

GOVERNING WITHOUT A (NATIONAL) RUDDER:

A LOOK AT A MULTI-LEVEL AND MULTI-ACTORED MODEL OF CONTEMPORARY ECONOMIC GOVERNANCE IN NORTH AMERICA

WORKING PAPER

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OVERVIEW

This paper looks at an emerging model of economic governance in North America whose development has coincided with broader structural changes in the way states have adapted to the realities of globalized and innovation-driven economies. It is a model of non-market governance, where locus of coordination is local rather than national. From the standpoint of the state, it implies an approach to economic governance that embraces both multilevel and associational forms of coordination where actors from different levels of government, together with associations and civic entrepreneurs, seek to align their strategic intent in pursuing economic goals. ‘Comprehensive governance’ is how it is labeled here, a term that captures the complexity and interconnectivity of a process whose principle determinant of success is the sustaining of strong local investment in market and non-market institutions alike. Findings presented here are preliminary and focus on the Austin–San Marcos region of Texas, one of two comparative case studies being conducted for this study.

INTRODUCTION

The claim, in its various guises, has become a familiar one. Be it in studies of the European Union, international relations, public policy or political economy, the centralized state has been 'in retreat', 'hollowing out', 'unraveling' and even dysfunctional (e.g. Hooghe and Marks 2003, Jessop 1994, Ohmae 1993). Anxious metaphorical descriptors of state transformation to be sure, but all reflective of a multidisciplinary concern for the manner in which political authority of the national state - not so long ago an exemplary for hierarchical, accountable, top-down governance - is 'diffusing' as a result of an increasingly interdependent social, political and economic environment.

Along with an upward delegation of authority to intergovernmental organizations to manage the effects of globalization (Mann 1997, Kahler and Lake 2003), several states, driven in part by their own ideological budget cuts, have downloaded national responsibilities to subnational levels (Clarkson 2002; Henton et al. 1997), while shifting further political authority horizontally to private sector actors out of a need for specialized knowledge and private money to achieve desired economic objectives (Jessop 1998). The diagnosis: with such a multi-directional diffusion of power, no longer can states viably depend on a Weberian-like capacity to coordinate and plan from centre stage to achieve their goals, but instead must be mere participants in 'multi-actored arenas' of stakeholders.

Where these claims resonate most loudly is, arguably, in areas of economic governance, particularly among advanced capitalist states. Subject to deepening economic integration, facilitated by a type of neoliberal ideology throughout the late 1980's and 1990s that has overseen the extension of market governance in the coordination of the economy, the state has not only experienced the transfer, but also the curtailment, of several traditional domains of its economic power. Free trade agreements, increasingly more stringent through successive negotiations of the WTO, have hemmed in long standing industrial policy instruments of firm subsidies and incentives, while the elimination of capital controls carried out under the gradual the liberalization of the global financial system has, among other effects, made steering of investment to preferred regions unacceptable (Keating 1997: 21). Economic integration has also encouraged corporations, whose production and service have been globally rationalized, to put pressure on states to harmonize regulatory policy to reduce their costs stemming from different standards and practices (Ostry 1996). And finally, the extension of the market throughout the 1980s and 1990s over what were once considered strategic industries has pushed bureaucrats, for the most part, out of business.

This apparent loss of authority has, unsurprisingly, been subject to a surge of interest among academics offering new frameworks and vocabularies that seek to accommodate these changes in political order. Network governance, multi-level governance, governed interdependence, global governance, multiple jurisdictions, multi-centered governance, polycentric governance and multiple local jurisdictions; these are but a few of the terms from the various disciplines seeking to conceptualize the manner in which states are adapting to a decentralized authority while continuing to pursue their social and economic goals.¹

While on the face of it, such diverse terminology bespeaks of theoretical obfuscation in the quest to redefine the ‘new architecture of authority’, they are, in effect, all unified in their attempt to better understand new patterns of coordination that have emerged as a result of a reconfiguration of authority. And, most certainly, they are clear about one aspect, namely that it is governance and not government that is of theoretical pertinence. With an explicit focus on the mechanisms of coordination through which decisions are arrived at, an analysis of governance helps extend the analytical perimeter beyond the state, and indeed any one level of the state, so as to better accommodate and analyze the interactions among all relevant actors and institutions that have come to have some bearing on the manner in which social, political and economic activities are now coordinated. As Jessop (1998: 31) points out, the language of governance offers a way out of the popular, though simplistic, dichotomies that frame several important issues in the social sciences. Market versus hierarchies, public versus private, and strong versus weak states are but a few examples of such dichotomies that could benefit from a theoretical solvent that governance, through its broader more encompassing framing, has the potential to be.

By bringing a governance perspective to bear on the actors and institutions that are increasingly prevalent in the innovation-driven economies of advanced capitalist states, the paper seeks to do just that. It argues that, based on evidence of a pattern of economic governance in North America that has emerged from a ‘re-scaling’ of the key institutions that stabilize and coordinate a knowledge intensive economy, there is theoretical merit to conceptualizing economic governance more broadly than has been thus far attempted so as to capture all the relevant actors and institutions. To this end, this paper introduces the notion of ‘comprehensive governance’ as a term that embraces both the multilevel elements of state economic governance and the different forms of associative governance that are considered by much of the ‘new regionalism literature’ as an important ingredient to successful

economic regions. Moreover, it is a form of governance whose locus is at the local rather than national level.

NON-MARKET GOVERNANCE IN ADVANCED CAPITALIST STATES

A useful starting point in conceptualizing economic governance - defined here as the means of coordination through which decisions are made in the allocation of economic resources - is to make the distinction between *market* and *non-market* governance. In Canada and the United States and indeed elsewhere, discussion of economic governance typically begins with the presumption that market governance is the most effective way to coordinate an economic system (Nelson 2001). This ‘default position’ assumes that the autonomous firm, engaging in an institutionalized process of exchange for the purpose of determining consensus over price, is best way of organizing economic activity.² And indeed, policies aimed at extending such governance have been the mainstay of much of the economic reforms of the past few decades.

This preference for market governance is, of course, a reflection of the plentiful and indisputable evidence that shows that markets have, and continue to be, very effective in coordinating an array of economic sectors. And perhaps more importantly, markets - when competitive - are shown to spur innovation due to the rivalry that they create when ‘every economic position within them is open to challenge’ (Metcalf 2001). “The major achievement of the market’ write Hollingsworth and Boyer (1997:7), “has not been so much the invisible hand as formalized by modern equilibrium theory, but the stimulus to innovation which markets as coordinating mechanism bring about, a neglected theme first put forward by Adam Smith”.

Yet as effective as markets have been in the coordination of economic life, this orthodoxy marginalizes the extent to which non-market institutions coordinate many of the critical parameters of the capitalist system. Most obvious is the role of national institutions in regulating the financial system and the set of rules that govern markets in general. But as important are the institutions for training, for the building up of knowledge bases and general infrastructure, all of which are coordinated outside the market system and indeed essential to long term economic performance, a fact well appreciated as early as 1841 by Frederich List’s comparative work on National Production Systems.

Equally pervasive is the role of non-market governance in economic development which, judged by its pervasiveness at both national and subnational levels, constitutes one of the most active area of economic governance, with estimates of total US expenditure on economic development reaching some

\$40 billion a year.³ The extent of this non-market activity suggests that it is no longer useful to consider advanced capitalist states as developed but rather as *developing*. As economies come to depend ever more on new knowledge and global markets this transformation process – typically termed economic development - must become an ongoing one with no endpoint. For while new knowledge continually opens up new economic spaces, giving rise to new opportunities for economic growth, it also destroys markets for existing activities, the effect of which is to shift the relative economic importance of not just products and industry sectors but also regions and entire countries (Metcalfe 2001:22).

And somewhat paradoxically, in the shadows of what Richard Nelson calls the canonization of market coordination over the past few decades, has grown a body of theoretical literature challenging the very supremacy bestowed to market governance in governing markets. Markets, as many scholars began to argue, are not in fact ideal mechanisms for organizing demand and supply in all situations. Where increasing returns to scale are prevalent, for example, and in sectors where products are very complex and changing rapidly, market mechanisms have been shown to be sub-optimal (e.g. Hollingsworth and Boyer 1997, Kuttner 1997, Nelson 2000, Branscomb et al. 2003).

Among the comparative capitalists concerned with analyzing national systems of production and others, these market limitations are well appreciated. Innovation, on which a growing segment of the economy depends, is fundamentally a process of learning, knowledge creation and knowledge dissemination, all processes that have shown to be supported by non-market institutions, such as research organizations and consortia, and coordinated through non-market modes of governance including partnerships, strategic alliances and trust based networks (e.g. Lundvall and Maskell 2000, Metcalfe 2001, Hodgson 1999).

Such an understanding is captured with a notable observation where ‘the most advanced economies function more and more in terms of the extra-economic’ (Jessop 2000: 69). This is supported by an extensive array of evidence among which are the growth in university-industry interactions, the commercialization of public funded research, the growth in state expenditure in R&D and the increasing use of research networks (see OECD 2000). As such markets, while important for the stimulation of innovation in knowledge intensive economies, cannot do so on their own but in fact require the assistance of non-market governance. As Metcalfe points out, “what [Adam] Smith did not develop is how this growth of knowledge is coordinated.”⁴

To summarize briefly at this point, what has thus far been argued is that non-market governance has become more pervasive as economies, in their dependence on innovation and knowledge creation,

have come to rely on new modes of coordination and institutions, many of which have a public component. Thus, remarkably, in the face of two decades of marketization rhetoric, the state's role and their interaction with the market has in fact increased, belying neoclassical thought which holds that optimizing the allocative efficiency of resources through markets is the most effective way for achieving economic growth and development.^{5, 6} A second dimension of this trend, discussed in the following section, is that while non-market governance has become increasingly prevalent in advanced economies, its locus has shifted to subnational levels.

SPATIAL RECONFIGURATION OF NON-MARKET GOVERNANCE

In most states, the institutions underpinning economic transactions are rooted at different spatial scales. So the simple exchange of an orange, or other such commodity, depends on the existence of a market which, though often a locally based, is an institution that is supported at the national level by regulation protecting, for example, property rights and the value of the currency. And in turn, these national institutions may be supported regionally (or locally) through enforcement, and locally through informal norms and trust.

This observation is equally true for entire to production systems, and in fact, entire economies. For capitalist states whose predominant wealth producing activity is agriculture, for example, national level institutions stabilize most, if not all, of the transactions that take place outside of the farm. Trade policy guarantees access to markets; monetary policy stabilizes prices and cost of borrowing for investment in farm equipment; and national transportation policy can affect distribution costs. Thus the locus of institutional support and coordination, or governance, is predominantly national as opposed to regional or local.

And as several authors have argued (e.g. Swyngedouw 2003, Jessop 1993, 1994), national governance was also central to the Fordist economy of the 1960s and 70s whose dominant mode of growth was achieved through the mass production of complex consumer durables through the mass use of semi-skilled labour (Jessop 1994:252). Here the macroeconomic regime responsible for sustaining growth in production and consumption, and the many organizational forms, social networks and institutions that governed the workings of the regime, were rooted at the national level. National demand management policies, for example, catered to the supply-driven character of production whereby, through large capital spending, these policies sought to ease the fluctuations in the economic cycle, helping stabilize growth which in turn promoted further investment for ever greater economies

of scale (Jessop, 1994: 255). Related to this were national policies encouraging mass consumption through labour policies and collective bargaining, which helped ensure that wages rose along with efficiency, which subsequently translated into greater domestic demand. And on the social end of the production regime, national governance was again crucial to trade unionism, which helped the state towards full employment targets and, in the expansion of welfare which catered to the social failings of the Fordist system.

Not all economic governance transpired at the national level but enough did so as to make the national state the pre-eminent scale of governance. With the growing internationalization of production that characterized this golden era of growth, for example, networks of capital required supranational governance to stabilize the monetary system, achieved through the Bretton Woods agreement (Swyngedouw, 2003). But even then, credit for the production system remained regulated at the national level.

With knowledge- and innovation-intensive sectors now taking on the role of the hegemonic production system in economic policy in many advanced capitalist states, this long-standing dominance of the national level governance is being challenged from below. For what differs in innovation intensive economies is a) the type of non-market institutions that are important in underpinning the essential, and indeed often more complex, set of transactions of knowledge intensive production processes and, b) the spatial scale at which these institutions are situated. Whereas the Fordist economy depended extensively on trade unionism and collective bargaining, for instance, innovation-driven economies are increasingly dependent on such institutions ranging from trust to the more formal variety such as universities, research institutes and research consortia, all of which can be pivotal in sustaining knowledge creation and learning.

This shift to 'supply side' governance has thus changed the relative importance - and mix - of non-market institutions that support economic transactions, many of which, as an extensive literature on innovation and economic geography points to, are often locally or regionally based (e.g. Maskell 1998, Cooke and Morgan 1998, Lundvall and Maskell 2000, Metcalfe 2001). The effect of this has been a spatial reconfiguration of networks that coordinate economic activity and is what Swyngedouw (2003) calls the 're-scaling of the economy'. And its impact, at least partially, has been a shifting of the locus of economic governance to subnational levels.

This regionalist logic has given rise to various of spatially-bounded frameworks whose common premise is that regional economic performance is explained as much by the *external* organization of

firms and institutions as by their *internal* capabilities. ‘Learning regions’ (Maskell and Malmberg 1995, Florida 1995) and ‘intelligent regions’ (Cooke and Morgan, 1991) are two such concepts that understand the region as a unit of analysis in which local production is embedded in an often unique environment of institutions and actors that together compete collaboratively at the global level. “Vehicles of globalization” is how Florida labels these regions (528).

Yet, as mentioned earlier, there is more than ‘new regionalism’ driving non-market governance below the national level. With the expansion of liberalized trade and foreign direct investment, together with the prevalence of neo-liberal economic policies among the Anglo-Saxon economies, several national, and indeed, some regional governments have backed away from traditional economic development policies and downloaded policy responsibilities to lower levels as part of their efforts to contain government deficits. The effect has been a ‘silent downloading’ of economic adjustment to the local level, such that communities, rather than national states, must now confront, largely on their own, the prospects of lost economic activity as a result of an ever evolving global economy. This has opened up space at the local level for economic development strategies of a nature previously attributed to national levels of the state. Guided by these strategies, communities take on the challenge of realigning their economic assets to take advantage of emerging economic opportunities and attracting investment.

TOWARDS A NEW PATTERN OF NON-MARKET GOVERNANCE

While community actors are important in this transformation, they operate in a multilevel regulatory, jurisdictional and institutional context that requires the involvement of various non-community actors. The focus of the remainder of this paper is on the new forms of governance that have emerged to accommodate this multifaceted set of actors and institutions. What is argued is that these forms may indeed be cohering into a new pattern of governance that is theoretically tangible and which displays definable characteristics. The pattern is called comprehensive governance, which is in its essence a *process* rather than a system, and one that is organized across different levels of government involving various types of associations. Together these actors, working within their respective institutional constraints, coordinate economic transformation and adaptation at the local level.

The evidence for the model stems from a comparative study of two regions in North America, the Greater Toronto Area and the Austin-San Marcos corridor, of which only latter is discussed here.

Through an actor-centered interview approach, the research sought to determine the boundaries of economic governance in the regional Information and Communication Technology (ICT) sector that demarcate the relevant actors and the institutions involved. In so doing, firms, associations, different levels of governments, formal institutions such as universities have all been accommodated for in the analysis.

These regions are of interest because, in addition to having nationally prominent ICT sectors, both are situated within liberal market economies of mature federal systems whose different levels of government are each active in economic governance. Moreover, both are within the same continental governance structure, the North American Free Trade Agreement, and neither region has received any special economic attention from the national government.⁷ The focus on ICT specifically, and high technology more generally, is two reasons. First, ICT represents a knowledge intensive, highly innovative sector with a global orientation. Typically science-based, export focused with network-oriented production, the ICT sector includes many R&D intensive firms well positioned to benefit from linkages with research institutions, supportive R&D policy as well as a liberal macroeconomic policy environment. Second, as a sector, ICT is sufficiently established and organized to be useful in the task of illustrating governance dynamics at different levels. Thus, the patterns that are identified should in principle share many of the essential features of other established or emerging knowledge intensive sectors such as biotechnology.

Austin, Texas

As the capital of a state whose name invokes images of rugged individualism and oil-driven capitalism, Austin may not be the obvious choice for a study of high technology let alone of a model of economic governance where public-private cooperation and long term planning figure so prominently. Yet from its roots as a sleepy government town, albeit one with the crown jewel of the University of Texas system, UT at Austin, the Austin-San Marcos region experienced an economic transformation over the course of four decades that, by the early 1990s, has made it a Mecca for semiconductor research and manufacturing, software and computers and peripherals. Motorola, Advanced Micro Design, Samsung, Applied Materials, Tokyo Electron, and Dell Computers are among the most prominent to have significant operations in Austin, contributing by the late 1990s, to upwards of 68% of the total manufacturing in the region.⁸ And as impressive has been the rise of the technology related service firms, such as software development, semiconductor R&D, computer systems integration,

software consulting, which, by the mid-1990s, accounted for some 50% of the 150,000 service employment.

Less noticeable, however - at least statistically - has been the region's thickening institutional tapestry on which this remarkable transformation has taken place. As Figure 1 shows, Austin experienced a gradual flourishing of prominent non-market actors that include traditional research centres to research consortia and influential associative organizations, over the course of six decades. The source of Austin's transformation can be traced back to the earliest of these, the Balcones Research Center, established in 1946 in partnership between the University of Texas (UT) and the Federal government. The research that was carried out at this center, which included sonar, radar and other military related research, provided Austin with a technology knowledge-base that would spawn many new firms including Tracor, which would become Austin's first fortune 500 company contribute some 15 spin-off firms to the region.⁹

Several decades later came the establishment of two research consortia, which by most accounts were the defining actors in the transformation of the Austin economy. Along with the symbolic effect for the region's perception as a high technology hub, these research consortia would have a substantial effect economically on drawing more firms to the region. The first of these was Microelectronics and Computer Technology Corporation (MCC) which, soon after it established itself in 1983, prompted several relocations to Austin of several major high tech firms including Lockheed's software R&D operation, an Austin based expansion of Motorola, and a 3M R&D operation of 3000 employees which was the first operation established outside Minneapolis.¹⁰ Conceived of out of a fear of competition from Japan, which at the time had been having considerable success with their own consortia, MCC, one of the country's earliest private sector research consortia, would 'level the playing field' in the design of fifth-generation computers without compromising 'the precious principles of competition and free market'.¹¹

Five years later, came SEMATECH (SEMiconductor MANufacturing TECHnology), another pioneering public-private research consortium, whose purpose was to strengthen the US Semiconductor industry by leveraging resources and sharing risk in efforts to overcome common manufacturing problems in semiconductor production. Focused on implementation of technologies rather than long term research, SEMATECH would also have a considerable impact on the local economy, drawing most notably Applied Materials to the region which itself prompted more than a few semiconductor equipment and parts manufacturers to relocate.¹²

Established in the shadows of these institutions, were several much smaller organizations and institutions that would later have an important contributory role to the overall economic governance in Austin. The IC² Institute (Innovation, Creativity and Capital) was founded in 1979 to carry out research on technology- and science-based wealth creation, and would later create three other influential non-profit organizations. The first was the Austin Technology Incubator, which, since its founding in 1989, has graduated 65 firms, accounting for some \$1.2 billion in revenue.¹³ Soon after came The Capital Network, a non-profit venture capital organization that now manages the largest venture capital network in the country.¹⁴ The third to be created under the auspices of IC² was the Austin Software Council (now Austin Technology Council) in 1992, whose current objective is to maintain Austin's standing as a technology community. Outside of the sphere of IC² related organizations are such organizations as the Austin Area Regional Organization, created in 1980 and comprising of leaders committed to the economic and social well being of the Central Texas Area, and 360 Summit, created in the late 1990s in an effort to integrate high-tech companies into the community by having CEOs participate in local charities and civic organizations.

What all these organizations have in common is that they are either an outcome, or an actor (or both), of a non-market governance process that permeates throughout the region. The process is both deliberate and ad hoc, steered by local strategies (see Figure 1) and realized by the collective actions of a social sector comprising of associations and 'civic entrepreneurs' committed to the economic well-being of the region. Indeed, this process accounts for the successful biddings of MCC and SEMATECH, two highly sought after organizations, as well as the establishment of major 'marquis' MNC production and R&D facilities, including Samsung, 3M, and AMD.¹⁵

While facilitating recruitment and local expansions have indeed been major goals of this process of comprehensive governance, such activities have been complemented by a collective effort to create a strong research capability at the university, as well as a culture and knowledge of technology entrepreneurship. This capability was developed largely from the leadership of a single civic entrepreneur, George Kozmetsky, founder of the IC² group of organizations, in cooperation with the University of Texas, where he was Dean of the College and Graduate School of Business.¹⁶

These organizations and firms, once established through either their recruitment or founding, typically become included in the set of social relationships that animate the region's comprehensive governance. This reintegration is facilitated by several associative organizations, including the Austin Area Research Organization (AARO) and The Ideas Network, which call upon respective leaders to

engage and take on responsibility for existing or emerging social, economic or infrastructural problems in the region. While many of these are adjustment problems related to the economic growth that these firms have brought, they need not be so. One of AARO's current concerns, for example, is finding a solution for integrating the many migrants from Mexico, most of whom have little to no post-secondary education, into the region's knowledge economy.¹⁷

This governance process is thus activated to resolve a range of issues important to economic adjustment and adaptation, many of which have been traditionally marginalized in formal economic planning within the state. What comprehensive governance, therefore, achieves is a capacity to make endogenous the many interrelated social and economic issues in the governance process so as to help create a responsive region that can be resilient to the vagaries of the global economy. These may be infrastructural adjustments necessary to accommodate development, training needs at the secondary and post-secondary levels for local industry, water management for new semiconductor plants or facilitation of community building and integration through encouraging technology CEOs to volunteer.

In summary, the phenomenon of comprehensive governance it is not merely a recognition, but an embracement, of the multifaceted interdependence among the economic and social institutions that underpin the local economy. In the next section, the institutional context for this process is explored first by deepening the theoretical foundation of the model, and second, by identifying the different levels of institutions on which the process depends.

ELEMENTS OF COMPREHENSIVE GOVERNANCE

Assessed from its elements, much of what comprises comprehensive governance is not entirely new. Indeed, it is in essence a combination of associative and multilevel governance, the former a well established mode of social and economic coordination, and the latter, a form that has only more recently theorized been in debates over shifting political authority.

That economic governance has an associative element stems from the recognition of the importance of non-state actors and groups such as business associations, in coordinating economic activity. Associations, as Streeck and Schmitter (1985) argue, have become a fourth source of social order - 'private interest governments'- along side states, markets and communities having been empowered by a shift in reliance on the state to autonomous associations for economic regulation (Amin 1996).

To Cohen and Rogers (1992), associations are very much apart of the solution to resolving tensions in industry adjustment and interest coordination consequent to industrial policy. “Associations do this by helping construct an institutional infrastructure attentive both to the need to be maximally responsive to technological and product market changes and capable of limiting individual firm free riding. They provide the mechanisms for pooling resources for training in particular regions or trades and for developing and sharing research and development funds, particularly among smaller firms. The coordination and cooperation they provide help correct a variety of problems that firms face for familiar market-failure reasons: deficiencies in the supply of training, suboptimal pooling of research and development funds and product information among competitors, inadequate links in product design between primary producers and suppliers and the deadweight losses and excessive caution associated with more arm’s length forms of coordination that are especially damaging in the current economic environment.” (Cohen and Rogers, 438).

While such associative governance is thus critical to non-market governance, it, in itself, does not accommodate the non-market governance provided by the state qua regulator, and financier of R&D, universities and economic development and so on. This task of bringing together both associative and state governance under one theoretical roof has largely been left to the now dated ‘corporatism’, the 1970’s construct for examining the organized systems of bargaining and sectoral governance. In the current climate of ‘draining’ political authority, where governance, and particularly economic governance, increasingly spans different levels of the state, such a framework is clearly limited.

In the early 1990s, Gary Marks pioneered the term ‘multilevel governance’ to better represent the realities new political architecture of dispersed authority.¹⁸ Forged from the mold of the European Union, Marks provided a framework for accounting for transnational (i.e. EU)-local interactions that were thought to be undermining the nation state, and more generally the collective decision making with other levels of government and relevant actors where no one level [could] exercise monopoly over another.¹⁹

While initially multilevel governance had a ‘relevant actor’ component, its popularity as a theoretical term has imbued it with considerably more and, indeed, divergent meaning. In a recent review article by its pioneers (Hooghe and Marks 2003), multilevel governance has been used in two contexts. The first usage, Type I, is in its essence, a term for intergovernmental relations of a federalist state and is concerned with the manner in which different levels of the government cooperate. It is thus characterized by non-intersecting, general-purpose jurisdictions comprising typically of four spatial

layers (local through to the supranational) each with specified responsibilities. And equally characteristic is a non-intersecting membership - typically territorial - among jurisdictions such that the boundaries of each level are clearly demarcated within one another.

Type II governance, on the other hand, is held by the authors as an alternative to Type I. It is far more flexible and ambitious in form, characterized by a more complex, less systematic institutional arrangement of overlapping jurisdictions and memberships. Jurisdictions are defined according to task, irrespective of the scale at which they are institutionalized, and memberships intersect, giving them the leeway to act ‘autonomously’ to solve the particular problem at hand (p.238). As such there is little that is institutionalized in Type II governance, relying as it does on a backdrop of Type I governance, allowing it to adapt to the particular needs of governance.

Many of these features of Type II governance, - its flexibility, unspecified jurisdictions and task specificity, are central to the concept of comprehensive governance proposed here as a new model of economic governance, and could very well encapsulate much of its essence. However, were Type II falls short in accounting for the non-market governance activities observed in many communities throughout North America is in part the lack of theoretical space to non-state actors who, as will be shown play an essential role in helping overcome what Charles Sabel (2001) calls ‘the antinomy of representative democracy’.

Furthermore, while Type I places too much emphasis on territory, Type II places too little. As Hooghe and Marks argue, the latter is essentially policy specific, catering as it does to particular policy problems and not to particular communities or constituencies (p. 240). What is thus proposed is a synthesis, where associative governance and multilevel governance broadly defined, are brought together as two dimensions of a framework for coordinating economic transformation and adaptation at the local level.

PRELIMINARY FINDINGS I: DEFINING ASPECTS OF COMPREHENSIVE GOVERNANCE

Comprehensive governance has been described here as a process, organized across different levels of government and involving various types of associations, that coordinates economic transformation and adaptation at the local level. This rather vague definition, however, does not account for several of its defining features, some of which are helpful understanding its character and dynamic. Four features are described here in brief.

Self-scaling: As a process that is both task-based, and activated when in need, comprehensive governance is quasi-formal in its institutionalization. Through such informality, it shares an attribute typical of multilevel and multi-actored governance processes, that of flexibility. This flexibility appears not only in actors - which can range from venture capitalists, to municipal planning officials to socially oriented associations - but also in scale. Depending on their respective authority over the issues of concern, actors may be representatives of either local or supra-local jurisdictions the result of which is an optimization of representation for the particular issue at hand.

This ‘self-scaling’ goes a long way in explaining the effectiveness of the comprehensive governance process. United under a vision of a particular region, governance leaders are able to co-opt the representatives of the - at times adversarial - territorial or institutional jurisdictions so as to resolve resource allocation or infrastructural issues which may be critical, however indirect, to a desired economic outcome. For example, in Austin’s bid for a Samsung semi-conductor plant, coordinating the various jurisdictional authorities responsible for the region’s water supply was pivotal to the bids success due to the enormous water demands such fabrication plants place on the local and regional supply, which in 1999 consumed some 353 million gallons.²⁰

Alignment of strategic intent: Animated by a decentralized network of actors, comprehensive governance requires consensus over a strategic vision for the region to ensure that all are working towards similar goals. The evidence from the study suggests that this is achieved among civic leaders through formal and informal deliberation - defined here as ‘preference-changing reflection in the service of public interest’²¹. Goals and objectives therefore may be agreed upon either through: consultation sessions convened for the purpose of drafting strategic planning documents; negotiated problem solving where factions are brought together, by for example AARO, to resolve complex coordination challenges; or through the institutions of municipal government. It was through this latter forum where the City of Austin was able to lessen the tensions between its sizeable environmental faction, who opposed growth, and the burgeoning high tech community.

Closing the responsibility gap: The amorphous network structure of actors and leaders helps overcome representational shortcomings of territorial bound, non-intersecting governance system of the hierarchical state. Upper level governments and, for that matter national industry associations, are typically unable to respond to the specific demands of a smaller set of constituents unless accessibility to their response is made available to all. And in addition to this pressure for consistent policy positions, is the typically broader portfolio of responsibilities of upper level governments that shape

their priorities and, ultimately, their ability to take on the necessary leadership to resolve specific issues of importance to local economic affairs. For lower level governments, the problem is the reverse whereby without some form of coordination, they cannot address broader more regional problems that extend beyond its jurisdiction. This contradiction of authority, or to use Charles Sabel's term, 'antinomy of representative democracy', creates a responsibility gap that can only be filled by associative governance.

An illustration of this, as explained by a prominent civic entrepreneur, was how Travis county, which is one of the five counties that make up the Austin area, had been repeatedly 'beaten up' at the bi-annual state legislative sessions, outvoted as it was on many of its initiatives. AARO took it upon itself to invite the leaders of the legislature to talk a committee regarding the source of their misfortune, upon where they were told that it was in fact their neighboring counties that were fighting Travis Country through the legislature, and not the legislature itself. This prompted AARO to convene regular meetings to align county objectives, the result of which has been an end to the legislative battles.

More recently, in an effort to expand the region's transportation system with toll roads designed to accommodate the growing congestion from Austin's bedroom communities, AARO took on a similar governance role but this time with various jurisdictional agencies whose authority was required for such a cross-county initiative. Drawing on their leadership capital, AARO engaged the various actors from county, state, and federal government to address the various issues from community demographic planning to road financing. As this one civic entrepreneur noted:

"Who is responsible to bring agencies together and make things happen? No one. If you ask [agencies] to do something, they will do it and do it willingly. But they don't just automatically take up these issues. They will come and complain, of course, 'the roads are killing us'. And who do they go and complain to? They will complain to maybe the mayor of Austin. But the mayor of Austin can't build roads that are regional. So there isn't anybody to complain to. Somebody, therefore, has to make it happen. This is the role of citizens; citizens who own local businesses want to make those things happen."

Parallel processing: Another aspect of what makes CG effective is its capacity for 'parallel processing' (to draw on an IT metaphor) whereby, through multiple nodes of governmental and non-governmental leadership, issues can be resolved in parallel to one another. This expedites the adjustment process as regulatory issues, infrastructural development, training needs, for example, can be attended to in concert. This feature also facilitates major recruitment efforts as was demonstrated in the bidding for MCC and SEMATECH, where a multitude of actors were mobilized each for their

respective capacities. In the case of MCC, a state level task force was organized that included Texas Governor, Mark White, EDS chairman, Ross Perot, Mayor of San Antonio, Henry Cisneros, along with several high level administrators from the University of Texas. This array of individuals were important not only for their expertise and influence but also for their cooperation in organizing a broad package of financial incentives that included \$49.5 million from UT, \$20 million from the Austin business community for subsidizing mortgages for MCC employees, another \$23 million from business in 12 surrounding regions.²²

PRELIMINARY FINDINGS II: ACTORS AND INSTITUTIONS

For the purpose of analysis, comprehensive governance can be conceived of as a function space of interdependent variables and constants. These include: the various multilevel actors and institutions; cultural, economic and political factors; and three known (initial) constants in the comparative analysis – the IT sector, federalism and economic globalization, the latter of which accounts for the exposure and integration into global markets, a consideration that has been identified as a push factor for the emerging model. Only a brief discussion of the relevant actors and institutions is discussed here.

A typology of actors

Actors can be classified as being within the core from where leadership, strategic planning and key negotiations are coordinated, or on the periphery as secondary and tertiary actors. In the core, actors are local and, more often than not, from the private sector though with a strong commitment to the public domain. And indeed, it is this broader commitment - beyond their immediate short-term interests - to the economic well being of the locality that unites them. They act as private sector politicians, though outside of any oppositional movement, and catalyze the coordination and mobilization of resources to sustain or enhance local prosperity broadly understood in social as well as economic terms. And true to its flexible form, the core is typically coordinated by several nodes of leadership, a division that is reflective of the diversity of expertise that is mobilized for a particular problem.

Recruitment organizations such as the Greater Austin Chamber of Commerce are one example of primary (core) actors. These organizations draw major firms - ‘anchor tenants’ - to the area, increasing employment opportunities and helping establish critical mass, which then facilitates further recruitment. Another type is regional associations, such as AARO. These ‘implementing organizations’, which comprise of business and community leaders committed to the economic and

social well being of the locality, are instrumental to resolving governance problems that affect the economy that other actors – especially government – are unwilling or incapable of doing. Furthermore they act as leadership incubators, encouraging business leaders to think socially and locally while taking responsibility for challenging civic projects. Two other primary actors are university professors, who provide leadership on economic planning, training, engage in recruitment efforts and help development of strategic sectors, and civic entrepreneurs, who create the governance institutions and maintain the social networks.

Secondary actors are a mix of institutional and non-local actors who, despite having a stake in the prosperity of the local high-tech industry, do not involve themselves directly in the planning processes largely because of broader regional commitments. Representatives from non-local government, for example, or those from nationally oriented sectoral and industry associations, are in the periphery of the comprehensive governance process. An example here is the role of the State of Texas' Office of the Governor in administering a recently approved Texas Enterprise Fund. This \$295 million fund slated for business subsidies, infrastructure development and job training programs was instituted at the behest of Austin's civic leaders concerned with New York's effort to poach SEMATECH International from Austin. Funds were thus dispensed to SEMATECH once primary actors, in this case, the Austin community of leaders and the municipal government mobilized a secondary actor, the State of Texas, to respond to a local concern.

Tertiary actors are those involved in establishing, influencing or administering the multilevel framework conditions on which the governance process relies. They provide, for example, support through generic funding programs that can influence the direction of a local industry such as national governments or, as do national associations, lobby for changes in tax policy based on a broad understanding of general needs of a particular sector. Third order actors are thus not directly involved in the non-market governance of a specific locality of firms. In the bid for MCC, two Congressmen from Texas acted as tertiary actors facilitating the passing of legislation amending the Sherman Anti-Trust laws to allow for collaborative research among national firms.

The integration of multilevel governance into the process is therefore informal and ad hoc, with representatives from the different levels of government called upon at the initiative of primary actors. The node of multilevel coordination is thus locally rooted and typically does not appear to involve any additional coordination beyond the locality. In other words, no formal or informal exchanges take place regarding the particular local issues outside of the local forum. Indeed, in the area of IT, any

multilevel coordination that exists is typically focused on jurisdictional challenges such as broadband infrastructure, Internet access and does not cater to issues outside respective portfolios of the different levels involved.

Institutional determinants

This section briefly discusses some of the multilevel institutional factors that establish the arena, or rather the framework conditions, from which comprehensive governance transpires. These have been identified in a comparative context with the case study of the Greater Toronto Area and therefore do not include those institutional factors held constant in the comparison – liberal market economies, federalism and economic integration via NAFTA. Please note that softer institutional considerations, such as social capital, are not discussed here.

Federal R&D spending: The Austin region has been a substantial benefactor of federal military and civil R&D spending over the course of five decades. Beginning with its modest support for the Balcones Research Center in 1946, the federal government had financed nearly \$1.4 billion (2001 dollars) in military contracts from 1966 through 1978 in Travis County alone, with three organizations, Tracor, UT and Texas Instrument, receiving 86% of the total. More recent figures indicate that the region continues to benefit from military spending, with estimates of total federal spending between 1997 and 2001 amounting to \$1.9 billion (2001 dollars), 90% of which went to computer related organizations.²³ On the civil side, the federal government contributed more than \$1.1 billion to SEMATECH before the organization committed itself to becoming a fully private research consortium in 1998.

Though it is difficult to assess the current impact of federal spending on the region, it is reasonably clear from the historical importance of the Balcones Research Center, Tracor and UT in establishing the region's IT industry, that these federal initiatives have been important to building the knowledge base in the region. However, from the preceding discussion, it should also be clear that federal spending on its own is not a sufficient condition for building such knowledge since it was only through community leadership and cooperation that such knowledge was mobilized and leveraged into the region. Tracor, for example, had spun-off 15 firms directly by 1984, and created some 6400 jobs directly and indirectly.²⁴ Its founder, Frank McBee, who in 1980 established AARO, had initially managed the Defense Research Lab at the Balcones Research Center.

State: At the state level, the University of Texas at Austin has clearly been a central institution throughout the entire transformation of the region's economy. From early on, UT was a provider of an educated workforce and was used in promotional and recruitment efforts by the Chamber of Commerce.²⁵ More notable was its role in the bid for MCC where the university promised commitments of \$49.5 million for infrastructure, improvements to its electrical engineering and computer science, and the creation of 30 new faculty positions in microelectronics and computer sciences.²⁶ Recently, the role of the university was highlighted again in its recruitment of Ted Rappaport, a wireless research expert from Virginia Polytechnic Institute and State University, who is expected to create a research consortium of wireless companies at UT as he had done for Blacksburg, Virginia.²⁷

The state has also had a role as a provider of government incentives, largely via UT, supporting both MCC and SEMATECH. Recently however, at the prompting of an Austin group of civic leaders, the state established a \$295 million Texas Enterprise Fund in 2003, thereby positioning itself to take on a more active role as incentive provider. The first use of this program was a \$40 million grant to International SEMATECH to keep it from moving operations to the Albany, N.Y where it was being aggressively pursued. Funding has also now been approved for the new Texas Technology Initiative, a public/private partnership designed to advance semiconductor, nanotechnology and biotechnology research and development efforts in Texas.

Finally, while only a few firms benefit from moneys directed at research consortia, all firms benefit from a very favorable tax regulatory regime at the state level. With neither state personal income Tax nor corporate income tax, Texas is considered to be very business friendly.

Municipal: A discussion of institutional factors at the municipal level is largely a discussion of municipal incentives. In the period between 1996 and 2001, the local government awarded industries based in Travis Country a total of \$193 million (2001 dollars), much of which has gone to the IT sector (see Table 2).²⁸ Though often contentiously debated as to their value, the cash incentives offered to MCC, as Admirable Inman and other members of MCC's site collection committee noted, were an important reason for Austin's successful bid.²⁹ Inman's comment corroborates with those interviewed for this study, who point out that while subsidies are important, they are not the only factor taken into consideration. As Table 2 shows, very few firms actually receive such subsidies, the most recent being Samsung in 1995.

Their value, however, stems in part from opening up space for comprehensive governance. By having the power to award incentives, regions can commit firms to supporting the community beyond its primary business. ‘Shared investments’ is how the City of Austin call them, a good example of which is the 1995 tax abatement agreement with Samsung. Under the agreement, 20% of the property taxes owed by Samsung are to be apportioned to support job training of targeted workers (including cost of child care), with 15% as an additional bonus if the company fills 40% of jobs with targeted workers.³⁰ Tax abatement, it should be noted, only began in the early 1990s after amendments were made to state laws allowing local governments to offer incentives to attract new companies and expand existing ones. Prior to this, local governments offered ‘virtual’ tax abatements whereby companies were ‘ignored’, built, as they were, on the outskirts of the city.³¹

PROSPECTS FOR COMPREHENSIVE GOVERNANCE

The future of comprehensive governance is by no means clear. While some of its more controversial elements have not been discussed here – i.e. subsidies especially, but also associated governance failures that arise from broadly dispersed authority - they could be a factor in curtailing the spread of this process to other regions. However, as North American firms decentralize further, moving off-shore their IT services to take advantage of not only lower costs but also a higher service quality offered in countries such as India³², the capacity for regional adaptation will only become more important. As a recent PricewaterhouseCoopers study concludes, in the face of significant layoffs, companies and governments will have to work together to lessen their impact and address training needs. The study also adds that ‘governments, business leaders and the IT industry should focus on ensuring that Canada will compete and win in tomorrow’s high-value IT services, R&D and innovation.’³³ From the arguments and evidence presented here, it is through some degree of comprehensive governance, that such transformation will need to take place.

To what degree comprehensive governance transpires, however, will depend in part on how the state itself adapts to it. Should supra-local levels of government choose to embrace this downward trend of non-market governance, they will have to overcome the political logic of applying consistent policy positions across all regions and instead, encourage the concentration of regional economic specializations. As for local governments, they will have to learn how best to use their new authority to achieve desired goals. To a certain extent, both the state government of Texas and the City of Austin have taken steps in this direction. In 2003, new legislation was passed to restructure the state’s Department of Economic Development and move it into the Governor’s Office where it now focuses

on creating an economic development strategy, promoting business retention, relocation and expansion, and administering such programs as the Enterprise Fund. Creating an ‘economic development strike force’ is how one senator described the legislation, whereupon the state, under this new legislation can now aggressively pursue business opportunities. In the same year, the City of Austin finalized its first official economic development policy establishing among other issues, a framework for negotiating ‘shared investments’ and cultural investment programs.

One option to be explored in the final stage of this study is the viability of fostering a type of competitive regionalism where regions are encouraged to apply for funding from an array of programs, from either national or regional governments, each designed to support various economic initiatives. These may be stable funding for associations, support for training or money for establishing new research centers. Such a change would help regions to realize their respective regional economic strategies while allowing upper levels of government to maintain their commitment to a broader set of constituents.

NOTES

¹ Hooghe and Marks (2003) provide a very good synthesis of the various terms that have beset the various disciplines dealing with multilevel governance.

² Based on Geoffrey Hodgson's (1998:174) definition of market: "a set of institutionalized and recurrent exchanges of a specific type [whereby] consensus over prices and other information may be established."

³ These are early estimates from Alan Peter's ongoing work at the University of Iowa on US industrial incentives. Research will be available in July, 2004. Source: Alan Peters; Graduate Program in Urban and Regional Planning Newsletter, Fall 2003, University of Iowa.

⁴ Metcalfe (2001) Institutions and Progress.

⁵ In the U.S., for example, non-defence federal R&D spending via federal research institutions and technology support programs grew by over 110% between 1982 and 2002 - the two decades most closely associated with neo-liberalism - reaching some \$50 billion in 2001 (AAAS, December 2001).

⁶ The logic of this 'Ricardian' efficiency is also the logic of comparative advantage which stipulates that countries ought to specialize in the production of goods for which they have a comparative advantage in trading with those more efficient at producing other goods. The debate is over whether comparative advantage can indeed be created through state intervention.

⁷ Southern Ontario is the only region in Canada without a federal policy on economic development. See OECD Territorial Reviews: Canada, OECD: Paris, 2002.

⁸ Angelou Economics, An Economic Review and Forecast 1996-98.

⁹ See Robbins (2003) for the early history of Austin's high tech industry; Figures on Tracor spin-offs are from Gibson and Rogers 1994: 429.

¹⁰ Gibson and Rogers 1994: 430.

¹¹ In establishing MCC, the US Anti-trust laws were modified to recognize the legitimacy of joint production ventures. (Gibson and Rogers 1994: 59).

¹² Over the course of approximately 5 years of operation, Applied Materials 'attracted and spawned a network of about 30 businesses that supply crucial goods and services that have helped vertically integrate the city's semiconductor manufacturing infrastructure.' (ibid, 531)

¹³ IC2 Institute Facts: The First 25 Years, <http://www.ic2.org/main.php?a=5&s=26>

¹⁴ By 2001, it had financing agreements totaling \$250 million. According to the Director of IC2, TCN raises some \$75million at every venture fair. Sources: High Tech Austin, 3rd edition, 2001 and The Albuquerque Tribune

¹⁵ See Gibson and Rogers (1994), R&D Collaboration on Trial for a full account of Austin's efforts at luring MCC.

¹⁶ IC2 Institute, What Austin Did Right Under the Leadership of George Kozmetsky, http://www.ic2.org/main.php?dyn=news_show.php&sid=45&a=4&s=0

¹⁷ By 2020, it is expected that 52% of the region's population will be Hispanic which, according to an AARO member, will be a tremendous challenge as many do not currently go to college. 37 % of Astinites have Bachelors degree compared with 8.3% of Hispanics.

¹⁸ See G. Marks (1992).

¹⁹ See Hooghe and Marks (2001), Introduction.

²⁰ Ultra-pure water is a key element semiconductor chip production.. Motorola used 1.78 billion gallons, AMD used 1.18 billion gallons and Samsung used 353 million gallons. Source: 'Businesses conserving water', Austin Business Journal, July 28, 2000.

²¹ C. Sabel (2002), p. 142.

²² D. Gibson and E. Rogers (1994), p. 148.

²³ P. Robbins, 2003, Chapter 1, Creating environmental business in Austin, p. 10-11.

²⁴ D. Gibson and E. Rogers (1994), p. 428.

²⁵ In the 1960s, The Chamber of Commerce encouraged UT faculty to make visits to candidate firms when traveling to the city on business. P. Robbins 2003, p. 3

²⁶ D. Gibson and E. Rogers (1994), p. 149.

²⁷ Austin Business Journal, UT scores wireless coup, January 11, 2002.

²⁸ P. Robbins, 2003, Chapter 1, Creating environmental business in Austin, p. 7.

²⁹ D. Gibson and E. Rogers (1994), p. 148.

³⁰ The Pew Charitable Trusts, Financing Child Care in the United States: An Illustrative Catalog of Current Strategies, 1997, <http://www.nccic.org/pubs/financing-cc/index.html>.

³¹ P. Robbins 2003 p. 8.

³² R. Scott, T. Garner and D. Ticoll (2004), 'A Fine Balance: The Impact of Offshore IT Services on Canada's IT Landscape', PricewaterhouseCoopers.

³³ Ibid, p. 36.

ANNEX: TABLES AND FIGURES**Table 1: Austin Metropolitan Statistical Area, 2003**

Population (2002)	1,349,291
Gross regional product per capita (2000)	\$US 39,848
Unemployment rate	5.4%
VC funding	\$US271 m
Patents issued	1792
Population with Bachelor's Degree, 2000	36.7%
Average wage per job 2000	\$40, 381
State Personal Income Tax	0%
Corporate Income Tax	0%
Ad Valorem Property tax rate	\$2.394/\$100 valuation
Retail sales tax in Austin (6 ¼% state, 1% City of Austin and 1% transit authority).	8.25
Cost of living	103.4
Days of sunshine per year	300
Geographic expanse	2705 miles ² 6924km ²
Constituting regions	Travis, Williamson, Hays, Caldwell and Bastrop

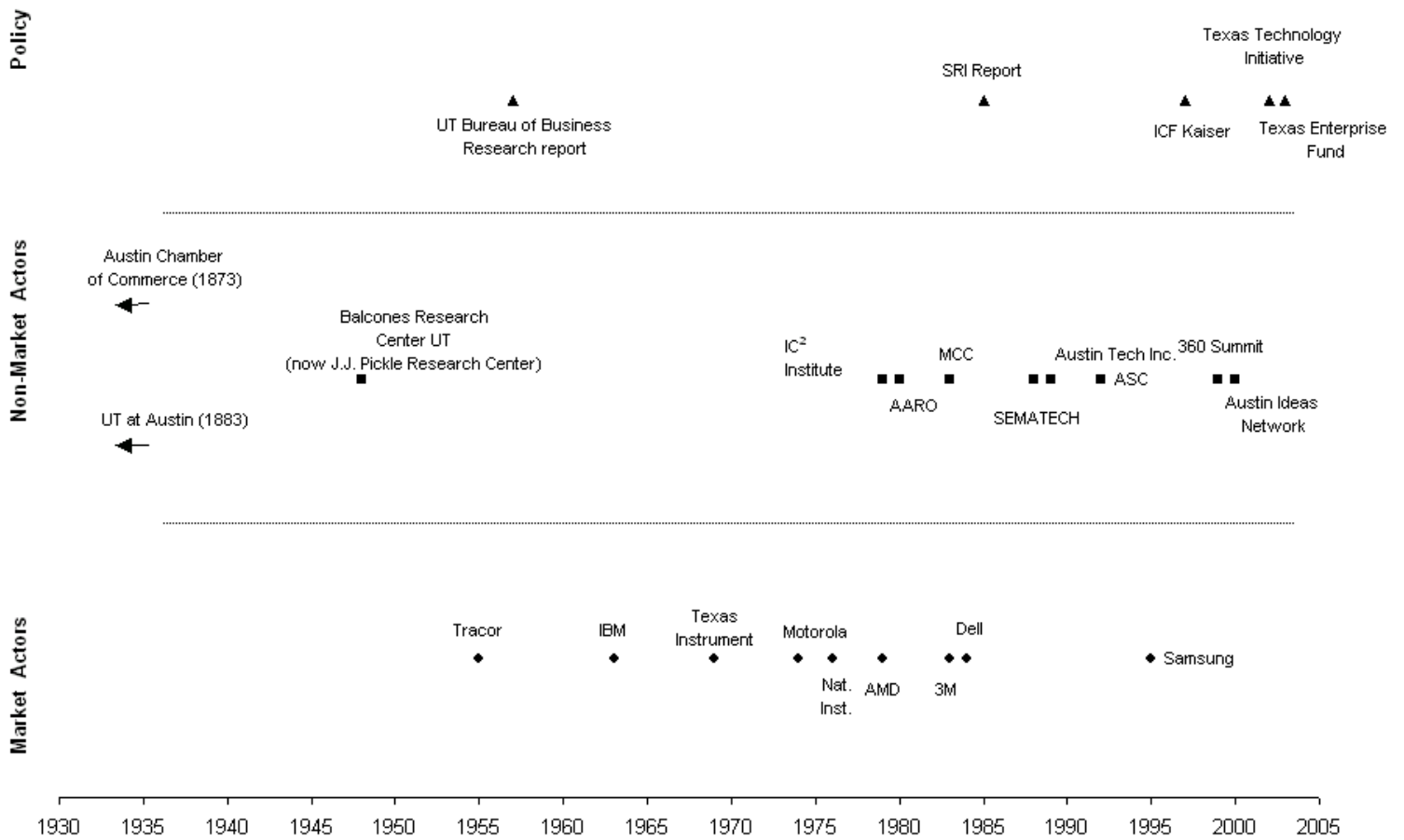
Sources: Greater Austin Chamber, Market Street Services, Angelou Economics.

Table 2: Industrial Incentives to Travis County, 1996-2001 (2001 Dollars)

TOTAL	\$1,425,541,233
LOCAL	\$193,087,015
Virtual Tax Abatements – Total	\$738,741
Texas Instruments	\$33,678
Tracor (Land)	\$35,571
Tracor (Buildings)	\$261,807
Motorola	\$64,788
IBM	\$342,897
Real Tax Abatements – Total	\$51,369,572
Applied Materials	\$12,351,304
Motorola	\$25,428,915
Photronics	\$246,464
Samsung	\$13,342,891
Freeport	\$91,459,404
Infrastructure subsidy - Total	\$18,291,568
Intel	\$2,882,974
CSC	\$5,512,741
Dell	\$6,500,749
IBM/Tivoli	\$2,399,620
Motorola	\$995,485
SEMATECH	\$13,098,960
Economic Development Services	\$1,429,455
Austin Technology Incubator	\$387,502
Electric Rates	\$6,804,815
Austin Community College	\$9,506,998
STATE – TOTAL	\$113,406,572
MCC	\$26,671,891
SEMATECH	\$74,750,544
Austin Technology Incubator	\$1,907,469
Freeport School Exemptions	\$9,681,538
FEDERAL – TOTAL	\$1,119,442,776
SEMATECH	\$1,119,442,776

Source: P. Robbins (2003).

Figure 1: Market and non-market actors in Austin's transformation



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