RACING TO THE BOTTOM

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How Antiquated Public Policy Is Destroying the Best Jobs in Telecommunications

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Executive summary

Current telecommunications public policy is destroying some of the best jobs in America, jobs that afford non-college graduates the opportunity to earn decent pay and benefits, enjoy stable employment and advancement through training, and secure basic workplace rights and representation. Federal and state economic regulation and taxation of the long-established telecommunications carriers have tilted the competitive advantage toward local carriers such as cable television and wireless, which offer employees inferior conditions of employment. This competitive advantage is not based on productivity, service quality, or underlying access costs, but arises primarily from higher government-mandated costs imposed on established carriers, particularly the former Bell companies. In this regulatory environment, wireless and cable TV carriers are advantaged in ways that have damaged the industry and its employees:

- The traditional wired or "wireline" telephone carriers have eliminated 15.5% of their jobs since 1998; these jobs paid at least 26% more than comparable work in the cable industry, where lower-wage employment increased 22.6% between 1998 and 2003.

- Turnover, in the form of layoffs, dismissals, and quits, is 10 times higher in cable than among the traditional Bell incumbent local exchange carriers (ILECs).

- The Bell ILECs provide significantly more training for their employees than all other communications providers, including more than twice the qualifying training offered by cable television providers, four times the amount provided to technicians by wireless companies, and more than three times the amount provided to service representatives by wireless companies.

- Unions represent 96% of technicians and 77% of service representatives at the Bell ILECs, a share that is more than double the average rate of any other telecommunications provider. This high rate of

unionization leads to improved job quality, better skills acquisition, less turnover, and more stable and productive workplaces at the Bell providers relative to other carriers.

- Tax policy heavily discriminates against the Bell as well as the independent ILECs. Taxes as a share of gross revenue range from a high of 17.9% for traditional telephone service to 4.5% for cable franchises and 0% for broadband services, including Internet phone services, the newest competitor to the Bell ILECs.

As communications platforms increasingly compete to deliver comparable services, tax and regulatory policies favor cable companies. The United States must create a level playing field for all players in the voice and data communications markets to protect the most vulnerable consumers and support the creation of good jobs for working Americans in these critical high-tech industries.

Introduction

Less than 10 years after passage of the 1996 Telecommunications Act, which established a federal policy of promoting competition in telecommunications services, vigorous competition has emerged among wireline, wireless, and cable television companies, each of which uses a different technology to provide local access to services such as voice calling and Internet connectivity. Historically, "local exchange carriers" (LECs) such as the Bell companies or independent telephone companies like Alltel or the former GTE provided publicly switched wireline access for voice communications. These providers held a monopoly over "the last mile" – the two-way transmission lines connecting each home or office to the larger telecommunications network. Since the passage of the act, however, new firms have entered the local market as competitive local exchange carriers (CLECs), offering alternative wireline access. Wireless providers such as T-Mobile, Sprint PCS, and Cingular now offer affordable and convenient substitutes to wireline services. And major cable TV companies such as Comcast and Time Warner have entered the telecommunications market with voice and high-speed Internet services. At the same time, the cable TV monopoly over one-way distribution lines for cable television has eroded. Now satellite television provides alternative access, and the traditional telephone companies are deploying new broadband technologies to offer television and video-on-demand. In sum, new technologies, massive capital investments, and changes in public policy over the last decade have created alternative ways for customers to access local voice, Internet, television, and multimedia services.

However, a consequence of current telecommunications policy in this changing technological and business climate is the destruction of high-quality jobs in the industry – jobs that afford non-college graduates the opportunity to earn decent pay and benefits, to enjoy stable employment and advancement through training, and to secure basic workplace rights and representation. Federal and state economic regulation and taxation of the incumbent carriers have tilted the competitive advantage toward cable TV and wireless carriers, which offer employees inferior conditions of employment. This tilt is not based on productivity, service quality, or underlying access costs, but arises primarily from the higher government-mandated costs imposed on the long-established, incumbent carriers, particularly the former Bell companies.

In this report, we examine the quality of jobs and employment conditions for the two largest occupational groups in this industry: technicians and customer service representatives. To do so, we draw on a unique survey of general managers in a nationally representative sample of 327 establishments in the industry (see Batt, Colvin, Katz, and Keefe 2000, 2004). Chapter 1 examines overall trends in growth, employment, and productivity across wireline, wireless, and cable TV providers. Chapter 2 shows how the quality of jobs, defined as the level of compensation, stability of employment, access to training and job skills, workplace rights and representation, and the quality of the work environment, varies across these providers. Chapter 3 explores the role of unions in creating goods jobs in the industry. In Chapter 4, we develop employer report cards that identify the best and worst workplaces for technicians and service representatives. Finally, Chapter 5 assesses how public policy is destroying the best jobs in the industry and what can be done to reverse this trend.

CHAPTER 1

Industry growth, employment, and productivity

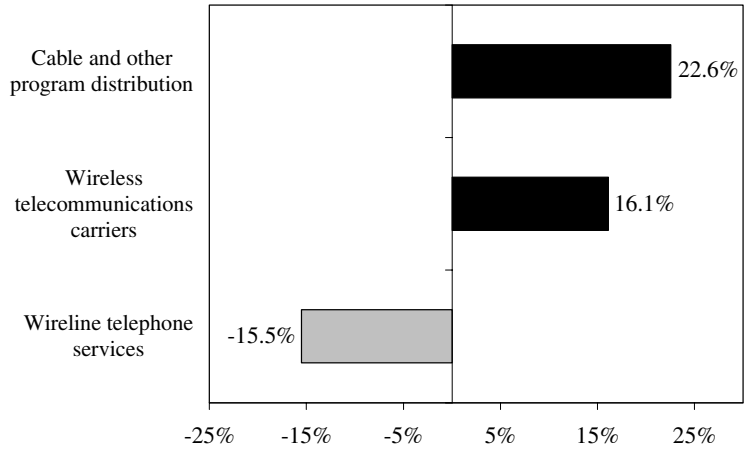
The number of local access connections in telecommunications has increased exponentially since the late 1990s. In business services markets, this growth has contributed greatly to the improvement in overall U.S. productivity. Both businesses and consumers have benefited substantially from the increased flexibility, productivity, and innovation arising from the growth of local telecommunications access services.

Yet growth has not been uniformly distributed across different access networks. Between 1998 and 2003, wireless subscriptions more than doubled, but cable TV lines grew by only 10%. In wireline network services, the new competitive local exchange carriers (CLECs) increased their access lines six-fold to 32 million, and special service access circuits tripled. However, the incumbent local exchange carriers (or ILECs, the providers of the public switched network) lost approximately 18% of their switched access lines, leaving a net loss of 6.5% in total wireline switched access lines, after adjusting for CLEC growth (FCC 2004).

These trends in access lines did not translate directly into employment growth, as shown in **Figure A**. In cable TV, while access lines grew by 10%, employment grew by over twice that rate. In wireless, the 200% growth in subscriptions yielded only 16.1% growth in jobs, and the net loss of 6.5% in wireline switched access lines produced a 15.5% loss in jobs.

These trends in sales and employment across distinct telecommunications channels yielded quite different rates of productivity growth, as shown in **Table 1**. While productivity in cable TV fell 1% annually, productivity grew 11% in wireless and 5% in wireline.

FIGURE A Employment changes in local access telecommunications by network, 1998-2003



Sources: BLS Current Employment Statistics — NAICS sectors: wired telecommunications carriers (5171), wireless telecommunications carriers (5172), and cable and other program distribution (5175).

Table 1 also shows that the wireline network was the dominant method of local access, with 55% of all lines in 2003. It comprised the ILECs' 149 million switched access lines and 119 million special service access circuits and the CLECs' 32 million access lines. The wireline network employs over half the telecommunications workforce, and its productivity growth rate is twice the normal rate for U.S. businesses. This network still affords over 90% of American households with basic telephone service, and it remains heavily regulated at both the federal and state level (FCC 2004). In addition, it pays a variety of state and federal excise taxes and provides most of the federal and state universal service funding. In contrast, wireless, cable TV, and special access lines enjoy a modicum of regulation and pay significantly fewer special telecommunications taxes; this relative advantage allows them to provide services at prices significantly below those in the regulated sector of the industry.

In 2005, for the first time, the number of wireless subscribers will exceed the number of wireline switched access lines (operated by both

TABLE 1 Telecommunications local access markets, 2003

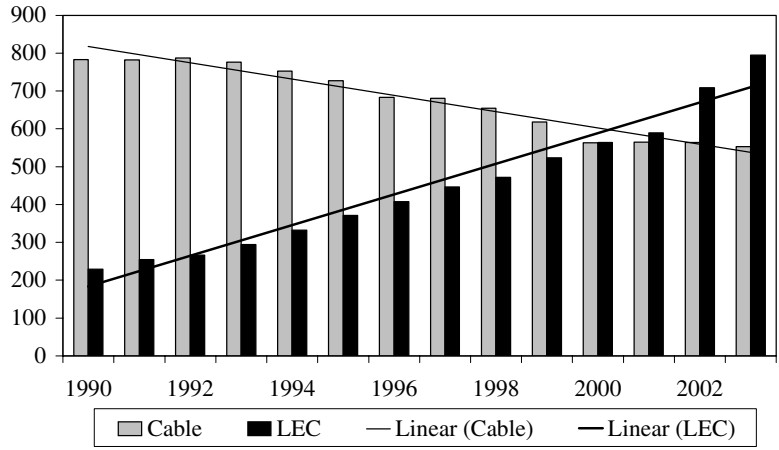
Local access	Subscribers access (millions)	Employees	Revenue (billions)	Productivity growth (annual average, 1998-2003)
Wireline	299	324,000	$115	5%
Wireless	167	171,000	$81	11%
Cable TV	73	133,000	$49	-1%
Total	539	628,000	$245	
Distribution				
Wireline	55%	52%	47%	
Wireless	31%	27%	33%	
Cable TV	14%	21%	20%	

Sources: FCC (2004); BLS (2004); BLS (2005) — employment and productivity measures are for NAICS sectors: wired telecommunications carriers (5171); wireless telecommunications carriers (5172); and cable and other program distribution (5175).

ILECs and CLECs), suggesting that wireless voice service is indeed a competitive substitute for traditional wireline service (Pociask 2004). With mergers and consolidations, wireless has the fastest rate of annual productivity growth in American industry at 11% (BLS 2005b). In addition, wireless providers are improving their competitive position by offering multimedia services and access to the Internet via high-speed broadband connections.

Cable TV companies that once relied on a unidirectional broadcast technology have upgraded their networks with a digital fiber–coaxial cable hybrid. This technology allows companies to offer video-on-demand, cable modem services, and voice-over-Internet-protocol (VoIP) telephone service in addition to traditional broadcast services. Comcast, Time Warner, and Cox, by aggressively marketing a bundle of services that includes telephone service as well as television and high-speed Internet access, are directly challenging the Bells in the most affluent residential markets. Being able to provide a bundle of desirable telecommunications services provides a significant competitive advantage for cable TV providers. In the meantime, the Bells are racing to deploy high-capacity local access lines capable of providing video services to their customers.

FIGURE B Access lines per employee, CATV vs ILEC: CATV's productivity growth declines as ILEC productivity growth accelerates, 1990-2003

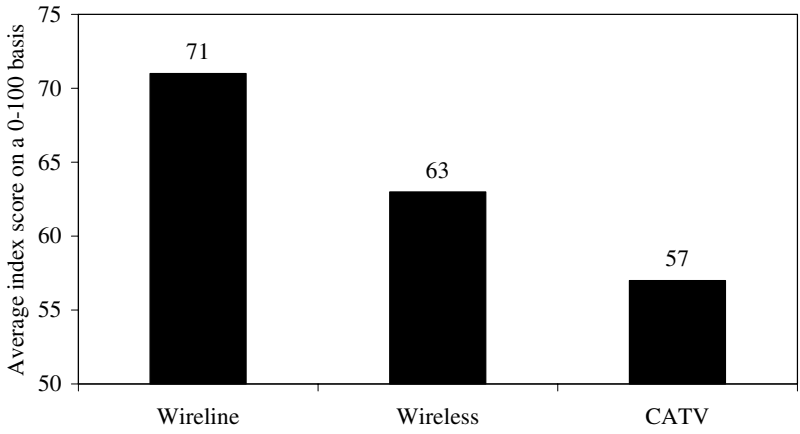


Sources: FCC (2004); National Cable & Telecommunications Association (2005); employment for NAICS sectors: wired telecommunications carriers (5171), wireless telecommunications carriers (5172), and cable and other program distribution (5175).

Cable television's productivity and quality record, however, remains poor. **Figure B** compares the productivity trends in local telephone wireline services and cable TV. Service quality also differs significantly across the three types of access providers, cable, wireline, and wireless. According to the 2004 American Customer Satisfaction Index, an index based on surveys of each company's recent customers, wireline providers score the highest rates of satisfaction, while cable TV providers have the lowest scores (**Figure C**).

In sum, despite the fact that incumbent wireline carriers bear the heaviest costs of taxation and regulation, they have high rates of productivity growth and the best customer service ratings among local access providers.

FIGURE C American customer satisfaction index (ACSI) scores, 2004 Q1 (average of top three service providers in each industry segment)



Sources: ACSI (2004).

CHAPTER 2

Comparing the quality of jobs

In mid-2003, the Survey Research Institute at the Industrial and Labor Relations School, Cornell University, conducted a national survey of employment practices in 327 establishments in the local access market.[1] General managers at each worksite provided detailed information about the management practices used in their facility. In 46% of the worksites, the employees were technicians, based in office and field locations and responsible for construction, diagnostics, service installation, and repair of communications networks. In the remaining 54% of worksites, the employees were customer service representatives, located in remote call centers and responsible for service and sales interactions with customers.

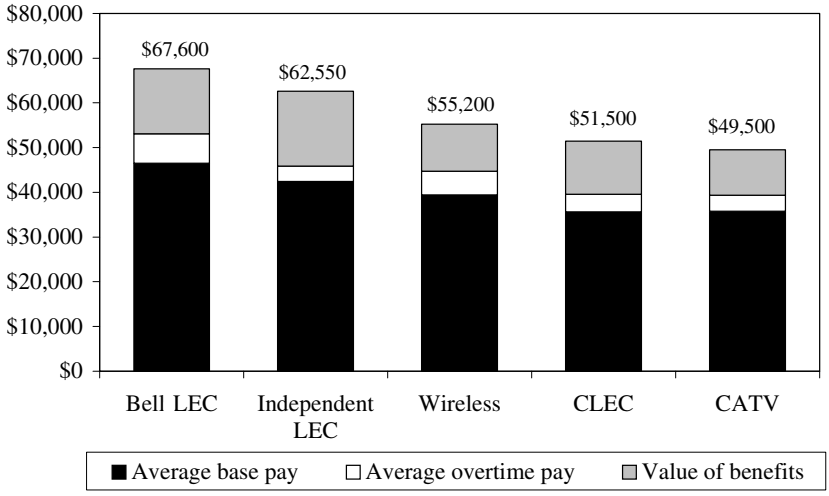
These two occupational groups constitute the bulk of the productive workforce in the industry. Historically, this workforce has consisted of individuals with a high school education; the telecommunications industry has typically afforded non-college graduates the opportunity to enter skilled jobs that provide opportunities for training and advancement and middle-class wages. The jobs of the predominantly male technical workforce were, and continue to be, the most highly prized — offering high levels of skills, training, autonomy, and pay. The jobs of service representatives have been predominantly female, semi-skilled, and lower in terms of autonomy, training opportunities, and compensation. Nonetheless, these positions have historically provided women with good jobs and middle-class wages sufficient to support their families. While some service agents now work in high-end business-to-business centers and enjoy good pay and working conditions, the majority has

highly routinized and stressful jobs serving the mass market, with high demands to provide quality service, maximize sales, and maximize call volumes.

The survey results bear out the fact that the majority of workers in local telecommunications markets continue to be non-college educated. Among technicians, 52% have only a high school degree, and 42% have some college; only 6% have a college degree. Among technicians, it is only in the wireless segment that employers are hiring college graduates into a substantial share of jobs (36%). Similarly, 41% of service representatives hold a high school degree only, 40% have some post-secondary schooling, and 19% have a college degree. Thus, this study is particularly relevant for understanding how public policy is affecting the opportunities for middle-class jobs and incomes among non-college-educated Americans – the 73% of the workforce that does not hold a college degree but performs the productive and technical jobs in the economy.

We measure the quality of jobs on the basis of five criteria: level of compensation, stability of employment, access to training and job skills, workplace rights and representation, and the quality of the work environment. We examine employer practices and desirable conditions at work from the perspective of technicians and service representatives. We compare the three major local access networks, wireless, wireline, and cable television. In addition, we subdivide wireline into Bell incumbent local exchange carriers (Bell LEC), independent incumbent local exchange carriers (independent LEC), and competitive local exchange carriers (CLEC). For the customer service representatives, we also examine resellers that sell retail services directly to customers through call centers; these resellers purchase on the wholesale market but do not provide services themselves over their own facilities. Establishment sizes vary greatly, with resellers operating relatively small call centers with an average employment of 47, and the Bells running some mega-centers with over 1,200 employees (but their median employment is 305 service representatives). The average call center in the sample employs 206 service representatives. To standardize the comparisons, we report only on call centers serving the mass market of residential and small business customers.

FIGURE D-1 Technicians' annual total compensation by access provider, 2003



Sources: Batt et al. (2004).

Compensation

Figure D-1 compares compensation for technicians by network segment. The Bells and the independent telephone companies offer the best compensation, with annual technician earnings of $46,510 and $42,396, respectively. Independent telephone companies are more likely to be located in rural areas, and so that workforce probably enjoys a lower-cost-of-living environment than technicians in the Bell workforce. Cable TV ($35,724) and the competitive local exchange carriers ($35,636) offer the lowest pay, with their technicians earning 77% of what Bell technicians take home in a year. Technician pay in wireless markets ($39,429) lies in between.

In addition to base pay, technicians typically receive overtime pay, and it figures prominently in their standard of living. Premium earnings from overtime range from 8% of technicians' annual income at the independent telephone companies to 14% at the Bells.

Employer-provided benefits are critical for every worker, as health and pension benefit costs continue to rise. According to the Kaiser Fam-

ily Foundation, the average cost for health insurance for a family in 2004 was $9,950 a year, making health benefits the most expensive employee benefit and a source of conflict and anxiety for both employers and employees (Kaiser Family Foundation 2004). The next largest benefit plans are pensions. The independent telephone companies, on average, provide the most valuable benefits packages ($16,746), while cable TV ($10,131) and wireless carriers ($10,564) provide benefits packages valued at 60% and 63%, respectively, of what technicians receive at the independent telephone companies.

An analysis holding constant a variety of factors influencing wage setting reveals that the greatest single threat to technician earnings in this industry is the growth of the low-wage cable television sector. By contrast, factors that enhance technicians' earnings include greater formal education, years of experience or tenure on the job, and unionization.

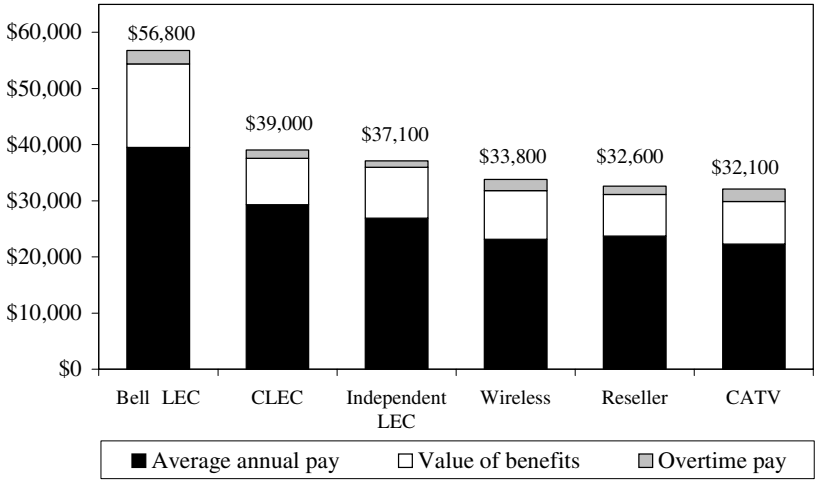
Earnings disparities across different access channels are greater for service representatives than for technicians (**Figure D-2**). The typical service representative working at the average cable TV call center earns $32,120, about half (57%) the wages and benefits that a Bell customer service agent receives in a year, $56,771. The Bells also offer the best benefit packages for this largely female workforce ($14,844), with cable TV ($7,576) and resellers ($7,420) offering benefits valued at approximately one-half of what workers receive at the Bell companies. Additional pay for overtime represents between 4% of annual earnings at the competitive local carriers to 9% at cable TV companies.

A similar analysis as above, controlling for other factors influencing wages, reveals that cable TV companies pay significantly less than any other employers in the industry. Other major factors depressing service reps' wages and benefits are the greater use of part-time workers, feminization of the occupation, the growth of cable TV and wireless call centers, and higher turnover, which depresses all forms of compensation. By contrast, unionization, higher levels of formal education, and more years of job experience each significantly raise the earnings of service and sales agents.

Stable employment

Most employees aspire to stable employment because it allows them to plan their futures, raise their children in the same school systems, and participate actively in their communities. Stable employment has be-

FIGURE D-2 Service representatives' annual total compensation by access provider, 2003



Sources: Batt et al. (2004).

come even more important as families require two full-time incomes to get by. Recent research suggests that growing employment instability may be the major factor in generating U.S. earnings inequality for non-college-educated labor (Bernhardt et al. 2001; Gottschalk 1997), owing to the fact that workers historically have benefited greatly from firm-specific training they receive in stable employment relations.

While the conventional wisdom is that employers have rejected long-term employment relations as too inflexible, in fact many managers – particularly middle managers responsible for maintaining high levels of operational performance – recognize the value of longer-term employees. A large management research literature (e.g. Batt 2002) also demonstrates that lower turnover reduces costs and enhances productivity. The American economy, however, generates a 42% annual labor turnover rate (BLS, JOLTS 2005), which makes stability an elusive goal for many workers and employers.

Historically, the telephone industry provided stable employment because it required workers with unique skill sets that could only be acquired through company-sponsored training. Firm-specific skill sets are

still needed in this industry because rapidly changing technologies need to be adapted to company-specific processes and applications. With the onset of competition and the boom-bust Internet investment cycle, employment stability may be undermined, possibly with adverse consequences for productivity growth.

We use three measures to assess employment stability. The first measure, "lack of churn," reflects the retention of the workforce. Annual churn rates include those employees who quit, are dismissed, or are laid off. Lack of churn represents the percentage of workers who stay with their employer during the year — in other words, who do not leave for any reason, except retirements, which employees view as desirable and which we address separately. Among technicians, the Bell, independent, and competitive exchange carriers receive the highest lack-of-churn score (90%). By contrast, cable TV has a significantly lower rate of stability (82% retention), and wireless, the lowest rate (77%) (**Table 2**).

A second measure of stability is tenure, or longevity with the same employer. Here, we identified the proportion of technicians with more than one year of service with their employer. Given the amount of formal and informal training required by technicians, this indicates a minimal period in which technicians can learn about their jobs and make a decision to stay or leave. Approximately all the technicians in the Bell and independent telephone companies have more than one year of experience. On the other hand, the churn in cable results in only 86% of technicians having one year of service. Even though wireless has a higher churn rate than cable, the churn is concentrated in a smaller group of new employees who are churning through the establishments.

In a third approach to capture stability, we examined the percentage of employees who stayed with their company long enough to reach retirement age. In establishments without age discrimination and a diverse age profile, we would expect approximately 3% of employees to be able to retire annually. As shown in Table 2, the Bell companies report the highest rates of retirements (7%), followed by the independent carriers (4%). Wireless and cable TV report virtually no retirements at all. The much higher level of retirements at the Bell and independent phone companies in part reflects an older workforce (average age of 40 for the Bells and independents, 30 for CATV, and 32 for wireless), but the numbers also indicate how the firms have handled employment adjustments in a changing labor market environment, e.g., whether through

TABLE 2 Comparison of employment stability practices for technicians, 2003 (best in bold, worst in italics)

Employment stability measures	Wireless	CATV	Bell LEC	Independent LEC	CLEC
Workforce retention	*77%*	82%	**90%**	90%	90%
Share with tenure greater than 1 year	92%	*86%*	**99%**	96%	90%
Share who retire each year	0%	*0%*	*7%*	4%	2%

Note: Workforce retention is the lack of churn (turnover), or (1 – turnover rate); see Figure E for workforce turnover data.

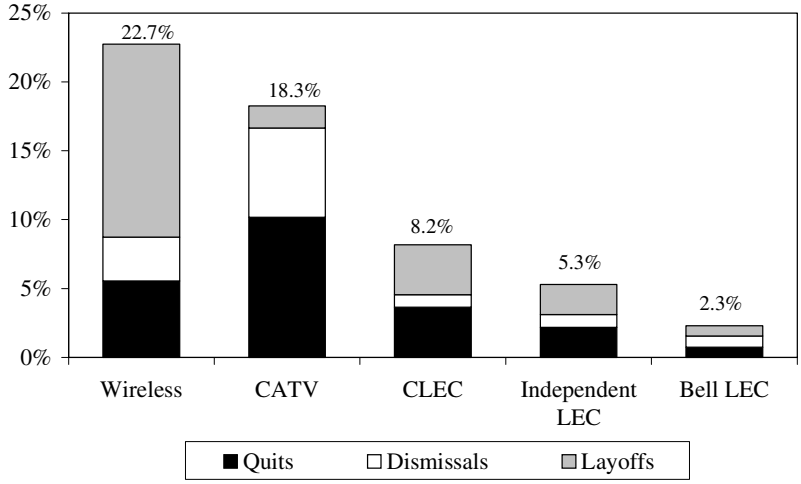
Source: Batt et al. (2004).

voluntary incentives such as early retirement as opposed to layoffs. Nonetheless, neither wireless nor the more mature cable industry has any significant number of technicians retiring.

To examine why employees leave their companies, we broke down turnover into its three components: voluntary quits, dismissals, and layoffs. Voluntary quit rates are an indicator of employee dissatisfaction with their working conditions or compensation. As shown in **Figure E**, cable TV companies have the highest quit rates (10.2% annually), followed by wireless (5.5%). By contrast, the Bell companies have quit rates of less than 1%, and the independent telephone companies 2%. Dismissals are a reflection of conflict at work. They may be due to a number of reasons: management does not have procedures in place to select workers with the skills to do the job; employees are not adequately trained to perform their work; employees are dissatisfied and express this through poor work performance; or management does not know how to manage or is punitive in its management approach. Whatever the cause, high rates of dismissals can have negative effects on employer costs and productivity, as well as on the morale of the remaining workforce. Cable TV providers have over six times the rates of dismissals as do the wireline local exchange carriers, and two times the rates found in wireless. The rapidly growing wireless industry has the most layoffs, as it consolidates, restructures, and relocates its operations.

For service representatives, the Bells again offer the most stable employment, with 80% of employees remaining with their employer

FIGURE E Annual technician turnover by local access provider, 2003



Sources: Batt et al. (2004).

each year and with 93% of the workforce having at least one year of tenure (**Table 3**). The Bells also have the highest percentage of employees who stay with the company until retirement. Wireless, by contrast, has the highest churn rate. Another indicator of employment stability in the call center environment is whether employees have full-time permanent jobs rather than part-time or temporary ones (these practices are used less for technicians and therefore were not reported above). While 99% of the Bells' workforce is permanent and full time, the comparable figure for competitive local exchange carriers is 76%. Resellers and wireless providers also make considerable use of contingent workers.

Figure F illustrates the sources of annual turnover among service representatives. Wireless call centers have the highest annual quit rate (14%), followed by the competitive exchange carriers (12%), and cable TV (11%). Cable TV and the resellers have the highest annual dismissal rate (10%). The competitive exchange carriers have the highest proportion of layoffs. In contrast, the Bells have the lowest rates for quits (6%), dismissals (4%), and layoffs (1%).

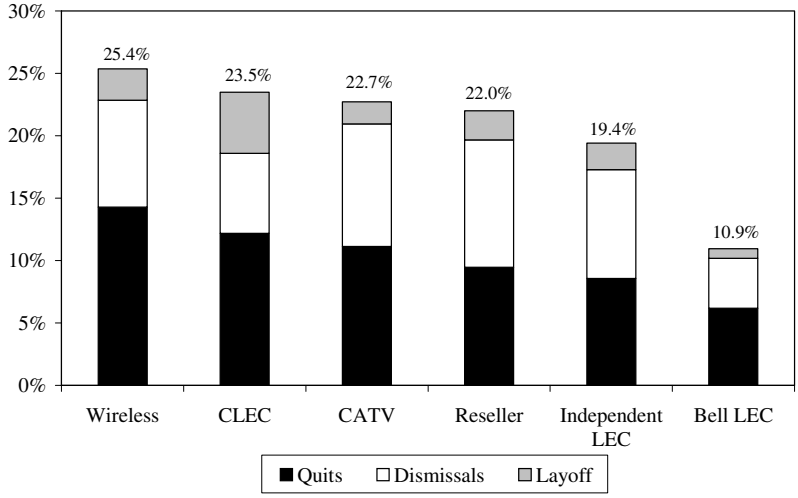
TABLE 3 Comparison of employment stability practices for service representatives, 2003 (best in bold, worst in italics)

Employment stability measures	Wireless	CATV	Bell LEC	Independent LEC	CLEC	Reseller
Workforce retention	*75%*	77%	**89%**	81%	77%	78%
Share with tenure greater than 1 year	78%	78%	**93%**	81%	81%	*77%*
Share who retire each year	1%	1%	**3%**	2%	1%	*0%*
Full-time permanent share	88%	92%	**99%**	92%	*76%*	88%

Note: Workforce retention is the lack of churn (turnover), or (1 – turnover rate); see Figure E for workforce turnover data.

Source: Batt et al. (2004).

FIGURE F Annual service representative turnover by local access provider, 2003



Sources: Batt et al. (2004).

Training and skill requirements of jobs

Another way of measuring the quality of jobs is the level of skills required to perform them. Employers have considerable latitude in whether they define jobs to be relatively complex or simplified. For any given set of tasks, employers can design work so that it requires breadth and depth of knowledge; or they can break up jobs into simpler, discrete tasks, each performed by a different person. Technical jobs, for example, can involve broad and deep knowledge about installing, diagnosing, and repairing network infrastructure; or they can be broken down so that some technicians know only how to install equipment and others only do repair. Customer service jobs can be fragmented into a series of narrow, repetitive tasks, or can be defined more broadly to allow employees to answer a range of customer service and sales needs. More complex jobs typically provide greater intrinsic satisfaction for workers and offer them more opportunities for training and learning.

To capture this level of job complexity and investment in training, we measured the amount of training supplied to employees by their company to qualify them in their jobs (**Table 4**). Among technicians, the Bell companies supplied the most formal and informal training (102 weeks) for newly hired employees, while wireless companies provided the least amount of training and development – only 24% of what a Bell technician receives. Similarly, cable TV and competitive exchange carriers provide only 45% and 55%, respectively, of the qualifying training that Bell companies offer.

Another indicator of the skill requirements and complexity of jobs is the use of computers at work. The use of laptop computers among field technicians, for example, requires that they develop their digital skill sets; it also improves productivity and customer service by making the dispatch of technicians to the field more efficient. Bell technicians are the most likely to use laptops in the field, while cable TV technicians are the least likely to use them – about one-third as likely as a Bell technician.

For service representatives, the Bells also offer the most initial training, with 52 weeks of formal and informal training before a service representative becomes fully qualified (**Table 5**). By contrast, service representatives become fully qualified within 12 weeks at competitive exchange carriers, 15 weeks at wireless centers, and 18 weeks at cable TV centers. We do not measure computer use, since virtually all service representatives use computers.

TABLE 4 Comparison of training practices, 2003
(best in bold, worst in italics)

Training and skills	Wireless	CATV	Bell LEC	Independent LEC	CLEC
Qualifying training (weeks)	*25*	45	**102**	73	55
Computers (share using)	50%	*17%*	**56%**	47%	50%

Source: Batt et al. (2004).

TABLE 5 Comparison of service rep training practices, 2003 (best in bold, worst in italics)

	Wireless	CATV	Bell LEC	Independent LEC	CLEC	Reseller
Qualifying training (weeks)	15	18	**52**	22	*12*	19

Source: Batt et al. (2004).

Workplace rights and representation

Although a clear majority of American workers want to join unions (Peter Hart Associates 2002), the newer employers in this industry over the last 30 years have decided to operate on a nonunion basis. Cable TV's union suppression activities are legendary (Martinez Ortega 2004). Consequently, the only companies with a high level of unionization are the Bells, with 96% of local technicians represented (**Table 6**). Just 9% of local technicians in wireless are union members, all basically working at one employer, Cingular. Cable TV reports 13% of employees with union representation, and the competitive exchange carriers 9%. The survey also asked managers to rate the quality of their labor–management relationship. It should not be surprising that those industry segments that demonstrate the highest acceptance of unionism also have the best relationship with their unions. Bell managers report very good relationships, while cable TV has the most difficult relations.

Unionization rates are somewhat lower among call center workers, but the industry segment patterns are similar to those of technicians (**Table 7**). While 77% of service representatives at Bell call centers are

TABLE 6 Comparisons of technicians' workplace rights and representation, 2003 (best in bold, worst in italics)

Workplace rights and representation	Wireless	CATV	Bell LEC	Independent LEC	CLEC
Unionization	*9%*	13%	**96%**	42%	*9%*
Positive labor relations	60%	*55%*	**79%**	73%	58%

Source: Batt et al. (2004).

union represented, the comparable rates are 3% among resellers, 5% in wireless, and 6% in cable TV and competitive exchange carriers.

Repeating the pattern of technicians, cable TV managers report the least positive labor relations with their service representatives in the industry, but resellers, where unionized, claim the best labor–management relations.

Work environment

Research in management and organizational behavior generally has shown that employees prefer jobs that are intrinsically motivating and that offer opportunities for discretion and independent judgment. They value work environments in which motivation is based on trust and commitment, rather than on managerial control and performance monitoring. This research also shows that employees perform better in workplaces that offer high skills and training, opportunities for employees to use their discretion, and incentives based on trust and commitment (Appelbaum et al. 2000; Batt 2002). In this study, therefore, we measure the quality of the work environment along several dimensions: autonomy or discretion over work tasks, freedom from electronic monitoring, and incentive systems built on trust rather than punishment. The autonomy index was created from 10 questions that asked managers to rate the degree of workers' autonomy over such issues as daily work tasks, methods, pace of work, and handling of customer requests. The best score is 100. Freedom from electronic monitoring is the percent of work time that employees are free from electronic monitoring systems (0-100%). Freedom from punishment is the percent of the workforce

TABLE 7 Comparisons of service reps' workplace rights and representation, 2003 (best in bold, worst in italics)

Workplace rights and representation	Wireless	CATV	Bell LEC	Independent LEC	CLEC	Reseller
Unionization	5%	6%	**77%**	23%	6%	*3%*
Positive labor relations	70%	*60%*	81%	81%	80%	**100%**

Source: Batt et al. (2004).

TABLE 8 Comparison of technicians' work environments, 2003 (best in bold, worst in italics)

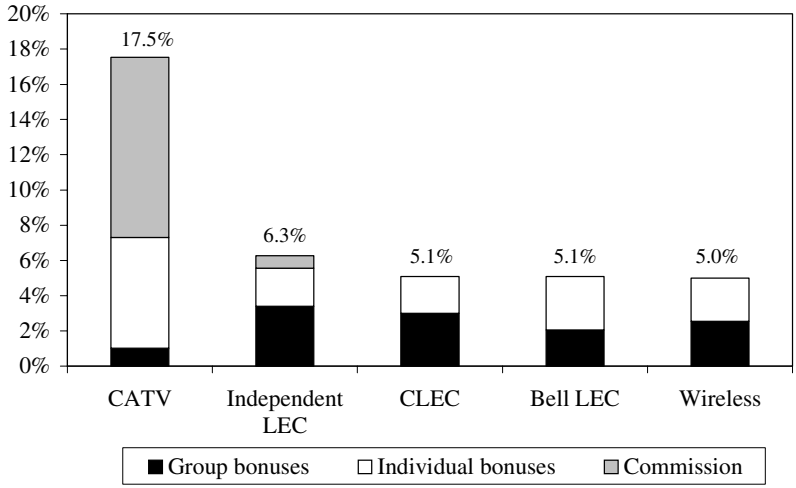
Work environment	Wireless	CATV	Bell LEC	Independent LEC	CLEC
Autonomy index	**71**	62	*61*	65	62
Free from e-monitoring	79%	75%	*40%*	68%	**84%**
Free from punishment	86%	*79%*	88%	**94%**	87%
Pay that is secure (share fixed)	95%	*84%*	95%	94%	**95%**
Gender diversity (share female)	*5%*	8%	10%	8%	**11%**

Source: Batt et al. (2004).

that is *not* disciplined or dismissed in a given year (0-100%). Secure pay is the proportion of pay that is fixed, rather than based on commissions or performance incentives. Again, the general managers at each worksite reported on their own management practices along these dimensions.

Many aspects of the technicians' work environment show little variation across the different providers in this study (**Table 8**). In part, this reflects the nature of technical work, which requires judgment and autonomy; in part, its relative freedom arises from working in dispersed locations in the field. Yet some differences are worth noting. On the autonomy dimension, the older, larger, and more bureaucratic Bell workplaces are the worst, but not significantly different from either cable TV,

FIGURE G Incentive pay of technicians by access provider, 2003



Sources: Batt et al. (2004)

the competitive exchange carriers, or the independents. The larger Bell operations also rely more on electronic monitoring, global-positioning-system (GPS) tracking, and specific work practices such as quality systems for performance controls. While this may or may not represent good management, many of the independent-minded technicians resent these intrusions into their autonomy and judgment. The newer wireless service providers, by contrast, have designed their workplaces to afford greater autonomy. As for discipline and punishment, cable TV relies on it more than any other segment of the industry. It has formal discipline rates of 15% of the workforce each year, and dismissal rates of 6.5%; these reflect the industry's low compensation and high-churn model of employment (see Figure E above).

Because this is a field in which the better-paying technical jobs are held primarily by men, we also examined gender diversity at work. In the 1970s, under an Equal Employment Opportunity Commission consent decree, the Bell Companies were required to desegregate their occupational structure. In the current study, we found that overall gender diversity among technicians remains low, with 10% or fewer of jobs held by women. As shown in Table 8, the competitive exchange carriers

TABLE 9 Comparison of service representatives' work environments, 2003 (best in bold, worst in italics)

Work environment	Wireless	CATV	Bell LEC	Independent LEC	CLEC	Reseller
Free of e-monitoring	54%	47%	40%	54%	*36%*	**58%**
Free from punishment	74%	*69%*	**75%**	**75%**	74%	72%
Autonomy index	**42**	*38*	*38*	39	39	40
Self-directed teams	**29%**	*15%*	15%	18%	21%	20%
Secure pay (share fixed)	*72%*	84%	82%	**89%**	85%	81%
Gender diversity (share male)	**37%**	23%	35%	*20%*	**37%**	32%

Source: Batt et al. (2004).

have the highest level of gender diversity (11%), followed by the Bells (10%); only 5% of technicians employed in wireless telecommunications are female.

Technicians in most of the access markets have a relatively small proportion of their pay based on performance – about 5%. The exception is cable TV, where 16% of pay is based on performance incentives (Table 8 and **Figure G**). Moreover, while employers in other segments of the industry make little use of commission pay, which puts base pay at risk, technicians in cable TV have a full 10% of their pay based on commissions. The heavy use of commission pay suggests that cable TV companies want their technicians to act as sales agents when they gain access to customers' households. This practice is in contrast to the typical focus of technicians' work, which is to provide technical services such as installation and repair.

In comparison to technicians, service representatives have much poorer working conditions along the dimensions measured in this study: autonomy, levels of electronic monitoring, use of discipline, and use of commission-based pay (**Table 9**). Across the different access channels, however, there is little variation in work environment, as mass market call centers have adopted similar procedures and methods of operation. The competitive exchange carriers and large Bell call centers rely more heavily on electronic monitoring compared to other employers, whereas the small reseller centers use it the least. Cable TV relies most heavily

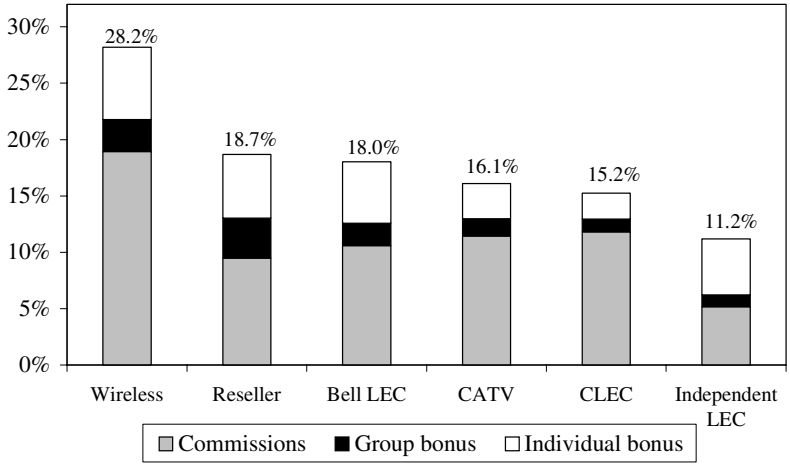
on punishment of service representatives, with the highest rates of discipline (21%) and dismissals (10%) in the industry. Regarding the use of teams in call centers, which has been associated with greater learning, productivity, social support, job satisfaction, and lower turnover (Batt 1999), wireless providers have more widely instituted them for service representatives, while cable TV has done the least.

Incentive or performance-based pay has become increasingly popular in call centers, as companies compete to maximize sales revenues. Companies have experimented with a variety of incentive pay plans that either combine or provide separately individual bonuses, group bonuses, and commission pay. Performance-based pay ranges from a low of 11.2% of pay among independent telephone companies to a high of 28.2% among wireless providers (Table 9 and **Figure H**). Commission pay is the most onerous form of incentive pay because it puts base pay at risk and intensifies pressure on employees to sell in order to make up their weekly pay. Wireless makes the greatest use of commission pay (19%), compared to 5% on average among independent telephone companies.

The issue of gender segregation is also important in call centers. While traditionally a female-dominated workplace, men have increasingly taken jobs in service centers, in some cases because higher-paying manufacturing jobs have declined precipitously, and in other cases because the pay for customer service occupations has begun to improve relative to technical jobs. Notably, gender desegregation has moved at a faster pace in customer service occupations than in technical occupations. Among wireless providers, Bell companies, and competitive exchange carriers, male employees constitute at least 35% of the workforce, whereas independent telephone companies and cable TV companies have the lowest diversity ratings (20% and 23% male, respectively).

Consistent with the evidence presented above, the Bells seem to offer the high road in employment practices, with decent jobs and high productivity growth, while cable TV follows the low road, with lower-quality jobs and no productivity growth. As we discuss below, unionization is the critical factor in separating the high road from the low road, as employees express their voice through unions to create more desirable and stable workplaces in this industry.

FIGURE H Incentive pay methods of service representatives by industry segment, 2003



Sources: Batt et al. (2004).

CHAPTER 3

Union effects on employment practices in telecommunications

Unionization affects most aspects of the employment relationship in ways that substantially improve the quality of jobs for workers. In the analysis of the survey data, we found that wages are 18% higher and benefits are 30% higher for union technicians compared to their nonunion counterparts (**Table 10**). Unionization has an even more powerful effect on the traditionally female service workforce: unionized service reps receive 32% more in wages and 82% more in benefits.[2]

These benefits for the unionized female workforce have occurred in part by bargaining through a common structure with higher-paid technicians. Consequently, instead of being isolated into a separate "female" standard, unionized service representatives receive and participate in the same benefit packages as those received by the traditionally male technician occupation. As a result, many of these demanding call center jobs are taken by single working mothers, not only because of higher wages, but because they offer the ability to provide families with decent health benefits. The total compensation effect of unionized workplaces is 21% for technicians and 42% for service representatives (Table 10 and **Figure I**).

Unionized workplaces often afford non-college graduates (73% of the U.S. labor force) an opportunity for both stable employment and advancement. This is partly accomplished because employers spend significantly more on training – 83% more for technicians and 90% more for service representatives – in union compared to nonunion establishments. Employers can reap the benefits of their training investments because unions reduce all forms of turnover (except for retirements) by

TABLE 10 Union-nonunion comparisons, 2003

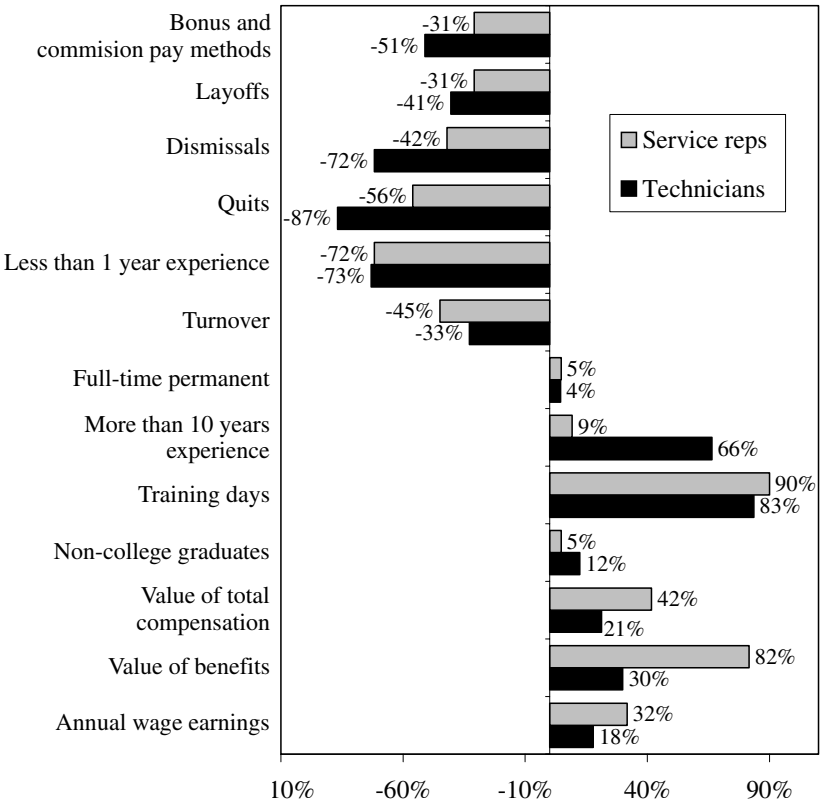
	Technicians			Service representatives		
	Non-union	Union	Union effect	Non-union	Union	Union effect
Annual wage earnings	$37,965	$44,718	18%	$30,381	$40,000	32%
Value of benefits	$12,023	$15,622	30%	$7,930	$14,396	82%
Value - total compensation	$53,704	$65,109	21%	$40,009	$56,683	42%
Non-college graduates	89%	100%	12%	87%	91%	5%
Qualifying training weeks	51	93	83%	18	35	90%
More than 10 years tenure	42%	70%	66%	37%	41%	9%
Full-time permanent	94%	98%	4%	89%	96%	5%
Turnover	16%	10%	-33%	34%	19%	-45%
Less than 1 year experience	10%	3%	-73%	23%	7%	-72%
Quits	7%	1%	-87%	12%	5%	-56%
Dismissals	4%	1%	-72%	9%	5%	-42%
Layoffs	3%	2%	-41%	3%	2%	-31%
Retirement rate	1%	6%	364%	1%	3%	354%
Variable pay methods	11%	6%	-51%	20%	14%	-31%
Individual bonus and commission	5%	2%	-53%	17%	13%	-27%
Group bonus	2%	3%	38%	2%	1%	-56%
Establishment size	55	154	178%	160	506	215%

Source: Batt et al. (2004).

one-third for service representatives and by 45% for technicians. Unionized technicians are 87% less likely to quit than are their nonunion counterparts, as are 56% of unionized service representatives. Unionization is also associated with reductions in dismissals (72% less for technicians and 42% less for service representatives) and layoffs (41% less for technicians and 31% less for service representatives). Unions also increase the one form of turnover that most workers find desirable, retirements, by more than 350% for both technicians and service representatives.

Unions also reduce undesirable incentive pay methods (51% for technicians and 31% for service representatives), which employees often view as unfair and which significantly contribute to employee quit rates (Batt, Colvin, and Keefe 2002). In particular, they reduce individual

FIGURE I How unions affect technicians and service representatives: increased earnings and training, and reduced turnover, 2003

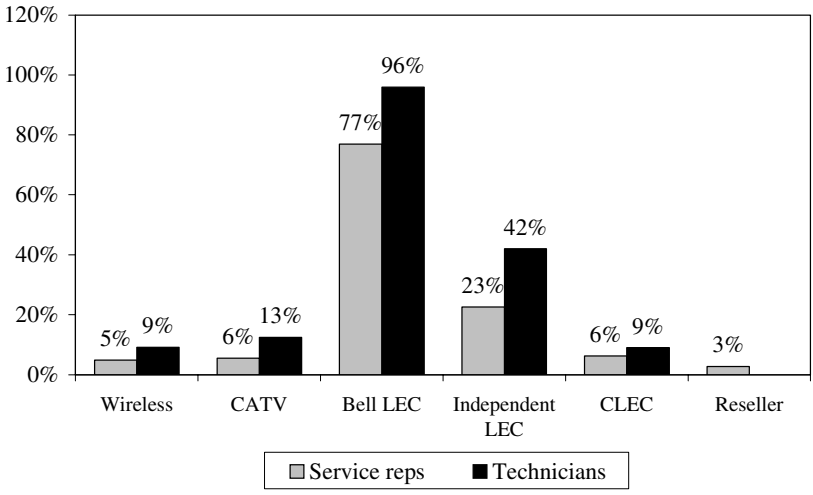


Sources: Batt et al. (2004).

bonus and commission pay methods for both technicians (53%) and service representatives (27%). Unions tend to represent workers in larger (three times the size) and often more urban establishments (see Table 10).

The success of union avoidance practices in the newer segments of this industry are illustrated in **Figure J**. Most of the unionization in this industry is in the incumbent wireline segment, particularly the Bells. There are some notable exceptions, such as Cingular in the wireless industry. Nevertheless, the newer competitors in this industry in the main

FIGURE J Unionzation rate by telecommunications industry segment, 2003



Sources: Batt et al. (2004).

have resisted unionization and have decided to compete with reduced pay, benefits, stability, and training. Further accentuating this downward trend in employment practices, however, are a set of regulatory and tax policies that disproportionately disadvantage good employers in this industry.

In the next section we develop employer report cards by industry segment for technicians and service representatives.

CHAPTER 4

Employer report cards: the quality of employment practices

In this section, we translate the findings from Chapter 2 into report cards for employers. We use the same definition of job quality as before (compensation, employment stability, training and skills, workplace rights and representation, and work environment), and compare each segment's work practices to the score of the best-performing segment. For each practice, the segment with the highest score receives 100%; all others are measured in relation to it by dividing their scores into the best score and expressing it as a percent of the best.

As in Chapter 2, we compare the three major local access networks – wireless, wireline, and cable TV. In addition, we subdivide wireline into Bell incumbent local exchange carriers, independent incumbent local exchange carriers, and competitive local exchange carriers. For the customer service representatives, we also examine resellers. We use a generous grading scale: A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, and F: below 60%.

The quality of jobs for technicians

In the area of compensation, the data show that the Bell companies provide the highest annual earnings for technicians (**Table 11**). They receive a score of 100%, while cable TV and the competitive exchange carriers pay the least, with their technicians earning 77% of what Bell technicians earn. The independent telephone companies earn a 100% score by providing the most valuable benefits packages on average, while cable TV and wireless carriers provide benefits packages valued at 60% and 63%, respectively, of what technicians at the independent telephone

TABLE 11 Employer report card: quality of jobs for technicians, by access network, 2003 (best in bold, worst in italics)

	Wireless	CATV	Bell LEC	Independent LEC	CLEC
Compensation	C	*D*	**A**	A	C
Wages	85%	*77%*	**100%**	91%	77%
Benefits	63%	*60%*	86%	**100%**	71%
Stable employment	D	*D*	**A**	B	C
Retention	*79%*	84%	**100%**	97%	94%
Retirements	*5%*	*2%*	**100%**	59%	31%
Tenure	93%	87%	**100%**	97%	*91%*
Training and skills	D	*F*	**A**	C	D
Computers	89%	*31%*	**100%**	83%	88%
Qualifying training	*24%*	44%	**100%**	72%	54%
Workplace rights and representation	F	*F*	**A**	D	F
Union	*9%*	13%	**100%**	44%	*9%*
Labor relations	76%	*70%*	**100%**	92%	73%
Work environment	B	B	B	B	A
Free from e-monitoring	94%	89%	*48%*	81%	**100%**
Free from punishment	91%	*84%*	94%	**100%**	93%
Autonomy index	**100%**	87%	*86%*	92%	87%
Secure pay (% non-variable)	**100%**	*88%*	100%	99%	100%
Gender diversity (% male)	*45%*	73%	91%	73%	**100%**
SCORE	69%	*64%*	**93%**	84%	77%
GRADE	D	*D*	**A**	B	C

Definitions: Wages – indexed relative to segment with highest annual wage earnings. Benefits – indexed to segment with highest level of benefits. Retention – segment with lowest turnover rate (turnover - quits, dismissals, and layoffs). Retirements – indexed to segment with highest share of employees retiring. Tenure – indexed to segment with highest value of employees with more than 10 years of service. Full-time permanent – indexed to segment with share of non-temporary and non-part-time employees. Qualifying training – indexed to segment with highest number of hours of qualifying training provided. Unionization – indexed to segment with highest unionization rate. Labor relations – indexed to segment with the best labor relations score provided by managers. Free of e-monitoring – indexed to segment with lowest share of time spent at work without electronic monitoring. Punishment – indexed to segment with lowest rate of punishment (dismissals + formal disciplinary action). Autonomy – indexed to segment with highest value of technicians' relative autonomy on job score provided by managers. Pay that is secure – share of pay that is not incentive-based. Teams – indexed to segment with highest proportion of workers organized into self-directed work teams. Gender diversity – indexed to segment with highest share of female workers in this male-dominated occupation.
Grading scale: A – 90-100, B – 80-89, C – 70-79, D – 60-69, F – below 60.

Source: Author's estimates.

companies receive. The Bells and the independent telephone companies score the highest on compensation and both receive an A grade. Cable TV receives a grade of D and is the worst-paying segment of the industry.

Using our first measure of employment stability (lack of churn, or the percent of employees who stay with their employer in a given year), we find that the Bell companies have the highest score (100%), but are closely matched by the independent telephone companies and the competitive exchange carriers (97% and 94%, respectively). By contrast, wireless (79%) and cable TV (84%) have significantly higher rates of annual turnover, with wireless having the highest rate of technician churn in the industry. The second measure of stability, longevity, measures the proportion of technicians with more than 10 years of service with their employers. Again the Bells earn the highest score (100%); cable earns the lowest (87%). In terms of the percent of employees reaching retirement age and retiring in a given year, the Bells have the highest scores (100%), while wireless receives a score of 5% and cable TV 2%, as these companies report virtually no retirements at all. Wireless has the highest level of employment instability, followed by cable TV, earning them both an employment stability grade of D.

In the area of training and skills, we examine the amount of training supplied to new technicians to qualify them in their jobs. The Bell companies supply the most (earning 100%), and wireless companies provide the least, 24% of what the Bells provide. Cable TV offers 44% of what the Bells offer. To capture the skill requirements of jobs, we examine the extent of computer use, a measure of digital skill complexity that is particularly important for field technicians. Bell technicians (100%) are the most likely to use computers in their jobs, while cable TV technicians (31%) are the least likely. Overall, the Bells earn a grade of A for training and skills, while cable TV earns an F, the independent telephone companies a C, and both wireless and the competitive exchange carriers a D.

In terms of unionization, only the Bell companies earn an A. Wireless has 9% the level of unionization as the Bells, cable TV 13%, and the competitive exchange carriers 9%. The Bells have the best labor relations (100%), and cable TV the worst (70%). Because of their decisions to operate as nonunion companies and to employ a range of union avoidance techniques, rather than develop positive labor rela-

tions, cable TV, wireless, and the competitive exchange carriers each receive failing grades for their record on workplace rights and representation.

In the area of work environment, technicians in the wireless sector have the greatest job autonomy (100%), whereas Bell technicians have the least, earning them an 86% score. The competitive exchange carriers score 100% for their limited use of electronic monitoring, compared to the Bell operations (48%), which rely most on electronic monitoring, GPS tracking, and specific work practices to control their technicians' performance. Cable TV relies more on punishment, formal discipline, and dismissals than does any other segment of the industry, which earns it an 84% score, while the independents rely on it the least. Wireless employers rely least on incentive pay for technicians, while cable TV uses it most, earning it an 88%. As for gender diversity, which measures the relative extent of female employment in this occupation, the competitive exchange carriers have the highest level (100%), while wireless has the lowest level (45%) of female employment. Overall, when the work environment scores are averaged, the competitive exchange carriers receive an A, while everyone else earns a B.

The overall summary of employment practices reveals the following rankings on the quality of jobs for technicians: the Bell companies offer the best jobs, and cable TV provides the worst:

93%	**A**	**Bell local exchange carrier**
84%	**B**	**Independent local exchange carrier**
77%	**C**	**Competitive exchange carrier**
69%	**D**	**Wireless**
64%	**D**	**Cable TV**

These scores suggest that the Bell companies offer the high road in technician employment – decent jobs and high productivity growth, while cable TV takes the low road – poor jobs and no productivity growth. Unfortunately, wireless has decided to follow cable down the low road, while the competitive exchange carriers, a creation of regulatory policy, provide the worst employment practices for their technicians among the wireline service providers.

The quality of jobs for service representatives

Among customer service representatives who work in call centers (**Table 12**), the Bell companies offer the highest wages and benefits, earning them a score of 100%, while cable TV centers offer approximately half of the wages (56%) and benefits (51%) that a Bell service rep receives in a year. Resellers offer the most unstable employment, while the Bell companies score 100% on employment stability: they have the lowest turnover, the highest proportion of long-serving service representatives, the greatest likelihood that employees will stay until retirement, and the greatest ratio of full-time permanent employees, who are entitled to regular wages and benefits. Wireless call centers have the highest churn rate. Resellers' call centers have the lowest longevity and retirement rates, and competitive exchange carriers make the greatest use of temporary and part-time service representatives. (The low-road call centers rely on a disproportionately female, part-time labor force with high turnover, which keeps all forms of compensation low.) The Bell companies also score 100% on initial qualifying training, while the competitive exchange carriers have the worst score (23% of a Bell center). Bell call centers are the most likely to be unionized and resellers are the least unionized, though they boast the best labor relations. Cable TV centers have the worst labor–management relations in the industry.

Mass market call centers have adopted similar procedures and methods of operation, a move that results in relatively little variation in the call center environment. Wireless call centers have designed jobs that provide the greatest degree of autonomy and teamwork (thereby scoring 100%), whereas both the Bell and cable TV centers afford the least autonomy (scoring 90% of wireless); Bell and cable TV centers also use self-directed teams the least (scoring 52%). In the area of electronic monitoring, the small reseller centers score 100% for relying on it the least; the large Bell call centers rely more heavily on electronic monitoring, but it is the competitive exchange carriers that use electronic monitoring the most. Cable TV relies most heavily on punishment of service representatives, with the highest rates of discipline and dismissals in the industry. Wireless centers, however, make the greatest use of incentive pay to motivate sales, while the independent local exchange carriers pay the highest proportion of pay on a fixed or hourly basis. Finally, with respect to gender diversity, the wireless call centers

TABLE 12 Employer report card: quality of jobs for service representatives, by access network, 2003 (best in bold, worst in italics)

	Wireless	CATV	Bell LEC	Independent LEC	CLEC	Reseller
Compensation	**D**	**F**	**A**	**D**	**D**	**F**
Wages	59%	*56%*	**100%**	68%	74%	63%
Benefits	58%	51%	**100%**	61%	56%	*50%*
Stable employment	**C**	**C**	**A**	**B**	**C**	**D**
Retention	*84%*	87%	**100%**	90%	86%	88%
Retirements	33%	33%	**100%**	67%	33%	*0%*
Tenure	84%	84%	**100%**	87%	87%	*83%*
Full-time permanent	89%	93%	**100%**	93%	*77%*	89%
Training	**F**	**F**	**A**	**F**	**F**	**F**
Qualifying training	*29%*	35%	**100%**	42%	*23%*	37%
Workplace rights and representation	**F**	**F**	**A**	**F**	**F**	**F**
Union	6%	8%	**100%**	30%	8%	*4%*
Labor relations	70%	*60%*	81%	81%	80%	**100%**
Work environment	**A**	**C**	**B**	**B**	**B**	**B+**
Free of e-monitoring	93%	81%	69%	93%	*62%*	**100%**
Free from punishment	99%	*92%*	**100%**	**100%**	99%	96%
Autonomy index	**100%**	*90%*	*90%*	93%	93%	95%
Teams	**100%**	*52%*	*52%*	62%	72%	69%
Non-incentive pay	*85%*	97%	93%	**100%**	95%	92%
Gender diversity	**100%**	61%	94%	*53%*	99%	86%
SCORE	72%	*65%*	**92%**	75%	79%	70%
GRADE	**C**	**D**	**A**	**C**	**D**	**C-**

Definitions: Wages – indexed relative to segment with highest annual wage earnings. Benefits – indexed to segment with highest level of benefits. Retention – segment with lowest turnover rate (turnover - quits, dismissals, and layoffs). Retirements – indexed to segment with highest share of employees retiring. Tenure – indexed to segment with highest value of employees with more than 10 years of service. Full-time permanent – indexed to segment with share of non-temporary and non-part-time employees. Qualifying training – indexed to segment with highest number of hours of qualifying training provided. Unionization – indexed to segment with highest unionization rate. Labor relations – indexed to segment with the best labor relations score provided by managers. Free of e-monitoring – indexed to segment with lowest share of time spent at work without electronic monitoring. Punishment – indexed to segment with lowest rate of punishment (dismissals + formal disciplinary action). Autonomy – indexed to segment with highest value of service reps' relative autonomy on job score provided by managers. Pay that is secure – share of pay that is not incentive-based. Teams – indexed to segment with highest proportion of workers organized into self-directed work teams. Gender diversity – indexed to segment with highest share of male workers in this female-dominated occupation.
Grading scale: A – 90-100, B – 80-89, C – 70-79, D – 60-69, F – below 60.

Source: Author's estimates.

have the highest proportion of male employees (scoring 100%), whereas independent telephone companies have the lowest ratio of male employment; they have just 53% the rate of male employment as the wireless centers.

Combining these employment practices yields the following rankings and grades on the quality of jobs for customer service representatives: the Bell companies provide the best jobs, and cable TV the worst:

A	**92%**	**Bell local exchange carrier**
C	**75%**	**Independent local exchange carrier**
C	**72%**	**Wireless**
C-	**70%**	**Reseller**
C-	**70%**	**Competitive local exchange carrier**
D	**65%**	**Cable TV**

The Bells, which receive an overall A grade, offer the high road in employment practices with decent jobs and high productivity growth, while once again cable TV takes the low road with lower-quality jobs and no productivity growth. As we discussed above, unionization is the critical factor in separating the high road from the low road, as service representatives express their voice through unions to create more desirable workplaces in this industry, instead of relying on an endless job search for a decent place to work.

CHAPTER 5

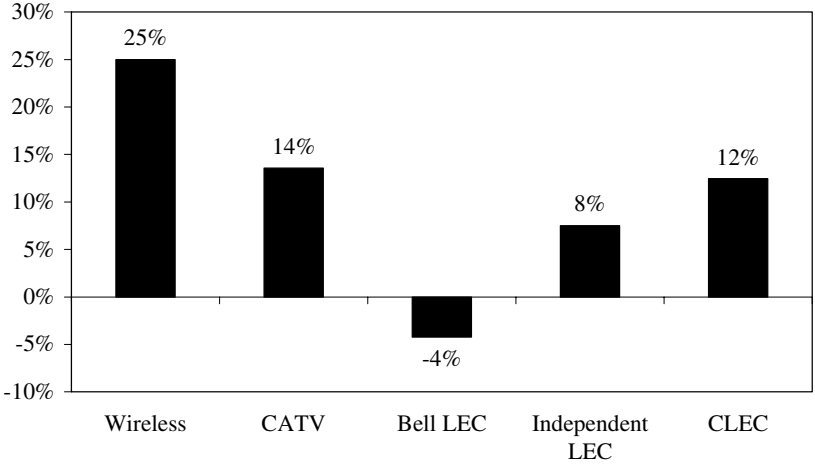
How public policy is destroying the best jobs

The results from the survey show that the segments in the local telecommunications market with the highest growth rates offer the lowest-quality jobs – lower wages and benefits, less training, a less-desirable working environment, and less access to workplace rights. The survey asked managers of network establishments to report on the change of their establishment's work volume. Not surprising, wireless had the greatest growth in work volume (25%), followed by cable television (14%), competitive exchange carriers (12%), and independent exchange carriers (8%). However, the providers of the best jobs, the Bells, experienced a 4% decline in work volume (**Figure K**).

Some labor economists might argue that this result is the logical outcome of an increasingly competitive product market, where the high-labor-cost providers lose market share to those firms that gain a competitive advantage by holding down their labor costs. But this hypothesis fails to explain the competitive dynamics of the telecommunications services market because the Bells' higher labor costs are offset by strong productivity growth and better service quality.

Instead, it is current public policy that bestows competitive advantage on the worst employers in the industry. We base this argument on an examination of three areas of public policy: special telecommunications taxes, economic regulation, and labor market policies. Each supports the growth of poor-quality jobs, while destroying the best jobs in the industry.

FIGURE K Change in technical work volume by industry segment, 2001-03



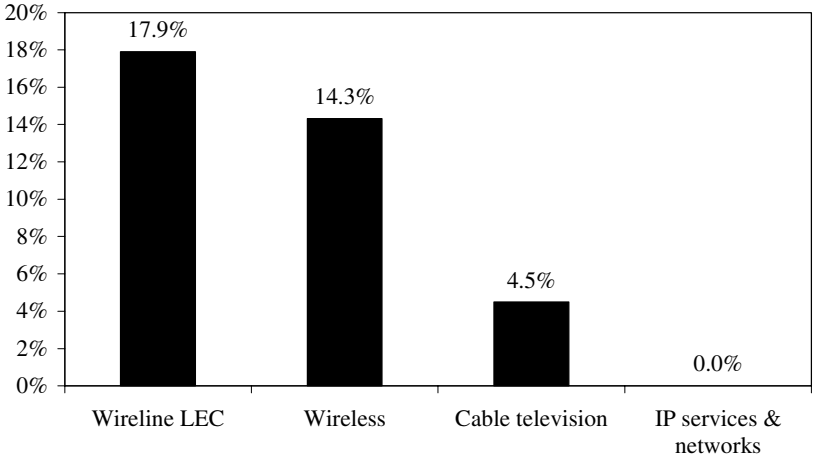
Sources: Batt et al. (2004)

Special telecommunications taxes

Telecommunications networks have always been subject to special taxes. The distribution of these taxes, however, is neither logical nor equitable in the present competitive environment. The traditional public switched network providers – the incumbent Bell and independent local exchange carriers – pay special federal, state, and local telecommunications taxes at the rate of 17.9% of gross revenue (**Figure L**), while all other telecommunications providers pay substantially lower taxes. Wireless providers are taxed at the rate of 14.3% of revenue. Franchise fees for cable TV are assessed at the average rate of 4.5% of revenue, which amounts to approximately one-quarter of the rate of special taxation levied on the incumbent exchange carriers. Moreover, rapidly growing broadband Internet protocol services and networks pay no special telecommunications taxes by federal law.

Special taxation has its origins in a period when telecommunications was regulated as a natural monopoly. Federal, state, and local taxing authorities imposed excise taxes as a source of general revenue. The logic was that, since telecommunications services were ubiquitous and

FIGURE L Federal, state, and local telecommunications taxes as share of gross revenue, 2002



Sources: Mackey (2004); BNA (2002); National Cable & Telecommunications Association (2003).

price inelastic, taxation would not adversely affect the industry or service demand. Universal service in this earlier period was funded through internal cross subsidies, mostly flowing from higher long distance charges that were used to lower local telephone residential service rates. Now, wireline incumbents and wireless providers are taxed to fund the federal universal fund. Some states also have their own universal service funds, which are supported by additional taxes on telecommunications services at the state level. Congress, however, has decided that no taxes will be levied on services provided over IP networks or on interstate commercial transactions conducted on the Internet.

This new industrial tax policy has several perverse effects. For example, cable television is offering telephone service using voice-over-Internet-protocol technology. Since VoIP is an IP technology, cable's telephone service is not subject to either excise taxes or universal service fund contributions. VoIP requires a broadband connection, which means it will be used by more affluent households and businesses. In other words, tax policy will make telephone service to more affluent homes and businesses via VoIP less expensive than the same telephone

service provided over traditional public wireline networks. However, the lower-cost VoIP service will not be available to many less-affluent households, as shown in the most recent government data (U.S. Department of Commerce 2004). Those data indicate that the majority of households with Latino or African American members, with members over 50 years old, with incomes less than $35,000, or located in central cities do not use the Internet and are not likely to have a broadband connection. It will be precisely these households that will continue to be subject to the 17.9% tax rate that is paid by the traditional public switched network. According to FCC data, only 59% of the typical monthly residential bill and 63% of the typical business bill pays for actual telephone service. The other 41% and 37%, respectively, are taxes, including subscriber line charges (taxes), 911 taxes, and other charges (FCC 2004a, Tables 5-11 and 5-12). Consequently, as business and affluent consumers switch to IP voice service, the telecommunications taxes on the traditional network will become increasingly regressive. In addition, by exempting interstate Internet transactions from sales taxes, Congress has strengthened the states' reliance on special telecommunications excise taxes as a source of general revenue, making tax reform more difficult given the precarious financial situation of most states.

If competition is going to take place on an equitable basis, it will require comprehensive reform in telecommunications taxes. If the best jobs are to be preserved, the providers of the best jobs, the Bells, cannot sustain a 17.9% tax disadvantage and successfully compete with the worst employers in the industry, cable television. This disadvantage is amplified when one considers the unequal costs generated by differences arising from economic regulation.

Economic regulation

Disparate economic regulatory regimes also contribute to destroying the best jobs in the industry. Current regulations reflect their origins in a world of monopoly telecommunications providers. They treat various access technologies differently in a "stovepipe" fashion (Maxwell 2005), imposing much heavier and costly regulations on the incumbent exchange carriers than on either wireless or cable TV providers. As the wireline, wireless, and cable access technologies functionally converge and their services capabilities compete with one another, a new system of regulation is needed. Such a system requires a horizontal model of regulation

that is applied equitably across access technologies, a system that would better reflect the increasing digitization of information, the convergence of service offerings, and the Internet's architecture. Horizontal equity is essential to the fostering of competition, the efficient use of resources, and the preservation of decent jobs. Simply put, what is needed is a level playing field. A new model should set forth minimal regulatory requirements for Internet-like "openness," including interconnection of networks, broadband transport available to all, and strong antitrust enforcement (Maxwell 2005).

Although the Telecommunications Act of 1996 was designed to promote competition and remove historically noncompetitive pricing and cross-subsidies, it has only been partially successful. The long-term goal of the act was to encourage market competition among firms that compete by investing in real facilities, i.e., upgrading the existing wireline system and building new telecommunications networks. The act has successfully promoted some types of new facilities competition, but it has been incapable of eliminating the legacy of noncompetitive cross-subsidy pricing policies. The unintended consequence of the act's implementation has been to create a regressive and inefficient pricing system with perverse incentives. When one examines local telephone service prices, one can readily see the residuals of non-cost-based pricing established by state regulatory commissions. These discrepancies are apparent in a comparison of a typical single business line rate with residential line rates. In 2003, the typical business rate for a single line before taxes was $30.92, while the price for a similar residential line was $14.57, or 47% of the price of business service. Historically, higher business prices have been used by regulators to subsidize lower residential service rates as part of the overall effort to promote universal telephone service. In the current competitive environment there is a predicable outcome to this pricing approach. The subsidy payers, businesses in this case, have incentives to leave the network for alternative cost-based services, a move that will allow them to not only escape paying the cross-subsidies (53%) but paying taxes as well. The incumbent exchange carriers will retain the subsidy recipients, but lose their economies of scale and incentives for investment, while being forced to continually petition for substantial rate increases to cover increased costs and to stay in business. This is a regressive, destructive, and inefficient policy outcome for the public, the incumbent exchange carriers, and their employees.

Similarly, in the current context, unintended and perverse outcomes are associated with state-level practices of rate averaging. Many states still engage in rate averaging, whereby subscribers in densely populated areas pay higher prices than their underlying costs require in order to subsidize the rates of higher-cost rural subscribers within the state. In a competitive environment, this practice creates incentives for the subsidy payers in densely populated areas to leave the network and purchase a substitute service without a subsidy built into its price. This so-called legacy pricing, while having a laudable goal of promoting universal service, is no longer tenable in a competitive environment, where prices need to reflect the underlying costs of the services being provided. When regulators get involved in price setting in a competitive market, in particular in a high-fixed-cost industry like telecommunications, they create opportunities that can undo the goals they want to pursue.

Another major force in the destruction of quality jobs in the industry has been the FCC's implementation of network unbundling. The resale of access to the network and the unbundling of network elements are considered intermediary steps in promoting facilities-based competition. Both steps are intended to create a wholesale market for services and network elements that allow new entrants to build up a sufficiently large customer base to justify the investment in their own network. Disputes and litigation abound over the FCC's price setting of network elements, which is based on estimates of forward-looking long-run incremental economic costs. After more than eight years of rule making, there is still no system in place that can withstand judicial scrutiny. Nevertheless, the beneficiaries of this wholesale pricing system have been the competitive exchange carriers, which now have 32 million access lines, the overwhelming majority of which merely re-use existing facilities of the Bells and independent exchange carriers. The Bells and independent companies are required to lease their facilities at significant discounts, substantially below historical costs, a requirement that impairs their ability to recover their sunk investment and pay down their long-term debt. In addition, as the rules are challenged and changed, uncertainty is created about new investments, thereby raising the cost of capital for network modernization. Consequently, in 2004, capital expenditures in wireline were 14% of revenue, substantially below the historical trend of 19% of revenue (Shuper 2004). Substantial new investment is required simply to main-

tain the existing network. This five-percentage-point decline – a more than 25% reduction in the Bells' capital investment (approximately $5.7 billion a year) – greatly slows network modernization, reduces the number of good jobs, and sets the United States further behind other industrialized countries in broadband deployment and penetration. The unbundling process needs to be rethought in a period in which alternative networks and technologies, the final step, have outrun the intermediate step of promoting competition.

Labor market policies

U.S. labor market policies are another contributing factor in the destruction of the best jobs in telecommunications. The nation's system of employer-funded health insurance along with rising costs put at a competitive disadvantage those employers that provide decent benefits to workers and their families. However, no matter how severe the health insurance problems may be, they cannot compare with the obvious ignominy of the National Labor Relations Act and the National Labor Relations Board's failure to guarantee the rights of American workers to form and join labor organizations. Although the majority of American workers indicate they want to join a union, only 8% of private sector employees in the United States are union members. While the legislation states that it is the employees' choice to form and join their own labor organizations, in practice it has become the employers' choice to avoid unionization that has prevailed in the United States. In telecommunications services, this trend is clearly reflected in the low level of unionization in the newer segments of the industry, even among those employers who provide substantially inferior wages, benefits, and other conditions of employment.

Preserving the best jobs requires comprehensive reform

As the analysis in this report shows, the best jobs in the telecommunications industry are provided by the Bell and independent local exchange carriers. By contrast, cable TV, with its poor productivity and inferior customer service, has created the worst jobs in the industry. Ironically, the unintended consequence of federal telecommunications policy is to support the worst employers with favorable tax and regulatory treatment, while greatly disadvantaging good employers and their workers and unions. The FCC, Congress, and the administration need to re-ex-

amine current telecommunications policy and reform it. A level playing field is needed to encourage competition across the growing number of traditional and innovative access technologies that make up the U.S. telecommunications infrastructure. Without substantial reform, present public policy will continue to destroy the best quality jobs in the telecommunications services sector.

Endnotes

1. The sample is a stratified random sample drawn from the Dun and Bradstreet listing of establishments. Establishments were stratified by size (10-99 employees, 100-plus employees), by SIC code (4812, cellular; 4813, wireline; 4841, cable), and by state location. Almost all establishments with more than 100 employees were sampled so that the survey would cover a larger percentage of the industry's workforce. Sampling of the remaining smaller establishments was done so that the total sample reflected the relative proportion of establishments in each segment of the Dun and Bradstreet industry listing. The sample was also stratified by state location, and all states are represented. The telephone survey was funded through a grant from the Alfred P. Sloan Foundation.

2. In simple cross tabulations, unionized service representatives earn 44% higher wages than their non-union counterparts; when we run wage regressions controlling for other factors such as organizational characteristics, markets, and human capital, they still earn 15% higher wages. In the raw cross tabulations, union service representatives receive benefits valued at 82% above those of nonunion workers. In multivariate analyses that control for the influence of other factors, unionization is associated with 53% higher benefit values.

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