GEORGIA BUSINESS
AND ECONOMIC CONDITIONS

GBEC

VOLUME 62, NUMBER 3 • THE UNIVERSITY OF GEORGIA • THIRD QUARTER 2002

Georgia's biotech industry: an update

Beata D. Kochut

After several years of gaining momentum, Georgia's biotechnology and life science industry is positioned to move to the next level. The state's relentless efforts to pursue biotech talent and research dollars have resulted in a steep increase in the number of biotechnology firms in Georgia. But the industry has not yet achieved a critical mass, which would attract adequate venture capital funding and other investment to sustain it.

In 2001, Georgia ranked eleventh in the nation in the number of biotech firms, according to the Ernst & Young annual biotechnology industry report. The ranking placed Georgia among a select group of twelve biotech states led by industry giants California, Massachusetts, and Maryland. In the Southeast, Georgia was outranked only by North Carolina and Florida.

The Selig Center has identified 120 life science companies in Georgia, an impressive increase from 76 companies in 2000. Out of the 120, 42 firms report 2001 sales of at least $1 million, or employment of at least 20, and together provide nearly 5,000 jobs, which range from high-level positions in product development and research, through mid-level technical laboratory positions, and, last but certainly not least, well-paid manufacturing jobs.

Based on Georgia Department of Labor data, the Selig Center estimates the total number of workers in life science-related occupations at 14,943. This includes scientists, laboratory technicians and technologists in biological, medical, agricultural, and other life science fields. Support occupations, such as equipment repair and appliance makers, provide another 801 jobs, for a combined total of 16,067 jobs in life science-related fields in 2002.

The Georgia Department of Labor expects the number of jobs in medical, biological, and other life sciences, as well as in the medical and clinical labs, to increase at an above-average rate of growth between now and 2008. The number of jobs for clinical lab technicians is projected to increase by 130 annually, and by 160 for the group of biological, medical, and other life scientists.

Georgia's bioscience companies' lines of business range from drug discovery, cloning and stem cell research, to bioinformatics, and laboratory support, with a large concentration of firms focused on drug discovery and manufacturing. The companies that design and manufacture medical devices are the second largest group, followed by firms with agriculture, animal, and environmental science products as their primary focus.

Atlanta's concentration of hospitals and research facilities is the geographical center for drug discovery and medical devices firms, with 97 companies located there. Athens follows with 14 firms, half of which concentrate on agriculture, animal science and environment, and the other half on biomedicine and genetics. Four firms, including biomedicine companies and a major manufacturing plant, are located in Augusta. The two companies located in Macon specialize in biomedical technology and information solutions. Out of the

SELIG CENTER FOR ECONOMIC GROWTH
TERRY COLLEGE OF BUSINESS • THE UNIVERSITY OF GEORGIA

remaining companies, a bioinformatics firm is located in Savannah, a pharmaceutical compound manufacturer operates in Douglas, and an activated cell technology company is located in Thomasville.

Major Players

Within the last two years, Augusta joined Atlanta and Athens as a major player on the state's bioscience map, and the area's presence is likely to increase. The research and clinical facilities at the Medical College of Georgia provide a natural setting for biotech firms specializing in drug discovery and biomedicine. The recent purchase of the state-of-the-art equipment for the new genomics and proteomics lab creates unique opportunities for researchers and is likely to become a magnet for biotech companies. The lab—one of three to operate at Georgia's universities—will be available to university researchers, but outside users will be admitted on a fee-per-use basis. The recently opened $100 million Pharmacia plant, which manufactures the genetically-engineered bovine hormone Posilac, provides another building block for the Augusta biotech industry.

Top Biotech States

1. California
2. Massachusetts
3. Maryland
4. North Carolina
5. New Jersey
6. New York
7. Pennsylvania
8. Washington
9. Texas
10. Florida
11. Georgia
12. Connecticut

Source: Ernst & Young, 2001.

The purchase of the genomics and proteomics labs located in Athens and Atlanta is yet another successful venture of the Georgia Research Alliance, which was instrumental in pulling together funds for this project. The availability of these labs to both academic researchers and private companies provides an additional boost to the drug discovery industry, and is likely to attract even more firms, and more investment to the Atlanta-Athens-Augusta area.

The relatively large number of workers in life science-related occupations, most of who are in the Atlanta-Athens-Augusta area, provides a sizable employment pool for biotech companies. The number of bioscientists in the Georgia's workforce, for example, is comparable to Washington's and North Carolina's. Compared other biotech states, however, more of Georgia's bioscientists find work in agriculture and food science. The research and development expenditures at the academic institutions in Georgia also reflect the strength of agriculture-related biosciences, with the amount of money spent on them ranking fourth in the nation.

Agricultural biotechnology in Georgia has gained worldwide exposure due to the pioneering cloning technologies developed at The University of Georgia and ProLinia, Inc. The recent National Academy of Sciences study, pronouncing meat from cloned animals safe for human consumption, will provide an additional boost to animal cloning technologies, but the industry is still waiting for final approval from the FDA.

GEORGIA BUSINESS AND ECONOMIC CONDITIONS

Third Quarter 2002
Volume 62, number 3

SELIG CENTER FOR ECONOMIC GROWTH

P. George Benson
Dean

Jeffrey M. Humphreys
Director

Lorena M. Akioka
Editor

Beata D. Kochut
Research Coordinator

Ian Armit
Information Analyst

GEORGIA BUSINESS AND ECONOMIC CONDITIONS (ISSN 0297-3857) is published quarterly by the Simon S. Selig, Jr. Center for Economic Growth, Terry College of Business, The University of Georgia, as a service to the business and academic communities. Signed articles reflect the author's opinion but not necessarily those of the Selig Center for Economic Growth, Terry College of Business , or The University of Georgia. This publication is sent free of charge upon request.

Manuscripts and letters to the Editor should be sent directly to us. **Postmaster** send address changes to: Selig Center for Economic Growth, Terry College of Business, The University of Georgia, Athens, GA 30602-6269.

Periodicals postage paid at Athens, Georgia

Plant technologies, together with veterinary vaccines and diagnostics are the top moneymakers among the state's university research projects, which resulted in licensing agreements. The recent NSF grant awarded to the University of Georgia to map the genes of the state's top crops is likely to result in more marketable products, which will initially benefit chicken and cotton farmers,but may eventually include other major crops in the Southeast. With most of the top twelve states competing for research dollars in bioengineering and medical sciences, areas related to agriculture, food, and the environment appear to be a natural niche, and Georgia's biotechnology efforts are right on target.

Promises and Risks

Another plus is that the number of university-based startup companies founded on marketable research puts Georgia's universities among the top research universities in the nation. Incubator facilities at the state's colleges and universities, providing young companies with lab space, equipment, and business expertise, have been an important ingredient in the research-to-market transfer. Today, three such facilities—the Georgia Biobusiness Center (University of Georgia), EmTech Bio (Emory and Georgia Tech), and CollabTech (Georgia State University)—target the specific needs of biotech companies. The Medical College of Georgia in Augusta will open its own incubator space in 2003. In addition,Georgia Tech's Advanced Technology Development Center provides a wide range of services for technology-related companies, and plans to open its own incubator space in the future. Clarke Atlanta University and Kennesaw State University also provide services to bioscience startups.

The next step, and the major challenge for the state's bioscience industry, is the transition from incubation to self-sufficiency. The shortage of commercially available laboratory space and the lack of commercial hubs or research parks known for their concentration of bioscience companies are the most commonly-cited hurdles encountered by companies ready to graduate from the incubator stage. These are also the reasons why some of the Georgia-grown biotech companies relocate elsewhere. The shortage of capital, and insufficient number of bioscience managers are also pointed out as the areas of concern.

Construction of commercial laboratory space for biotech firms is laden with risks, and not many developers are willing to base their investment on the 'if you build it, they will come' principle. Developers in Athens and Atlanta declare interest, but are not yet willing to invest. Some expect the state to share the financial risk involved. For now, however, the current economic downturn, and the resulting drop in state revenues, puts any additional state spending (such as a biotech facilities subsidy) in doubt.

Table 1

Employment in Life Science Occupations in Georgia, Selected Years

Occupation	1998	2003	2008	Average Annual Rate of Growth (percent)
Agricultural/food scientists	750	828	907	2.09
Biological scientists	1,858	2,127	2,397	2.90
Medical scientists	783	900	1,018	3.00
Life scientists, not elsewhere classified	431	484	537	2.46
Medical/clinical lab technologists	5,496	6,134	6,771	2.32
Medical/clinical lab technicians	3,644	4,083	4,522	2.41
Biological, agricultural, food technicians	1,011	1,033	1,055	0.44
Life science workers	13,973	15,590	17,207	2.31
Electromedical/biomed equip. repairers	561	597	633	1.28
Medical appliance makers	200	214	227	1.35
Support occupations	761	810	860	1.30
Total life science	14,734	16,401	18,067	2.26
Total employment	3,996,850	4,472,550	4,948,250	2.38

Source: Selig Center for Economic Growth, based on Georgia Department of Labor, *1998-2008 Occupational Trends.*

Where's the Money?

Out of the twelve top biotech states, nine offer some degree of support for bioscience facilities. Massachusetts and Maryland make public funds available for incubators, research parks, and bioscience facilities. New Jersey and Connecticut provide funds for facilities and research parks; Pennsylvania offers money for facilities; New York backs research parks; and Texas, Florida, and Georgia make incubator space available for biotech startups.

Georgia has plans to develop biotech research parks, for which several state, local, and university-based groups are coordinating efforts. The Medical College of Georgia and Georgia Medical Center Authority plan to open a biomedical research park in Augusta. The University of Georgia in Athens also plans to develop a bioscience research park. Long-term plans call for developing the Atlanta-Athens corridor along Highway 316 as a bioscience research park, but these plans depend on the interest of potential occupants, commercial developers, and road improvements to 316 itself.

Not surprisingly, capital investment is an ever-present challenge. Venture capital investment in Georgia's biotech firms increased dramatically in 1999, with the year-over-year jump surging from $12.9 million to $46.3 million. It remained that high in 2000—a record year for biotechnology investment nationwide—but in 2001, the industry slumped, and venture capital investment shrank to pre-1999 levels. The first two quarters of 2002, however, show renewed vigor that exceeds even the boom of 2000, with $48.9 million invested in biotechnology and medical devices.

Compared to other top biotech states, Georgia's record investment in the first two quarters of 2002 put the state ahead of Texas, Maryland, New York, Florida, and Connecticut. Even so, it is still just over a half of the money invested in North Carolina, about a third of the venture capital invested in New Jersey, and more than seven times less than Massachusetts' biotechnology investment. California's biotech dwarfs all with its $1.2 billion invested, which is three times that of Massachusetts' total.

The 2002 year-to-date investment in Georgia's biotech puts the state close to the middle of the top twelve biotech states in the nation. Historically, however, the state had ranked near the bottom of the list due to the shortage of local venture capital firms specializing in life sciences. Venture capital is responsible for 25 percent of the total biotechnology industry funding nationwide. The other 27 percent is brought

Table 2

2002 Venture Capital Investment in Biotechnology and Medical Devices, Selected States (millions of dollars)

	January-March		April-June		Year-to-Date
State	Biotechnology Equipment	Medical Devices and Equipment	Biotechnology Equipment	Medical Devices and Equipment	Total
California	304.2	224.0	473.8	246.8	1,248.8
Connecticut	NA	15.0	1.5	1.0	17.5
Florida	2.5	19.0	NA	NA	21.5
Georgia	45.4	NA	3.0	0.5	48.9
Maryland	16.6	0.1	27.6	NA	44.3
Massachusetts	112.8	38.8	155.5	72.9	380.0
New Jersey	66.6	NA	79.2	0.5	146.3
New York	36.2	NA	NA	NA	36.2
North Carolina	17.2	NA	37.3	35.5	90.0
Pennsylvania	68.8	NA	40.8	NA	109.6
Texas	13.5	NA	30.7	1.0	45.2
Washington	15.7	2.3	24.7	81.1	123.8
United States	752.0	409.1	958.4	556.2	2,675.7

NA Not available.

Source: PricewaterhouseCooper/Venture Economics/NVCA MoneyTree Survey.

in by stock sales and equity buys, and a full 48 percent of biotechnology funding is provided by "public and other" money. With both the state coffers and biotechnology stocks running on empty, however, the role of venture capital in biotechnology funding will be vital in the years to come.

Among the industry leaders, California, Massachusetts, and North Carolina all operate publicly supported bioscience seed and venture capital funds. In California, this money is the only direct form of state support that biotech companies receive, so the 2002 initiative to establish a state fund for bioscience companies in Georgia is an important step in assuring the flow of capital to the state's biotech industry. ❖

Biotech Companies in Georgia in 2002

Company	Type of Business
Drug Discovery, Biological Agents, Genetics	
Abbott/Murex Diagnostics	Diagnostics
Abeome Corporation	Antibodies
Accelerated Pharmaceuticals, Inc.	Drug discovery
Anagen Technologies, Inc.	Molecular biology services
Athens Research & Technology, Inc.	Purification of human proteins
AtheroGenics, Inc.	Drug discovery (chronic inflammatory diseases)
Aureozyme	Industrial and pharm. applications enzymes
Biofield Corporation	Medical technology (breast cancer diagnosis)
BioSystems, Inc.	Biomedical research company
BresaGen	Stem cell research, biotherapies
Cancer Therapeutics, Inc.	Activated cell technology
Cell Dynamics, LLC	Gene and cell therapy
Cerebral Vascular Applications	Acute stroke drugs clinical trials
CytRx Corporation	Gene therapy and vaccines
Dade Behring, Inc.	Diagnostic substances manuf.
DermaCo, Inc.	Dermatology products
Design Science, Inc.	Crystal form discovery (pharm. Industry)
Elan Drug Delivery, Inc.	Drug discovery and manufacturing
FOB Synthesis, Inc.	Provides custom organic synthesis
GeneCure Biotechnology Laboratories, LLC	Gene-based therapeutics
Genesis Technologies, Inc.	Manufactures bacterial concentrates
Genzyme Genetics	Genetic testing/counseling
GeoVax, Inc.	Vaccines development
Helical Science Laboratories	Medical diagnostics
Immucor, Inc.	Blood diagnostic reagents manuf.
Inhibitex, Inc.	Biopharmaceuticals (bacterial and fungal infections)
Innogenetics, Inc.	Diagnostics and therapeutics
Lee Laboratories	Bacterial reagent manuf.
Leven Laboratories, Inc.	Genetic research tools
Medical Science Laboratories	Diagnostics
National Diagnostics, Inc.	Chemical and biological agents manuf.
Oncose, Inc.	Invitro diagnostics
Pharmasset, Inc.	Drug discovery
Reddy US Therapeutics, Inc.	Drug discovery, biopharmaceuticals
rPEPTIDE, LLC	Medical biotechnology
Serologicals Corporation	Biological products
SKW Chemicals, Inc.	Biochem reagents manuf.
Somatocor Pharmaceuticals	Drug discovery
Spectrx, Inc.	Non-invasive optical diagnostics
UCB Pharma, Inc.	Pharmaceutical firm
Valen Biotech, Inc.	Genetic research tools
Vascular Genetics	Gene therapy agents devel.
Visible Genetics	Automated sequencing systems (genetics)
Xytex	Fertility lab
ZymeX Pharmaceuticals, Inc.	Drug discovery

(continued)

Biotech Companies in Georgia in 2002

Company	Type of Business
Pharmaceutical Companies, Manufacturing and Research	
Ajay North America, LLC	Pharm. intermediates and reaction catalysts
BioProgress Technology, Inc.	Pharmaceutical additives manuf.
BioSante Pharmaceuticals, Inc.	Pharmaceutical company
Globerx.Com, Inc.	Pharmaceuticals
Imiren Pharmaceuticals, Inc.	Generic pharmaceuticals manuf.
Ingenix Pharmaceutical Services	Pharmaceutical research services
Kiel Laboratories, Inc.	Pharmaceutical company
Mikart, Inc.	Contract manuf. (pharm. Industry)
NitrOsystems	Specialty pharmaceuticals
Noramco, Inc.	Bulk pharmaceuticals manuf.
Optima Chemical Group, LLC.	Pharm. components manuf.
PETNET Pharmaceuticals, Inc.	Radiopharmaceuticals
Proactive Labs, Inc.	Pharmaceutical preparations manuf.
S S S Company	Pharmaceuticals manuf.
Solvay Pharmaceuticals, Inc.	Pharmaceuticals manuf.
Stiefel Laboratories, Inc.	Pharmaceutical powders manuf.
Medical Devices and Equipment	
Aderans Research Institute, Inc.	Biomaterials and tissue engineering
Alpha Omega Engineering	Clinical and Biomed. research devices
BioCure	Embolotherapy products
Biomedical Design, Inc.	Biomaterials and bioprosthetics
CardioMEMS, Inc.	Biomedical devices
Ciba Vision	Contact lenses, solutions
CryoLife, Inc.	Transplants, surgical adhesives, tissue engineering
Dornier MedTech	Medical devices
Given Imaging Ltd.	Medical imaging
Louisville APL Diagnostics, Inc.	Diagnostic devices
Modular Design Works, Inc.	Medical devices
Nanomist systems, LLC	Biomedical technology
Neotonus	Medical devices
Neural Signals, Inc.	Biomedical technology
Novoste Corporation	Medical devices
Photonic Sensor	Medical devices
Porex Corporation	Medical devices
Prizm Medical, Inc.	Medical devices
Proxima Therapeutics, Inc.	Medical devices
Roche Diagnostics Corporation	Medical devices
Roper Industries, Inc.	Analytical instruments
Salumedica	Medical devices
Scientific Adsorbents, Inc. (SAI)	Medical devices
Sebia Electrophoresis	Medical and laboratory devices
Sector Electronics, LLC	Medical devices
Snowden Pencer	Medical devices
SPC Electronics America. Inc.	Medical equipment
Theragenics Corporation	Implantable radiation devices
Zygogen	Fluorescent tagging technology
Bioagriculture, Animal Health, Bioremediation and Industrial Applications	
APGEN (Applied PhytoGenetics)	Bioremediation
Avigenics, Inc.	Avian biotechnology, biopharmaceuticals
Bioniche Life Sciences, Inc.	Bioagents for veterinary pharm.
D-squared BioTechnologies, Inc. (D2 BioTech)	Analysis of agric. and food born pathogens
Enzymatic Deinking Technologies. LLC (EDT)	Industrial purposes enzymes manuf.
Growing Company, Inc.	Agric. experim. research
Kbi Kinetic Bio Systems	Biological remediation
Lohmann Animal Health Intl., LLC	Animal health
Merial, LLC	Animal health

Biotech Companies in Georgia in 2002

Company	Type of Business
Pharmacia Corporation	Genetically engineered bovine hormone manuf.
Poultry Specialties, Inc.	Biological research lab
ProLinia, Inc.	Cloning technologies
Wingo, Inc.	Animal vaccines manuf.
Bioinformatics, Biomedical Information Systems and Software	
Biowulf Genomics, Inc.	Genomic computing
Mddatacor, Inc.	Clinical information management
MediZeus	Medical informatics
NuTec Health Systems	Bioinformatics
Pharm-Data, Inc	Biotech research support
Science Applications International Corp.	Biomedical information solutions
SynterMed	Medical imaging software
Laboratory Equipment and Support	
Biomedical Disposal	Medical waste disposal
BioSentry, Inc.	Animal sanitation
Bioshield Technologies, Inc.	Sanitation
Inmark, Inc.	Biomedical shipments packaging
Kimberly-Clark Corporation	Medical devices, surgical apparel
LOC Scientific, Inc.	Turn-key lab solutions
Q Care International, LLC	Biomedical waste disposal
Scherer Healthcare, Inc.	Medical waste disposal
Shared Systems, Inc.	In vivo/in vitro diagn. manuf.
Skalar	Instrument manufacturer

Construction outlook for 2003

■ Jeffrey M. Humphreys ■

Substantially less new construction in the private sector in 2003 will retard the growth of Georgia's economy. Occupancy rates will decline further and unsold properties will accumulate gradually. Spending by state and local governments for schools and other infrastructure probably will decrease, reflecting weak FY 2003 revenue collections. Federal spending for new construction, however, is likely to rise.

In the private sector, the property types with the best prospects are low- and middle-income detached single-family housing, infill housing, and second and leisure home developments. Multifamily housing, regional malls, power centers, suburban office buildings, entertainment centers, and lodging facilities will provide the fewest opportunities for new development. Reduced demand for new development will be cushioned slightly by relatively steady spending on renovating or repairing existing homes.

Rents and property values will flatten or decline slightly in 2003, but the risk of large price drops is minimal. Worrisome housing bubbles do not exist in any of Georgia metropolitan areas. Even at the peak of the housing boom, homes did not consistently sell within a few days or hours of listing; and multiple offers exceeding owners' initial listing prices were a rarity. Also, existing home prices are in line with replacement costs. It is true that market conditions recently have favored sellers, but steady additions of newly built homes prevented shortages that could have produced a housing bubble. (Although home prices soared in a few prime locations, the existence of a few "hot" areas in a growing metropolitan market is normal, and does not constitute a housing bubble.)

Throughout the state, and in metropolitan Atlanta, suburban and ex-urban development will continue to outpace center-city and inner tier suburban development, but these respective growth rates will converge rather than diverge. Long

commutes and hectic schedules are two of the reasons why, but demographic changes—the increasing numbers of "echo boomers"—and lifestyle choices also contribute to the urban renaissance. These trends favor firms that focus on the redevelopment of urban properties, even though the restructuring of the dot.coms has temporarily reduced demand for urban real estate.

Single-Family Homes

Through most of 2002, home building was strong in Augusta, Albany, Athens, and Columbus, but once again, Atlanta's market—three times larger than that of any other metropolitan area in the Southeast—reigned as the nation's busiest homebuilding market. Low mortgage rates and domestic migration were the major factors sustaining activity. Higher lot development costs did not significantly restrain the growth of new subdivisions, and traffic congestion and long commutes continued to reinforce demand for new in-town housing.

The number of new homes built will drop substantially in 2003, but home prices will either stabilize or drop only slightly. The forecast calls for permits authorizing 60,900 new single-family homes, a year-over-year decline of 10,600 units, or 14.8 percent. One reason for the decline—to the level that prevailed in the mid-1990s—is that the effective mortgage rate is expected to rise in 2003. Another damper is that personal income will grow slowly in 2003. Inflation-adjusted per capita disposable personal income simply will not rise fast enough to encourage more homeowners to move to larger or more luxurious homes. A third reason for the projected decline is that the huge stimulus to homebuilding coming from the jobs created between 1991-2000 has dissipated. In 2001-2002, the lagged benefit of past employment gains was crucial to keeping Georgia's single-family housing market from declining. Even as the job engine sputtered, stalled, and slipped into reverse, many of the households that came to Georgia in the 1990s took advantage of the lowest mortgage rates in decades to move from rental housing into their own homes. Today, fewer renters who are qualified to buy a new home remain in the pipeline.

More positively, even a modest upturn in employment eventually will help to buttress demand for inexpensive starter homes and moderately priced homes. Also, favorable demographics should maintain consumers' interest in vacation homes and retirement homes. The state's increasing number of seasonal residents will reinforce demand for new home construction. Contractors in Georgia's coastal and mountain counties, where seasonal residents like to live, therefore can anticipate better housing markets than resident population projections would lead them to expect.

Older Georgians will continue to be a mainstay in the housing market. A large proportion of the elderly own their homes, and have built up substantial equity and have relatively stable sources of income, making this part of the market less sensitive to fluctuations in economic conditions and mortgage rates. Because many retirees choose to live in Georgia's mountains or on the coast, these areas already see high demand for retirement homes. Georgia's military bases help the state attract retired military personnel, too. Although older homeowners now absorb only a small percentage of the market, the fact that they are living longer and have more financial resources certainly will create a major impact.

Georgia's homebuilders should not expect much of a boost from pent-up demand in 2003, because the low mortgage rates of the last few years have cut the number of buyers waiting for cheaper credit. In particular, pent-up demand for luxury homes appears to be satiated, although some deferred demand for retirement homes may still exist. The negative wealth effect of households' recent setbacks in the stock market will hurt sales of second homes. On the other hand, people's lingering doubts about the stock market may increase the appeal of purchasing second homes as an investment. Additional factors that underpin the demand for second homes include the reduced federal income tax on home sales and improvements in telecommunications that allow people to conduct business while on the go.

Traffic congestion in the state's major urban areas increases the appeal of living in-town and thereby cuts demand for new home construction. In built-up urban areas, renovating an existing home or condo often is more sensible than building a new home. Finally, the adverse side effects of a decade of economic boom created support for additional public sector controls on growth and development in the private sector. Effective growth controls almost certainly will increase the cost of new home construction, but will increase demand for existing homes and the construction of new condos and apartments.

Although speculative overbuilding currently is not a major concern in Georgia, inventories are expected to increase as demand tapers off. Builders' margins will narrow. More positively, many years of robust housing sales drastically reduced the number of desirable older homes on the market, so new construction therefore may account for a relatively high percentage of a diminishing volume of total sales.

As more new homes include various amenities, the outlook for residential construction improves. More homebuyers are looking for functional, mid-sized or large houses that are easy to maintain, and are closer to town centers. Location, technological extras, fancy finishes and fixtures, three-car garages, extensive storage, wider doors and hallways, high ceilings, customized windows, and expensive materials will become the appealing hallmarks of luxury.

Families with children still prefer the suburbs, where the price per bedroom is lower, the yards are big enough for both children and pets, the public schools are better,

and the streets are safer. The demand for suburban living is reinforced by the development of office parks, retail centers, and industrial clusters, especially since employers have become amenable to telecommuting and flexible scheduling. Also, the increased popularity of golf and gardening attract many to suburbia

Housing will be slightly less affordable in 2003, as the negative effects of higher mortgage rates and increased construction costs more than offset income growth. A shortage of lots in locations within a reasonable distance of work will drive up housing costs in some areas. Rents are expected to decline, reducing the pressure to buy a home. There will not be much appreciation in most areas because of reduced demand and the ample number of new and existing homes on the market. Demand for inexpensive and mid-priced homes probably will be firmer than demand for homes at the upper end of the market. In Atlanta, in-town homes will see stronger market conditions than homes in the suburbs.

Multi-Unit Residential Construction

In 2003, the fundamental determinants of demand for multi-unit housing—growth in employment, population, and personal income—will strengthen slightly. Also, mortgage rates will rise: a trend that favors rental housing. Nonetheless, an oversupply of multi-unit housing will deter new construction, and thus a 34.8 percent drop from 21,000 units in 2002 to 13,700 units in 2003 is projected.

The best prospects are for retirement housing, which will benefit from a strong demographic push and the substantial equity that many older homeowners have accumulated. Retirees increasingly will prefer communities that offer many levels of health care and different types of housing. Assisted living facilities will become more popular, but in some parts of the state, particularly metropolitan Atlanta, too

Table 1

NEW RESIDENTIAL BUILDING UNITS AUTHORIZED FOR GEORGIA, 1988-2003

	Total New Residential	Percent Change from Previous Period	New Single-Unit Residential	Percent Change from Previous Period	New Multi-Unit Residential	Percent Change from Previous Period
1988	63,017	-1.9	42,559	-8.3	20,458	14.9
1989	50,457	-19.9	35,145	-17.4	15,312	-25.2
1990	41,251	-18.2	33,009	-6.1	8,242	-46.2
1991	37,580	-8.9	33,592	1.8	3,988	-51.8
1992	44,566	18.6	42,087	25.3	2,479	-37.8
1993	53,874	20.9	47,599	13.1	6,275	153.1
1994	64,860	20.4	52,530	10.4	12,330	96.5
1995	72,225	11.4	55,027	4.8	17,198	39.5
1996	74,874	3.7	59,397	7.9	15,477	-10.0
1997	75,123	0.3	59,596	0.3	15,527	0.3
1998	85,401	13.7	67,879	13.9	17,522	12.8
1999	89,581	4.9	72,951	7.5	18,051	3.0
2000	91,820	2.5	68,852	-5.6	22,968	27.2
2001	93,059	1.3	71,531	3.9	21,528	-6.3
2002*	92,500	-0.6	71,500	0.0	21,000	-2.5
2003*	74,600	-19.4	60,900	-14.8	13,700	-34.8

*Indicates forecasted value.

Source: Data for 1988-2001 were obtained from the Construction Statistics Division, Bureau of the Census. Values

much new capacity has temporarily saturated the market. Increasingly, universities will develop retirement housing for nostalgic alumni.

Although apartment and condo developers will see far fewer buyers in 2003, the popularity of in-town living should continue to grow, and condo prices in metro Atlanta will decline. Traffic congestion and long commutes is the primary reason why working professionals will continue to return to Atlanta's inner suburbs. In Atlanta, market trends favor apartments or condos—with secure parking—that are located within an easy walk of a MARTA station. Public attitudes are the biggest impediment to high-density housing and mixed-use development in the suburbs, however, because the vast majority of homeowners do not want apartments or other high-density housing to be built close by. Many suburban homeowners, and the officials, who represent them, exacerbate sprawl by mandating large residential lot sizes and by opposing retail and office development. Several suburban Atlanta counties have moratoria on building new apartments, and homeowners will remain adamant until they understand that market forces are shifting: high-density and mixed use development increasingly will help nearby homes to appreciate faster than would otherwise be the case.

Nonresidential Construction

Overall spending for new nonresidential construction will decline significantly in 2003. Because there are few barriers to new construction in Georgia, the risk of overbuilding during an economic expansion is greater here than in many other states. Since 2000, demand has not grown fast enough to absorb all of the new space that was in the development pipeline before the economy slowed. In 2003, tenants will continue to have the upper hand and will receive even greater concessions from landlords. The recent additions to supply make the commercial real estate industry especially vulnerable to sudden shifts in underlying economic conditions. It probably will be at least two years before rents begin to increase significantly, and until that happens, speculative projects will be on hold. Spending for school construction and public infrastructure will wind down as state and local governments' monthly revenue collections continue to disappoint. Low levels of capacity utilization in the nation's factories, much-reduced stock prices, and slow markets for most goods and services will reduce outlays for new office buildings and industrial plants; and there will be far less retail and hotel construction.

Due to weak revenue collections, school construction may decrease in 2003, but the pause probably will be very brief. School construction eventually must increase, given the rapid growth in the population of school-aged children, expanded pre-kindergarten programs, and the growing need to house computers and other equipment. In many jurisdictions, special local option one-cent sales taxes may provide some additional funding for new school construction. Slight increases in the property tax base also will help to support school construction, but efforts to limit the power of local authorities to reassess property may restrain spending.

The recent downturn in corporate profits, setbacks on Wall Street, and slow growth in office-based employment will continue to restrain demand for new office space. Improvements in this subsector will lag improvement in the overall economy by at least two years. The abundance of subleased space—part of which represents space given up by failed dot-coms—will make it more difficult to rent new space than the overall occupancy rate indicates. Accordingly, rents will decline, which will make it very difficult to justify new projects. Foreign investors' interest in office buildings will continue to wane. Due to all of these factors, less new office construction will be started in 2003; but despite the slowdown, raw land prices are unlikely to fall significantly.

Due to the overall economic climate, even the Mall of Georgia ceased to be a catalyst for retail development in 2002. A glut of retail structures and a large number of store closings put a lot of vacant space onto the market. Consequently, statewide outlays for retail construction will be reduced for the second straight year.

New industrial construction probably will decline again in 2003, partly because capacity utilization in manufacturing is still low. Also, the restructuring of many technology industries, recent declines in corporate profits, and more moderate growth of consumer spending will restrain orders for warehouses. The markets for most industrial products will expand, but not quickly enough to provide much immediate stimulus to demand for new industrial space. Fewer companies will be investigating relocation, which in turn will depress rents. In short, better prospects for industrial space probably will lag improvements in the overall economy by approximately one year. ❖

On the Road Again

Hospitality Industry Forecast

The prospects for these industries should improve in 2003, but neither demand nor operating margins are expected to increase rapidly. Full-fledged recovery is not expected for the lodging industry until 2004, but most restaurants should fully recover in the coming year.

Lodging

As the overall economy expands in 2003, the lodging industry's performance will improve, but full recovery may lag that of the overall economy by as much as two years. There are many downside risks, too. Volatile gasoline prices, for example, could significantly reduce drive-in demand. Hotel owners therefore should be positioned for recovery, but ready to act defensively should market conditions begin to deteriorate. The hassle associated with flying will continue to discourage travel, but the number of trips not taken due to inconvenience alone is not expected to increase in 2003.

The forecast therefore calls for the percentage of the state's lodging rooms that are rented to increase in 2003. The restoration of balance between supply and demand will lead to increases in average daily room rates, but occupancy will rebound much more rapidly than average daily room rates. Also, rising costs associated with maintaining a high level of security, insurance premiums, and interest rates are expected to squeeze margins. The slack labor market and process improvements should help to lessen the pressure on margins, however.

Because Atlanta caters primarily to the business traveler, the region's hospitality industry is extremely sensitive to changes in corporate profits and sales. Both of these are expected to rise in 2003, but businesses' spending for travel will substantially lag these turnarounds. Improving business conditions therefore will not lead to significant increases in travel budgets until 2004. Meeting planners also made fewer site visits to Atlanta in 2002, which suggests that bookings will not improve much in 2003.

Despite many short-term challenges in attracting the business traveler, the lodging industry is poised to benefit from many longer-term positive factors: domestic and international markets for goods and services will continue to grow; the corporate world's shift to professional specialty and managerial occupations, in which travel is more frequent; market globalization; and technological advances that stimulate demand for training and education.

Spending by leisure travelers is recovering more rapidly than spending by business travelers, but there has been a major shift in preferences. People now prefer shorter trips to places they can reach by car, which should help in-state hotels that are close to tourist attractions. Under these circumstances, households' spending on international trips and on long-distance trips to major metropolitan areas probably

will not increase very much in 2003. The lower value of the U.S. dollar, however, may encourage foreigners to travel to the U.S.

In attempts to attract more business, hotels find that reinvesting profits pays. Looking new is important, so renovations and refurbishments help older properties compete with new hotels. Hotels that focus on what guests want—clean rooms, speedy check-in and check-out, consistent service, standardized amenities, and increasingly, booking via the Internet—should gain market shares.

More and more, people use the Internet to get information about accommodations and to book their rooms. Direct online sales to the consumer benefits the lodging industry in several ways. First, it eliminates the middleman and reduces commission costs. Second, it provides consumers with detailed and up-to-date information. Third, it reduces staffing needs. Fourth, it helps hotels manage room availability more efficiently, dropping or raising rates according to vacancy levels. Finally, the Internet will help hotels manage and personalize their relationships with their repeat customers.

The expansion of U.S. hotel chains into foreign markets is the most important long-term trend shaping the industry's future. By establishing global brands, U.S. hotel companies hope to appeal to international travelers' desires for predictable service. The business traveler is particularly apt to choose a brand name, so transferring already-established goodwill abroad will be the key to hotels' building international market shares. For full-service hotels, success in the international arena may ultimately prove essential to keeping or expanding shares of the domestic market.

Restaurants

In 2001-2002, restaurants were hurt by many of the same forces that hurt hotels. Fewer people working, less travel, reduced corporate expense accounts, and consumers' tightfisted attitudes cramped spending for dining out. Nonetheless, it appears that the pull-back in overall spending for restaurant fare may have been smaller than it was in previous downturns. Apparently, busy people now view eating out as a necessity, and favor modestly-priced restaurants.

In 2003, expenditures for restaurant fare will increase moderately. Positive developments include population growth, slight gains in disposable personal income, convenient locations, more choices, and healthier menus. Over the longer run, busier lifestyles, the increased proportion of singles, more married women in the labor force, and the geographic dispersion of families also encourage eating out. Due to the sub-par recovery, quick-service restaurants are expected to do better than full-service restaurants in 2003. Bars and caterers will see average gains; hotel restaurants will see below-average gains, and commercial cafeterias' business will grow the slowest of all.

Supply-side problems will continue to challenge restaurants in 2003, because, for several years, the number of restaurants has grown faster than demand. Fierce competition for customers will limit the industry's profits. Quick-service restaurants also will face more competition from grocery stores, which now offer a wider selection of freshly prepared foods and often have cafes on their premises.

Finding qualified and motivated employees and containing labor costs will be a little easier in the short-term, but remains a long-term problem for the food service industry. To cope, some restaurants are hiring older workers, installing more labor-saving equipment, and keeping a lid on costs. Another way that some restaurants are coping with the specter of a long-term labor shortage is to install more self-service operations, such as beverage kiosks. ❖

ORDER FORM

_____ copy of **The Multicultural Economy 2002** @ $100 _____

Georgia residents ADD your applicable county tax

County _____ tax rate _____ x purchase price _____

TOTAL _____

Name

Address E-mail

City State ZIP

❑ Bill me ❑ Check enclosed **payable to Selig Center, UGA** ❑ VISA ❑ MasterCard

Credit Card Number Expiration Date

Name on Card

Mail or fax to: Selig Center for Economic Growth, Terry College of Business
The University of Georgia P.O. Box 1764 Athens, GA 30603-1764
Phone (706) 425-2961 FAX (706) 425-2965