

The Prospects of High-Growth Enterprises: A Retrospective Analysis of Georgia-Based Firms

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Executive Summary

The population of Georgia-based companies that were founded in the late 1980s and grew rapidly in the 1989-94 period is the subject of this empirical research. The analysis describes this population of high-growth firms, tracks changes in firm status and employment levels through 1998, examines the location factors, financing sources, and public policy impacts that pertain, and presents an appropriate typology to classify these firms. Economic developers should be able to use the findings to formulate more effective "creation" strategies. Also presented are the results of using the ES-202 database for research on employment dynamics and tactical issues germane to conducting sound research on young growth companies.

The major findings are organized under each of the four areas of analysis.

Description. High-growth independent firms are found in many different industries (manufacturing, distribution, producer services, retail trade, and consumer services). Although some appear to represent high-impact entrepreneurial firms often referenced in the popular press and in scholarly work, many more serve limited local markets and/or produce routine, rather than innovative, products.

High-growth firms, which were defined as new firms that added 20 employees or more during the 1989-94 period, were extremely rare; less than four percent of all new business entities met this criterion. Furthermore, only half of the firms originally designated as high-growth, in fact, turned out to be high-growth independent firms.

Current Status. Between 1994 and 1998, many qualified high-growth firms went out of

business. A few were acquired, leaving only about sixty percent to continue in their original locations. Therefore, 1.1% of businesses started in the late 1980s that grew rapidly during the early 1990s remained important employers ten years later.

High-growth firms are indeed significant employers. For surviving firms, average employment per firm increased from 14.8 in 1989 to 53.3 in 1994 and then to 68.1 in 1998.

Growth Factors. High-growth firms gave priority to a broad range of location factors, placing emphasis on business factors but also mentioning quality-of-life factors. Labor quality and availability appeared to be widely shared concerns.

High-growth firms were able to access financing from formal sources, as well as informal ones, to begin operating, grow rapidly, and continue in business. Commercial banks were involved in financing the start-up stage more frequently than expected.

High-growth firms generally considered public policies irrelevant to their business. To the extent public policies were relevant, they claimed taxes and regulations burdened their businesses.

Typology. The prototypical high-growth firm is an entrepreneurial firm introducing an innovative product or process with strong growth potential due to large, non-local markets. Three other types of entrepreneurial firms are identified to account for this population of high-growth firms: 1) routine firms serving non-local markets, 2) routine firms serving local markets, and 3) innovative firms serving local markets. All four categories of firms deserve the attention of economic developers.

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Economic Development Strategies

Economic development practice was once synonymous with industrial recruitment and promotion. Current practice, however, has been influenced by an emerging entrepreneurial paradigm that emphasizes fostering a local entrepreneurial environment and new business ventures to achieve sustained and balanced long-term economic growth (Eisinger 1988, Ross and Friedman 1990, Lenzi 1996, Malizia 1996). States have broadened their repertoires beyond attraction activities to embrace programs that support established companies and new businesses. Localities frequently offer new business-oriented programs, such as business incubators, micro-enterprise loan funds, management training for would-be entrepreneurs, and assistance for young ventures (Lichtenstein and Lyons 1996, Servon 1997). Although industrial attraction and related industrial targeting remain popular, state and local economic developers must now consider expansion and creation strategies. Thus, the tasks of setting priorities and designing strategies have become much more complex.

Priority setting can be based on a comparison of the expected risks and rewards of each economic development strategy (Malizia 1985). Expansion strategies tend to have the lowest risk; attraction and creation strategies, the highest. In the near term, attraction appears to yield the highest rewards whereas, in the long term, creation strategies may be the most beneficial. In time, some new ventures may have the potential to become major employers. Jobs generated by new and young businesses are expected to improve local economic performance, and the presence of many employers, instead of a few dominant ones, is expected to increase economic stability.

Given these expectations, economic developers face difficult strategic choices. They recognize that attraction has become very expensive, as many jurisdictions chase fewer branch manufacturing plants and companies demand ever more impressive incentive packages. Furthermore, the benefits of successful

branch plant attraction are diminished by the threat of mass layoffs when the recruited company produces standardized products and subsequently seeks lower cost locations. On the other hand, small firms are not gaining a larger share of employment, most pay lower wages and provide fewer benefits than larger ones, and many are vulnerable because they depend primarily on large companies as customers or suppliers (Harrison 1994).

Unlike attraction and expansion strategies, which are well established in practice, economic developers who decide to pursue creation strategies have no proven path to follow. Although small business development programs have proliferated in both urban and rural areas over the past 20 years, much confusion exists about exactly how to promote significant employment growth and cyclical stability through small business development. The confusion pertains to which firms should be targeted, which specific objectives should be pursued, and which specific strategies are best suited to the chosen objectives. These questions are addressed in more detail in Appendix A.

This report presents a detailed analysis of young, independent firms in Georgia that experienced high employment growth during their first 5-7 years of operations. We focus on this small minority of young firms because such firms have the potential to generate many jobs and increase the local economy's resilience, thereby contributing to job creation and tax base expansion as well as to the stability objective. These firms are attractive targets for economic development efforts. We examine their survival and growth, classify them according to the size of their markets and their orientation with respect to innovation, and attempt to identify location factors, sources of financing, and public policies that have influenced their success. State and local economic developers can use the results of this research to formulate more viable creation strategies that would complement widely practiced attraction and expansion strategies.

The Qualification Process

This research uses establishment data generated in connection with the unemployment insurance program—ES-202 data, which were provided by the Georgia Department of Labor. The research focuses on establishments affiliated with small young firms, defined as firms with less than 100 employees that first reported employment in the 1987-89 period. By March 1994, half (50.2%) of these firms no longer reported, and were presumed to have failed. The rest survived; 47.7% were “stable survivors” whereas the other 2.1% grew significantly. The high-growth establishments accounted for a large majority (81.4%) of all young firms’ job growth between 1989 and 1994, adding 56 jobs each, on average. In terms of average employment growth, a single high-growth firm was equivalent to almost 10 stable survivors. During this same five-year period, average employment in establishments of large firms that opened 1987-89 declined slightly. However, because the ES-202 data do not distinguish independent firms from subsidiaries with out-of-state owners, these results are approximate. Independent, Georgia-based firms can be accurately identified only through primary research. (For results from the initial research, see Winders, 1998. For description of the ES202 data and a review of other sources of data on business start-ups and closures, see Winders, 2000)

This on-going research is analyzing new, independent, high-growth firms in Georgia. High growth is defined as adding 20 or more employees from March 1989 through March 1994. We use this absolute threshold because we want to focus on high-impact firms, in other words, firms that were becoming or had become important local employers. Since the majority of firms have less than five employees, this criterion represents significant relative growth for the majority of these businesses. From approximately 17,000 establishments that appeared to first hire workers in the 1987-89 period and were still reporting employment in 1994, only 627 establishments, or less than four

percent met this criterion. The primary tasks at hand were to contact these businesses in order to qualify them as independent, Georgia-based firms, ascertain their employment level in 1998, and determine their current status after 9-13 years of operations. The other major research task was to survey the qualified firms in order to understand the environmental (external) factors that had contributed to their earlier growth and subsequent survival. We wanted to study high-impact firms led by serious entrepreneurs, as distinguished from the lower growth survivors that are often started to satisfy the life-style preferences of the founder. A summary of the research hypotheses and major findings is presented in Appendix B.

The research involved using a combination of telephone contacts, telephone and mail surveys, and in-depth interviews. This process led to the identification of 319 qualified firms. The details of the research process are presented in Appendix C.

Analyzing High-Growth Firms

It is important to recognize that for a firm to add 20 or more employees in five years is a rare event. In all likelihood, the 144 branch plants are over-represented among the 627 high-growth establishments. But if we assume that the same percentage—23%— of all young establishments were branch facilities, then the remaining 483 Georgia-based firms that were initially qualified as high-growth represent only 3.64% of the remaining young firms.

It is virtually impossible for economic developers to identify such firms before they experience significant job growth. As a consequence, *firm-level* strategies are likely to fail that are designed to: 1) find companies in operation for less than three years, 2) identify ones that have high employment growth potential, and 3) offer technical assistance to promote employment growth.

Of the 319 Georgia-based firms that we qualified, 105 (32.9%) appeared to be out-of-business by 1998. The high mortality rates of firms in business for less than five years is well documented. Furthermore, smaller firms tend to

be more vulnerable to closure than larger firms, which contract more frequently than they close (Cooper *et al.* 1989). Still, this finding is very striking because of the specific population of firms involved. One in three firms that had grown significantly in their first 5-7 years and had presumably achieved sufficient market share to become established businesses with more than 20 employees failed within the next four years. Economic developers who decide to fashion strategies to serve growing young firms that they identify should plan for rather high rates of attrition.

The size distribution of the 105 firms that went out-of-business by 1998 is almost exactly the same as the size distribution of 319 qualified firms shown in Table C.1. For high-growth firms, then, no size bias appears to exist in failure rates. However, there are some differences in failure rates by sector and location that are addressed below.

Additionally by 1998, 27 high-growth firms (8.5%) had been acquired. Most acquisitions occurred in Atlanta, and all but one occurred in metropolitan areas. Although acquisition may improve the business prospects of both acquired and acquiring firms, about half (13) of the acquired firms were either moved from their original location to a different community or had experienced consolidation. Thus, the original host community lost these jobs.

Therefore, only 187 high-growth firms survived through 1998 with their original name and at the same location. This represents 1.1% of the original cohort of young high-growth establishments and 58.6% of the 319 qualified Georgia-based firms. In other words, very few young firms first achieved high absolute employment growth and then remained significant employers in their founding location after 10-13 years of operations.

In summary, from the 319 qualified firms, 105 appeared to be out-of-business, 27 were acquired, 14 of which remained in their original location, and 187 remained independent firms that grew in place. The dynamism reflected in these statistics should be viewed as indicating the relatively healthy state of the overall

economy. This same dynamism, however, generates major challenges for state and local economic developers who try to deal with the resulting uneven spatial impacts of economic growth.

Growth-Company Diversity

We carefully analyzed the sectoral distribution of the 319 qualified young firms. We developed a four-category typology to reflect the diversity we found, which is explained in Appendix D in detail. Assuming that relatively experienced entrepreneurs are leading these young growth companies, we applied this four-category typology to distinguish the prototypical innovative firms oriented to large, non-local markets from firms serving non-local markets with routine products and also from firms serving local markets with either innovative or routine goods and services. For a good discussion of entrepreneurs and typical entrepreneurial firms (see Kent *et al.* 1982).

We conducted the sector analysis at three levels of aggregation: the two-digit or Major group level, the three-digit or Industry group level, and the four-digit or Industry level. The results are highly reinforcing; a great deal of diversity exists in the sectors in which high-growth firms are represented. Overall, a surprisingly large number of two-digit Major industry groups has at least one high-growth firm-47 out of the 68 under consideration. In manufacturing, 65 firms are in 16 Major groups. In distribution and utilities, 22 firms are in 6 Major groups. Wholesale trade has 29 firms in two Major groups. Retail trade has 63 firms in 7 Major groups. In FIRE, 47 firms are in 7 Major groups. Major groups 73 (Business services) and 87 (Engineering, accounting, research, management services) account for 49 firms. Consumer services has 44 firms in 7 Major groups.

These 319 firms are distributed among 114 Industry groups and 167 different Industries. The rank ordering of Industries with five or more high-growth firms is shown in Table 1. The Industries with the most high-growth firms

are Eating & drinking places (5810) with 31, State commercial banks (6022) with 13, Car dealers (5511) with 7, and Real estate agents (6531) with 7. High frequencies in these sectors arise from low entry barriers, labor intensive activities, and employment of part time workers as well as the successful business practices of the local founders/entrepreneurs.

Although the characteristics of firms are not perfectly correlated to Industry characteristics, six Industries in Table 1 primarily offer routine

commodities to the local market (SICs 5810, 6022, 5511, 6531, 7349, and 8082). Three other Industries provide routine goods or services to non-local markets (SICs 2782, 4213, and 7372). The remaining three Industries (SICs 7371, 7389, and 8711) may offer innovative services to non-local markets. The results suggest that very few high-growth firms in this population appear to conform to the prototypical innovative firm.

Table 1: Four-digit Industries with Five or More High-growth Firms

Sector Name	SIC Code	Frequency	Percent
Eating & Drinking Places	5810	31	9.7
State Commercial Banks	6022	13	4.1
Motor Vehicle Dealers (New & Used)	5511	7	2.2
Real Estate Agents & Managers	6531	7	2.2
Trucking, Except Local	4213	6	1.9
Home Health Care Services	8082	6	1.9
Business Services, nec	7389	6	1.9
Prepackaged Software Services	7372	5	1.6
Computer Programming Services	7371	5	1.6
Blankbooks & Looseleaf Binders	2782	5	1.6
Building Maintenance Services	7349	5	1.6
Engineering Services	8711	5	1.6

Another way to explore the diversity of high-growth firms is to identify Industry groups that correspond to the typology. As noted, the prototypical high-growth firm is one that is led by an experienced entrepreneur, innovative either with a new product or process, and exploiting large non-local markets. We assume that high-growth firms in the following three-digit Industry groups could follow this prototype: 283 Drugs, 357 Computer & office equipment, 366 Communications equipment, 367 Electronic components & accessories, 369 Misc. electrical machinery, 382 Industrial instruments, 737 Computer programming & related services. We find only 20 high-growth firms in the prototypical Industry groups

(6.3%), 15 of which are in Computer programming & related services.

The large majority of high-growth firms are in Industry groups that either produce routine products or exploit local (limited) markets. Table D.1 shows the ten Industry groups with the most high-growth firms. The 154 firms in retailing, financial services, or consumer services (48.3%) probably offer routine products in local markets. Among 65 manufacturers, traditional industries of textiles, apparel, wood products, and printing dominate with 37 firms in all. Although producing routine products, these firms could be using advanced manufacturing processes considered to be innovative or state-of-the-art. Most other high-growth firms are

either in low-tech industries or ones that primarily serve local markets.

In conclusion, the high-growth firms under study are found in many different sectors. Few can be characterized as prototypical innovative growth companies. In fact, the typical high-growth firm under study is engaged in retail trade, located in the Atlanta area, and serving a local market. The considerable diversity among high-growth firms makes sectoral targeting a questionable exercise.

Employment Generation

We were able to update information on employment in 1998 for 124 continuing enterprises, including 14 acquired firms. We also corroborated the accuracy of the start date and employment information drawn from the ES-202 files. The other 77 surviving businesses refused to provide any information despite

repeated efforts over a 16-month period that included multiple telephone calls and mailed surveys. See Appendix C for details.

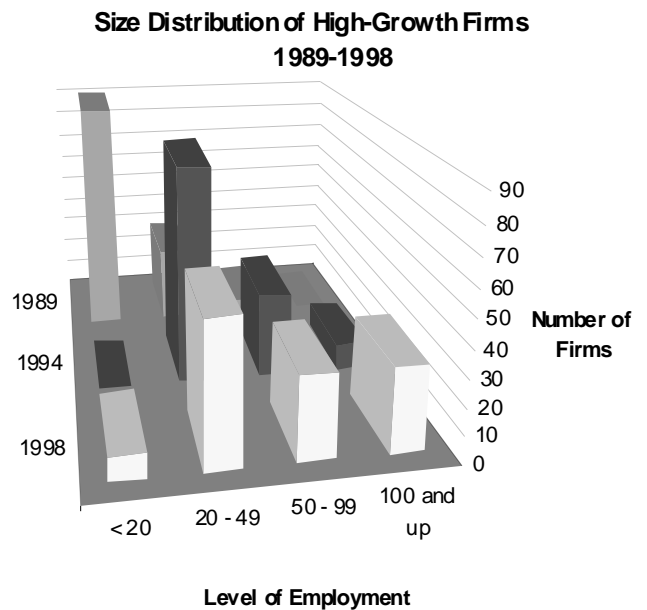
The number of firms and employees by size for continuing and acquired enterprises are in Table 2. Of the four employment-size categories (< 20, 20-49, 50-99, 100 and up), the first three categories (rows) refer to enterprise employment in 1989. The initial distribution of firms is right-skewed with 73% of firms in the less-than-20 size category. Given the high-growth criterion of adding 20 employees or more, no firms remain in this category in 1994. The distribution becomes more skewed by 1994 with 66% of firms in the 20-49 size category. In 1998, the firm-size distribution remains right skewed; the variation in firm-level employment increases significantly. Only 43% of firms are in the modal category of 20-49 employees. These size distributions are shown in Figure 1.

Table 2: Frequency Distributions of Firms & Jobs by Size Categories

Level of Employment	1989			1994			1998		
	Firms	Jobs	Jobs/Firm	Firms	Jobs	Jobs/Firm	Firms	Jobs	Jobs/Firm
< 20	90	655	7.3	0	0	0	9	98	10.9
20 - 49	29	851	29.3	82	2861	34.9	53	1728	32.6
50 - 99	5	327	65.4	32	2165	67.7	31	1994	64.3
100 and up	0	0	0	10	1577	157.7	31	4628	149.3
All Firms	124	1833	14.8	124	6603	53.3	124	8448	68.1

In the 1989-94 period, employment grows dramatically. Average employment per firm increases from 14.8 in 1989 to 53.3 in 1994, or by 3.6 times. During the 1994-98 period, employment continues to grow at an impressive annual rate of over 6.3%. Average employment size moves up to 68.1 workers per firm, a 28% increase over the four-year period. For the entire period, high-growth firms generally follow an “S” shaped growth trajectory experiencing a very high growth phase (average annual growth of almost 30% in the 1989-94 period) followed by more modest growth (about 6% in the 1994-98 period). Thus, very high employment gains are rarely sustainable and become more varied over time.

FIGURE 1



Sectoral Distribution

The sectoral distribution and location of these 124 enterprises are shown in Table 3. Producer services and distribution (transportation and wholesale trade) account for 45% of high-growth firms whereas retail trade and consumer services and manufacturing account for 35% and 20%, respectively. From 1989 to 1994, all sectors add employment with producer services and distribution leading the way. From 1994 to 1998, this group grows faster than the other two; employment in retail trade and consumer services stagnates.

During the 1994-98 time period, retail trade and consumer service firms fail at about the expected rate—35% compared to 33% for all qualified firms. Similarly, producer services and distribution, which represent 46% of qualified firms, have the same failure rate (35%) whereas manufacturing with 21% of all qualified firms

has a lower than expected rate (25%). If job growth and failure are considered as measures of reward and risk, respectively, producer services and distribution are most attractive from the reward perspective whereas high-growth manufacturers look most attractive from the risk perspective.

Economic developers may view these findings as supporting the logic of economic base theory and decide to target firms that serve external (non-local) markets. Such targeting is reinforced by the characteristics of jobs in the retail and consumer service sectors, which are often part time and pay relatively low wages. This conclusion should be qualified, however. Specific retail or consumer service firms may well deserve attention and support. This point is addressed more fully in the “Implications” section.

Table 3: Frequency Distribution and Growth of High-growth Firms by Sector and Location

	1989			1994		1998		1989-1994	1994-1998
	Firms	Jobs	Jobs/Firm	Jobs	Jobs/Firm	Jobs	Jobs/Firm	Annual Job Growth	Annual Job Growth
All Firms	124	1833	14.8	6603	53.3	8448	68.1	26%	6.2%
Sectors									
Retail,									
consumer services	43	733	17.0	2239	52.1	2338	54.4	22%	1.1%
Distribution,									
producer services	56	529	9.4	2716	48.5	3961	70.7	33%	9.4%
Manufacturing	25	571	22.8	1648	65.9	2149	86.0	21%	6.6%
Location									
Atlanta Area	76	929	12.2	3701	48.7	5125	67.4	28%	8.1%
Other Metro	15	193	12.9	861	57.4	527	35.1	30%	-12.3%
Nonmetro Adjacent	17	356	20.9	1162	68.4	1779	104.6	24%	10.6%
Nonmetro									
Non-Adjacent	16	355	22.2	879	54.9	1017	63.6	18%	3.6%

Spatial Distribution

The spatial distribution of high-growth firms favors the Atlanta area. Compared to its share of Georgia employment, Atlanta has more high-growth firms than expected. High-growth firms in other metropolitan areas are under represented relative to the employment base of these areas. Nonmetropolitan areas have the expected proportion of high-growth firms compared to the relative amount of employment there.

Nonmetropolitan firms are larger on average in 1989 than metropolitan firms. Over the next five years, they grow more modestly than metropolitan firms, although all groups grow impressively. From 1994 to 1998, the employment experience of these three groups of firms from 1994 to 1998 is dramatically different. Atlanta-based firms do well, increasing by over 8% annually. Firms in nonmetropolitan counties that are not adjacent to metropolitan areas hold their own. Firms in nonmetropolitan counties that are adjacent to metropolitan areas continue to grow impressively, achieving average employment of about 105 workers per firm by 1998. Conversely, high-growth firms in metropolitan areas other than Atlanta lose more than 20 employees on average. Economic developers in Georgia should try to ascertain whether these results are consistent with more general employment trends and what insights can be gained about the relative competitiveness of these metropolitan areas.

The failure rates by location shed additional light on these results. Firms in the Atlanta metropolitan area failed more frequently than firms in other metropolitan areas. Firms in adjacent nonmetropolitan counties experienced higher failure rates than firms in non-adjacent nonmetropolitan counties. Although business failure is generally considered a negative event, research on "turbulence" has shown that local economies that experience high business birth rates and high business death rates perform better in the long-term than more stable areas (Reynolds 1994, p. 430). We find support for

this idea. Atlanta and adjacent nonmetropolitan areas appear to have experienced more turbulence than other metropolitan areas and non-adjacent nonmetropolitan areas, respectively. Atlanta and adjacent nonmetropolitan areas seem more supportive of high-growth firms than the other areas.

Environmental Factors Supporting High Growth Rates

The information on the reasons why firms were able to achieve high growth during the 1989-94 period came from the survey responses completed by mail or in telephone interviews. Only findings that are highly reinforcing deserve attention given the limited number of responses. Surveyed firms are more successful than the average surviving high-growth firm. They are also more oriented to non-local markets than the average firm.

The literature on location identifies the following four factors as especially important for entrepreneurial firms: venture capital availability, technically skilled labor availability, presence of experienced entrepreneurs, and proximity to universities (Bruno and Tyebjee 1982). Anecdotal evidence suggests that quality of life factors are important to these firms.

Respondents were asked whether business factors or quality-of-life factors had driven the founding of the company in its location. About half cited business factors only whereas one in five chose quality-of-life factors. The rest identified both groupings as important.

Although many different location factors were identified, labor availability was the most generally shared concern. Many respondents specifically mentioned the availability of good workers and the ability to retain them as the most important location factors. Not surprisingly, companies serving non-local markets stressed factors influencing costs whereas companies serving local markets identified factors influencing both costs and revenues. In general, these responses are more similar to location surveys of typical companies than of entrepreneurial growth companies. In contrast to labor availability, which was

frequently mentioned, the other three location factors cited in the literature were never mentioned.

The literature on financing growth companies also stresses the importance of venture capital (see for example Timmons 1994). Again, no respondent had accessed venture capital to achieve early high-growth or to continue in business. The literature points out that informal sources are frequently used to finance start-up and early-stage growth. Besides trade credit, commercial banks and other formal-sector lenders do not readily finance young firms. Banks use credit rationing to create a desirable portfolio of low-risk commercial loans. Firms with high-growth potential or going through the high-growth phase are often classified as high-risk ventures and therefore are unattractive borrowers. Once the business matures, commercial lenders are more likely to find the firm credit worthy.

Respondents were asked to identify the sources of financing used during the start-up, high-growth, and current periods. Personal sources were used to start only half of these companies. These sources included, in order of importance, personal savings invested as equity, personal loans, home-equity loans, lines of credit, including personal credit cards, and investments or loans from family, friends, or associates. In several instances, the founder purchased the real estate and then leased the property to the business.

The other founders were able to access bank credit to begin operations. These individuals had sufficient net worth, either personal wealth or from other businesses, to secure loans and lines of credit from commercial banks and, to a lesser extent, finance companies. Financing by the previous owner was used in several buy-out situations. One company was able to use its real property that was to be developed into a residential-golf community to secure commercial bank loans and attract an institutional investor. One new commercial bank raised equity through an initial stock offering.

Almost all companies tapped formal sources, in addition to internal funds, to finance their

high-growth phase. Commercial banks remained involved with companies they had financed during start up, offering loans or lines of credit. For companies begun with informal sources, however, other formal financing sources were more prominent during the high-growth phase. The sources were trade credit, finance companies, factors, and equipment leasing. Apparently, these firms remained too risky to attract credit from commercial banks.

With few exceptions, companies used multiple sources, which reflects the financial strains caused by high-growth. However, one company used only internal funds, probably because a significant volume of sales was mail ordered. The bank mentioned above issued a supplemental stock offering to support its high-growth phase. Only one company, a day-care business, used a government finance program, namely an SBA loan during this phase.

The companies surveyed had been in business 10-13 years. Current (1997-98) financing reflected consolidation and restructuring to some extent. Internal funds were more frequently cited as the primary financing source. Formal sources grew in importance as personal and family loans were paid down. However, one company tapped family investments now that the business had become stable.

Over their first 10-13 years in business, high-growth companies were able to access loans from commercial banks and other formal-sector financing more frequently than anticipated. Apparently, the character of the founders, the quality of the business plan, the success of on-going operations, and the availability of internal sources or credit enhancement overcame the credit risk associated with young, high-growth enterprises.

Various public policies and programs are designed to assist young businesses. Those that offer tax benefits were expected to be more important to entrepreneurs than direct assistance programs. The results indicate that entrepreneurs running these high-growth firms avoid public programs. With few exceptions, they did not take advantage of public financing

programs. Only two mentioned using tax credits. A few respondents recognized that government legislation and regulations had provided them business opportunities. For example, the founder of an accounting and income tax franchise noted that federal tax legislation had increased the demand for the type of professional training provided by his company.

The respondents expressed negative attitudes about government very consistently and rarely acknowledged any positive influences of public policy. They emphasized the costs of government without recognizing the benefits of government services. They thought various regulations had negatively impacted their business. Several had encountered problems with zoning regulations during the expansion phase.

To the extent that respondents offered additional comments, they generally viewed themselves as serious business persons and recognized the important contribution they were making to the local economy. Almost all planned to continue their business in the foreseeable future.

Implications for Creation Strategies

Although this entire analysis examines Georgia firms, we find the results generally instructive for state and local economic developers formulating creation strategies. Georgia has provided one of the better environments in North America for new business formation and growth over the past 20 years. During the late 1980s and early 1990s when firms in this study were starting and adding employees, the Georgia economy was growing more rapidly than the U.S. average. In the 1994-98 period, strong growth continued in Georgia. Young firms in the Atlanta region could take advantage of the additional stimulus provided by the 1996 Olympics. In most other states and metropolitan areas, the business environment during the 1980s and 1990s has been less supportive of young enterprise growth.

If the Georgia case represents an optimistic scenario compared to other areas in North

America, then any *new* business development strategy to achieve the objective of significant job creation appears to be doomed. Such strategies incur high risk and modest rewards in the long-term, as well as in the near term. Economic developers should not expect to foster many new, independent companies that grow to become significant local employers. Their efforts are likely to be misdirected and ineffective, given the small number and proportion of new firms that become high-growth firms.

Rather than trying to stimulate new business development directly, economic developers are advised to take an indirect approach instead. They should attend to community development in order to improve the locality's competitiveness and quality-of-life. Community development strategies, such as improving public education and worker training, developing industrial or business parks, increasing government efficiency, improving environmental quality, etc., tend to make localities relatively more attractive to *all* firms and households. As a result, the improved local business climate should support expansion and attraction strategies as well as creation strategies for new business development.

Strategies designed to facilitate the growth of *young* independent firms in order to achieve the jobs and tax base growth have a higher chance of success. In states where disclosure policy permits access, economic developers can use the ES-202 database available from state employment security commissions or departments of labor to identify young firms that have added employees over the past several years. With ES-202 data on hand, developers can use SIC code and even ZIP code to target young businesses they consider most promising (for example, manufacturers or business service firms located in growth corridors). As this research shows, however, young growing firms are a very heterogeneous group of businesses that fail or are acquired with surprising frequency. Developers will find effective targeting neither obvious nor easy.

The diversity of young growth companies makes it difficult to design firm-level strategies

that respond to *specific* business needs. The young firms we studied are pursuing very different business opportunities. No doubt, each has unique strengths and weaknesses. In general, economic developers lack the resources to provide assistance on *specific* technologies, marketing strategies, procurement, financing, or personnel issues that will be valued by these firms.

Instead, developers could collect primary information from high-growth young firms, such as information on the company founder and managers, the characteristics of the business, the products and markets served, etc. With such non-proprietary information, they could create a "listserv" of these young growth companies. They could advertise this resource among these companies to facilitate communication for problem solving and mutual support. The Internet could be used to stimulate contacts among these businesses on a state-wide level, or it could be used to strengthen existing networks of entrepreneurs at the local level.

Although developers are unable to offer much help with firm- or industry-specific needs, they could directly sponsor business assistance programs that address common cross-cutting concerns associated with managing high growth, or they could broker services for entrepreneurs grappling with growth-related challenges. Issues relevant to high-growth firms include expansion or relocation of physical facilities, shift from informal to formal financing sources, and transfer of operational decision-making to hired managers. Further research that defined such issues and studied successful responses to them may be useful for designing programs that help young firms move from the "stable survivor" to the "high-growth" category or survive after experiencing substantial growth.

One of the major implications of this research is that economic developers should attend to *all categories* of high-growth firms, not just exporting firms. According to the logic of economic base theory to which most developers subscribe, locally-oriented firms can be generally

ignored because their growth ultimately depends on the income generated by firms that are exporting to external markets. If high-growth firms selling locally are gaining market share, they are assumed to be driving less efficient local firms out of business. Although achieving greater overall efficiency, their employment gains are compensated by employment losses elsewhere in the local economy.

With the exception of grocers, gas stations, and convenience stores, this view is surely dated. Currently, households have almost as much flexibility as firms in using different channels for their purchases, and they can give price, quality, service, and convenience equal weight. Economic base theory recognizes that households may import a growing percentage of their purchases as their income increases. Yet more important is the likelihood that, regardless of income level, households will increasingly use non-local channels for the goods and services they purchase. Mail-order and telemarketing, consumer spending as tourists and business travelers, and commerce conducted on the Internet testify to the error of assuming households will purchase "local goods" locally. As a consequence, economic developers should appreciate and find ways to support local entrepreneurs selling routine products in the local market. These entrepreneurs are reducing the leakage of consumer spending, thereby increasing multiplier effects.

Conclusions

On the basis of researching young high-growth enterprises in Georgia for the past five years, we suggest community-based and process-oriented strategies—improving the local capacity for business development, building networks of entrepreneurs, or helping young companies manage growth—for three reasons.

First, significant employment growth is an extremely rare event. Fewer than four Georgia enterprises in 100 added 20 jobs or more in 5 years from 1989 to 1994. Only 1.4 in 100 businesses remain important local employers

after ten years. This result pertains in a state that sustained very favorable overall economic growth during the study period.

Second, even if economic developers could find ways to support specific high-growth enterprises, most would not continue to generate high levels of employment growth. From the Georgia research, we find that 33% of high-growth firms fail within the subsequent four years. Others are acquired. Among the surviving firms, employment growth continues but growth rates decline dramatically after 5-7 years of operations.

Third, the diversity of high-growth enterprises and the variation in employment change from 1994 to 1998 imply that firm-level assistance programs are far less helpful than programs that encourage inter-firm communication, focus on common problems faced by growth companies, or lead to community development.

In conclusion, economic developers intent on job creation and tax base expansion should add creation strategies to their repertoire of

expansion and attraction activities. Having a local entrepreneurial environment that increases the chances of sustained and balanced long-term growth is highly desirable. Locally based firms appear to have deeper community roots and offer more employment stability. Yet this research suggests that stimulating new businesses or supporting young businesses that become significant local employers is very difficult to achieve. It probably involves no less risk than competing to attract branch facilities that offer many jobs but can depart for more profitable locations on short notice.

Unfortunately, new and young businesses exist in an equally turbulent economic environment. On the basis of the Georgia statistics, almost all new firms offer few jobs or fail within five years. Very few young companies achieve high growth and then continue operations. As a group, they do not provide a major portion of aggregate employment. Yet, most high-growth companies that survive become important local employers.

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Appendix A.

High-Growth Firms Study: Creation Strategies

Who Should Be Targeted?

Targeting creation strategies is highly desirable in theory in order to economize in program delivery and to nurture businesses that will have the greatest expected impact on the local economy. Yet, designing programs that target “small business” provides no useful guidance at all to economic developers. If firms with fewer than 100 employees were considered “small,” then 98 percent of all U.S. enterprises with employees are small. If the limit were reduced to firms with 20 or fewer employees, about 86 percent of all enterprises with employees would be included. The majority of these enterprises have fewer than 5 employees. In addition, about two businesses without employees exist for every business with employees. Furthermore, the level of enterprise employment can change dramatically over time, which makes size a poor choice for targeting.

At the same time, economic developers can neither target new enterprises with significant growth potential nor support the growth of these ventures. Few developers have the ability to “pick the winners” from any cohort of new ventures. New enterprises do not have a definite birth date and remain in the start-up stage for variable amounts of time. Once the company founder decides to commercialize an idea, s/he has to pursue multiple tasks, often under time pressure and without adequate resources. They must create a business organization (incorporate or set up some other form of business), secure legal and accounting advice to put proper management control and reporting systems in place, begin marketing efforts, lease space, purchase equipment and set up operations, hire and train employees, and secure reliable suppliers and business services. During this period, founders are very focused and busy, making it difficult for developers to find or meet with them. As a consequence, it is preferable for developers to focus on young companies that have hired employees and have begun

operations. The shift to young firms with employees should conserve time and effort.

Other business characteristics should be considered in order to target promising local businesses. The population of young firms includes innovative and routine businesses, ones that serve limited local markets as well as those that serve regional or global markets, and businesses whose owner’s training, experience, and contacts vary greatly. Developers would be better able to target programs if the nature and extent of innovation, market size, and owner qualities, in addition to employment size and age, were considered in designing business development strategies. The typology presented in Appendix D provides further guidance for targeting.

Which Objectives?

Most economic developers currently embrace the objectives of job generation and tax-base expansion, whereas the objectives of job quality, stability, and sustainability are becoming more important. However, most small or new business development strategies practiced currently do not support these objectives very well. They are more appropriately directed toward other public purposes. Some are designed to increase self-employment, increase personal income from part-time work, reduce unemployment, aid in neighborhood revitalization, or provide opportunities for low-wealth individuals. Others attempt to stimulate new business development through applied research, commercializing technology, finding business angles, or attracting venture capital. Although these strategies may be very beneficial, they are not likely to increase substantially the quantity or quality of jobs.

This research focuses on a small group of young firms that have generated a large number of new jobs. Unlike the large majority of new, small businesses, these firms can help developers achieve job- and tax-base objectives. The challenge is to identify these firms and to

formulate viable strategies that nurture their survival and growth.

Which Strategies?

Economic developers have designed strategies to stimulate new venture formation, promote entrepreneurial firm growth, and expand successful local businesses. Programs that are designed to increase the rate of new venture formation may result in higher birth rates but are likely to result in neither lower failure rates nor more overall job creation. Any

well-conceived management assistance or technical assistance program can help local businesses. Yet, assisted firms are more likely to become more stable or profitable than to increase employment significantly. Only strategies that stimulate the growth of entrepreneurial firms are likely to have significant impacts on employment. But the specific activities that enable developers to identify, qualify, and support entrepreneurial firms are neither clear nor easy to implement.

Appendix B

High-Growth Firms Study: Overview of Research Hypotheses and Results

This research focuses on high-growth, single-establishment, young firms with employees that experienced significant employment growth between March 1989 and March 1994. High growth is defined as absolute employment change of 20 workers or more during this period. The hypotheses pertain to the factors external to the firm that supported rapid growth. The references from which these hypotheses and assumptions about entrepreneurs are derived are listed below. The research also qualified these entrepreneurial firms and determined their current status. A summary of findings follows each hypothesis.

Hypotheses:

1. Young businesses are very volatile. Those gaining significant employment during their first 5-7 years of operations are not expected to continue experiencing rapid growth.

Findings: Employment growth rates from 1994-98 were much lower than growth rates from 1989-94, but generally showed continued increases in employment.

2. Young independent businesses tend to be located where the founder lives. Those moving to their current location are more sensitive to quality-of-life factors than to input availability and cost. Access to markets is very important.

Findings: Businesses surveyed cited business factors more than quality-of-life factors to explain location. Some cited both sets of factors as important. Availability and retention of good workers were the factors considered most important.

3. Young businesses access different sources of finance as they grow. Initial funding comes from personal assets of the business owner. Early stage financing comes from informal sources (family, friends, and associates) or other

local investors, such as business angels. Sources of finance change from informal to formal over the growth cycle.

Findings: Businesses surveyed used either informal or formal sources to begin operations. They subsequently accessed formal sources when outside financing was needed to sustain growth. Business angels were not explicitly identified as a source of financing. Commercial banks were more involved than expected in early commercial stage financing.

4. Financing from independent local banks is more common than from local branches of bank holding companies.

Findings: All respondents identified bank financing sources as local. However, it was not clear whether the local bank was an independent bank.

5. Young independent businesses deem favorable tax policies as much more valuable than any direct assistance programs, including lending programs, from public sources.

Findings: Few businesses cited any public policies as relevant. Most said that relief from tax or regulatory burdens would be most helpful. Only one respondent had taken advantage of a public financing program. Several cited difficulties with zoning and environmental regulations encountered in the process of expanding their physical facilities.

6. Economic Base Reconsidered: The diversity of high-growth enterprises is one major finding that has practical importance. Economic developers should attend to entrepreneurs running locally-oriented high-growth firms as well as those exporting firms in order to reduce the leakage of consumer spending from the local economy.

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Appendix C

High-Growth Firms Study: Overview of the Research Process

With TVA Rural Studies funding that began in 1996, Rebecca Winders analyzed the relationship between firm size and job generation using ES 202 data for the state of Georgia. She identified businesses that began operations between 1987 and 1989 and described their status in 1994, as noted above.

In 1997, Emil E. Malizia, the Principal Investigator, received a contract from TVA Rural Studies to research both the demography and behavior of the young, high-growth Georgia businesses that generated a disproportionate amount of employment compared to other surviving businesses. Dr. Winders was the senior research associate on this project. We ascertained the status of these independent, Georgia-based firms after 9-13 years of operation, and described them by location, by sector and by employment size. We wanted to learn more about young high-growth firms because the literature on new ventures and small-firm growth emphasizes how and why new firms are started. Less attention has been devoted to describing the status of high-growth firms after about 10 years of operation or to learning about the external or environmental factors that enable them to grow successfully. We conducted the research from late 1997 through the summer of 1999.

We started with over 17,200 establishments affiliated with small firms, which we defined as firms with less than 100 employees, that first appeared to hire workers in the 1987-89 period. We defined high-growth to be firms that added 20 or more employees during the 1989-94 period. We used this absolute threshold because we wanted to focus on firms that were becoming or had become important local employers. Since the majority of firms has less than five employees, this criterion represented significant relative growth for most employers. Only 627 establishments, or less than 4 percent, met these two criteria (for comparative purposes, see Dennis 1997).

Table C.1 shows the basic characteristics of 627 high-growth establishments compared to all

new establishments in 1994. We knew that some of these 627 establishments were, in fact, branch facilities of out-of-state firms when they represented the only Georgia facilities of their respective parent companies. The first step was to identify and disqualify branch plants. We found 144 branch establishments owned by firms located outside of Georgia in the group of high-growth establishments. The remaining 483 businesses were independent, Georgia-based businesses that were largely single-establishment firms. Researchers using the ES-202 database should try to get the name and address of establishments in their files. In most instances, branches listed out-of-state addresses for contact information. Also, the establishment's name at times indicated an affiliation with a well-known global corporation. However, we were not able to identify many of the branches until we contacted them.

It is essential to cull out branch facilities to analyze establishment and employment dynamics accurately. The branches in our sample were larger than the average independent firm, over represented in the 50-99 employment size category in 1989, and generated substantial employment growth through 1994. Attributing these characteristics to young local businesses would clearly overstate the number and employment contribution of independent Georgia-based firms.

The research led us to disqualify two other subsets of independent businesses: firms started before 1985 and firms providing personnel services. Some firms had paid employees before 1985 but re-entered the ES-202 database between 1987 and 1989. These firms had experienced some change in ownership or legal status in the 1987-89 period that made them appear to be new firms. For example, the company could have re-incorporated for some reason or changed from a partnership to a corporation (or vice versa). Owners could have been added, or ownership restructured. In one instance, a state chartered bank took on a federal charter. In several instances, an

established local business started a branch facility from which employment for the entire business was subsequently reported. We disqualified 46 firms because they were established before 1985. Such firms cannot be identified without sampling and directly contacting firms in the ES-202 database. In this research, the population of young growth companies would have been overstated by over 10% had we not culled out ones that were, in fact, established businesses.

Employment agencies (SIC 7361) and Help supply services or temporary help agencies (SIC 7363) perform personnel and other human resource services for client firms. What appears to be employment growth in this sector, in fact, reflects the employment services these firms provide. Personnel service firms often file W-2, unemployment, and social security information on behalf of their client firms where these workers are actually engaged. In one instance, an employment agency reported 16 employees in 1989, 177 in 1994 and over 400 employees in 1998. During the period from 1989 to 1998, the agency had only 6 in-house employees and had experienced no employment growth over these nine years. We disqualified 30 personnel service firms. Fortunately, these firms can be eliminated without primary research by screening by four-digit SIC code. Researchers should also be wary of firms in the health sector that supply doctors and nurses as temporary employees to medical facilities and may appear to be high-growth enterprises as a result.

We eliminated one subset of firms that were otherwise qualified but actually were not high-growth firms—cyclical employers. Cyclical employers appeared to be growth companies because their employment grew significantly from 1989 through 1994. In fact, they represent new or young businesses that continually experience employment fluctuations over time. Construction companies are the most common cyclical employer. They add employees when they have construction contracts and lay them off when construction jobs are finished. Many that we contacted were either out of business or had fewer employees in 1998 than in 1994.

Other cyclical employers included seasonal employers, such as landscaping companies, and service providers that hired many workers for short time periods. For example, one food service company hired over 400 workers for two week-end days each month to cater national guard meetings. We disqualified 74 cyclical employers from the group of high-growth firms. Researchers are advised to screen the ES-202 establishments by four-digit SIC to eliminate sectors that primarily hire workers on a seasonal or cyclical basis. Although some cyclical employers can grow to serve national and international markets, these generally represent well-established businesses that have operated successfully for many years. We also disqualified 14 additional firms that appeared in the database. Seven were non-profits and the other seven were not truly growth companies (for example, captive subsidiaries, outsourcing services).

As a result of this screening process, we qualified the remaining 319 establishments as young, independent, high-growth, Georgia-based firms. Qualified firms represented many two-digit industry groups and provided a wide range of goods and services. We contacted all of these firms to ascertain their status, primarily in 1998. Their profile is shown in Table C.1.

In addition to the 144 branch facilities, a total of 164 firms were disqualified because they were too old, or not in fact high growth businesses. Overall, we disqualified 49% of the original 627 establishments. In addition to the 144 branch facilities, 164 other firms were disqualified because they were too old or not, in fact, high-growth businesses. Researchers analyzing ES-202 data should recognize that a large portion of establishments that experience high employment growth, in fact, may not be high-growth firms. As with the inclusion of branch facilities, inclusion of such firms will overstate the importance of young high-growth firms (see Table C.2 for a summary of the frequency counts).

In conclusion, researchers using the ES-202 database to analyze employment change can screen out many establishments by examining

the address and SIC-code data fields. We also suggest that a randomly drawn sample of the remaining high-growth establishments be contacted to corroborate their firm status and employment change. Research conducted without such procedures is likely to overstate significantly the importance of young firms (or small firms) as employment generators.

The Analysis of Qualified Firms

We developed the categories in Table C.2 by trying to contact most of the original 627 establishments and all of the 319 qualified firms. The process involved: 1) finding the phone number for the firm if not already in the file and calling the number, 2) identifying a contact person who could answer the survey questions accurately, 3) contacting that person and arranging a time for the telephone interview, and 4) conducting the interview to complete the survey. After following this research protocol for the first three months of the project, it became clear that we did not have the resources to contact all firms in this manner. As a result of this experience, we decided to mail the survey to the identified contact person. We followed up the initial mailing with a postcard reminder and a second survey, as Dillman (1978) suggests. We especially tried to increase the response rate of firms in non-metropolitan counties.

Making contact with these businesses and talking at times with founders reinforced our view that these were serious entrepreneurs with business experience and contacts. They were not operating businesses to satisfy their life style preferences or as an alternative to unemployment. We also came to realize that the population of qualified firms was far more heterogeneous than anticipated. The literature on entrepreneurial firms generally assumes a company in an emerging or high-tech industry attempting to exploit a large non-local market. Yet, many high-growth businesses produce routine products or exploit local markets instead. We decided to call all qualified businesses to update their firm status and employment information. We conducted

selected in-depth interviews with owners of local market-oriented businesses with emphasis on fast food and restaurant businesses, which were represented at the highest frequency. We directed the mail survey to manufacturers and more prototypical entrepreneurial firms.

We were able to ascertain that 105 of the 319 qualified firms were no longer in business at or near their original location. We used various search engines and methods to reach this conclusion. First, we attempted to find a phone number of the business owner if the business number was not available or out of service. Next, we searched for the firm within a five-mile radius of its original location. Third, we searched the yellow pages for all businesses in that category (e.g., trucking companies) in that ZIP code. Sometimes, we were able to find the business under a new name at or near its 1994 location. Finally, in most instances, we contacted a competitor in the area or consulted a local expert to find out what had happened to the business.

Using this same approach, we were able to identify the 27 acquired firms and update information for 14 of them. We were able to collect current information on firm status and employment, as well as corroborate the information in the files, for 110 of the 187 surviving firms. Thus, we had information on 58% of 214 continuing or acquired firms; the other 77 firms were unwilling to provide any information or cooperate in any way. The response rate was higher than average among firms employing fewer than 50 workers and lower among manufacturers. Firms in metropolitan and nonmetropolitan location were equally likely to respond.

We only received 12 completed surveys from the remaining 110 qualified firms. We had survey information on another 12 independent firms that we ultimately disqualified. We expended considerable effort to increase this 11% response rate. In addition to follow up mailings and calls to prompt replies, we were able to enlist assistance at no cost to the project from the Economic Development Institute at Georgia Tech that provides assistance to

companies throughout the state. Staff contacted all firms located in their territory to which we had mailed surveys and requested replies. That effort yielded minimal results. By way of comparison, the Federal Reserve Bank of Richmond surveyed 4,500 small businesses in 1997 for a report on accessing capital and experienced a 13% response rate.

The lesson we learned is that this population is one of the most difficult to survey with typical research methods. One needs innovative

research strategies to reach this population. For example, we may have been more successful if we could have identified conferences, trade shows, or other meetings attended by the principals of these firms. Or we needed some major incentive to attract their attention, such as monetary rewards or positive public relations. The telephone interviews and surveys, however, did provide some useful information that is presented in the report and summarized in Appendix B.

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Table C.1: Profile of Young Firms by 1994 Employment, Industry Group, and Location

	All New Firms (N=17,217)		High Growth Firms (N=627)		Qualified Firms (N=319)	
	#	%	#	%	#	%
Employment Size Class in 1994						
0	1372	8.1%	0	0.0%	0	0.0%
0-19	13108	77.0%	0	0.0%	0	0.0%
20-49	1073	6.3%	320	51.0%	185	58.0%
50-99	370	2.2%	205	32.7%	101	37.1%
100+	1296	7.6%	102	16.7%	33	10.3%
Major Industry Group						
Agriculture, Forestry, Fishing	170	1.0%	6	1.0%	0	0.0%
Mining	13	0.1%	0	0.0%	0	0.0%
Construction	2005	11.8%	68	10.8%	0	0.0%
Manufacturing	1211	7.1%	110	17.5%	65	20.4%
Transportation, Communications, Public Utilities	712	4.2%	47	7.5%	22	6.9%
Wholesale Trade	2434	14.3%	55	8.8%	29	9.1%
Retail Trade	3394	19.9%	88	14.0%	63	19.7%
Finance, Insurance, Real Estate	1478	8.7%	72	11.5%	47	14.7%
Services	5600	32.9%	181	28.9%	93	29.2%
County Location						
Metropolitan Area	473	75.4%	11833	69.5%	242	77.1%
Nonmetro Adjacent	73	11.6%	2505	14.7%	40	12.7%
Nonmetro Non-Adjacent	50	8.0%	1970	11.6%	32	10.2%

Table C.2 Qualification of High-growth Firms

	Number of firms
Original Sample from ES202	627
Branch facilities	144
Firms started before 1985	46
Personnel services firms	30
Cyclical employers/Other	88
Qualified firms	319

Appendix D

High-Growth Firms Study: Typologies of High-Growth Firms

The prototypical growth company is a characterization that may help economic developers target firms or design assistance programs (Kent *et al.* 1982). Yet we find that few high-growth firms actually conform to this prototype (for example, the “glamorous” firms described by Kirchoff, 1994). Constructs, such as the “representative firm” in microeconomics or “ideal type” in social theory, can be used to describe a norm or average. On the other hand, constructs drawn from population ecology are more useful when the reality is diverse and varied (see Aldrich 1979 and 1990, Astley 1985, Wholey and Sanchez 1991, and Young 1988 for discussions and criticisms of the population ecology approach). Gartner, Mitchell and Vesper (1989) use this paradigm to develop an eight-category typology of new business ventures based on four sets of characteristics: the founding entrepreneur, the competitive environment, the structure and strategies of the business, and the process involved to create the new business. More recently, Gartner and Shane (1995) applied the population ecology paradigm to track entrepreneurship over a period of 160 years, using organizations per capita as the measure.

Others have developed typologies to make distinctions among small firms. Kirchoff (1994) draws on Schumpeter’s theory of entrepreneurship to identify the very few small firms that have the potential to grow into large firms. The two dimensions he uses are innovation rate and creative destruction rate. The latter refers to the firm’s ability to take market share from established businesses. Clearly, the large majority of small firms are low on both dimensions. Those that are high on one dimension but low on the other may become successful enterprises but usually do not become large, dominant firms. Only glamorous small firms that are classified as “high” on both dimensions tend to grow into important large firms.

Birley and Westhead (1990) identify the internal factors and the product and market position of small firms to group them by growth and performance. Their cluster analysis indicates that firms do not grow in any prescribed or linear sequence. They conclude that... “we should be seeking to analyze development within clusters of firms, rather than seeking generalized overarching theories for all firms” (p. 555). Their conclusion reinforces the population ecology approach.

Delmar (1997) reviews numerous studies of firm growth and finds considerable variation both in the factors affecting growth and in the measures of growth (e.g., absolute versus relative, sales versus employment growth). He concludes that more rigorous specification of the dependent variable is needed to build knowledge in this field.

Delmar and Davidsson (1998) conduct an empirical analysis of high-growth Swedish firms. They present a typology of seven categories of such firms on the basis of cluster analysis. They distinguish firms that increase sales, often with fewer employees, from those that increase employment. Like Birley and Westhead, they find that the growth patterns of high-growth firms are different, and firms in the same cluster are found in different industries and size classes.

This research on entrepreneurship and high-growth firms suggests that many internal and market factors influence firm performance. In fact, one can say that too many plausible explanations of high-growth performance exist. The information on internal factors, which are clearly important, is not readily available and usually requires case studies of specific firms. The market factors are more accessible but represent only one set of potentially important external factors. Other external factors are examined in this research (see Appendix B).

On the basis of this literature and our empirical work, we propose four dimensions to

capture the diversity of high-growth firms and to distinguish their performance from other firms. The first dimension is *age*, which we measure as new, young, or mature. Young firms, for our purposes, are three to ten years old. New firms are younger whereas mature firms are older. With respect to employment and/or sales, firms that experience high growth tend to follow an “S” shaped growth path. After a start-up phase, they experience rapid growth for some time. As they mature, they move to three possible states. Some go out of business or are acquired and consolidated into other firms. Many mature as stable employers, usually in the 20-100 employment size range. A very small minority continue to grow, albeit less rapidly, but long enough to become important national companies. They become major employers, say with over 1,000 employees. As noted, this research focuses on young high-growth firms that were reaching maturity.

The second dimension is the *experience* of the founder, which we classify as either limited or extensive. Anecdotal evidence suggests that extensive business experience, which provides necessary contacts and expertise, is required to manage high growth. If the founder lacks such experience, then s/he must take on partners with the ability to grow the firm. Partners may be relatives, friends, or associates with business experience or business angels who buy into the firm and help run it. We assume that the high-growth firms in our population have owners and managers with enough experience to provide leadership and sound management.

The third dimension refers to the production process and product, whether either or both are *routine* or *innovative*. Young firms that apply routine production processes or sell standard commodities can experience high growth and mature into large established companies if they are able to compete successfully on cost and service quality. Often, their growth depends on the ability to achieve vertical integration, to acquire competitors, or to saturate the market in order to gain significant market share. On the other hand, firms introducing innovations can experience rapid growth by initially holding

monopoly positions. As competition increases, they can stay ahead by differentiating their product, providing valued service, and gaining customer loyalty.

The final dimension is *market orientation*, either local or national/global. Local businesses have growth prospects that are limited by the size of the local market, specifically the disposable income of local households and purchase requirements of local firms. Businesses that serve regional, national, or international markets generally face no binding constraints on output and employment growth due to market size.

In this research, we measure growth in terms of employment growth, which is legitimate for economic development applications but ignores other growth measures, namely sales growth or productivity growth. We analyze young firms that we assume have capable owner-managers. We propose a simple typology of high-growth firms using the other two dimensions: the internal factor of whether the product and/or process is routine or innovative, and the external factor of whether the market is local and limited or non-local and large. By assuming that four-digit SIC code provides a strong inference about these two dimensions and applying additional firm-specific information acquired through telephone contacts, we can place high-growth firms in one of the four categories that combine degree of innovation and market size.

Innovative firm-Large market. The prototypical young entrepreneurial firm is headed by an experienced entrepreneur, is innovative either in product or process (or both), and exploits large external markets.

Routine firm-Large market. Other firms sell to large external markets but offer routine products or services.

Innovative firm-Limited market. Firms with an innovative product or process should become dominant local firms and may be able to continue to grow externally through franchising.

Routine firm-Limited market. Entrepreneurs running routine local businesses succeed by gaining market share through ownership of multiple outlets, usually franchise operations.

We attempted to contact the 319 firms that we had qualified. Although our information is limited, we believe that we found these four types of high-growth firms represented in the Georgia population. Market orientation may be inferred using SIC code, but the internal dimension requires specific information about the firm itself. The following table shows the three-digit Industry groups with seven or more

high-growth firms that grew by 20 employees or more from 1989 to 1994. Almost all of these Industry groups tend to have a local market orientation. Even firms in the business service sectors may serve local markets more frequently than external markets. The large majority of these firms appear to offer routine products or services. Further discussion is presented in the body of this report.

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Table D.1: Three-digit Industry Groups with Seven or More High-growth Firms

Sector Name	SIC Code	Frequency	Percent
Eating & Drinking Places	581	31	9.7
Commercial Banks	602	16	5.0
Computer Programming, Data Processing & other Comp. Related Services	737	15	4.7
Miscellaneous Business Services	738	10	3.1
Trucking & Courier Services, Except Air	421	8	2.5
Blankbooks, Looseleaf Binders, & Bookbinding & Related Work	278	7	2.2
Motor Vehicle Dealers (New & Used)	551	7	2.2
Mortgage Bankers & Brokers	616	7	2.2
Real Estate Agents & Managers	653	7	2.2
Management & Public Relations Services	874	7	2.2