

Small Business Entrepreneurship in the High Technology Services Sector: An Assessment for the Edge Cities of the U.S. National Capital Region

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ABSTRACT. The Washington D.C., National Capital Region is surrounded by a series of edge cities. These edge cities developed rapidly in the 1980s and are tied to extensive commercial and retail centers within the larger urban field. Economically they focus on the delivery of high technology information-oriented services and are populated by small and medium sized firms. The region has been recently titled "The Capital Netplex" because of its concentration on advanced information network technologies. An examination of the intra-regional differential associated with firm size, start up rates and industrial composition is evaluated. An assessment of the economic impact of the Netplex firms on the regional economy and selected policy issues are examined.

1. Introduction

This paper describes the divergent development paths that different parts of the U.S. National Capital Region have experienced and explores the public policy implications of this experience. The District of Columbia (see Map 1) which is located at the geographic core of the region has experienced significant population decline, constrained economic growth and a structurally less diverse economy over the past two decades. In contrast, the outer parts of the region, suburban Maryland and Northern Virginia have experienced significant and continuous growth, and rapid economic diversification. The growth experience has been driven by rapid growth of a small and medium sized business technology services complex that generates nearly one quarter of the

regionwide employment (Stough et al., 1995). As in many parts of metropolitan U.S., this growth was focused in new outer city commercial centers called "edge cities" (Garreau, 1991).

The paper begins with a description of the edge city phenomenon. This is followed by an examination of the divergent development paths between the District of Columbia and the outer parts of the region. An examination of the technology services which is the leading sector of the region's economic base follows. The concluding part of the paper is a discussion of the public policy implications of the analyses. Topics such as relations between the geographic core and outer suburban areas, mobility among the region's "edge cities" and threats and opportunities to the development experience are addressed.

2. The edge city phenomenon

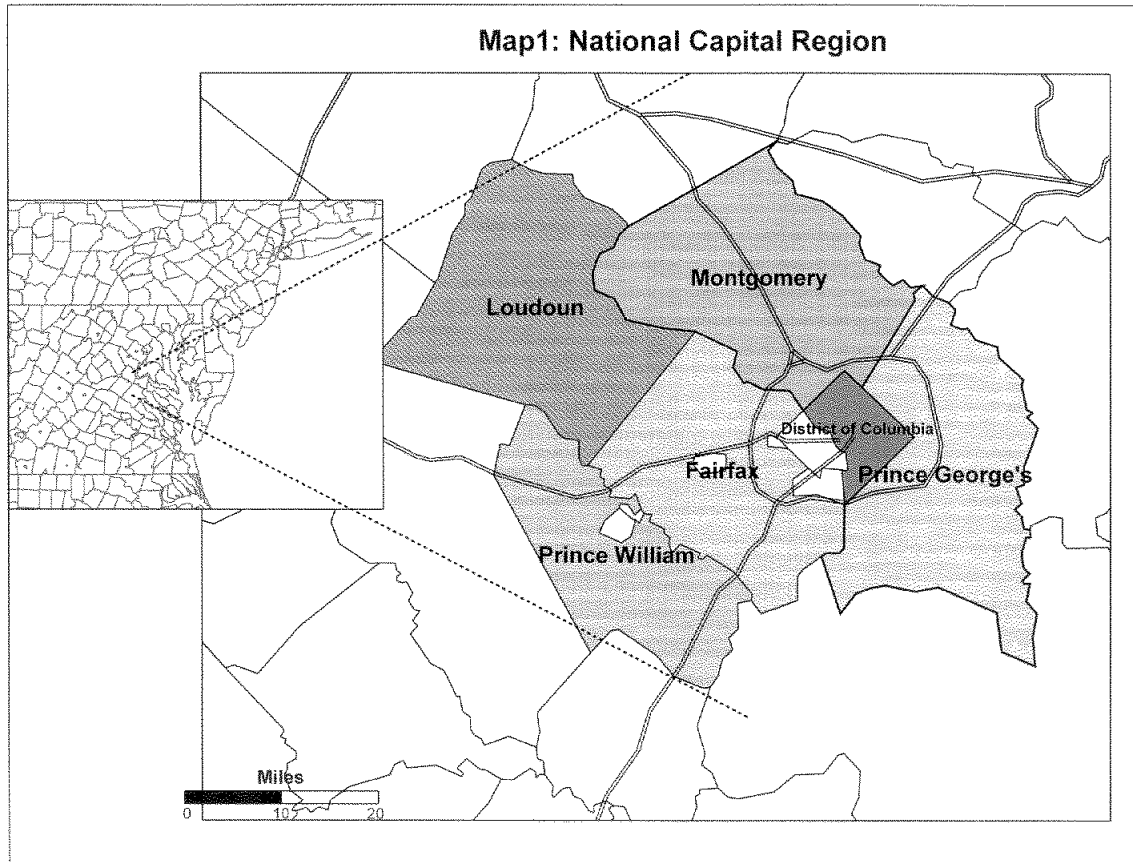
Following Garreau (1991), edge cities are defined as large, diverse, information-age cities that have emerged within the last 20 to 30 years as the standard form of American urban place. They function the same as the old traditional downtown centers with jobs, shopping, entertainment, services and housing. Unlike the old downtowns, edge cities are physically strange to look at, can be sprawling and appear chaotic, and do not follow any political boundaries. Here is where the small and medium sized technology service firms have grown and clustered in the region.

Edge cities are defined as job cores that:

- * cater primarily to commercial office buildings (the work places of the information age);

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Map 1. National Capital region.

- * contain most of the commercial office and retail development that occurred during the growth spurt of the 70s and 80s;
- * have a population base that is dominated by white-collar workers;
- * offer a variety of goods and services as well as entertainment and restaurants;
- * are perceived as one place, and an end destination for mixed use no matter how sprawling they may be; and,
- * rarely have formal political government with mayors or city councils.

Edge cities were shaped by Americans' search for convenience, quality of life and time savings. Major catalysts included highways and sewer development, shopping centers, computers, women entering the labor base, and an expansion in real estate financing sources.

The names of some of these new 21st century

urbanized places include: Tysons Corner, VA; Bellevue, WA; The Houston Galleria, TX; Scottsdale, AZ; Irvine, CA, and 287 and 78 NJ. The geographies for the edge cities are defined by aggregating the job centers and immediately related areas in each edge city. Edge cities have a minimum of 25,000 jobs with an emerging edge city having between 15,000 and 25,000 jobs. There are 33 edge cities with residential populations greater than that of Midtown Manhattan.

Another measure of an edge city is the total number of businesses present. Three edge cities are among the top ten US business complexes: South Coast Metroplex/Irvine, Beverly Hills-Century City, CA and Chicago's Schaumburg area (South Coast and Schaumburg rank one and two among edge cities in numbers of employees). There are more businesses in each of these edge cities than in the downtowns of Philadelphia, Washington, DC, Dallas, Portland,

Houston, Denver or Miami. Overall, there are 653,679 total businesses in the US' edge cities and only 291,404 in downtown areas (Dunn and Bradstreet, 1992).

In manufacturing, five edge cities rank among the top ten of the 226 urban manufacturing centers in the US. This is partially due to headquarter effects but even in terms of manufacturing jobs, the distribution is startling. The totals are 53,495 manufacturers located nationwide in edge cities and 21,932 manufacturers in downtowns.

The populations of edge cities are overwhelmingly middle class, highly educated, and many are ethnically diverse. The largest edge city, South Coast Metroplex/Irvine, CA is 28 percent Hispanic. In nine edge cities, African Americans make up 25 percent or more of the population. Overall, the percentage closely parallels the nationwide proportion of blacks to whites. These black Americans, like their white neighbors, are employed and well educated. In the edge city of Troy/Big Beaver Road, outside of Detroit, MI, 53 percent of the black population hold a baccalaureate or higher degree; the White Flint Mall area in MD outside of Washington, D.C. follows closely with 50 percent of the black population possessing college or higher degrees. The highest percentage of this education level for whites is 54 percent (in the edge city of Farmington Hills/Livonia/Novi outside of Detroit, MI). Asians have migrated to edge cities. Downtown San Francisco has the highest proportion of Asians, at 34 percent; but an edge city is in second place – Mid-Wilshire/Miracle Mile area, CA with a 27 percent Asian population.

These numbers suggest that in many instances edge cities have attracted the middle class, irrespective of color. On the other hand, there are 55 edge cities in which the white population is 90 percent or greater (including Hispanics and some other ethnic groups). The only such downtown is in Portland, OR.

Edge cities represent one of the most significant changes in the American metropolis and thus the location of business activity over the past twenty years thus leading to the growth of new urban-industrial complexes in areas which were, until recently, existing on the margins of intensive development (Scott, 1988). The result has been the growth of large, fully urbanized counties in

proximity to, but increasingly functionally independent from, the central cities of many metropolitan regions (Stanback, 1987). Most recently the term "edge city" has been coined to capture the reality of this new urban form (Garreau, 1991). Academic studies of edge cities have focused largely on their economic development (Scott, 1988; Stanback, 1987). Consequently, political and social dynamics – such as the organization and development of local institutions, intergovernmental relations, and demographic development – have received less attention (Storper and Scott, 1992) although clearly these changes are not going unnoticed (Scott, 1988; Soja, 1986).

Edge cities and the businesses they house have developed most intensively in those regions that experienced maximum growth in the 1980s including the region in general and its Maryland and Virginia suburbs in particular. The region's edge cities in Virginia include Tysons Corner, Crystal and Pentagon Cities, Fair Oaks (emerging), Merriville (emerging) and in the Maryland part of the region Bethesda, Rockville, Chevy Chase, and others.

2.1. Development patterns in the national capital region

There has been a significant divergence in the development paths of the District of Columbia and the Northern Virginia and Suburban Maryland parts of the region. Table I shows the population of the District decreasing from a high of 763,956 in 1960 to 606,900 in 1990. During this period the Maryland and Northern Virginia suburban areas grew from 1,203,979 to 2,586,997 (115 percent). While employment levels were similar in 1970 (645 thousand in the District; 715 thousand in the suburban areas) by 1990 suburban employment was 1,508 thousand (an 111 percent increase) with the District increasing slightly (14.7 percent) to 740 thousand (Table II). Similar changes occurred in personal income, commercial construction, and retail sales.

Beyond these more obvious indicators other structural changes occurred. Until the late 1980s unemployment in the District tended to be at about the national average (Figure 1). Since then unemployment rates have increasingly exceeded the national average. Over the same period suburban

TABLE I
National Capital region population by jurisdiction and by major subregion

Jurisdiction	1960	1970	1980	1990
City of Alexandria, Va.	91,023	110,927	103,217	111,182
Arlington County, Va.	163,401	174,284	152,599	170,897
Fairfax County, Va.	251,232	454,275	595,754	818,623
Loudoun County, Va.	24,549	37,150	57,427	86,129
Prince William Co., Va.	50,164	111,102	166,665	250,377
Montgomery County, Md.	340,928	522,809	579,053	757,027
Prince George Co., Md.	357,395	661,719	665,071	729,268
Northern Virginia	580,369	887,738	1,075,662	1,437,208
Suburban Maryland	698,323	1,184,528	1,244,124	1,486,295
District of Columbia	763,956	756,668	638,432	606,900

Source: U.S. Bureau of the Census, 1960–1990.

TABLE II
National Capital region employment by place of work 1970–1990 (full and part time wage and salary)

Jurisdiction	1970	1980	1990
City of Alexandria, Va.	54,059	70,996	100,897
Arlington County, Va.	142,975	143,932	180,036
Fairfax County, Va.	132,471	261,123	471,399
Loudoun County, Va.	12,442	20,896	43,583
Prince William Co. Va.	30,788	47,932	85,353
Montgomery County, Md.	205,280	308,665	421,936
Prince George Co., Md.	179,812	241,325	333,720
Northern Virginia	372,735	544,879	881,268
Suburban Maryland	385,092	549,990	755,656
District of Columbia	644,933	670,385	740,090

Source: U.S. Bureau of Economic Analysis, Summary Economic Data, 1969–1991.

unemployment rates have decreased relative to the District. Crime rates per 100,000 population in the District are nearly twice as high as in Northern Virginia or Suburban Maryland and crime and homicide rates increased 30 and 60 percent respectively (U.S. Federal Bureau of Investigation, Uniform Crime Reports, 1985 and 1992). High school drop out rates are nearly twice as high as in the District (U.S. Bureau of the Census, Summary of Social and Economic Indicators, 1980 and 1990). The fiscal base of the District is seriously jeopardized with daily reports that it will need a financial “bail out”, and must make ever more severe cuts in expenditures to balance the budget. Further, a financial control board has been imposed by the U.S. Congress. Finally, business formation rates, an indicator of innovation levels,

have historically been low (about 22 percent of the regional total) in the District compared to much higher levels in the suburban jurisdictions (Table III). These rates have decreased in the District relative to the outer parts of the region over the past several years (at the same time the rates in Suburban Maryland have decreased relative to Northern Virginia). Given these significant distinctions between the District and other parts of the Metropolitan region one would expect economic structural differences to exist.

Figure 2 illustrates the economic structure of the District, Northern Virginia, Suburban Maryland and the U.S. in 1991 using personal income as an indicator of the size of different sectors. The data show that the National Capital region is a government, and business and technical

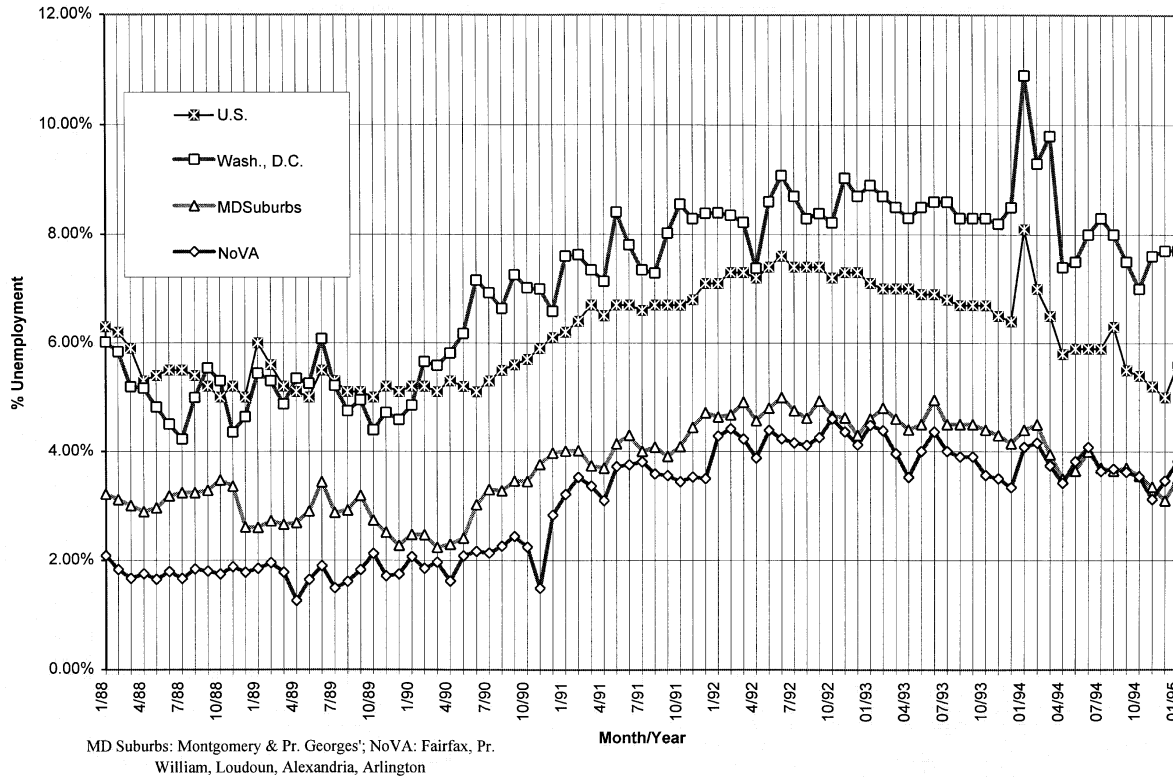


Fig. 1. Percent unemployment by month by region.

TABLE III
New business formation in the National Capital region
Percentage by major subregion

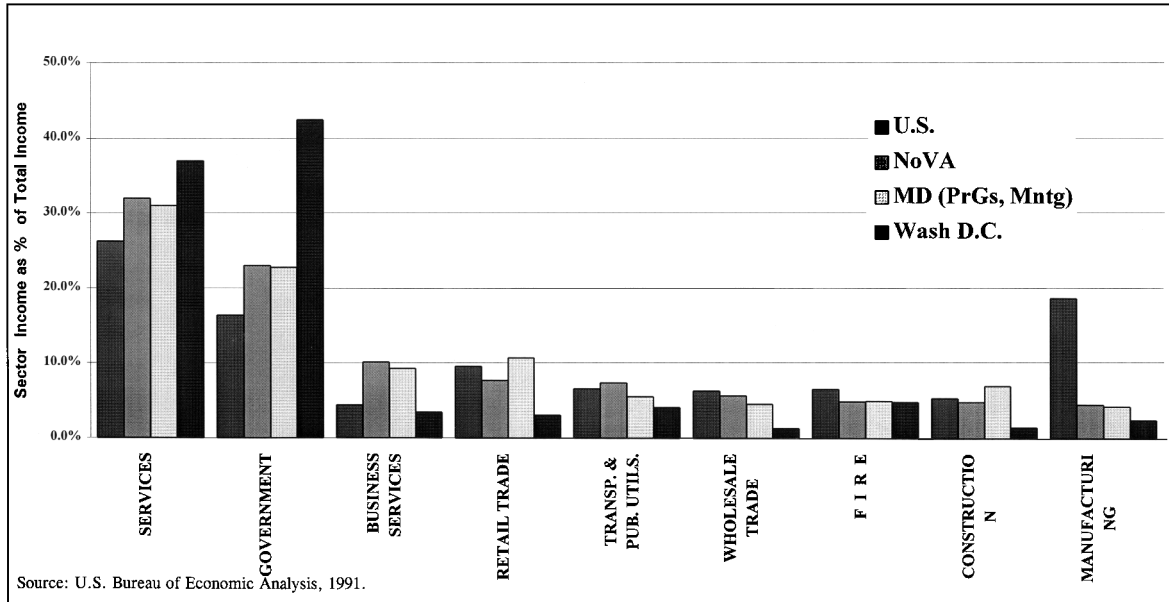
Year	Virginia	Maryland	District
During 1980s	43.0	35.0	22.0
Since 1991	56.4	28.3	15.3

Source: Fuller, 1994, pp. 68–86.

services center and that manufacturing is *unimportant*. When the services are examined in more detail (Figure 3) notable differences appear. Business and engineering/management services are more important in Northern Virginia and Suburban Maryland; membership organizations and legal services are much more important in the District. Further, the federal sector, while important throughout the region, is more prominent in the District. Yet, nearly half of all federal employ-

ment in Northern Virginia is in Arlington (Pelay and Knapp, 1993, p. 9).

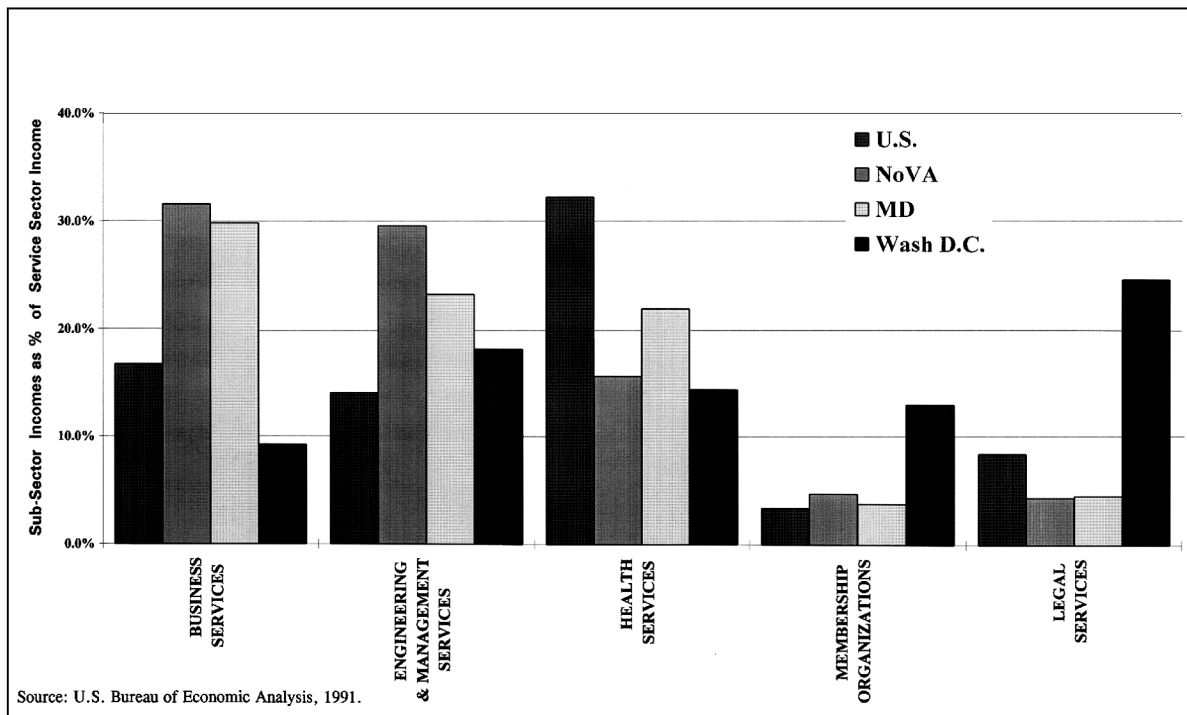
This analysis illustrates the role of the District as the home of the federal government and as such the superordinant locus of public policy making and related services in the U.S. More than 40 percent of income generated in the District is paid directly by the federal government. Further, while the service sector generated nearly 40 percent of the income 25 percent of this is in legal services – a large amount of which is tied to government related lobbying and regulation. Beyond this engineering and management contributes nearly 20 percent of the services (most of this is in management). The other major components of the service sector in the District are education (a number of universities are based there), membership associations, and amusement and recreation services although in the latter case the proportion is less than for the U.S. as a whole. In conclusion,



NoVA: Arlington, Fairfax, Loudoun, Pr. William counties and Alexandria, Fairfax, Falls Church, Manassas cities.

MD: Montgomery, Pr. Georges counties.

Fig. 2. 1991 Main sector incomes.



NoVA: Arlington, Fairfax, Loudoun, Pr. William counties and Alexandria, Fairfax, Falls Church, Manassas cities.

MD: Montgomery, Pr. Georges counties.

Fig. 3. 1991 Detailed service sector incomes.

the District economy is dominated by activities of making and executing public policy and regulation with some additional semi-independent components such as visitor and educational services.

In contrast, Northern Virginia and Suburban Maryland have only about half as much of their income generated by government as the District which is still a greater proportion than for the U.S. The core of the outer region economy is business and engineering/management services of which a significant part is in advanced technology enterprises. Nearly 260,000 thousand work in the technology sector which focuses on technology services such as systems integration, systems architecture, systems design, space technology, bio-technology, telecommunications, and information technology including the development of network goods (hardware and software) and services (design, installation and maintenance of networks). For more detail see Stough et al., 1995.

The above analysis shows the relative decline of the economy and quality of life in the District. This could be illustrated using a donut metaphor, treating the District as the "hole", and Northern Virginia and Suburban Maryland parts as the "donut". In adopting the donut metaphor it has been an easy next step for some to conclude that the hole is no longer needed, i.e., that it is possible for Northern Virginia and Suburban Maryland to chart development paths independent from the District. With this view not only is the District considered to be irrelevant but, by continuing to treat it as part of the region, some believe that it will drain resources from the future development of the donut, all of which contradicts nearly one hundred years of urban experience based on the assumption (theory) of a core dominated city region!

Several factors have contributed to the divergent development paths between the District and other parts of the National Capital region. One is a long term national trend to locate new development on the edge of metropolitan regions. The renewed vigor of this trend over the past 20 years is described in Garreau's recent book (*Edge City*, 1991) and summarized above. The trend has its roots in transportation developments in the early part of the Twentieth Century, namely the growth

of reliable trucks and automobiles, and highway infrastructure; and with policies that have kept the cost of operating vehicles low. There are also cultural and social values and policies that have contributed to concentrations of the less well off in the interior parts of metropolitan regions (Haynes, Stough and Bowen, 1995). Thus, part of the reason for the difference in conditions between the District and other parts of the region is historical due to intra-urban migration and business location trends toward the periphery.

A second reason for this divergence has been the inability of the historical core to link development on the periphery to its institutions. There is a tendency on the part of core cities, even in the best of circumstances (e.g., the UNIGOV environment of Indianapolis, IN), not to recognize growth on the periphery, especially when state and/or local boundaries intervene, until that growth has become large relative to the core. This has certainly been the case in the National Capital region. The boundaries between the District and the two states veiled the significance and the regional impact of growth in the outer areas from institutions such as the Greater Washington Board of Trade (which did not add the "Greater" to the organization name until the late 1980s) and the Washington Post, the region's major newspaper. In fact, it is only recently that these institutions have recognized the need to significantly reshape their agendas to more fully align themselves with the altered economic geography of the region. The fact that growth in outlying areas was above 4% annually for the past 20 years and over 8% per year during the last decade (Campbell and Stough, 1994), exceptionally high levels compared to the nation, made it even more difficult for the traditional institutions to fully appreciate the changing locus of economic activity until quite recently.

In the 1960s and even in the early 1970s development activities in the outer parts of the region were not large and were confined to a few locations. Jurisdictions in these outer areas operated relatively independent from one another as they always had in the rural and agricultural dominated past. About the only thing they had in common was that they served as bedroom communities for those who worked in the District. The fact that economic growth in these areas unfolded very rapidly meant that it was very difficult for the

government and non-government institutions (e.g. chambers of commerce) to adjust in time to provide more regionally integrated leadership. Consequently, not only is the District separated from the “donut”, but parts of the “donut” are not well integrated for action whether one views this from community, state or local government levels. In short, there is a high level of fragmentation throughout the National Capital region and it exists at many levels.

2.2. *The technology services sector*¹

Less than 3 percent (2331) firms in the National Capital region have technology and R&D as their primary focus (Stough et al., 1995). However, these firms employ 262,337 which is 12 percent of the total regional private sector employment which grows to 22 percent when indirect and induced effects are taken into consideration. These employees receive \$8.6 billion in income which is 16 percent of all private sector income in the region, rising to more than 24 percent when indirect and induced effects are added to the direct income figure. As one would expect given the findings of the above analysis, these effects are highly concentrated in the outer parts of the region with only 71 technology firms (3 percent) located in the district.

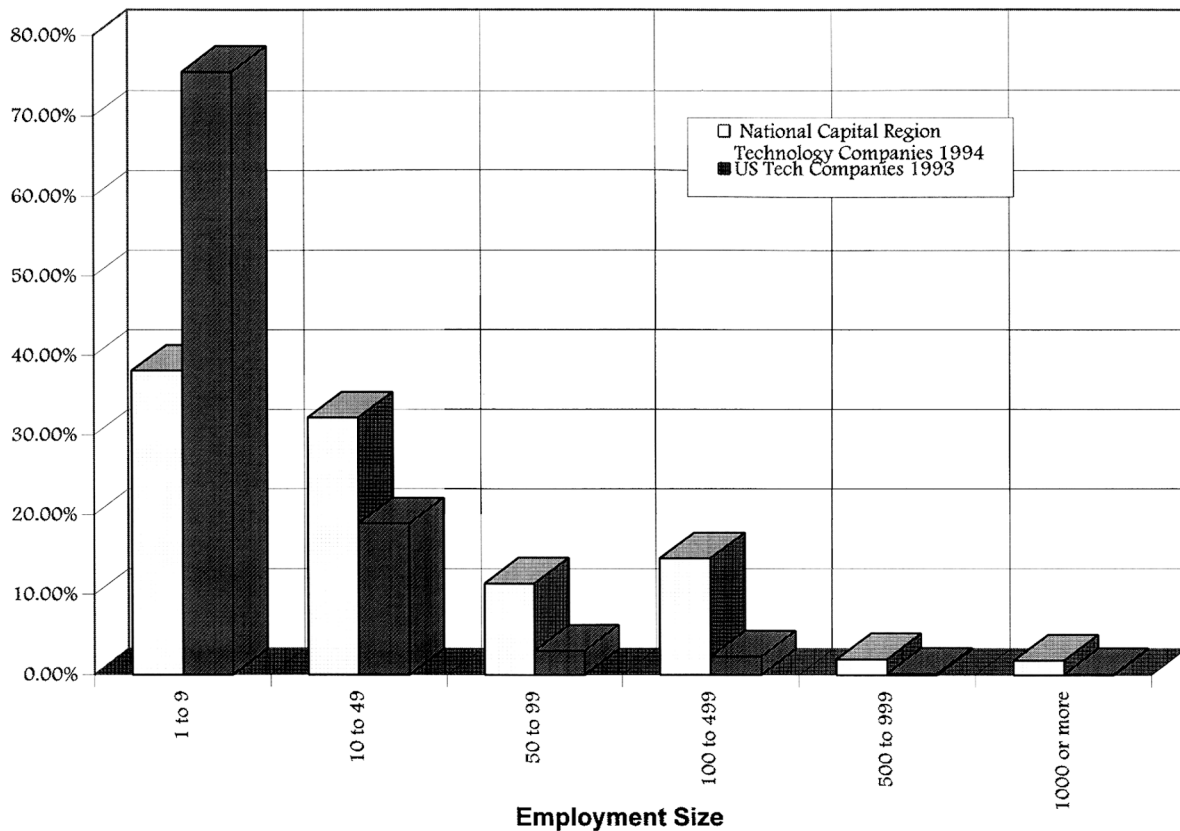
Technology is the second largest private sector source of employment in the region. In terms of all sectors it ranks behind only retail trade and government. The technology employment effect is even stronger in Northern Virginia, where it is the second largest employer with 155,675 jobs, second only to retail trade. It has a similar importance in Suburban Maryland where there are 102,654 technology jobs; more than its federal government labor force. The pattern is almost identical when individual earnings in the technology sector is used as an indicator of the importance of the technology sector.

Data presented in Figures 4 and 5 show the percentage distributions of technology companies and employment by employment size category. Many are small and medium sized. For example, 70 percent of the firms have 50 or fewer employees; these same firms have less than 10 percent of the employment. However, this regional distribution has more medium and larger sized firms than

the comparable national distribution. Strictly speaking, the region is under represented in terms of very small firms, i.e., with 10 or fewer employees. However, it has proportionately more firms particularly in the 10–500 employee range. This peculiar concentration in the medium small to medium size ranges may be a result of the fact that seed capital has for the most part come from federal contracts. Most contracts are relatively large to ensure economies of scale in the procurement process thus leading to larger start-up employment sizes. Despite the fact that there are proportionately fewer small technology firms in the region it may still be treated as composed of a large number of small and in particular medium sized firms.

The National Capital region has more than 260 thousand employees in technology intensive sectors making it one of the largest concentrations of technology business activity in the U.S. (See Figure 6). The technology sector is nearly as large as the Silicon Valleys (283,045 employees) and the Boston, MA (Route 128) complex (311,406 employees in technology) and much larger than the complex in Austin, TX (60,159 technology employees). However, the Austin complex grew the most over the 1988–1992 recessionary period with an increase in technology employment of more than 45 percent. Among the large technology regions, growth in the Capital region was by far the largest at 36 percent. In summary, the National Capital region is one of the large technology regions in the U.S. and probably the fastest growing one.

Figure 7 shows the job performance of the technology sector since 1969 compared to the Region's (Northern Virginia part of the region in this case) total private sector job performance. The Region's job growth increases at a steady (linear) rate until the early 1980s after which it experienced accelerated or exponential growth until about 1990. There was some job decrease in 1991 and a rebound to about 1990 levels in 1992. The technology sector job history shows a similar pattern. However, beginning in the early 1980s technology sector job growth accelerated at an even faster rate than for the regional economy as a whole, supporting the belief that the technology sector has been a major driver behind the job growth in the region in general.



Source: Stough (1994) and County Business Pattern 1993

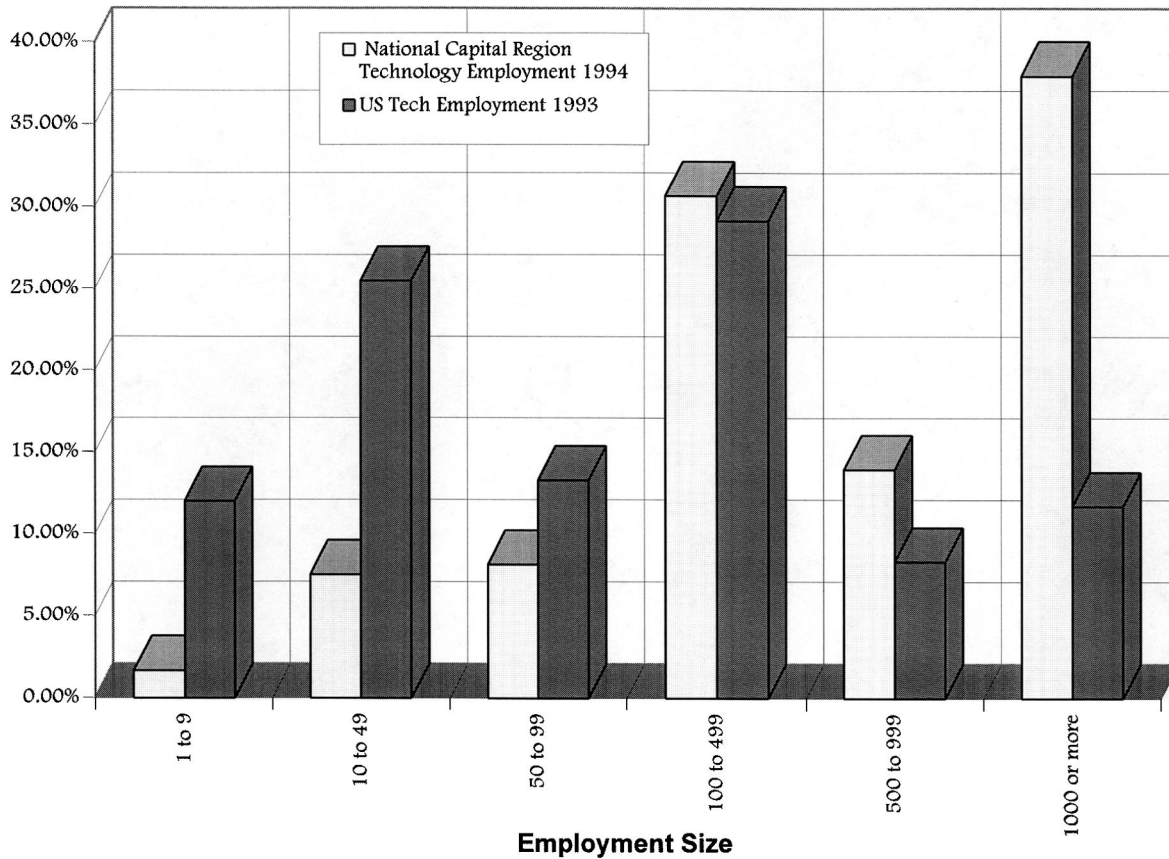
Fig. 4. Percent of technology companies by employment size.

The technology sector in the National Capital region is different than that which is found in many other technology regions, e.g., Silicon Valley, Route 128 in Boston, the Austin Texas/Dallas Corridor, etc. These areas have nearly 20 percent or more of their economic activity in manufacturing where the National Capital region has less than 4 percent in manufacturing. The National Capital region's technology sector focuses on the application of technology and often concurrent technologies to complex problems. As noted above its technology sector focuses on systems integration, systems architecture, software engineering, and the application of telecommunications and information technologies. It is the rapid recent growth in network products and services within telecommunications that has led to its designation as the "Netplex." In short, its specialty is the pro-

vision of advanced technology services and not technology manufacturing.

3. Policy issues

The above analysis shows that a large technology services sector has evolved in the National Capital Region over the last decade and a half. This concentration is dominated by small and particularly medium sized businesses that initially developed in response to expanded federal outsourcing and federal defense sector build-up. Many of the small and medium sized firms provide intermediate goods and services to larger firms in the region. The evolution of the technology services sector coupled with recent policy and political changes, for example, defense down-building, raise a number of policy issues.



Source: Stough (1994) and County Business Pattern 1993

Fig. 5. Percent of technology employment by employment size.

One problem small and medium sized companies face is that of sustaining demand for their goods and services. This is especially problematic where there is turbulence, innovation and change in the regional economy (Hicks and Rees, 1993). However, in the National Capital region demand for the technology services of small and medium sized companies had been maintained by demand from the federal government. The extent to which this will continue in the future is uncertain however it is unlikely that federal demand for technology services will decrease significantly in the intermediate future.

There are a variety of synergistic effects among the small and medium sized firms in the region that are not fully appreciated. For example, as noted above, information technology is one of the largest and most rapidly developing sectors.

Information technology firms' activities are now beginning to overlap with other sectors, for example with transportation forming a significant intelligent transportation systems (ITS) goods and services sector. The interface between information technology and other sectors such as construction, real estate, health is also expanding. Synergy is also evolving with regard to the substance of some of the business activities. For example, firms that have done work for DoD and the Pentagon have developed the skills to procure work in the defense sector environment and this experience helps companies procure in other federal sectors, in states and foreign federal contracts.

Because of the technology service nature of most of the firms in the region, they are not heavy users of capital, but they are highly dependent on labor and sets of labor skills. Areas where there

Region	1988	1992	% Change
Austin-San Marcos (TX)*	41,243	60,159	45.86%
Greater Washington Region **	188,172	256,042	36.07%
Rt. 128 (MA)***	283,746	311,406	9.75%
San Jose (CA)****	306,982	283,045	-7.80%
* Bastrop Caldwell Hays Travis Williamson	** Arlington Fairfax Loudoun Pr. William Alexandria Fairfax City Falls Church Manassas Manassas Park Pr. George's Montgomery Wash.,D.C.	*** Essex Middlesex Norfolk Suffolk	**** Alameda Santa Clara
Employment Estimates are derived by aggregating technology intense 3 and 4 digit SIC data for technology categories as defined in Armington (1986) but augmented to include the service sector SICs that Armington omitted.			

Fig. 6. Technology employment change between 1988 and 1992 by region.

are large pools of highly skilled labor, for example, systems and information technology engineering, and biotechnology and biomedicine, therefore have high business spin-off potential. The region needs to put resources in place to help generate new business development in these areas which are potentially possible because of the large skilled labor pools in the region.

Much of the growth in the technology services was stimulated by massive increases in outsourcing of federal activity which began in 1980 with the onset of the Reagan presidential administration. This is very important because it gets government work out of government and into the private sector. This not only contributes to increased rates of diffusion of new technologies but also to capturing considerable increases in productivity.

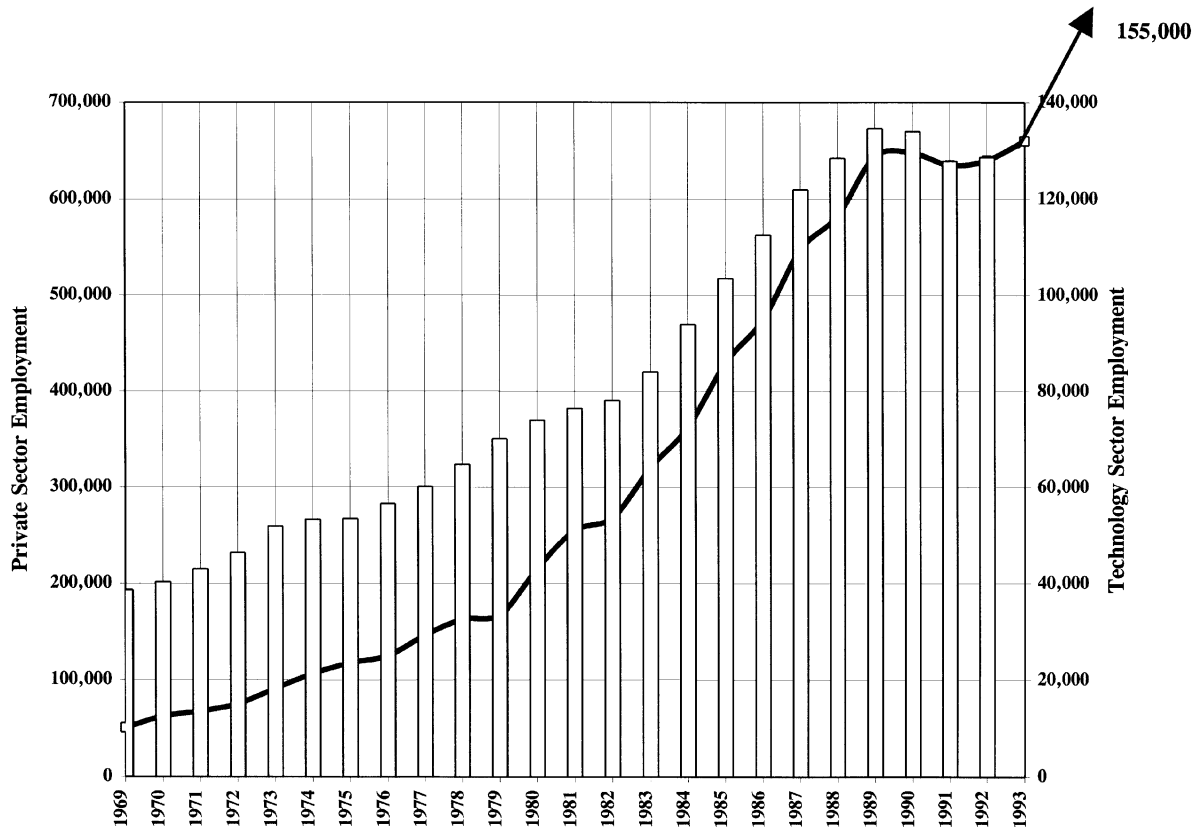
Under the Gray Amendment in the late 1980s a fixed percentage of federal contracts must be set aside for minority owned businesses (8A firms). Addressing the equity issue in this way incubates

a large number of micro level business units. This has contributed to an improved private business climate in the region.

There is a strong bias in the United States against the government picking specific industries or companies as development targets. However, it is much less problematic for the government to emphasize technologies, thus letting firms percolate up. This is essentially what has happened in the National Capital region over the past decade. By emphasizing a variety of technologies in support of defense, energy, environment and health goals a whole new technology services industry has arisen. The National Capital region experience shows how federal technology emphasis can incubate industry development without adopting industry specific policies.

4. Conclusions

The Washington National Capital Region, while a special case in terms of its federal role and its



Source: U. S. Bureau of Economic Analysis, 1993; Stough (1994).

Fig. 7. Employment in the private and technology sectors.

demand for information management and the technology to support it, it is *not* unique in terms of the role of business services and particularly high tech business services in the metropolitan economy. Increasingly, metropolitan economies are dominated by business service activities. Further, the region is *not* unique in terms of the development patterns within the metropolitan or the sector specific character of those patterns as indicated by the edge city studies of Garreau (1991) and others. However, it may be at the leading edge in the utilization of these high technology business information service systems. *Fortune*, a well known national business journal, referred to the National Capital Region in general and Northern Virginia in particular as the Netplex due to its high concentration of businesses in the computer communications and information technology field (see *Fortune*, April 1994). Sub-

sequently, a number of similar articles have appeared in other national and international newspapers and journals. Thus, the high technology small business development characteristic of this region has begun to receive national and international notice.

The strong growth of these small to medium sized firms is clearly linked to the federal government sector but the rate of new "start ups" and the speed of product innovation seems to be a function of a very high concentration of a technically skilled population with engineering and business technology degrees complemented by a sustained demand for technologically related products and services. Other supporting elements appear to be a reasonably attractive environment with an excellent public service delivery system typified by high quality elementary and high schools, and other urban services driven by well

paid publicly employed professionals. However, it is unclear whether these supporting elements lead or follow the growth components. A significant group of these firms were defense and other federal contractor spin-offs, especially in the early period. Furthermore, this group has benefited by a requirement that the federal agencies contract out rather than internalize the skills needed in this information technology area. Finally, clustering does seem to matter.

Within the larger region firms that are linked closer to defense and which in general were more systems and engineering oriented were located in Northern Virginia, nearer the Pentagon and those related to biomedical research were concentrated in Maryland where the National Institutes of Health are located. However these differences appear to be more on substantive content rather than in the technology itself given the poor disaggregation of the services sector at the level of "business services" as both parts of the suburban metropolitan ring look very similar. However, overlapping skills in both substantive knowledge and information technology and management are important components in continued expansion of these small business enterprises.

In terms of policy research it might be valuable to compare both in time and in context this Netplex aspect of high tech information technology development in the US National Capital Region to development in and around Brussels with its EC coordination and management responsibilities.

Note

¹ Data referenced in this section are from estimates made by Stough et al. (1995) on the basis of a total technology industry survey conducted near the end of 1994. Other data used to make the comparisons were taken from the U.S. Bureau of Economic Analysis, County Employment by Industry and County Income by Industry files for 1991, and Micro-IMPLAN Modeling System applied to the National Capital Region.

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