Internet and Traditional Job Search Methods, 1994-1999

Peter Kuhn

Mikal Skuterud

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Abstract. In December 1998, 15 percent of unemployed jobseekers, and 7 percent of employed persons used the internet to look for a new job. Conditioning on internet access from home, internet job search rates rise to 50 percent of unemployed jobseekers and 15 percent of the employed. Only 9 percent of black, and 7 percent of Hispanic unemployed jobseekers conduct on-line job search, compared to 16 percent of whites. Statistically, this gap is completely explained by differential access to technology: conditional on home internet access, both black and Hispanic unemployed jobseekers are *more* likely than whites to search on line. Rather than abandoning other methods of job search, unemployed jobseekers who search on line are *more* likely to use other "traditional" job search methods than those who do not search on line. Over time, there is as yet little evidence that expanding internet use has changed the mix of "traditional" job search methods used by unemployed jobseekers.

Contacts: Peter Kuhn, Department of Economics, University of California, Santa Barbara CA 93106. tel 805 893 3666, email pjkuhn@econ.ucsb.edu. Mikal Skuterud, Department of Economics, McMaster University, Hamilton, Ontario Canada L8S 4M4. tel 905 525 9140, ext. 23814, email skuterm@mcmaster.ca.

In the current "e-commerce" boom, much attention has been paid to how the internet is transforming product markets. At the same time, the internet is transforming labor markets, by altering the way workers look for jobs, and how firms recruit workers. Over 2000 internet job search sites now exist[1], yet their effects on labor markets have received very little attention. In this article, we examine the frequency and incidence of internet job search among US workers, both across demographic groups and by labor force status. We also examine the relation between internet search and the more "traditional" job search methods listed in the CPS basic monthly survey, over the period 1994 to 1999.

In our analysis of internet job search patterns, we employ the public use files of the December 1998 CPS, which contains a supplement about computer and internet use. This analysis documents the fraction of Americans who use the internet for job search, across all labor force status categories. Incidence of internet job search across racial, gender and other lines is also examined, as well as the location of internet search across home, work and other access points.

In our analysis of the relation between internet and "traditional" search methods (e.g. contacting employers directly, using public employment agencies), we restrict our attention to unemployed, active jobseekers only. This is because the "traditional" CPS search method questions are only asked of this group. For 1998 only (the year of the internet use supplement) we ask which of the nine "traditional" search methods are used more frequently by internet job searchers and which are not. For 1994 through 1999, we examine trends in traditional search methods for any evidence of an internet effect on the use of "traditional" methods.

Internet Job Search by Labor Force Status and Location

The December 1998 Internet and Computer Use Supplement asked the following question of individuals who used the internet in their homes: (PES11F) "Does … REGULARLY use the Internet (at home) to search for jobs?" A similar question (PES17F) was asked of individuals who reported using the internet at some site other than their home; combining these two questions we can derive an indicator of whether an individual used the internet for job search from any location. Although we present some disaggregated statistics, this combined question is the main focus of our attention in this article. All of our analysis pertains to the adult, civilian, noninstitutional population. Thus, all individuals aged 15 or younger were dropped from our sample, as were all adults employed in the armed forces.

Table 1 shows the incidence of internet use, and of internet job search by detailed labor force status and by location. Perhaps unsurprisingly, internet job search is more common among unemployed jobseekers (those unemployed workers who are not classified as "on layoff") than in any other labor force status group. In December 1998,

[1] For an updated list, see http://www.internetpost.com/internetpost/AlphaList.html

about 15 percent of unemployed jobseekers used the internet to look for a new job. As is shown below[2], this percentage exceeds the fraction of unemployed jobseekers using six of the nine "traditional" methods listed in the basic CPS monthly survey: private employment agencies, friends/relatives, school/university employment centers, union/professional registers, placed or answered ads, and "other" active methods.

While internet search is most common among the unemployed, Table 1 indicates that it is also substantial among employed workers. According to the table, in December 1998, about 7 percent of *employed* workers searched for new jobs using the internet. While this may not appear to be a large number, it exceeds all published estimates of on-the-job search (via *all* methods combined) of which we are aware. Using a special CPS supplement in May 1976, Rossenfeld (1977) found that 4.2 percent of workers who have been employed for at least four weeks report that they are currently searching for a job. Black (1981) found that five percent of employed men look for work in the Panel Survey of Income Dynamics; Pissaridies and Wadsworth (1994) find that 5.3 percent of employed British men actively searched for work. Published statistics from the Canadian Labor Force Survey (which, up to 1995, regularly asked employed workers if they searched for another job in the last four weeks) show an average annual rate of 5.2 percent for the years 1990-1995, with little year-to-year variation.[3] As these statistics predate widespread use of the internet for job search, they are consistent with the notion that the internet has raised the overall level of employed search in the economy[4].

Internet job search is lower among persons out of the labor force than the other two major labor force categories. If we exclude the retired or disabled, however, 3.8 percent of nonparticipants *regularly* look for jobs on the internet, a figure that compares favorably with the non-internet search rates previously found among employed workers. Finally, regardless of labor force status, Table 1 shows that most internet job search occurs from home. Of employed persons looking for work on line, only 30 percent (4.55/14.98) searched from a non-home site. Even though unemployed jobseekers do not have the option of accessing the internet from a workplace, 30 percent of this group used a non-home site as well.

Table 2 provides further detail on internet job search among unemployed jobseekers, by disaggregating that group according to their reason for being unemployed. Heaviest internet searchers among this group are the job losers, of whom about one in five used the net to look for work in December 1998. Perhaps surprisingly, the lowest use rates are among new entrants to the labor force. To the extent these individuals are

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[2] See Table 10, column 3. The small differences between internet search (14.98%) and "placed or answered ads" (14.47%), and between internet search and "friends and relatives" are not, however, statistically significant (t-statistics for a test of zero difference are 0.44 and 1.23 respectively). The four remaining differences are highly significant.

[3] The actual numbers for 1990-95 are 4.96, 4.99, 5.06, 5.42, 5.57, and 5.46 respectively (see Statistics Canada, The Labour Force, 1990-1995). The figure for December 1995, which is most directly comparable with our December 1998 CPS data, is 4.84. Examination of long-term trends in this series shows a secular increase, from 2.24 percent in 1977, most of which however occurs before 1989.

[4] Clearly, more recent US data on employed search would constitute more convincing evidence on this point. We are not aware of any such data.

younger, new school leavers one might expect them to have higher use rates, but they do not. The relatively low use rates among persons whose temporary job ended also seems surprising, as one might expect workers on a series of temporary jobs to make greater investments in job search technologies than other workers. Again, regardless of the reason for unemployment, most internet search occurs from home.

Given the preponderance of the home as the main location for on-line job search, one might conjecture that access to the internet from home is a key determinant of whether an individual searches for jobs on line. To address this question, Table 3 presents a variety of internet access indicators, again stratified by labor force status. According to the Table, about 55 percent of employed persons had a computer in their home in December 1998, compared with 38 percent of unemployed jobseekers.[5] Home internet access is less common, at 35 percent of the employed and 22 percent of unemployed jobseekers. Given access from home, 82 percent (28.62/34.71) of employed persons, and 84 percent (18.68/22.28) of unemployed persons actually use the internet from home. At the same time, access from home is far from a prerequisite for internet use, even for the unemployed and for nonparticipants, who do not have the option of access from work. In fact the fraction of unemployed jobseekers using the internet, at 30 percent, substantially *exceeds* the fraction with internet access from home. The same is true, though much less dramatically, for labor force nonparticipants who are not retired or disabled.

Table 4 presents internet job search rates (from any location) conditional on four alternative measures of access, calculated by dividing row 3 of Table 1 by selected rows of Table 3. The key feature of this table is that, conditional on access, use by unemployed workers of the internet for job search is very high. Thus, for example, just under 50 percent of unemployed jobseekers with internet access from home use the internet for job search. This number is even higher, at almost 60 percent, for unemployed jobseekers who use the internet from home. This very high conditional use rate explains the fact that, even though the unemployed are less likely to have access to the internet, they are more likely to search on line for jobs.

Tables 5 and 6 provide additional details on the location of internet job search for unemployed and employed workers respectively. Table 5 focuses on the 15 percent of unemployed jobseekers who use the internet for job search, and asks where they access the net. Of these on-line searchers, 74 percent have internet access from home. Very few of those with home access use any non-home access point. But what of the unemployed who (by definition) cannot access the internet from work, and do not have home access either? According to Table 5, by far the most common access point for these individuals is "someone else's computer", at 45 percent of the total. Next most common are public libraries and a college or university, respectively. Schools at the K-12 level and community centers play relatively minor roles, smaller in both cases than the residual, "other" category. Presumably, an individual who conducted on-line search from a

[5] When discussing statistics for the employed in what follows, we shall refer (unless otherwise indicated) to the employed and "at work". In almost all cases the employed but temporarily absent are very similar to the employed.

computer terminal in a public employment agency would be categorized under "other". If so, these figures indicate that public employment agencies play a smaller role than informal social networks ("someone else's computer") or public libraries in providing *physical* access to the internet for unemployed workers' job search.

Table 6 focuses on the location of on-line job search by *employed* persons. About nineteen percent of workers who use the internet at work also use the internet to look for a new job-- a historically very high rate of on-the-job search. Less than half of these, however, conducted this on-line job search from outside their homes. While we cannot precisely determine what fraction of employed workers looked for jobs on line from their work, the final row of Table 6 provides a lower bound to this number. Overall, 7.6 percent of employed jobseekers who regularly searched for jobs on line from a non-home location reported that the *only* non-home location at which they used the internet was their workplace. Put another way, column four indicates that at least one in five employed workers who looked for jobs on line did so from a computer at their workplace.

Who uses the Internet to Look for Work?

Is there a "digital divide" along racial, ethnic, and/or gender lines in internet job search? According to Table 6, racial and ethnic divides clearly exist. Only 7 percent of unemployed Hispanic jobseekers looked for jobs on line in December 1998, compared with 9 percent of blacks and over 16 percent of whites. Clearly, unemployed black and Hispanic workers are taking advantage of the job search resources of the internet to a much smaller degree than unemployed whites. These ethnic and racial gaps are less pronounced among employed persons, with on-line search rates at 4, 6 and 7 percent of Hispanics, blacks and whites respectively. The gender divide is not nearly as stark as the racial/ethnic ones. Internet job search among unemployed women, at 14.7 percent of jobseekers, is only slightly less frequent than among men (15.2 percent). 6.5 percent of employed women were looking for work on line in December 1998, compared with 7.6 percent of employed men.

Is the racial and ethnic divide in internet job search driven primarily by differential access to technology, or by differential use of technology conditional on access? Tables 8 and 9 address this issue, by presenting disaggregated measures of access and conditional use respectively. Table 8 indicates that, by any measure and in all labor force categories, blacks and Hispanics have less access to computers and the internet. Only 20 percent of unemployed black and Hispanic jobseekers have a computer in their household, compared to 40 percent for unemployed white jobseekers. Internet access from home is even more unequally distributed, at 7.5 percent of unemployed Hispanic jobseekers, compared to 10.4 for blacks and 25.4 percent for whites. Similar but less dramatic gaps are evident among other labor force categories. Gender gaps in access are comparatively, and uniformly, very small.

One of our most surprising findings emerges from Table 9: conditional on most measures of access, and within most labor force categories, blacks and Hispanics are *more* likely than whites to use the internet for job search. The difference is particularly

dramatic for blacks, and among unemployed jobseekers. Conditional on internet access from home, 64 percent of unemployed blacks use the internet to look for work, compared to 57 percent of Hispanics and only 48 percent of whites. Among employed persons who use the internet (from any location), 23 percent of blacks use it to look for work, compared to 19 percent of Hispanics and 16 percent of whites. Again, the gender gap in conditional use is small. There is however some indication that, conditional on access, employed men are more likely than employed women to use the internet to look for a new job.

Taken together, Tables 8 and 9 suggest that the ethnic and racial gap in internet job search among the unemployed is explained *entirely* by differences in access. Given access to the technology, there is absolutely no indication in these data that blacks or Hispanics are less inclined to use it in their search for a new job. If anything they are more likely to do so.

Further details on the determinants of internet job search are provided by the probit models reported in Table 10. To preserve degrees of freedom, these regressions are performed for the sample of all employed and unemployed workers, though controls for labor force status are used. Persons not in the labor force are excluded from the sample. To illustrate the role played by access, three alternative specifications are reported: The specification in columns 1 and 2 does not control for access, while those reported in the remaining columns control, alternatively, for the presence of a computer in the household, or for internet access from home. As before, the dependent variable is whether the individual regularly conducted internet job search from any location. For ease of interpretation, coefficients are presented as predicted changes in the probability of internet search, rather than the more commonly-reported probit index coefficients.

Columns 1 and 2 of Table 10 show that internet job search is about 5 percentage points lower among workers with high school education or less, than among college graduates. It is more common among single people, among men, young people, and regionally it is most common in the West. As we add controls for access in columns 3-6, the effects of education, age and sex on use remain qualitatively the same, but somewhat smaller in magnitude: some of the difference in access is related to these three factors. When observable characteristics (but not access) are held constant, blacks are *not* significantly less likely than other racial groups to use the internet for job search, but Hispanics are. Adding access controls eliminates the "digital job search divide" for Hispanics, and (as suggested by the simple means in Table 9) *reverses* it for blacks. Given access to the internet, and controlling for ethnic differentials in labor force status, the Hispanic population is not less likely to use the net for job search, and blacks are more likely to do so.

Internet versus "Traditional" Search Methods: Substitutes or Complements?

Motivated (at least in part) by a desire to understand the process by which unemployed workers become employed, the Current Population Survey has been collecting information about methods used to search for jobs since 1967. Clearly, the

internet, with its search capabilities and low-cost communications, has the potential to change the methods workers use to search for work dramatically. Some "traditional" methods, such as friends and relatives, could conceivably be partly displaced by the internet. Other "traditional" methods, such as sending resumes, could be complementary with the internet, and could increase in use as the internet expands.

In this section we investigate the relation between internet and "traditional" job search methods in two ways. First, for December 1998 only (when the internet job search question was asked), we ask which of the "traditional" job search methods were overrepresented, and which were underrepresented, among persons conducting on-line job search. Second, we report trends in the use of traditional search methods between 1994 and 1999, using the December CPS files of each year. We begin in 1994 because earlier surveys used a different list of search methods. Because the traditional search questions are only asked of unemployed, active jobseekers, throughout this entire section we restrict attention to this population only.

In the basic monthly survey since 1994, the CPS asks unemployed jobseekers which of nine "active" search methods they used (to be classified as an unemployed jobseeker an individual must report using at least one of these methods). Table 11 presents the fraction of jobseekers using each of these methods in December 1998, separately for those who reported internet job search and for those who did not. While most of the differences are small, internet searchers are more likely to use seven of the nine "traditional" search methods than job searchers who do not use the internet to look for jobs. The two underrepresented methods among internet seachers are "contacted firms directly" and "contacted friends or relatives", with a particularly dramatic difference in the former case. Methods that are substantially overrepresented among internet searchers are "sent resumes", "placed or answered ads", and "other active".

One interpretation of the above results is that the internet is complementary with *most* "traditional" search strategies. (It may even be the vehicle by which some are conducted, e.g. sending resumes and answering ads). Apparently, this complementarity extends even to public employment agencies, which are used by 25 percent of internet searchers versus only 19 percent of jobseekers who do not use the internet. Another possibility, however, is that jobseekers who use the internet as a search method are a selected sample of persons who choose to look for work more intensely than other jobseekers. Indeed, the average number of "traditional" search methods reported among internet users is 2.15, compared to 1.69 for non-internet users.

If the patterns of relative method use in the 1998 CPS supplement reflect true complementaries or substitutabilities with internet search, then those "traditional" methods which are overrepresented among internet users should exhibit increasing use during a period of rapid internet expansion, while others should show usage declines. To explore this issue, Table 12 reports trends in the use of traditional search methods by unemployed jobseekers between December 1994 and December 1999. For reference, the last three rows of the Table also present data on trends on internet access and labor market conditions. Clearly, this was a period of rapidly expanding internet access, with

overall internet access almost quadrupling from 14 percent of adults in the four years from 1995 to 54 percent in 1999. As we have noted, however, internet job search rates among unemployed jobseekers lagged far behind this trend, attaining only 15 percent by the end of 1998. As the unemployment statistics indicate, 1994-1999 was also a period of continuous economic expansion. This makes it difficult to disentangle secular from cyclical effects, and the results in this table must be viewed with this caveat in mind.

Comparing 1994 and 1999, Table 12 shows increases in the use of only two of the nine "traditional" search methods: "sent resumes/filled applications" and "other active". As both these methods were substantially overrepresented among internet searchers in 1998, some of this increase in use could be attributable to the growth of the internet. This seems more likely for "other active" which increased relatively constantly throughout the period. For "sent resumes", however, most of the increase occurs between 1994 and 1995, which is less suggestive of an internet effect.

The remaining seven search methods declined in use between December 1994 and December 1999.[6] Among these, two (union/profesional registers and school/university employment centers) are very minor methods, used by less than three percent of jobseekers in all years. Private employment agencies are also a relatively uncommon method, and a closer examination of the time trends for this method provides very little evidence of a secular decline over the period. Of the four remaining declines in use, two –direct employer contact and friends/relatives—are consistent with the cross-sectional use patterns in the 1998 supplement. However, the decline in direct employer contact is very small, and could also be easily explained by the expanding economy of the late 1990's.[7] The other two –placed/answered ads and public employment agencies—declined *despite* being overrepresented among internet searchers.

Clearly, further research with careful controls for macroeconomic conditions is required to fully understand recent changes in the mix of search methods over time. Even absent such research, however, it is very unlikely that the effects of the internet on 1994-1999 trends in "traditional" search methods were very large. One reason is simply that the cross-sectional patterns of method use in Table 11 are not dramatically different between internet users and nonusers. Another is that internet search had only attained 15 percent of jobseekers by the end of 1998. Thus, most of the change has yet to occur.

It also seems unlikely that the decline in the use of public employment agencies observed in Table 12 is driven by private, internet competition. For one thing, the observed decline in public agency use is confined to the last year of our sample. Second, recall that public agency use was actually *over*-represented among internet searchers in our 1998 cross-section data. Finally, Ports (1993, chart 2) documents a secular decline in the use of public employment agencies well before the late 1990's. An internet-induced

[6] Contrary to what one might expect from a tightening labor market, this does not reflect a decrease in the number of methods used over the period in question. The average number of methods used, by year, were 1.76, 1.82, 1.82, 1.79, 1.75, and 1.71 from 1994 to 1999. Instead, large increases in the use of the two earlier methods seem to be counterbalanced by small decreases in all the rest.

[7] Ports (1993, chart 3) documents this cylical pattern.

demise in public employment agencies may yet occur, but does not appear to have been a major factor up to December 1999.

Summary

In December 1998, 13 percent of unemployed Americans, and 7 percent of employed Americans used the internet to look for a new job. The fraction of unemployed using the net for job search rises to 15 percent if we restrict attention to active "job seekers", i.e. if we exclude unemployed persons who are not actively looking for work. Employed workers' internet job search rate of seven percent exceeds all estimates of *total* employed job search (via all methods combined) of which we are aware, all of which were derived from periods before internet search was a realistic option for the vast majority of the population.

Most internet job search is conducted from home. For both the employed and unemployed, almost three quarters of internet job searchers conducted at least some of this search from a computer in their home. For both employed and unemployed, about 30 percent searched from a computer outside their home, and a small fraction (three to five percent) searched from both locations. For unemployed jobseekers without home internet access, the most common access point was "someone else's computer", followed by a public library.

Because most internet job search takes place in the home, overall use of this search method is highly conditioned by internet access at home. For example, total internet job search rates rise to 31 percent of unemployed jobseekers if we condition on computer ownership, and to amost 60 percent if we condition on the respondent's use of the internet in the home. Among employed persons, internet job search also rises with access: just under one fifth (19%) of employees with access to the internet at work use the internet to search for a new job. At least seven percent of them do so from a computer in their workplace.

There is indeed a racial and ethnic divide in internet job search: compared to 16 percent of whites, only 9 percent of black, and 7 percent of Hispanic unemployed jobseekers use the internet to look for a new job. Statistically, this gap is completely explained by differential access to technology: when we restrict attention to computer owners, black jobseekers are *more* likely than whites to search on line; when we restrict attention to persons with internet access at home, 64 percent of blacks and 57 percent of Hispanic jobseekers regularly look for work on the internet, compared to 48 percent of whites. In short, there is absolutely no indication that given access to the technology, blacks or Hispanics are less inclined than whites to use the internet for job search.

Rather than abandoning other methods of job search, unemployed jobseekers who jobsearch on line are *more* likely than other jobseekers to use most "traditional" methods of job search as well. It is possible that on-line searchers are simply a selected sample of persons who search more intensely than others; on the other hand internet search may

genuinely be complementary with these other methods. The only search methods that are underrepresented among internet searchers are “direct employer contact” and “friends and relatives”.

Between 1994 and 1999, unemployed jobseekers expanded their use of only two job search methods –“sent resumes”, and “other active”--, and decreased their use of all other methods. While some of these changes may be partly connected to increased internet search, it seems unlikely that such an effect has been very large. One reason is simply that the cross-sectional patterns of method use noted above are not very different between users and nonusers; another is that internet search had only attained 15 percent of unemployed jobseekers by December 1998. Finally, in some cases the time trends run in an opposite direction to what is suggested by cross-sectional patterns: use of public employment agencies declined over this period *despite* being overrepresented among internet jobseekers in December 1998. It is certainly premature to conclude that the expansion of the internet has caused a decline in the use of public employment agencies.

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Table 1: Percent of persons using the internet for job search by labor force status, December 1998

	Employed: at work	Employed: absent	Unemployed: "on layoff"	Unemployed: jobseekers	NILF: retired	NILF: disabled	NILF: other	Total
Internet job search (from home)	5.16	5.44	2.91	10.95	0.27	1.06	2.63	4.02
Internet job search (outside home)	2.29	2.12	1.88	4.55	0.03	0.35	1.40	1.79
Internet job search (from anywhere)	7.10	7.03	4.79	14.98	0.30	1.41	3.83	5.53

Table 2: Percent of jobseekers using the internet for job search (any location) by type of unemployment

	Job Loser	Temporary Job Ended	Job Leaver	Re-entrant	New-entrant
Internet job search (from home)	15.77	9.40	12.40	8.31	5.10
Internet job search (outside home)	4.47	4.30	5.61	4.54	3.49
Internet job search (from anywhere)	19.56	13.70	17.02	12.51	7.90

Table 3: Percent of Persons with Computer and Internet Access by labor force status, December 1998

	Employed: at work	Employed: absent	Unemployed: "on layoff"	Unemployed: jobseekers	NILF: retired	NILF: disabled	NILF: Other	Total
With a computer in the household	54.59	52.57	30.49	37.54	22.30	20.29	49.10	46.86
With internet access from home[1]	34.71	33.89	16.49	22.28	12.21	10.45	31.89	29.43
Using the internet from home (for any reason)	28.62	27.41	13.11	18.68	7.54	6.11	24.68	23.55
Using the internet from work (any reason)	18.82	12.41	0.00	0.00	0.00	0.00	0.00	12.00
Using the internet, other location (any reason)	4.11	4.88	8.61	11.38	0.96	2.05	9.59	4.45
Using the internet, any location or reason	42.61	39.22	21.72	30.06	8.50	8.16	34.27	34.30

[1] The individual lives in a household in which someone uses the internet from home. (combining questions HESIU2 and HESIU3)

Table 4: Percent of Persons using the internet for job search (from any location), conditioning on selected measures of computer/internet access, December 1998

	Employed: at work	Employed: absent	Unemployed: "on layoff"	Unemployed: jobseekers	NILF: retired	NILF: disabled	NILF: Other	Total
Computer in the household	11.24	12.18	9.54	31.16	1.27	6.06	6.52	10.13
Internet access from home[1]	15.94	16.55	17.63	49.52	2.28	10.37	8.95	14.56
Internet use from home	19.08	20.43	22.18	59.05	3.69	17.72	11.32	17.97
Internet use, any location	16.67	17.94	22.03	49.85	3.49	17.26	11.19	16.13

[1] The individual lives in a household in which someone uses the internet from home.

Table 5: The location of on-line job search by unemployed jobseekers: Percent of unemployed on-line jobseekers using the internet at each location.

Location	Persons with internet access from home[1]	Persons without internet access from home	Total
Home	100.00	0.00	73.63
Work	0.00	0.00	0.00
School (K-12)	1.11	9.53	3.33
School (other)	4.15	15.33	7.10
Public Library	3.42	24.43	8.96
Community Center	0.00	4.98	1.31
Someone else's computer	4.58	44.63	15.14
Other	3.54	16.82	7.04
Percentage of on-line jobseekers	74	26	100

[1] The individual lives in a household in which someone uses the internet from home.

Table 6: The location of on-line job search by employed workers: Percent of employed on-line jobseekers using the internet at each location.

	Fraction of all employed workers[1] who:	Fraction of employed workers using the internet at work, who:	Fraction of employed worker with internet access at home[2], who:	Fraction of employed workers looking for jobs on line (from any location), who:
Used the internet to search for jobs (at any location)	7.10	19.06	15.96	100.00
Used the internet at home to search for jobs	5.17	11.67	14.90	72.77
Used the internet away from home to search for jobs	2.29	8.98	2.08	32.23
Used the internet away from home to search for jobs *and* did not use the internet at any non-work location.	1.46	7.62	1.62	20.60

[1]Combines the "at work" and "absent from work" employed.
[2] The individual lives in a household in which someone uses the internet from home.

Table 7: Percent of persons using the internet for job search by labor force status, race and sex, December 1998

	Employed: at work	Employed: absent	Unemployed: "on layoff"	Unemployed: jobseekers	NILF: retired	NILF: disabled	NILF: other	Total
White[1]	7.12	6.83	4.87	16.46	0.33	1.67	3.91	5.55
Black	6.27	6.83	5.36	9.23	0.08	0.67	2.82	4.75
Hispanic	4.04	3.71	0.00	7.19	0.00	0.29	2.04	3.24
Men	7.64	8.65	3.88	15.23	0.43	1.75	5.74	6.46
Women	6.48	5.59	6.56	14.69	0.20	1.09	3.08	4.68

Table 8: Computer and Internet Access Measures, by Race, Sex and labor force status, December 1998

	Employed: at work	Employed: absent	Unemployed: "on layoff"	Unemployed: jobseekers	NILF: retired	NILF: disabled	NILF: Other	Total
(a) Percent with a computer in the household								
White	57.21	54.62	32.82	41.68	23.21	23.47	52.80	49.27
Black	32.71	32.15	9.92	20.01	10.21	9.36	22.91	26.26
Hispanic	32.37	36.94	13.75	20.23	17.35	15.36	23.93	28.16
Men	54.78	53.63	28.62	38.60	25.03	21.10	50.43	48.43
Women	54.36	51.63	34.17	36.28	20.35	19.54	48.58	45.40
(b) Percent with internet access from home[1]								
White	36.88	35.70	18.49	25.39	12.92	12.53	34.96	31.41
Black	16.31	15.20	1.99	10.41	3.88	3.15	10.40	12.67
Hispanic	16.53	19.83	4.15	7.55	6.80	6.87	11.27	13.86
Men	35.68	34.62	15.81	23.29	13.76	11.20	32.58	31.00
Women	33.58	33.23	17.83	21.09	11.11	9.74	31.62	27.97
(c) Percent using the internet (from any location)								
White	44.63	41.25	22.94	33.16	9.25	9.75	36.98	36.10
Black	27.57	22.59	16.55	18.08	1.74	2.68	17.24	20.67
Hispanic	21.63	26.95	7.79	13.96	1.75	3.33	17.12	18.03
Men	42.46	38.75	22.03	31.03	10.48	8.34	41.39	36.15
Women	42.78	39.64	21.13	28.91	7.09	7.99	31.46	32.58

[1] The individual lives in a household in which someone uses the internet from home.

Table 9: Percent of Persons using the internet for job search (from any location), conditioning on selected measures of computer/internet access, by Race and Sex, December 1998

	Employed: at work	Employed: absent	Unemployed: "on layoff"	Unemployed: jobseekers	NILF: retired	NILF: disabled	NILF: Other	Total
(a) Persons with a computer in the household								
White	10.95	11.39	9.57	31.17	1.34	6.81	6.41	9.86
Black	13.63	18.10	([2])	33.27	0.77	1.23	6.46	12.49
Hispanic	9.62	10.06	([2])	20.49	0.00	1.88	4.80	8.43
Men	12.40	15.21	9.64	30.93	1.66	7.67	9.76	11.77
Women	9.89	9.38	9.37	31.46	0.93	4.43	5.19	8.50
(b) Persons with internet access from home[1]								
White	15.46	16.10	16.99	47.92	2.36	11.15	8.62	14.08
Black	21.41	([2])	([2])	63.95	2.02	([2])	10.96	20.66
Hispanic	16.74	([2])	([2])	([2])	0.00	([2])	10.71	15.51
Men	17.48	20.59	17.44	48.50	3.01	12.15	13.28	16.83
Women	14.06	12.79	([2])	50.85	1.63	8.46	7.18	12.22
(c) Persons using the internet (from any location)								
White	15.96	16.57	21.24	49.63	3.52	17.12	10.56	15.38
Black	22.75	30.25	([2])	51.08	([2])	([2])	16.33	22.98
Hispanic	18.67	13.79	([2])	51.48	([2])	([2])	11.93	17.97
Men	18.00	22.32	17.63	49.09	4.09	21.02	13.86	17.86
Women	15.14	14.11	([2])	50.81	2.86	13.59	9.79	14.35

[1] The individual lives in a household in which someone uses the internet from home.

[2] Data not shown where the base is less than 75,000.

Table 10: Probit estimates of the probability of internet job search among labor force participants

	Access Controls					
	None		Computer in household		Internet Access at Home[1]	
	Coefficient (dF/dX)	t-statistic	Coefficient (dF/dX)	t-statistic	Coefficient (dF/dX)	t-statistic
	(1)	(2)	(3)	(4)	(5)	(6)
Primary School	-0.052	-9.39	-0.041	-7.57	-0.036	-7.04
Incomplete High School	-0.052	-16.61	-0.041	-14.27	-0.036	-13.32
Completed High	-0.050	-19.56	-0.036	-15.44	-0.030	-13.61
Incomplete College	-0.021	-8.44	-0.015	-6.92	-0.012	-5.94
Associate Degree	-0.013	-4.14	-0.008	-2.81	-0.004	-1.66
Married	-0.012	-5.51	-0.019	-9.83	-0.019	-10.37
Male	0.017	7.98	0.013	7.12	0.010	5.86
Black	-0.004	-1.16	0.009	2.68	0.013	4.32
Hispanic	-0.016	-4.54	-0.006	-1.85	-0.002	-0.68
Northeast	-0.005	-1.88	-0.006	-2.52	-0.006	-2.99
Midwest	-0.004	-1.75	-0.005	-2.11	-0.003	-1.57
West	0.014	5.02	0.008	3.24	0.006	2.71
Unemployed – looking	0.117	16.04	0.120	17.27	0.113	17.50
Unemployed - on layoff	0.021	1.42	0.030	2.01	0.029	2.09
Age 16-25	0.214	8.76	0.163	7.71	0.143	7.08
Age 26-35	0.193	8.84	0.159	8.23	0.142	7.64
Age 36-45	0.141	7.26	0.106	6.32	0.093	5.81
Age 46-55	0.120	6.05	0.089	5.24	0.076	4.73
Age 56-65	0.069	3.58	0.051	3.09	0.041	2.67
Computer in household			0.063	30.02		
Internet access in home					0.101	43.31
Number of observations	62,246		62,246		62,246	

[1] The individual lives in a household in which someone uses the internet from home.

Omitted categories are "university degree", "not married", "female", "non-black", "non-Hispanic", "south" and "employed" for the various sets of dummy variables respectively. The regression also included sixteen dummy variables for the respondent's industry and thirteen for his/her occupation.

Table 11: Use of "Traditional" Search Methods by Internet Job Searchers versus non-Internet Searchers

"Traditional" Search Method	Internet Job Search		
	No	Yes	Total
Contacted Employer Directly	64.99	61.99	64.54
Contacted Public Employment Agency	19.50	25.24	20.36
Contacted Private Employment Agency	5.96	10.16	6.59
Contacted Friends or Relatives	13.75	11.86	13.47
Contacted School/University Employment Center	2.04	3.53	2.26
Sent Out Resumes / Filled Out Applications	45.54	64.12	48.33
Checked Union/Professional Registers	1.17	3.08	1.45
Placed or Answered Ads	12.71	24.46	14.47
Other Active	3.41	10.08	4.41

Table 12: Trends in the use of "traditional" search methods: December 1994 - December 1999.

"Traditional" Search Method[1]:	1994	1995	1996	1997	1998	1999
Contacted employer directly	67.44	65.09	64.66	67.34	64.54	65.06
Contacted public employment agency	20.43	20.09	18.90	19.05	20.36	15.93
Contacted private employment agency	7.22	7.13	7.46	6.61	6.59	6.96
Contacted friends or relatives	15.73	17.97	16.55	14.55	13.47	13.43
Contacted school employment center	2.27	1.90	2.33	2.70	2.26	1.55
Sent resumes/filled applications	40.21	46.92	48.25	46.63	48.33	47.59
Checked union/prof registers	2.73	2.40	2.51	1.67	1.45	1.87
Placed or answered ads	16.66	17.73	17.26	16.25	14.47	12.53
Other active	3.50	2.91	3.85	4.64	4.41	5.66
Internet Diffusion Measures:						
Percent of Adults on Line[2]		14	23	36	42	54
Percent of Unemployed Jobseekers Searching for Jobs on Line[3]					15	
Civilian Unemployment Rate[4]	6.1	5.7	5.5	4.8	4.5	4.3

Notes:

[1] Results are from the December CPS file of each year.

[2] Data from 1995-1998 are drawn from surveys conducted by the Pew Research Center for The People and the Press. See http://www.people-press.org/tech98que.htm Survey months are June, July, November and December respectively. 1999 Data are for April and are taken from Bimber (2000). See also http://www.polsci.ucsb.edu/faculty/bimber/research/diffusion.html

[3] From Table 1.

[4] From BLS Series LFS21000000. Statistics are for July of each year. See http://stats.bls.gov/top20.html.