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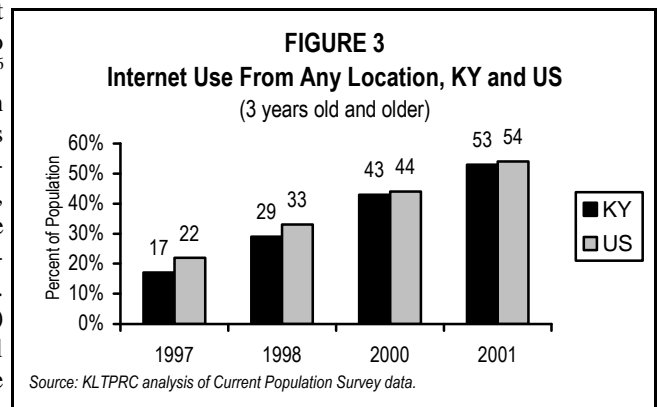
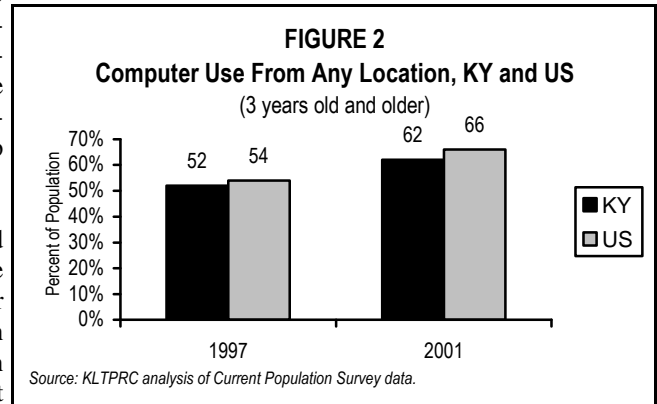
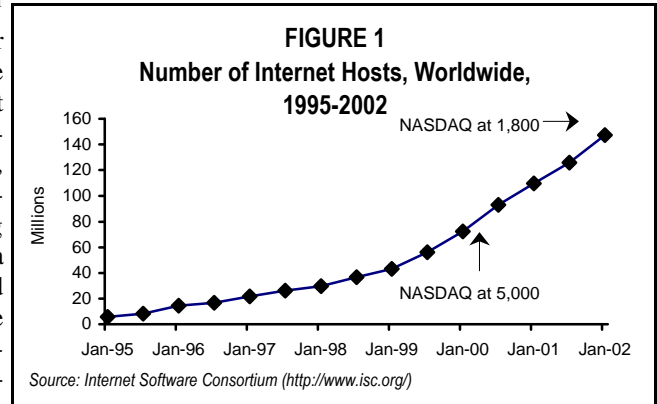
Why is the use of computers and the Internet important?

Digital Divide Persists Despite Rising Technology Use

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The tools of the Information Age continue to spread throughout our homes, schools, and workplaces despite the dot-com debacle and NASDAQ decline over the last two years. The enduring importance of information technology is illustrated by the continued expansion of Internet hosts¹ (Figure 1) and rising computer (Figure 2) and Internet use (Figure 3).² While computer and Internet use is “increasing for people regardless of income, education, age, race, ethnicity, or gender,”³ a digital divide persists, especially along income and education lines. For a variety of reasons, access to and utilization of computers and the Internet are important. Nonetheless, the federal government appears to be curtailing its efforts to bridge the digital divide.⁴ Consequently, state and local governments, nonprofits, and the private sector could be called upon to assume greater responsibility to help close the gaps in technology use.

Labor economists have linked higher wages—and rising wage inequality—to using a computer on the job.⁵ Recently this notion has been challenged, but even these authors hasten to point out that they are not saying “recent technological changes have had no effect on the structure of wages.”⁶ Other economists have written about economic benefits besides wages, “such as increased convenience, a wider range of choices, and the opportunity to acquire products customized to their specifications.”⁷ In this vein, the U.S. General Accounting Office (GAO) notes that concerns over the digital divide have arisen because “the Internet offers Americans a gateway to a vast array of content and applications, and is expected to become a primary medium for communications, commerce, and education, and entertainment in the 21st century.”⁸ As the GAO reports, “The Internet also makes it easier for citizens to interact



with the government.” This is borne out by findings from a Pew report: “Fully 68 million American adults have used government agency Web sites—a sharp increase from the 40 million who had used government sites in March 2000.”⁹ Among those polled by Pew, over half use government Web sites to get tourism information, do research for work or school, obtain government forms, or learn about government services or public policy issues. Governments and taxpayers benefit from growing Internet use. For example, it costs the Kentucky Revenue Cabinet about \$1.62 to process a paper tax return, compared to \$.43 for an electronic return.¹⁰ Thus, a large population on the wrong side of the digital divide holds incalculable consequences.

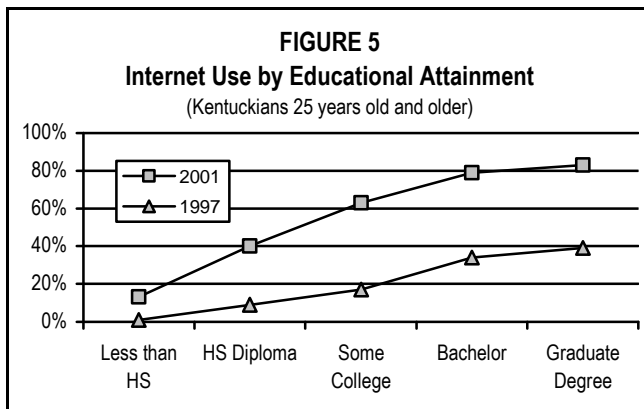
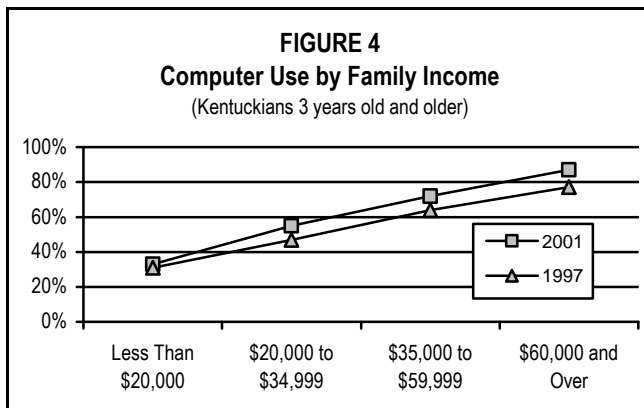
Who is on the wrong side of the digital divide?

Despite the rising use of computers and the Internet, our analysis shows a clear digital divide in Kentucky based on income, education, and age (see Figures 4 and 5, and Table 1). For example, Kentuckians in the highest income group are 2.6 times more likely to use a computer than those in the lowest income group and 3.3 times more likely to use the Internet. And Kentuckians with a bachelor’s degree are 1.7 times more likely to use a computer than those with a high school diploma or GED, and are 2 times more likely to use the Internet. Finally, younger Kentuckians are much more likely to access and use these technologies. Thus, the “information haves” tend to be younger, better educated, and wealthier, while the “information have-nots” tend to be older and have less education and income. However, these ratios were generally smaller in 2001 compared to 1997, indicating a narrowing of the digital divide.

Conclusion

The future challenge for policymakers will be to monitor the size and consequences of the digital divide. Given the recent elimination of two federal programs designed to provide computer and Internet access to low-income and rural communities,¹¹ state and local governments, nonprofits, and the private sector may be called upon to assume greater responsibility to help close the gaps in technology use.

¹Hosts are computers (e.g., mainframes, minicomputers, or workstations) connected to the Internet. ²These data from the Current Population Survey (CPS) show computer and Internet use from any location (i.e., home, school, work, or other). The CPS is a monthly survey of about 50,000 households conducted by the Bureau of the Census. Refer to <<http://www.bls.census.gov/cps/cpsmain.htm>> for detailed information. ³National Telecommunications and Information Administration and Economic and Statistics Administration, *A Nation Online: How Americans are Expanding Their Use of the Internet* (Washington: U.S. Department of Commerce, 2002), <<http://www.ntia.doc.gov/ntiahome/dn/anationonline2.pdf>>. ⁴Norris Dickard, “Federal Retrenchment on the Digital Divide: Potential National Impact,” *Policy Brief*, Benton Foundation, Washington, D.C., 1 (2002) <<http://www.benton.org/policybriefs/brief01.pdf>>. ⁵A.B. Krueger, “How Computers Have Changed the Wage Structure: Evidence from Microdata, 1984-1989,” *Quarterly Journal of Economics*, Feb. 1993: 33-60. ⁶David Card and John E. DiNardo, “Skill Biased Technological Change and Rising Wage Inequality: Some Problems and Puzzles,” Working Paper 8769, National Bureau of Economic Research, Cambridge, MA, Feb. 2002 <<http://www.nber.org/papers/w8769>>. ⁷Robert E. Litan and Alice M. Rivlin, *Beyond the Dot.coms* (Washington: Brookings Institution Press, 2001). ⁸*Characteristics and Choices of Internet Users*, GAO-01-345 (2001) <<http://www.gao.gov/new.items/d01345.pdf>>. ⁹Elena Larsen and Lee Rainie, *The Rise of the E-Citizen* (Washington: Pew Internet & American Life Project, April 2002) <http://www.pewinternet.org/reports/pdfs/PIP_Govt_Website_Rpt.pdf>. ¹⁰Telephone conversation with Brad Thomas, Kentucky Revenue Cabinet. These costs are based on the processing of returns from the 2000 tax year. Electronic returns include TeleFile (telephone filing), Online (Internet filing), and Electronic (typically tax preparers). ¹¹Dickard.



	Computer Use		Internet Use	
	Oct. 1997	Sept. 2001	Oct. 1997	Sept. 2001
Total Population	52	62	17	53
Income				
Less Than \$20,000	31	33	9	23
\$20,000 to \$34,999	47	55	12	45
\$35,000 to \$59,999	64	72	21	63
\$60,000 and Over	77	87	33	77
Education				
Less than HS ^a	7	13	1	13
HS Diploma ^a	33	48	9	40
Some College ^a	62	67	17	63
Bachelor ^a	73	80	34	79
Graduate Degree ^a	70	86	39	83
Race				
White (non-Hispanic)	52	63	18	54
Black (non-Hispanic)	51	61	9	49
Residence				
Non-Metro	48	61	16	53
Metro	56	64	18	54
Age				
3 to 8	72	78	5	36
9 to 17	93	95	37	76
18 to 24	59	63	26	64
25 to 49	52	68	19	63
50 and Older	24	37	5	34
Gender				
Female	54	62	15	54
Male	50	63	19	52

Source: KLTPRC analysis of U.S. Bureau of the Census, Current Population Survey. Note: ^aAge 25 and older.