to be an important part of the public sector agenda, and consequently, there is a vested interest by all levels of government to enhance access to public documents and information.

In their article, “Government Web Portals: Management Issues and the Approaches of Five States,” Joshua M. Franzel and David H. Coursey also review the portal concept. Through case studies, the authors outline the management and policy issues that affect Web development at the state level and then, evaluate the effectiveness of such sites, using strategies from Florida, Kansas, Illinois, Pennsylvania and New Mexico. It is important to note, as they have, that an e-government strategy must go beyond service delivery and consider other key management and policy issues. They explore these issues in depth and then use them as a framework for examining state portals. The issues for evaluating such sites include: client definition, where the types of citizens and their needs are considered; political uses, which determine what the political implications are for Web portals; centralization, or deciding who has control over the portal; commercialism, focusing to what extent the public sector implements strategies from private companies; outsourcing, which, like centralization, considers whether to maintain and host a Web site in-house or through private means; and finally, performance measurement, which assesses a portal’s effectiveness (p. 66-70) After a useful summary of these issues, Franzel and Coursey analyze the five state portals and conclude more evaluative research is needed because the resulting comparison demonstrates that there are vastly different approaches to e-government initiatives. However, with reviews such as theirs, the litera-

ture benefits from these attempts to “benchmark” e-government practices.

The next section further explores the issues that affect digital governance. The challenges of e-government often include discussions about privacy, procurement and commerce. The issue of privacy becomes critically important for public organizations, especially at the federal level, because they routinely must combat the perception of “Big Brother” (p. 145). Therefore, Patrick Mullen’s chapter is pertinent and pressing. He argues that the “Federal government’s ability to collect, analyze and disclose personal information” is critical in times of declining levels of trust in government by Americans. He discusses how to implement security measures alleviate some of the privacy concerns for e-government practitioners.

This section also covers common practices for government purchasing departments. Using e-procurement, governments are delving into the marketplace, using the same online solutions as many private companies, thus, facilitating the way governments and businesses work together. This chapter tends to be a little more technical and perhaps may be one of the few areas of the book that is of interest to only a specialized group of readers. Nonetheless, the information provided is reflective, comes from practical knowledge, and hence, is beneficial to the discussion of digital government. Genie Stowers discusses how government incorporates an e-business model to move forward with e-commerce; J. William Holland summarizes the impact of e-government in the area of criminal justice; and Carole Richardson looks at the challenges and benefits of working with public/private partnerships to tap into the innovative solutions that come from such arrangements. Rounding out this section, Ronald Anderson touches upon the ethical issues that are inherent in digital government. How are long-held values such as integrity, fairness, and well-being, in balance with other issues so important to the public sector, such as professional responsibility, the need for privacy, and even intellectual property?

What is next for digital government? Section Four attempts to explain how to prepare for digital government after all the issues have been considered and implementation is near. Earnest efforts to share information can be desired, but how will the information be stored. In “Data Warehousing and the Organization of Governmental Databases,” Franklin Maxwell Harper introduces the idea of data warehousing as a tool for re-

taining records so that they can be easily retrieved when needed. Geographic Information Systems (GIS) is another area that has creative implications for public organization once a plan is in place for its effective use. Through mapping tools, GIS applications not only enable government leaders to make better-informed decisions, it also puts more information in the hands of residents (p. 249). By providing locations of City facilities and amenities, local jurisdictions can help potential residents make informed decisions about where to live. This information adds to the level of transparency, and may increase trust in government. The hope is that through these technological advances, citizens feel more connected to their government. GIS is one mechanism for doing so.

Another key area that is reviewed is education and training. How do we prepare practitioners when it comes to digital government? Shannon Howle Schelin, in her essay, "Training for Digital Government," reviews three models for digital government training. What is most compelling about her essay is the discussion of barriers to successful e-government implementation. These barriers include lack of financial resources, lack of technical expertise as well as the lack of technology staff among small, medium and large organizations (p. 267). The information is insightful, and she further suggests that Web-based tutorials, or courses offered by universities, may be one outlet for continued study and training by public organizations. This section concludes with a chapter by Alexi Pavlichev, who further suggests that technology and e-government become part of the curriculum in public administration programs in colleges and universities.

The final section of *Digital Government* looks to the future. The future of digital government must continue to consider the impact of Internet access for different socioeconomic groups, to whom the concept of the "digital divide" is an important one. According to author Richard Groper, education and income continue to be important variables in deciding who has the ability to complete transactions online. Because of these discrepancies, equal access to the Web will continue to be an issue for the future of e-government activities. Civic engagement also will be a continuing topic for U.S. and international governments. Building interfaces that encourage participation is addressed in the final chapters. Lastly, Christopher Corbett's summation of digital government practices, with a target date of 2012, puts into perspective what has been done and

what still needs to be done by those in public administration to enable a technologically advanced government.

While the book summarizes most facets of an e-government strategy, it offers thin dialogue on how to adequately secure government information, possibly leaving that discussion to a more technical audience. Though, it should still be noted why this concept is absent. Another oversight by the authors is the whole concept of transformation, which they briefly mention in the preface, but never follow through. Transformation is revolutionary; government has been plagued by the perception of moving slowly. Examples of how one government has realized a transformative impact would support this discussion. While many public managers move cautiously, organizations where top managers embrace technology tend to be the organizations that make significant headway. It is important to realize that government leaders, in general, are hesitant to post all previously inaccessible information, such as internal memos, meeting minutes and other communication of a sensitive nature. There is some reluctance to provide “too much information” and some will be slow to move because of concerns over providing equal access. Considerations still need to be made to ensure that those without Internet access have the same access to these documents as those who have access online. While the Web does allow for more sharing of these types of documents, it will require some thoughtful consideration to what extent information should be shared without infringing on sacred freedoms and civil liberties of those in the United States.

Digital Government delivers practical strategies for meeting the demands of the digital age. The contributions in provide important insight—through concrete examples—on how to move forward in creating an interactive and integrated use of the Internet, and they are worth the read. The book outlines significant technological initiatives that positively impact productivity and efficiency. These initiatives could be easily replicated by other public organizations. Certainly, as citizens demand the same services from the public sector as they receive from the private sector, initiatives in e-government will remain on the forefront. Pavlichev and Garson’s book is valuable and may capture the attention of those in the public sector who are venturing into this worthy endeavor.

INTERVIEW WITH STEPHEN A. OWENS, FORMER DIRECTOR OF THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) 2003-2009

Ulrico C. Izaguirre, M.P.A.
Arizona State University

On April 1, 2009, President Obama nominated Steve Owens to the USEPA as the Assistant Administrator for the Office of Prevention, Pesticides, and Toxic Substances. Steve Owens served as Director of the Arizona Department of Environmental Quality from January 2003 and until January 2009. Owens served as counsel to the Subcommittee on Investigations and Oversight of the U.S. House of Representatives Committee on Science and Technology. During 1985-88, he was chief counsel and later state director for then U.S. Senator Al Gore. From 1999-2002 Owens served as a member of the Joint Public Advisory Committee of the North American Commission on Environmental Cooperation. As ADEQ Director, Owens chaired Arizona's Climate Change Advisory Group, served as co-chair of the Western Climate Initiative and was Secretary of The Climate Registry. In September 2008, Owens was elected President of the Environmental Council of the States, the national state environmental agency directors association, serving until he left ADEQ. Steve graduated with honors in 1981 from Vanderbilt Law School.

PERSPECTIVES IN PUBLIC AFFAIRS (PiPA): WHAT DO YOU FEEL IS ONE OF
THE MOST IMPORTANT LEADERSHIP QUALITIES NECESSARY TO LEAD A
STATE AGENCY?

The ability to provide a vision for the agency and the direction to achieve it.

(PiPA) HOW DID YOUR FEDERAL SERVICE HELP YOU IN MAKING THE TRANSITION TO BECOMING A STATE AGENCY DIRECTOR?

I worked in the federal government as a top aide to Al Gore in the U.S. House and Senate. That experience helped me in a number of ways. It helped me understand the broad array of issues that are involved in environmental protection as well as know how the federal government works, especially EPA. It also enabled me to have a better perspective on the relationship between the state, federal agencies and the Congress and how to advocate effectively for Arizona's interests in our dealings with the federal government. Working for Al Gore taught me the importance of far-sighted leadership on critical environmental issues.

(PiPA) WHAT ARE SOME OF THE IMPORTANT ACCOMPLISHMENTS YOU ARE MOST PROUD OF AS YOUR TENURE AT DEQ ENTERS ITS 7TH YEAR?

I think our most significant overall accomplishment has been transforming the department from an agency that just generally did whatever the lobbyists and special interests wanted to one that is truly committed to protecting Arizona's environment and the health and safety of the people of this state to the greatest degree possible under the law. I am very proud of the fact that ADEQ now is considered one of the best state environmental protection agencies in the country. In terms of more specific things, I am extremely proud of the work we have done on climate change, children's environmental health, improving air and water quality, expanding recycling and involving more young people and students in recycling and environmental protection, and promulgating a number of extremely important rules that were long overdue and had been blocked by powerful special interests for many years. And last but not least, one of the best things we have done is dramatically change ADEQ's relationship with rural Arizona and significantly increase our outreach to and support for rural communities.

(PiPA) WHAT STEPS HAS AZ TAKEN TO ADDRESS THE ISSUE OF CLIMATE CHANGE?

Former Governor Napolitano has repeatedly said that in the absence of any meaningful action at the federal level, it is up to the states to lead on the issue of climate change, and under her leadership, Arizona has

been in the forefront of states addressing climate change. Former Governor Napolitano issued an Executive Order in February 2005 creating a Climate Change Advisory Group (CCAG) consisting of community leaders from across the state. I chaired the CCAG on behalf of the former Governor. The CCAG issued a report in August 2006 with 49 recommendations for reducing greenhouse gas (GHG) emissions in Arizona, and actions to implement a number of those recommendations. A number of other U.S. States, provinces and Mexican states are “observers” to the Western Climate Initiative (WCI). On September 23, 2008 the WCI issued its Design Recommendations for the cap and trade program, outlining the most comprehensive effort in North America to date to address climate change.

(PiPA) DO YOU FEEL THIS IS ENOUGH?

We need a strong, comprehensive program at the federal level to reduce GHG emissions, reduce fossil fuel consumption and increase the development and use of clean, renewable energy in America. A federal climate change program should not supplant or replace the work being done by Arizona and other states, but instead should build on those efforts.

(PiPA) GIVEN THE RECENT BIPARTISAN EFFORTS TO REDUCE AMERICA’S DEPENDENCE ON FOREIGN SOURCES OF OIL, DO YOU SEE AZ AS A POTENTIAL ECONOMIC ‘HOT SPOT’ FOR WIND AND SOLAR ENERGY PROJECTS?

Arizona should be the “Saudi Arabia of solar energy.” We have enormous solar and wind energy resources in Arizona, but more needs to be done to harness them.

(PiPA) WHAT SHOULD PUBLIC/PRIVATE PARTNERSHIPS BE DOING TO MAKE THIS A REALITY?

Arizona’s future lies in the “Green Economy.” Investment in clean, renewable energy resources and technology, as well as energy efficiencies, will create a large number of “green collar” jobs in our state and provide significant economic benefits. The private sector is beginning to

recognize the opportunities and is starting to invest more in this area. The recent extension of the federal tax credit will help a lot. The Renewable Energy Standard adopted by the Arizona Corporation Commission will result in a significant increase in the use of renewable energy, like solar and wind, in Arizona. Steps need to be taken to increase the direct use of solar and other renewable energy by homeowners and small businesses, including through promotion of distributive energy provisions and net metering by electricity providers in Arizona.

(PIPA) WATER IS A BIG ISSUE IN ARIZONA, WHAT STEPS HAVE YOU TAKEN AS DIRECTOR TO ENSURE SAFE, RELIABLE AND PLENTIFUL SOURCES FOR WATER FOR THE REGION?

Protecting Arizona's precious water supplies is one of ADEQ's highest priorities. Arizona's has one of the strongest groundwater protection laws in the country, and under former Governor Napolitano we have taken aggressive action to apply and enforce that law. We have written tough permits that safeguard against the risk of groundwater and surface water contamination by strictly limiting the types and amounts of pollutants that facilities can discharge. We have tightened our surface water quality standards to protect Arizona's water bodies. During this Administration, we have taken effective enforcement action against polluters who have contaminated surface and groundwater in our state, including obtaining the largest penalty ever under our groundwater protection law and the largest penalty ever under our drinking water statute.

We also are working hard to protect the Colorado River, which is the primary source of drinking water for the Phoenix and Tucson metropolitan area.

(PIPA) WE SHARE A BORDER WITH THE MEXICAN STATE OF SONORA. WHAT WERE SOME OF THE UNIQUE CHALLENGES FACING THE DEPARTMENT AS BOTH STATES AND NATIONS WORKED TOGETHER TO ADDRESS THE ISSUES OF ENVIRONMENTAL QUALITY?

ADEQ works very closely with Sonora's Commission of Ecology and Sustainable Development (CEDES), our counterpart agency in Sonora, on a wide range of issues, including air and water quality, children's environmental health and climate change. The Secretary of CEDES and I co-chair the Environment Committee of the Arizona-Mexico Commis-

sion through which much of the joint work is conducted. ADEQ and CEDES also work together through the Border 2012 effort overseen by the U.S. Environmental Protection Agency.

Arizona and Sonora face significant air quality challenges in Ambos Nogales, the area that encompasses both Nogales, Arizona and Nogales, Sonora. There are very serious problems with particulate pollution in the area, caused by both the large number of unpaved roads in Nogales, Sonora, as well as the large volume of diesel truck traffic crossing the border there. One of the most difficult water quality problems we face together is dealing with wastewater in the Nogales area. Arizona and Sonora are working with various U.S. and Mexican federal agencies, as well as local officials, to address ongoing problems with releases of untreated wastewater on the Mexican side of the border that flow into Arizona. All of the agencies are collaborating on the construction of the Nogales International Wastewater Treatment Plant, which will help treat wastewater generated on both sides of the border and hopefully resolve the environmental and health risks presented by the current situation.

Finally, we are working very closely with Sonora, as well as the other Mexican Border States, on climate change. Former Governor Napolitano and Governor Bours of Sonora signed the Arizona-Sonora Climate Change Initiative in 2005 under which we have been helping Sonora develop an inventory and forecast of its GHG, as well as strategies for reducing GHG emissions in Sonora. Sonora and the five other Mexican Border States participate as Observers in the Western Climate Initiative as well.

(PIPA) WHAT ARE THE CHALLENGES YOU FACE IN CROSS-BORDER GOVERNANCE WHEN MANAGING THESE ISSUES?

Some of the environmental problems faced by border communities in Arizona originate with the circumstances in Mexico. For example, the City of Nogales, Arizona suffers very significant air pollution problems, but many sources of the air pollution are located in Nogales, Sonora in Mexico. Additionally, periodically sewage from Nogales, Sonora periodically flows across the border, presenting health risks for people living in Nogales, Arizona. These and other problems along the border present significant challenges because the State of Arizona and ADEQ have no regulatory authority over pollution sources in Mexico. Consequently, we

must work with environmental officials at the state and federal levels in Mexico to address cross-border environmental problems, rather than being able to take unilateral action on our own. Sometimes that also means providing technical assistance and other support to Mexican officials to help them reduce pollution sources on their side of the border.

(PiPA) WHAT CULTURAL, ORGANIZATIONAL AND VALUE DIFFERENCES HAVE YOU ENCOUNTERED AND HOW HAVE YOU WORKED THEM OUT?

The approach to environmental regulation is generally different in Mexico. Mexican environmental laws and regulations are not as comprehensive or as developed as ours, and Mexican authorities generally have less ability to achieve environmental compliance through enforcement. Moreover, depending on the issue, the responsibility for environmental protection in Mexico is sometimes divided between agencies or departments with different missions and perspectives. Sonora recently adopted a new environmental code, however, to increase environmental protection in that state. The difference in legal approaches means that we at ADEQ have to communicate and work closely with our counterparts in Sonora to address environmental problems along the border.

Fortunately, there are structures in place – such as the Arizona-Mexico Commission and the Border 2012 project—that facilitate these important cross-national efforts through regular meetings and a wide range of collaborative efforts. Also, a couple of years ago, I created an Office of Border Environmental Protection at ADEQ to put greater emphasis on border environmental problems in the department and ensure that activities throughout ADEQ that affect the border are coordinated with officials in Sonora whenever and wherever appropriate.

(PiPA) WHAT DO YOU SEE AS THE FUTURE CHALLENGES OF THE REGION?

From a long-term perspective, the most significant environmental challenge facing the Valley is climate change, although we already are beginning to experience some of the impacts of the changing climate. Recent major scientific studies by the Intergovernmental Panel on Climate Change (IPCC) and the U.S. Climate Science Program (in the U.S. federal government) makes clear that the American Southwest, including Arizona, will be one of the regions hardest hit by climate change. The

impacts include even hotter temperatures than we already have been experiencing, more prolonged drought, longer and more intense forest and rangeland fires, decreased snowfall, more rapid snowmelt and other severe effects – all of which have big implications not only for air quality, water quality, water quantity and the environment in general, but also public health and the overall quality of life in the Valley as well.

On a more short-term basis, the challenges facing the Valley are all tied directly to the explosive growth the region has undergone. For example, the ozone pollution problem we have in the summer is linked primarily to the fact that we have more and more people driving more and more cars more and more miles each day. We also have millions of people fueling up their vehicles or using gasoline-powered lawnmowers or other similar equipment everyday. Ozone pollution is the result of emissions from all those vehicles, fuel pumps and equipment engines being “cooked” in the intense heat and sunlight in the Valley during the summer months. Similarly, the wintertime particulate pollution problem we have is connected to the dust, grit and other “gunk” that is stirred up by construction, off-roading, leaf blowers and traffic, as well as particulates in the smoke from fires (in fireplaces and open pits) and all the dust-generating activities that the millions of people who live in the Valley engage in every day. While we have particulate pollution year round, it is a real problem during the winter months because we have temperature inversions, which means that the cooler air traps the dust and other particulates closer to the ground.

The Valley – and Arizona as a whole – will continue to grow because this is a wonderful place to live. But we have to do more to protect the environment and the quality of life we have here, including using “smart growth” practices to design more sustainable communities, increasing public transit, encouraging more alternate work practices (like telecommuting and flex-time) and other actions.

