# ENTRY-LEVEL JOBS IN THE NYC INFORMATION TECHNOLOGY LABOR MARKET

A LABOR MARKET PROFILE PREPARED BY THE FISCAL POLICY INSTITUTE
JULY 18, 2002

---

**Overview**

Despite numerous local economic development studies that deal with information technology issues[1], very little has been written about the information technology job opportunities that may exist in New York City for those lacking postsecondary educational credentials.

At the same time, "information technology" itself remains a very tricky analytical category, which in turn means that it can be quite difficult to pin down and quantify. Are we quantifying an industry, or a set of occupations, or an input that cuts across industries and occupations, or all of the above?

This brief labor market profile is designed to propose some initial answers on the issue of entry-level jobs, in the context of a perspective on the issue of where information technology can be found operating in the local economy.

**Three areas where "information technology" is found in the local economy**

For the purposes of this labor market profile, FPI would like to suggest three areas where information technology plays an important role in the local economy:

> New Media: According to the New York New Media Association, this industry "combines elements of computing technology, telecommunications, and content to create products and services which can be used interactively by consumers and business users." Thus, while the term "new media" is by no means coterminous with "information technology," the new media industry does represent a substantial source of employment for people who work with information technology tools. Furthermore, many studies have shown that this is an industry that draws its strength from an urban labor market. For example, the most recent of a set of studies by PricewaterhouseCoopers on the local new media industry showed that "access to people resources" ranked as the "leading reason for New York's attractiveness." (NYNMA/PricewaterhouseCooopers, 2001) While this "access to people resources" may indicate the presence of artistic or entrepreneurial skills as much as information technology skills per se, studies also show the importance of "hard" skills training to the ongoing competitiveness of this small business dominated industry. (See for example Economic Policy Institute, 2001)

---

[1] FPI staff have collected ten separate full-length studies dealing with information technology, software, and/or "new media" written between 1996 and 2002. No doubt further studies also exist of which we are as yet unaware.

Financial Services: NY Stock Exchange data indicate that financial services companies have annually invested billions in information technology-based "communications expense" and "data processing costs" (on a national basis, an estimated $5.4 billion and $2.8 billion respectively for the year 2001 alone). All the largest local investment banking houses have created internal information technology divisions over the past decade, and these are overwhelmingly located in the New York City region. A major stand-alone technology non-profit (the Securities Industry Automation Corporation) serves to help the stock exchanges and brokerage houses reach the goal of "T+1" or "Trading Day Plus One" for stock clearing. And the President of the New York Software Industry Association states the following, "There's an incredibly strong connection between the securities industry and the New York City software industry. A very large number of the people who start IT companies in New York come out of the financial sector, and the securities industry is also by far the largest customer of local IT companies. Securities and banking without any real doubt represents the biggest single pool of IT talent in the New York area."

Technical Support: Both small and large companies across a variety of sectors – from health care to universities to non-profits to manufacturing – have hired people trained in information technology to provide technical support to their computer and data systems. While it's difficult to get a firm handle on the size and scope of this part of the local workforce, it's clear that these "tech support" occupations are both growing and in some cases accessible to an entry-level workforce.

**Entry-Level Information Technology Jobs in NYC**

Ground floor jobs in the IT sector have definite skill requirements but are more accessible than might first be imagined. According to industry sources, three of the most basic positions in the IT sector are desktop support, quality assurance (Q.A.) tester, and HTML programmer. An individual need not have a college degree, or years of experience with computers, in order to obtain one of these jobs. However, the successful applicant must have a combination of solid reading, writing, speaking and quantitative skills, general familiarity with computers, and knowledge of HTML, and/or various types of computer hardware and software.

This combination of skills is perhaps more often found amongst college graduates but is for no reason exclusive to them. In some ways, it is the non-computer related skills that can be the most elusive. There is growing access to computers and a variety of computer programs in the overall labor pool. Admittedly, this access is often hindered by lack of financial resources. The barrier that can be even more difficult to overcome, however, is a lack of usable reading, writing, comprehension and/or communication skills. These are critical to successfully obtaining entry-level IT employment, interacting effectively in a team environment, and continuing to learn new programs, platforms, etc. Again, there is no reason why these skills cannot be developed at any age. But depending on the candidate's general level of educational preparation, this may be a more time consuming process than building a familiarity with computers.

One form of entry-level employment that may be particularly accessible to persons without a college degree and/or white-collar skills is a "technician" job, involving computer repair or cabling. Jobs in this area are somewhat less dependent on reading and communication skills. Like other types of IT employment, technician jobs are widespread and can be found in many, if not all, sectors of the city's economy.

The investment in building skills for IT-related employment is worth it in the long term. Unlike many jobs available to persons without a college degree[2], there is a huge emphasis on consistently learning new skills in order to keep pace with technological change. This emphasis on constant learning also has the effect of making workers more flexible and marketable. Caz Pereira, a consultant involved in technology training efforts in NY and California, stated in a recent Center for an Urban Future study on the IT sector that "with the IT industry, after a short period of training you can move someone from low-income into the middle class, making $18-25 an hour."

**"Entry Level" Job Opportunities in 2002**

With the current recession and general tightening of the labor market, what qualifies as "entry level" IT employment is sought by a growing pool of applicants. A March, 2002 study of the New York City IT sector by the Center for an Urban Future reported that much of the previous boom in IT employment had come from the "bottom" of the IT career ladder. CUF reported that entry-level jobs in particular, and especially in networking, have been lost in the recent downturn. There is also less willingness on the part of employers to invest in worker training when the available labor pool continues to grow and the educational background and experience of applicants exceeds demand.

On the other hand, there are strong indications that demand for IT services will continue to grow throughout the economy as more sectors computerize the storage, retrieval and processing of information. The Occupational Employment Survey projects that the number of computer scientists and related workers will grow by 54% in New York City between 1998 and 2008. Specifically, the numbers of database administrators and computer support specialists are projected to grow by 47% and 83% respectively during this ten-year period. Likewise, the number of systems analysts is projected to grow by 75%. The number of programmers in the city is not projected to grow to the same degree (13%), and the number of programmer aides will grow at an even slower rate (2%).

"Yes there's been something of a downturn," notes Professor Alice Cohen at the Borough of Manhattan Community College's well-regarded multimedia program. "But our students are having an easier time now than maybe a year ago." Cohen also emphasizes the big picture that her program has grown exponentially (from two to 400 plus students in three years), and that many of these students are continuing on into B.A. programs. This demonstrates the premium placed by IT employers on attainment of a bachelor's degree. It also shows a belief on the part of the students that the need for IT-related services will be a mainstay of the city's labor market in the future.

[2] A 1999 Bureau of Labor Statistics publication indicated that, on a national basis, a full 40% of all computer programmers age 25 and older lacked bachelors' degrees. See *Occupational Outlook Quarterly*. Fall, 1999.

**Finding IT Jobs**

It is even more imperative in a cyclical downturn that potential IT workers have relevant experience and/or training that they can present to employers. It is also critical that applicants understand how IT jobs are found and the most effective ways to network with potential employers.

Personal/professional contacts are *the* most common way that IT jobs are located.[3] The workforce development and training community can provide a bridge for interested applicants outside of the IT world by establishing contact with larger employers and professional associations. There are already limited examples in New York City of employers partnering with workforce trainers because of early successful placements.

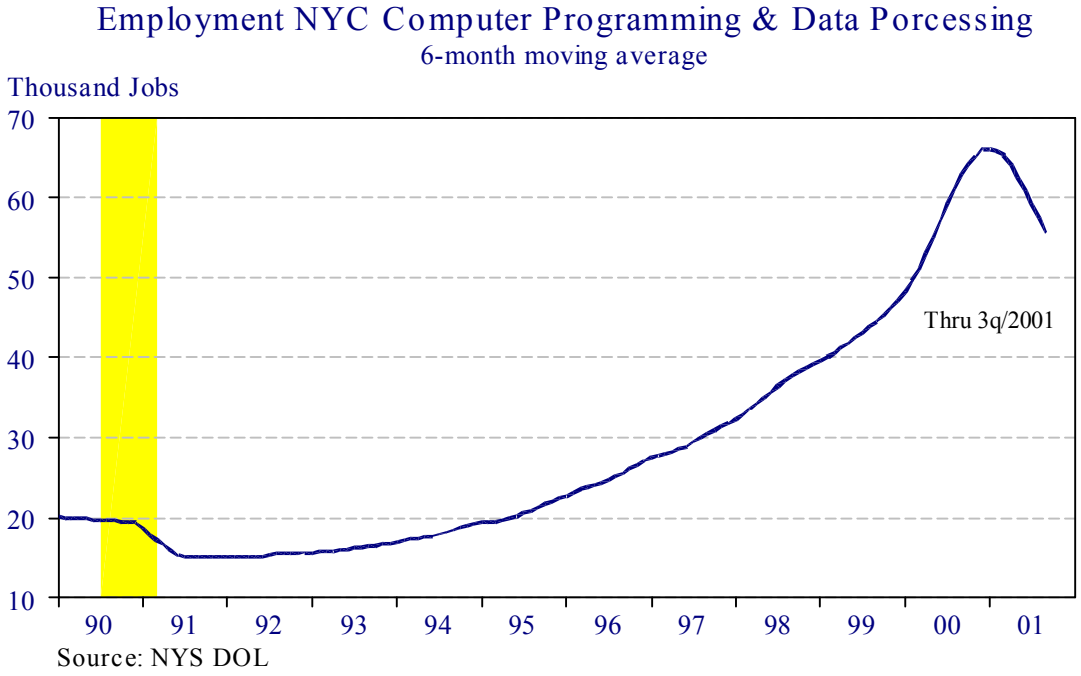
Internships are already common throughout the IT world as a way of developing an individual employees and obtaining relatively cheap labor. Many of these internships offer an hourly wage and the opportunity to meet others in the sector. This would seem a particularly important and useful way to get new workers involved with the IT industry.

Finally, job fairs are another popular way to meet candidates face-to-face and move beyond resumes. IT employment is also listed on web sites (such as that of the NY New Media Association) and widely in newspapers.

[3] Surveys through the New York Software Industry Association and the Economic Policy Institute each independently confirm this finding.

**<u>Appendix</u>: Trends in Employment Data for Computer and Data Processing Services**

Standard Industrial Classification Code 737 (Computer and Data Processing Services), has been one of the fastest growing and in recent months most volatile areas of employment in the New York City economy. While SIC 737 is by no means a perfect proxy for "information technology," it is nevertheless quite interesting and helpful to observe the trends displayed in the following chart.




The general implications of this chart seems fairly clear. New York City witnessed both strong and steady growth in numbers of computer and data processing jobs throughout the 1990's, with the expansion reaching a torrid (and in hindsight unsustainable) pace from mid-1999 to mid-2000. Since mid-2000, the City witnessed sharp and ongoing job declines in this category through the third quarter of last year.

What is coming next? Long-run growth in the computer and data processing field seems almost certain, but in the meantime no-one knows how long the fallout from the collapse of the dot com bubble will last.