

ABSTRACT

Title of Document: 'DO-IT-YOURSELF': SELF-CHECKOUTS,
SUPERMARKETS, AND THE SELF-
SERVICE TREND IN AMERICAN BUSINESS

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Directed By: Professor Bart Landry, Sociology

A significant portion of sociology has always taken as its central focus the underlying relationship between economy and society. This dissertation continues this tradition by examining how self-service and its 'do-it-yourself' ethos is changing the U.S. economy and the way in which Americans consume goods and services. Focusing upon the supermarket industry and the three principle stakeholder groups involved – employers, employees, and consumers – this dissertation examines why businesses are adopting automated checkout lanes. Particular attention is given to the reasons cited for their introduction, their effect upon work and employment in the industry, and the public's perception and attitude towards the technology.

This dissertation adopts a multi-method approach, using information collected from eighty face-to-face interviews with customers, employees, and store managers, as well as secondary data and nonparticipant observation. Secondary data sources include published economic indicators and employment statistics, as well as information provided by

newspapers and retail industry publications; nonparticipant observation was used to collect field notes documenting staffing levels, customer behavior, and other related information.

Precisely why self-checkouts are being introduced remains a much-debated issue. Interviews indicate that organized labor and consumers view them as primarily a cost-cutting mechanism, yet labor costs within the industry continue to rise and employment remains relatively stable. At present, a number of social and economic barriers currently limit the extent of their use in stores; these factors include theft, maintenance, perceptions of service, internal controls, and specific labor contract provisions. Results also suggest that external, rather than internal, market factors may be driving current employment trends, including competition in the low-wage labor market and the emergence of non-union competition into the retail food industry.

The benefits offered to consumers remains unclear. A majority of customers surveyed still prefer conventional cashier lanes, yet self-checkout clearly appeals to some consumers due to the perceived speed, control, and independence. However, results indicate that under most circumstances self-checkouts are not faster than conventional methods of checkout due to differences in user skill and experience. This may change, however, as similar self-service technologies become increasingly common in the service industry.

'DO-IT-YOURSELF': SELF-CHECKOUTS, SUPERMARKETS, AND THE SELF-SERVICE TREND IN AMERICAN BUSINESS

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Dedication

This dissertation is dedicated to my mother, Jane, who did a wonderful job raising three children while working several jobs.

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First and foremost, I would like to thank the employees of SuperFood, without whom this research would not have been possible. I owe a special debt of gratitude to the individual store managers – Barry, Rick, Peter, Sam, Carl, and Michelle – who vouched for and provided me with access to their respective stores. I would also like to thank the SuperFood employees, many of whom graciously gave up their time during lunch breaks to answer questions and, in several cases, allowed me to observe them at the checkout lane while they worked.

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Table of Contents

Acknowledgements.....	iii
List of Tables	ix
List of Figures.....	x
List of Figures.....	x
Appendices.....	xi
Appendices.....	xi
Chapter 1: Introduction.....	1
The Rise of Self-Service	2
The Expansion of Self-Checkouts	6
The Manufacturers	9
Selling Self-Service to Businesses.....	11
Employees Fear An Uncertain Future.....	12
The ‘Downward Restructuring’ of Work.....	13
The Degradation of Service	14
Self-Checkouts and Labor Shortages.....	15
Redeploying (vs. Replacing) Labor	17
A Useful Illustration	18
Demands for Self-Service.....	19
Shorter Lines, Faster Shopping, Better Service	20
Mixed Reviews From Customers.....	21
Summary	23
Chapter 2: Literature Review.....	25
A Brief History of the U.S. Economy: Major Trends and Changes	25
Restructuring Work.....	27
Conflicting Views on Effects of Technology	29
Work-Transfer, Decommodification, and the Socialization of Work.....	31
Consumption and Consumer Culture.....	35
The Rise of Self-Service	37
Research Questions.....	40
Chapter 3: Data and Methods	43

Why Study Grocery Stores?.....	43
Research Methodology	46
Sampling and Data Collection	47
Subjects and Procedures	49
Chapter 4: Why Adopt Self-Checkouts?.....	53
Introduction.....	53
What the Manufacturers Say.....	54
What Managers Say	61
Union Cynicism	76
Cashiers.....	79
The End of the (Checkout) Line?.....	81
Customers: ‘A Sign of the Times’	85
Chapter 5: The Effect of Self-Checkouts on Work and Employment	94
Introduction.....	94
Key Questions.....	96
The Employment Paradox.....	98
‘Now Hiring’: Chronic Turnover & Labor Shortages	101
‘Walking Off With the Store’: Shrink, Theft, and Walkoffs	107
‘The Personal Touch’: Customer Service and Satisfaction	112
‘Dealing With Jams’: Troubleshooting and Maintenance	116
‘The Fine Print’: Collective Bargaining Agreements	120
Deskilling or Reskilling?	122
‘It’s Not Rocket Science’: Skills and Entry-level Jobs in Supermarkets.....	123
‘There’s Not a Whole Lot’: Learning to Operate Self-Checkout Lanes.....	126
A Glass Half Empty or a Glass Half Full?.....	128
Job Quality	134
Recent History: Lessons From a Labor Strike	134
Two-Tiered Wage Structures and ‘A Race to the Bottom’	136
The Downward Restructuring of Work?.....	139
Summary	142
Chapter 6: Impact of Self-Checkouts on Customers.....	145

Introduction.....	145
Self-Service and Supermarkets.....	147
Consumer Sovereignty?	148
What Customers Want	151
Steering Customers Towards Self-Service	153
Problems in the Checkout Lane	157
Performance Anxiety	159
The Value (and Cost) of Social Interaction	162
Challenges to Sovereignty: Who is in Control?.....	166
Faster Checkout?: The False Promise of Self-Checkout	171
(Not) Keeping Time.....	179
Summary.....	181
Chapter 7: Conclusion.....	187
Why Adopt Self-Checkouts?	187
The Employment Paradox.....	188
Deskilling or Reskilling?	191
The ‘Downward Restructuring’ of Work?.....	192
A ‘Race to the Bottom’	194
What Customers (Don’t) Want.....	195
‘Do-it-Yourself’: Shopping With the Lonely Crowd.....	196
Perception is Everything: The ‘Thomas Theorem’ & the Illusion of Speed	197
Consumer Sovereignty?	198
Contributions to Literature & Future Research	200
Technology, Work, and Workplace Restructuring	200
The Labor Process Perspective	201
Post-Industrial Work and the ‘New Economy’	203
Consumer Culture and the ‘New Means of Consumption’	203
Shortcomings and Limitations	205
Scope.....	205
Sample.....	206
The Future of Self-Service.....	208

Self-Service and Supermarkets	208
‘The Customer is Always Right’	210
What Are Customers Willing to Take?.....	211
The Meaning of ‘Service’	217
Tables	219
Figures.....	233
Appendices.....	242
References.....	243

List of Tables

Table 1. Changes in the U.S. workforce	219
Table 2. Changes in the U.S. labor force, by sector.....	220
Table 3. Industries with the highest levels of cashier employment	221
Table 4. Comparison of hourly and annual wages for cashiers employed in grocery stores	222
Table 5. Demographic characteristics of selected counties	223
Table 6. When consumers shop, by day of week.....	224
Table 7. When consumers shop, by time of day	225
Table 8. Who shops, by household status	226
Table 9. Demographic characteristics of customers sampled.....	227
Table 10. Customers' response to question, 'Why are stores adopting self-checkouts?'	228
Table 11. Industries that employ the largest share of employed youths age 15–17 years, by sex, school months 1996-98.....	229
Table 12. Distribution of full and part-time employees in stores sampled.....	230
Table 13. Customers' preferred method of checkout.....	231
Table 14. Customers' response to question, 'Are self-checkouts faster?'	232

List of Figures

Figure 1. Annual employment in grocery stores, U.S. 1990-2008	233
Figure 2. Annual employment in supermarkets and retail overall, U.S. 1990-2008	234
Figure 3. Annual employment in grocery stores, state 1990-2008	235
Figure 4. Unit labor costs for supermarkets and other grocery stores, 1987-2007	236
Figure 5. Annual average weekly hours, supermarkets and other grocery stores, U.S. 1990-2008	237
Figure 6. Work status of cashiers in the grocery store industry, U.S. 1992-2008	238
Figure 7. Percent of grocery store employees reporting working forty or more hours per week, U.S. 1992-2008.....	239
Figure 8. Percent of cashiers employed in grocery stores covered by health plan provided by employer or union, U.S. 1996-2008.....	240
Figure 9. Percent of all workers employed in grocery stores covered by health plan provided by employer or union, U.S. 1996-2008	241

Appendices

Appendix A. Sample semi-structured questionnaire items.....	242
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Chapter 1: Introduction

Capitalism and the Quest for Value

Historically, capitalist enterprises have utilized a variety of strategies to increase the creation of commodities, profit, and the accumulation of capital. The most precious commodity, however, and most productive of assets has always been human labor; indeed, as Marx ([1867] 1977) once argued, ‘labor is the source of all value’. Thus, over time, businesses have sought to develop new methods of mastering and extracting this most precious of commodities. Accordingly, the labor process throughout American history may be best thought of in terms of change and innovation, as new means of increasing value and capital accumulation replace existing ones.

In the industrial economy, capitalists used technology and the restructuring of work to extract greater value from workers. Large-scale machinery – and later, computers – were used to reduce or outmode certain forms of labor. These forms of technology not only made work more productive, but could produce goods and commodities faster and on a far greater scale than before (e.g., mass production). Such an increase in the productivity and intensity of labor not only reduced the necessary labor time in the production process (i.e., the time spent working or commodities furnished required to offset the initial costs of labor and materials), but in some cases eliminated the need for labor outright.

Other strategies involved the reorganization of labor. The manufacturing system, for example, typically produced what is referred to as a ‘detailed’ division of labor, in which workers no longer labored in a craft system but instead focused on more detailed and minute aspects of the overall process (Braverman [1974] 1998; Smith [1789] 1994). This allowed businesses to replace expensive artisans with less-skilled – and therefore, less

expensive – workers. Scientific management, bureaucracy, and other forms of workplace control were similarly adopted by businesses in varying degrees to make the labor of workers more rationalized, disciplined, efficient, and productive (Kraft 1999; Simpson 1999; Thompson 1989; Clawson 1980).

However, most Americans no longer work in an industrial economy. Indeed, today, fewer than twelve percent of the employed population works in industrial or manufacturing occupations.¹ Instead, most Americans work in service industries, providing services in well-lit offices and stores rather than furnishing commodities in an industrial factory.

Yet, the drive for profit and the accumulation of capital remains, essentially, the same. Businesses in today's service economy are still driven by the same economic principles that defined industrial manufacturing over a century ago, namely profit and the accumulation of capital. Thus, a major question is how capitalist enterprises pursue these same goals within the new context of a service-based economy.

The Rise of Self-Service

In the perpetual quest to cut costs and increase value, businesses in today's service economy are increasingly turning to 'self-service'. Described as "the ultimate in outsourcing", self-service describes the substitution of paid or wage labor with the unpaid labor of consumers.² Replacing the labor of workers with consumers', businesses are

¹ Calculated from Current Employment Statistics survey.

² *Economist*. 2004. "You're Hired." September 18.

using self-service to slash labor costs and reduce costly overhead. Stated simply, “[s]elf-service appeals to companies for an obvious reason: it saves money.”³

Yet, the trend itself is by no means new. Since the early 20th century, businesses such as supermarkets (e.g., Piggly Wiggly) and cafeterias (e.g., automats) experimented with self-service as a way to cut costs. Later, retail and health care industries restructured to increase customer participation in the labor process and cut labor costs (Glazer 1993). Now self-service is ubiquitous; we pump our own gas, check our own bags, scan our own credit cards, and clear our own tables at fast-food restaurants.

What *is* new, though, is the increasing role technology plays in this process. As Ritzer (1999) notes, self-service increasingly describes transactions with *things* rather than people. Thus, like industrial manufacturing, the expansion of self-service appears to depend in large part upon the successful interaction of people and machines:

“[T]o work well, self-service requires the marriage of customers with machines and software. That union...is now doing for the service sector what mass production once did for manufacturing: automating processes and significantly cutting costs.”⁴

Therefore, a key question is how businesses in the service sector are using new technology to further cut costs by offloading work onto consumers, and how consumers and workers in the service industry are reacting to this new cost-cutting strategy.

In this dissertation, I propose that self-service is one of the ways by which businesses are expanding their source of labor while reducing labor costs. Focusing on a particular form of self-service technology (the self-checkout) within a specific industry (the grocery

³ Ibid.

⁴ *Economist*.

and supermarket industry), I argue that self-service is being used by businesses to reduce their need for and dependence upon paid labor while maintaining overall productivity and efficiency in the labor process. By automating some of the work of cashiers and clerks and transferring the remainder to shoppers, supermarkets save costs associated with labor by appropriating the labor and value of consumers.

What is unclear, however, is how the shift towards self-service will affect those employed in the grocery industry, as well as the nature of and need for their employment. Will the introduction of self-checkouts reduce the demand and need for labor in the grocery industry, or will it simply transform the type of work required? How will it affect the jobs that remain, and how will workers view such changes?

Equally unclear is how consumers will respond to this shift, and what role, if any, they will play in the decision to adopt such new ways of doing business. Will consumers embrace the new technology or will they cling to the traditional ways of doing business? How do they view the installation of self-checkouts in grocery stores and how are they socialized to its use?

In the remainder of Chapter 1, I address the introduction and expansion of self-checkouts in the grocery and retail industries, as well as the reasons businesses provide for their adoption. This is followed by a discussion of how employees, businesses, and consumers perceive the shift towards self-service.

Chapter 2 ('Literature Review') links the rise of self-service to labor-related issues in capitalism, illustrating how self-service fits within the context of our service-driven economy. Reviewing major structural changes in the U.S. economy, I describe how contemporary concerns regarding the restructuring of work, as well as the use and effect

of technology in the workplace, place the introduction of self-checkout lanes within an established literature on work and technology. Additionally, I locate the emergence of self-service within a larger literature concerning ‘consumer culture’, and explain how changes in consumption, including the self-service trend, reflect broader structural changes in contemporary capitalism. The chapter concludes with three central questions, each of which forms the basis of a separate subsequent chapter.

In Chapter 3 (‘Data and Methods’), I explain why I believe the supermarket industry is a useful, if not ideal, case study for examining the shift towards self-service, and describe the sampling and interviewing methods. The chapter also includes a description of the stores sampled, the demographics of their respective customers, and the geographic area in which the research was conducted.

Chapter 4 (‘Why Adopt Self-Checkouts?’) is the first of three chapters detailing the results of this research and centers on how each of the three major stakeholder groups – businesses, employees, and consumers – view the introduction of self-checkouts. Particular attention is given to how each group explains businesses’ adoption of self-checkouts, as well as their views regarding competing claims and the reasons they offer in explaining their adoption by businesses.

Chapter 5 (‘The Effect of Self-Checkouts on Work and Employment’) describes how self-checkouts are affecting work and employment patterns in the retail food industry. Focusing upon employment, skill requirements, and job quality, I describe how specific factors shape the use of self-checkouts in stores in ways that limit their economic effect. Additionally, I describe how larger, external factors play a role in shaping employment patterns in the industry.

Chapter 6 ('Impact of Self-Checkouts on Customers') centers on consumers' attitudes and experiences using self-checkouts, and explores the various claims concerning their use. Particular attention is given to customer preferences in conducting checkout transactions, their experiences in using self-checkouts, and how such experiences compare to those at traditional cashier checkout lanes.

The concluding seventh chapter ('Conclusion') summarizes the findings of the three preceding chapters, as well as contributions to existing literature, and discusses future questions regarding the social and economic effects of self-checkouts. The chapter ends with a discussion of how self-service may restructure relationships in the market between businesses, employees, and consumers and what implications this has for the definition and meaning of 'service'.

The Expansion of Self-Checkouts

Self-checkouts have flourished within the service industries, most notably within the retail and grocery markets. Kmart, Wal-Mart, and Home Depot – just to name a few – have each begun introducing self-checkout lanes to their retail stores. In 2001, National Cash Register (NCR), the largest manufacturer and provider of self-checkout technology, signed a deal with Kmart, promising to install approximately five thousand self-checkouts systems at thirteen hundred stores by year's end.⁵ In a 2001 interview, a Kmart manager noted that twenty-two percent of sales in the store were through self-checkout,

⁵ *New York Times*. 2001. "Self-Checkout at Kmart." June 21.

close to the company's stated goal of twenty-five percent.⁶ Similar deals have been struck with Home Depot and the retail SuperFood Wal-Mart. According to a Wal-Mart spokesperson, Wal-Mart has self-checkouts in over eight hundred of its stores and plans to add the technology to new and future stores.⁷ In 2002, Home Depot began piloting the use of self-checkouts in twelve stores; the success of this pilot study prompted Home Depot to place self-checkout terminals in approximately eight hundred locations nationwide.⁸ Home Depot currently offers self-checkout in over one thousand of its stores, and in 2003, noted that upwards of thirty percent of sales were being made through the use of self-checkouts.⁹

Self-checkouts have made similar inroads in the grocery industry and are currently operating in most major supermarket chains, including Albertsons, A&P, Food Lion, SuperFood, Harris Teeter, Kroger, Meijer, Safeway, and Stop & Shop supermarkets.¹⁰ Kroger, which operates over two thousand supermarket and convenience stores, has introduced more than five thousand self-checkouts since the late 1990's.¹¹ Similarly, Food Lion, with over one thousand stores in the mid-Atlantic region, plans to introduce self-checkouts in their new Bloom stores, which offer upscale and gourmet foods.¹²

With a foot in the door, the presence of self-checkouts has expanded exponentially. According to a survey by the Food Marketing Institute (FMI), in 1999 only six percent of supermarkets in the U.S. offered self-checkout lanes in their stores; by 2003 that number

⁶ Snyder, Naomi. 2001. "Self-checkout lanes at Kmart" *Corpus Christi Caller-Times*, September 7.

⁷ Hamilton, Sommer. 2005. "Self-checkout lanes gaining popularity." *The Bryan-College Station Eagle*, September 7.

⁸ Dignan, Larry. 2005. "Home Depot Self-Checkout Boosts Sales, Satisfaction." *Baseline*, April 10.

⁹ Ibid.; Bhatnagar, Parija. 2003. "Stuck at checkout? DIY lane's open." *CNN/Money.com*, May 28.

¹⁰ Lake, Matt. 2002. "How It Works; The Self-Checkout: Lots of Swiping, No Stealing." *New York Times*, June 6.

¹¹ Berestein, Leslie. 2003. "Grocery Clerks Real Nightmare." *San Diego Union-Tribune*, December 28.

¹² Mui, Ylan Q. 2006. "Food Lion Plans Two New Store Brands in D.C. Area." *Washington Post*, January 20.

had risen to thirty-eight percent.¹³ While a journalist at the *New York Times* cited an independent estimate of ten thousand self-checkouts in 2002, industry expert and president of IHL Consulting Group Greg Buzek places the current number closer to thirty-four thousand.¹⁴ With approximately one quarter of grocery chains currently operating self-checkouts in their stores, Buzek predicts that by 2006, ninety-five percent of stores will offer some degree of self-checkout, and estimates there will be nearly a quarter million self-checkouts in stores by 2007.¹⁵

In part, the rise of self-service in the grocery industry can be traced to earlier practices, such as having customers bag their own groceries. This method, used by the Bottom Dollar and Shoppers supermarket chains, among others, is used to cut costs in order to offer lower prices.¹⁶ Their theory is that customers will be willing to do more of the work – bag their own groceries, for instance – if it results in lower prices. Since then, most stores have latched on to the self-service model, most prominently through the use of self-checkouts.

One notable exception is Publix Super Markets, a supermarket chain based in Lakeland, Florida. With approximately eight hundred stores, Publix is fighting the self-service trend in the grocery industry, claiming that it goes against the company's culture and core value of customer service.¹⁷ With most of their competitors hopping on the self-service bandwagon, Publix is betting that customers will still see value in human-provided services, implying that consumers enjoy and seek out businesses where they can be served by another person. Another strategy, used by Safeway, a California-based

¹³ Grimes, William. 2004. "When the Cashier Is You." *New York Times*, April 7.

¹⁴ Lake; Hamilton.

¹⁵ Hamilton.

¹⁶ Mui.

¹⁷ Hamilton.

company with nearly seventeen hundred stores in the U.S. and Canada, is offering customers assistance with carrying their groceries to their car. In resisting the self-service movement, chains such as Publix and Safeway are betting that consumers will still seek out human assistance, even if it comes with slightly higher prices.

As outlined above, self-checkout machines are rapidly transforming the grocery and retail industry. While some companies – such as Publix Super Markets – may choose not to participate in this high-tech transformation, the increasing number and presence of these machines suggest that they are quickly becoming part of the consumer landscape in retail and grocery stores nationwide.

As I will outline in the next section, these devices promise a variety of advantages and benefits to consumers and businesses alike, suggesting that they will increasingly be a part of our daily shopping experience. Yet, before we examine how they have been received by the public, we must first examine the businesses that manufacture self-checkouts, and the economic advantages they promise to businesses and consumers.

The Manufacturers

Fueled in part by a period of recent acquisitions and consolidation, three vendors – Optimal Robotics, Inc., NCR Corporation. (NCR), and Productivity Solutions, Inc. (PSI) – effectively control the lion’s share of the self-checkout market. In November 2003, computer SuperFood IBM acquired Productivity Solutions Inc. (PSI), making IBM a major figure in the industry.¹⁸ IBM had already introduced self-checkouts to their customers Wal-Mart and Kroger; with the acquisition of Productivity Solutions, IBM

¹⁸ *Kiosk Magazine*. 2004. “The Battle for Self-Checkout Supremacy.” March 1.

solidified their position in the retail and grocery self-checkout industry. NCR, however, still has a considerable advantage, providing most of the self-checkouts in retail and grocery stores, including Wal-Mart and Kroger. In February 2004, NCR entered into an agreement to acquire the self-checkout business from one-time leader Optimal Robotics Corp., effectively making the self-checkout market a two-player race.¹⁹ Other contenders include ECR Software Corporation (ECRS) and PSC, Inc., which recently emerged from bankruptcy in 2002 only to be acquired by ECRS. In a 2004 article in *Kiosk Magazine*, IHL Consulting executive Greg Buzek reported that NCR-owned Optimal Robotics' product 'U-Scan' accounted for approximately 44.5% of existing self-checkout lanes, followed by NCR's FastLane with 36.7%, PSI with 18 %, and PSC/ECRS with 0.2%.²⁰

Optimal Robotics, Inc. has the distinction of having sold the first self-checkout scanner in 1995, and has since placed more than five thousand units in grocery and retail stores.²¹ With a sense of irony – or more likely, economic foresight – NCR is currently the largest provider of self-checkouts. NCR installed the first bar code scanner in supermarkets in 1974, and has since dominated the market.²² Based in Dayton, Ohio, the company is quickly replacing cash registers with their 'FastLine' self-checkout machine, each of which costs between \$20,000 and \$30,000.²³ Among others, NCR provides self-checkout machines to retail SuperFoods such as Kmart and Wal-Mart, as well as the grocery supermarket chain Kroger. Optimal Robotics, Inc., based in Montreal, Quebec, offers a similar model called 'U-Scan', as does rival PSC with their 'QuickCheck'.²⁴

¹⁹ *New York Times*. 2004 "NCR to Buy a Competitor." February 17.

²⁰ *Kiosk Magazine*.

²¹ *CNN.com*. 2002. "Check Yourself Out at Home Depot." *CNN.com*, December 3.

²² Baker, Don. 2001. "NCR expands bar code scanner market share." *Dayton Business Journal*, August 27.

²³ Snyder.

²⁴ The symbolic significance of the names of these machines is worth noting, promoting their claimed speed and convenience compared to regular checkouts.

PSC's QuickCheck unit costs approximately \$125,000, which includes four lanes and an attendant's station.²⁵

Selling Self-Service to Businesses

Manufacturers of self-checkouts market their products to businesses by focusing on the benefits offered to employers and consumers. While the prices for these machines may sound rather hefty, most of the companies who manufacture and service self-checkouts take great effort in promoting their cost-cutting benefits. According to NCR, each self-checkout lane – which costs between \$20,000 and \$30,000 – will pay for itself in twelve to eighteen months.²⁶ Similarly, Productivity Solutions, Inc. (PSI) advertises that its machines save businesses up to \$225,000 a year.²⁷ How is it that these machines can save companies so much money?

Most, if not all, of the proposed savings offered by self-checkouts to businesses involves reducing labor-related costs. By automating labor, self-checkouts may allow businesses to replace cashiers with machines, and thus shed significant labor costs. Most of the self-checkout manufacturers' websites readily acknowledge their savings in labor-related costs; a report on NCR's website states that "self-checkout...allows stores to cut labor costs, which account for more than ninety percent of the costs associated with running the front end of a retail store."²⁸ Likewise, Optimal Robotics notes that a four-

²⁵ Lake.

²⁶ Ibid.

²⁷ Ibid.

²⁸ NCR Corporation. 2005. "Reality Check on Self-Checkout."

station, one-attendant configuration would require approximately one hundred and fifty fewer labor hours a week compared to the regular checkouts.²⁹

Statements such as those above imply that it would be cheaper – if not more profitable and efficient – in the long run to replace cashiers and clerks with self-checkouts since they pay for their costs in a relatively short time. While the manufacturers also promote consumer advantages that may indirectly affect businesses – most commonly shorter lines and faster checkouts – the main selling point is lower labor costs.

Employees Fear An Uncertain Future

Many employees fear that self-checkouts will result in worker displacement and job loss. While no one is sure exactly how many jobs will be lost, the fear of automation and unemployment is foremost on the minds of many, especially workers. “These will take jobs, just like ATM’s took teller’s jobs,” says one supermarket employee, “I just feel like we are all going to be extinct.”³⁰ Customers also sense an imminent loss of jobs. “I know it’s inevitable,” said a shopper to a reporter. “Human cashiers are eventually going to become obsolete with this technology.”³¹ Even the U.S. Bureau of Labor Statistics admits “[the] use of self-checkout registers will cause some lessening in demand for cashiers.”³²

Calculating exactly how many jobs have been lost to self-checkouts already, though, is a difficult task. According to Gary Steinberg, a spokesman for the U.S. Department of Labor, it is impossible to quantify exactly how many jobs have been lost or displaced due

²⁹ Lake.

³⁰ Berestein.

³¹ Burling, Stacey. 2006. “Is it self-service or disservice?” *Philadelphia Inquirer*, April 29.

³² U.S. Bureau of Labor Statistics. 2008. “Grocery Stores.” *Career Guide to Industries, 2008-2009 Edition*.

to self-checkouts.³³ In other words, it is difficult – if not impossible, as Steinberg suggests – to estimate how many jobs may potentially be affected by such technology.

Others seem resigned, expecting at least some displacement or temporary job loss. “Is this worker displacement? Probably,” says Gale Daikoku, research director for Gartner Industries Advisory Services, suggesting that despite a lack of clear estimates, some experts believe job loss from self-checkouts to be probable, if not imminent.³⁴

The ‘Downward Restructuring’ of Work

While the United Food and Commercial Workers (UFCW) union does acknowledge that self-checkouts have not yet directly resulted in job loss, it remains deeply concerned about how the new technology will affect employment, hiring practices, and staffing. Specifically, the union worries that self-checkouts will be used to reduce labor costs by reducing employee hours and the number of full-time jobs available. In an occupation characterized by high turnover, “it’s not a matter of people being laid off, but new people are not being hired,” claims UFCW spokesman Greg Denier.³⁵ Rather than eliminating labor outright, the union fears self-checkouts will be used to erode worker benefits and wages by decreasing businesses’ needs for full-time labor:

“The future is that they’ll be fewer and fewer jobs that come with adequate hours because of displacing jobs with self-checkout. You’re not looking at the current worker being displaced or losing health benefits. What you’re looking at is what the structure of the workforce looks like in

³³ Adler, Jessica. 2005. “Electronics Taking the Place of People in our Service-Driven Economy.” *North Jersey Herald News*, September 19.

³⁴ Ibid.

³⁵ Ibid.

the future: decreased hours, decreased benefits eligibility. You might have had ten full time jobs before, now you have 15 part-time jobs.”³⁶

As Denier puts it, retail jobs are being “restructured downwards”, and suggests that self-checkouts may be used to facilitate this economic restructuring. Such fears are not completely unfounded; according to a report by CNN, Home Depot – the second largest employer in American retail, second only to Wal-Mart – is proposing to shift more employees from full-time to part-time status, implying self-checkouts may allow businesses to move towards smaller, leaner workforces associated with popularized ‘just-in-time’ and ‘lean production’ business models.³⁷

The Degradation of Service

As far as organized labor is concerned, “the handwriting is on the wall”.³⁸ Implying that businesses’ claims regarding self-checkouts are a façade, labor groups claim that the self-service trend is not being driven by businesses’ commitment to better service, but by a desire to further cut labor costs and increase corporate profits and earnings. “What it really is is service without the people or the cost of the people,” says Rob Blackwell of the AFL-CIO, “It’s done for the sake of the bottom line.”³⁹

Others question the true meaning and value of the service. “Is it service or disservice?” asks a reporter, questioning the ‘service’ in self-service:

³⁶ Ibid.

³⁷ CNN.com.

³⁸ Berestein.

³⁹ Joyner, Tammy. 2003. “More businesses telling customers: Do it yourself.” *The Atlanta Journal-Constitution*, August 10.

“Over the last five years, more and more of us have taken on what was once other people’s work. Chances are you clean your own windshield and...pump your own gas, and pay for it without hearing a “May I help you?” or “Thank you.” You’re doing a bank teller’s job at the ATM. Many companies make you the operator as you wend your way through their automated phone trees. You’re cashier and bagger at the grocery store, the big-box hardware store and, now, some drugstores and fast-food restaurants.”⁴⁰

Labor organizations view the self-service trend as part of the ‘jobless recovery’ of the U.S. economy in which productivity and profits are increased by cutting staff and using technology such as self-checkouts to displace labor costs or offload work onto consumers. “People should get a sense that they’re being ripped off when they use self-checkout,” says Denier, “[t]hey’re making me serve myself so they can make more profit off of me. It is the destruction of service in the United States economy.”⁴¹ “Pretty soon (stores) are going to tell customers, ‘For your convenience, we are going to let you unload the trucks.’”⁴²

Self-Checkouts and Labor Shortages

Businesses, however, downplay talk of job loss and assert self-checkouts will not be used to replace employees. To begin with, they argue, self-checkouts are not entirely autonomous and require human staffing.⁴³ Optimal Robotics U-Scan system, for example, requires an attendant to monitor the activity at several stations. While acknowledging that self-checkouts save labor, Optimal Robotics spokesman Leon

⁴⁰ Burling.

⁴¹ Adler.

⁴² Berestein.

⁴³ Lake.

Garfinkle notes that “[they’re] not something that works 24/7. There always has to be someone supervising.”⁴⁴ Others note that existing bugs and customer problems in using the technology make human assistance indispensable. In short, while self-checkouts may eliminate some of the tasks performed by store employees, businesses argue there will still be a need for human labor to oversee and assist customers with the technology.

Businesses also argue that self-checkouts help address staffing problems in an industry characterized by a tight labor market and high turnover. According to Doug Miller, director of store systems for Food Lion Inc., “[w]e are already facing tighter labor markets with [fewer] cashiers available to cover store hours.”⁴⁵ Self-checkouts, employers argue, are not being used to replace workers, but to fill existing gaps created by tight labor market conditions. Posting a paper titled ‘The Realities of Self-Checkouts’ on their company website, self-checkout manufacturer NCR has gone on the offensive by attempting to dispel rumors that their machines will be used to put workers out of jobs.⁴⁶

Instead, the manufacturer argues that the increased use of self-checkouts is being driven by a desire for improved customer service and industry labor shortages. For example, NCR’s ‘convertible’ units – self-checkouts that can be converted to human-operated checkouts – allow stores to modify checkout configurations based on available staffing. Likewise, Optimal Robotics Corporation CEO Neil Wechsler asserts that the company’s ‘U-Scan’ self-checkout is being used to address labor shortage and employee turnover problems faced by retailers.⁴⁷ As industry expert Gale Daikuku notes, self-checkouts are meant to increase productivity, not reduce labor costs. By freeing up labor

⁴⁴ Berestein.

⁴⁵ NCR Corporation. 2005. “Reality Check on Self-Checkout.”

⁴⁶ Ibid.

⁴⁷ Kerner, Lisa (1998). “POS VAR: Cashing In On Grocery Self-Service.” *Business Solutions*, April.

previously spent on checkouts and cashiers, Daikuku suggests that businesses will be able to relocate that labor elsewhere – most likely sales or customer service – with the overall effect being increased customer satisfaction.⁴⁸

Redeploying (vs. Replacing) Labor

While acknowledging that self-checkouts may automate some of the more routine tasks in retail, businesses argue that this will allow them to redeploy workers to other tasks and jobs within the store, such as customer service and sales. Industry experts see this as a reasoned, calculated move designed to increase sales and profits. According to Greg Buzek, president of retail consulting firm IHL, cashiers themselves do not generate income for stores but are “more of a cost of doing business”.⁴⁹ In short, cashiers cost money, but are not directly involved in generating revenue for businesses.

For example, the average grocery store in the U.S. has to sell \$15 worth of groceries per transaction in order to break even on labor costs. With self-checkouts, Buzek claims, the break point may drop as low as \$12.⁵⁰ Though self-checkouts may not be designed nor intended to replace workers outright, there are obvious savings in what economists term ‘transaction costs’ – costs associated with an exchange of goods or services but which are not part of the good or service themselves. “This is what the union doesn’t get,” Buzek says, “[self-checkouts] could be the very thing that save their jobs, not the other way around.”⁵¹ By allowing businesses to redeploy labor to jobs and tasks associated with sales, companies believe they stand to increase their profit margins,

⁴⁸ Adler.

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

which would in turn allow them to reinvest in their stores, creating more demand for labor.

A Useful Illustration

Home Depot's experiment with self-checkouts provides a compelling illustration. When Home Depot began introducing self-checkouts in eight hundred city stores in 2002, their company spokesperson made a provocative claim stating "[n]obody is losing a job or being displaced as a result of this," noting "[w]e can always use the help back in the aisles waiting on customers."⁵² While Home Depot CEO Robert Nardelli noted that the company could have just as easily pocketed the savings in labor, he had learned early on in his tenure that minimizing labor was a risky strategy. Shortly after joining Home Depot in 2000, Nardelli tinkered with labor costs, reducing experienced and more expensive staff and replacing them with part-time and new employees. According to industry analysts, the move backfired, as customers fled to Home Depot's archrival Lowe's.⁵³

Therefore, when Home Depot began introducing self-checkouts to its stores, Nardelli decided to redeploy the displaced cashiers to the floor, assisting customers in the aisles and adding to the sales and customer service staff believing it would result in improved customer service and increased sales. Replacing three conventional checkouts, and leaving one cashier behind to assist customers, Home Depot found that the new self-checkouts allowed them redeploy an average of two cashiers to the floor to restock shelves or sell big ticket items like appliances and kitchen cabinets. The company

⁵² *CNN.com*.

⁵³ Dignan.

estimates that this practice allowed the business to reinvest more than forty hours per week back onto the sales floor.⁵⁴ According to a Home Depot executive, if one of those two cashiers went to the sales floor and sold a customer on a home installation, it would equal roughly \$1 billion in extra revenue a year.

Home Depot ended 2004 with the average customer sale up 7.3 % from the previous year, and earned \$5 billion on sales of \$73.1 billion, setting a record operating margin of 10.8 %.⁵⁵ Instead of replacing more workers with machines, in 2005, Home Depot announced plans to hire twenty thousand additional workers, suggesting that Nardelli was correct in his decision to reinvest the labor. As an aside, in a *CNN/Money* report on self-checkouts in 2003, a spokesperson for rival chain Lowe's indicated that the company had no plans to introduce self-checkouts.⁵⁶ Since then, Lowe's has begun introducing self-checkouts in its home-improvement and hardware stores nationwide.

Demands for Self-Service

Aside from labor issues, businesses assert an increasing demand for self-checkouts from the public, who they claim loathe waiting in line and welcome the increased speed, ease, and convenience of self-checkouts. As one manufacturer comments, "customers demand convenience and want to get in and out of the store quickly."⁵⁷ Thus, businesses frame the adoption of self-checkouts not simply as a calculated cost-cutting strategy but as a market-driven response to consumer demand and preference. NCR Corporation, for example, contends that roughly one third of customers surveyed indicated a self-checkout

⁵⁴ Ibid; Artunian.

⁵⁵ Dignan; *BeyeNETWORK*. 2005. "Home Depot Self-Checkout Boosts Sales, Satisfaction." April 15.

⁵⁶ *CNN.com*.

⁵⁷ NCR Corporation. 2008. "NCR FastLane."

would be a differentiating factor in determining loyalty to one retailer over another, while noting other studies conducted by retail consulting firms claiming twenty to forty percent of customers opt for self-checkouts when presented with a choice.⁵⁸ Claims such as these suggest that self-checkouts – and self-service more broadly – may be expanding in part not just due to stores’ desires to cut labor costs but as a response to burgeoning consumer demand.

Shorter Lines, Faster Shopping, Better Service

Accordingly, as Americans continue to work longer hours than ever before, businesses offer self-checkouts as a speedy solution to what most Americans find to be an unpleasant chore and nuisance. As one industry executive states, “[t]he number one complaint from shoppers is long waits in line,” noting that “[e]ven when a store has multiple checkout lanes, the customer may only find a few cashiers working.”⁵⁹ Linking long lines to labor shortages, stores claim self-checkouts will shorten lines and reduce the amount of time spent waiting in line. According to one manufacturer, businesses using self-checkouts reported up to a forty percent reduction in queue. In the retail sector, Home Depot claims that self-checkouts have reduced the length of their lines by a third, and the length of time spent in line by a third as well.⁶⁰ Thus, manufacturers and stores promote self-checkouts as a speedy solution to the checkout line, promising short lines, faster shopping, and better service.

⁵⁸ Morphy, Erika. 2002. “Home Depot Enters Self-Checkout Lane.” *CRM Daily*, February 5.

⁵⁹ NCR Corporation. 2005. “Reality Check on Self-Checkout.”

⁶⁰ Bhatnagar.

Mixed Reviews From Customers

Whether or not self-checkouts live up to these promises, however, remains a much-debated issue. To begin with, some question whether customers really want self-checkouts at all. As one store manager puts it, “[a] lot of customers just don’t want it. They don’t like the technology. You have a lot of people who don’t want to bother with computers.”⁶¹ While today’s society is increasingly computer literate and tech-savvy, there are still a significant number of people who are not, and who may therefore find having to deal with a computer to be a frustrating, if not irritating, experience.

Some question whether customers really want self-checkouts at all. One manager at a Wal-Mart store notes that “[a] lot of customers just don’t want it. They don’t like the technology. You have a lot of people who don’t want to bother with computers.”⁶² Others question the alleged convenience of the new technology. One shopper joked, “do you have a training class?” suggesting self-checkouts are perhaps more complex and difficult to use than one might assume.⁶³ Others complain of existing bugs or problems with the systems. As one shopper interviewed by a reporter noted, “I don’t think we have ever gone all the way through without having to turn to the cashier for help.”⁶⁴

Self-checkout advocates also claim they are easy to use and offer consumers greater control and self-sufficiency. “A lot of people are really self-sufficient,” says Kmart manager Michael Marty. “They can do this stuff themselves.”⁶⁵ Jeff Roster, a retail analyst for Gartner, claims the use of self-checkouts is a new customer service trend that

⁶¹ Snyder.

⁶² Ibid.

⁶³ Snyder.

⁶⁴ Berestein.

⁶⁵ Snyder.

“gives the customers the ability to control his own environment.”⁶⁶ Likewise, Dr. Kathleen Kirby, a licensed psychologist and part-time professor at the University of Louisville, suggests that part of the attraction and popularity in self-checkouts may be due to the perception of their offering more control to the consumers.⁶⁷

Others emphasize the way in which the technology allows them to sidestep interactions with clerks and cashiers. “The main thing is you don’t want to deal with the cashiers and their attitudes” said a customer to a reporter.⁶⁸ One shopper notes that dealing with cashiers “just slows you down”, arguing that “[self-service] is a lot more convenient.”⁶⁹ Implying that previously shoppers were burdened by interactions with store employees, self-service promises liberation from face-to-face interactions, no longer requiring assistance from store personnel.⁷⁰

In short, consumers may seek out self-checkouts because they perceive them as empowering and enhancing their sense of control over the shopping experience. Replying to a journalist’s questions as she scanned her items, one shopper said, “I feel like I’m in control of my own time,” while another noted “you can go at your own pace.”⁷¹ Even the elderly, often portrayed as skeptics distrustful of new technology, have embraced self-checkouts, in part because it allows them to slow down the purchase process and to check and double check item prices.⁷²

These comments speak to the increasing significance of self-control in modern American society. In a world where things increasingly seem out of one’s hands – with

⁶⁶ Morphy.

⁶⁷ Trask, Colin. 2006. “The psychology of self-service.” *Self-Service World*, January/February.

⁶⁸ Harmon, Amy. 2003. “More Consumers Reach Out to Touch the Screen.” *New York Times*, November 17.

⁶⁹ Ibid.

⁷⁰ Kerner.

⁷¹ Adler.

⁷² Morphy.

rising fuel prices, world poverty, war, and the threat of terrorism and deadly pandemics glaring in the daily news headlines – people welcome even the *perception* of control in their daily lives. Thus, self-checkouts may offer a small, albeit significant way in which people can feel empowered and in control over their lives.

Summary

In sum, there is a great deal of uncertainty and confusion regarding not just the intent but the overall outcome offered by self-checkouts. Self-scan manufacturers such as IBM and NCR suggest the self-service trend is simply a product of consumer demand, while exhorting the potential benefits to customers in time saved and convenience.

Yet, some customers question the merit of these claims; some wonder if they are truly faster than regular checkout, while others question whether they are truly wanted by customers at all. Those who have used them report frustrating problems, yet some appear to indicate they enjoy certain aspects of this new technology.

At the same time, workers and labor unions fear that self-checkouts will have an adverse effect upon employment. Some fear outright displacement, while others such as Denier suspect self-checkouts will be used to effect a larger economic restructuring in the workplace.

As if to highlight the uncertainty of these views, there is in fact little evidence against which to judge and evaluate the merit of these competing claims. There is considerable research on technology and the workplace, as well as on consumers and their relationship to the market, but very little that combines these. Likewise, although there is some market research available, there is little academic literature outlining precisely how self-

checkouts affect employment patterns. These gaps in understanding as well as in research underscore the importance of this dissertation, and its goal to evaluate the claims being made and ultimately, to separate fact from fiction.

Chapter 2: Literature Review

The literature relevant to the questions posed in the previous chapter falls into roughly three categories or groupings of research. The first centers on broad economic questions regarding the relationship between technology and employment; this includes literature on economic restructuring as well as automation, unemployment, and ‘deskilling’. A second set of literature is somewhat broader and more theoretical in scope; focusing on contemporary trends in capitalism, this body of scholarship examines how current and new forms of capitalism reflect underlying tendencies and principles while also exploring new emergent forms and relationships. A third body of literature focuses on ‘consumer culture’ and consumption. This literature addresses not only the role of the consumer and the cultural significance of consumption and commodities, but also the significance of consumption in economic terms, and the relationship between consumers and businesses.

Below, I will address each of these literatures, highlighting key concepts, theories, and perspectives, as well as how they frame and inform the aforementioned questions concerning self-service and self-checkouts.

A Brief History of the U.S. Economy: Major Trends and Changes

The problems and solutions posed by self-service, I argue, have their roots in the historical development of the U.S. economy. Indeed, one of the hallmarks of self-service – the substitution of paid labor with unpaid labor or machinery – reflects an historical tendency within the U.S. capitalist economy regarding the use of technology in the workplace. Below, I address three major structural changes in the U.S. economy which not only preceded but set the stage for the emergence of self-service.

In its inception, the U.S. was an agrarian society in which farming and agriculture was the dominant mode of production. Prior to the Industrial Revolution, most Americans were employed in what is typically referred to as the primary sector of the economy, producing and harvesting raw materials by engaging in activities such as farming, fishing, mining, and ranching (see Table 1). While some people were employed in services, these constituted a relative minority of the labor force (see Table 2). Innovations in technology (e.g., internal combustion engines, industrial machinery) and associated improvements in agricultural productivity significantly reduced the need for human labor in agriculture (Nolan and Lenski 1999; Rifkin 1995; Braverman 1974; Wolfbein 1969; Mills 1951).

The decreasing need for labor in agriculture and the primary sector, combined with the rise of manufacturing and factories in highly populated urban centers resulted in the expansion of the secondary sector of the economy, or manufacturing, in which raw materials are transformed into finished goods. Industrialization in the U.S. reached its peak in the mid-20th century; by 1950, the percentage of the labor force involved in agriculture had been reduced to just roughly ten percent. By this time, large-scale machinery and automation – products of the Industrial Revolution – had greatly reduced the need for agricultural labor.

In short, in little more than a century the U.S. had been transformed from an agrarian society to an industrial society. The primary mode of production – agriculture – and its associated need for labor had been replaced by industrial manufacturing and a demand for blue-collar labor. New technological innovations – including the steam engine and electricity – were used to power large machinery that replaced or reduced the need for human labor.

The second major structural change to the U.S. economy is often attributed to the invention of the computer and computer-related innovations in information technology (IT) such as the Internet. Like the previous inventions of the Industrial Revolution, computer technology automated routine tasks previously performed by paid labor, making work more productive and efficient. Accordingly, businesses increasingly automated work previously done by human labor, converting human operated systems into automated assembly lines.

With the shift towards a service-based economy, it increasingly makes more sense to focus not simply on how goods and services are produced, but how they are distributed and provided to consumers. Thus, the emerging issue is what role technology plays in this distributive process.

As we noted earlier, historically technology has tended to have two major economic effects. First, technological innovations – or ‘revolutions’ – have tended to produce significant increased gains in productivity for an extended period of time. Second, and more central to our concern, is that innovations in technology have tended to have a transformative effect on the nature and character of work.

Restructuring Work

The economic restructuring Denier describes is reflected in a large body of research by academics who have been analyzing this trend since Daniel Bell ([1976] 1999) first began predicting the decline of the U.S. industrial economy in the 1970’s. While the phrase ‘new economy’ has gained traction in recent years, various other terms and descriptions abound, including ‘post-Fordism’, ‘post-industrial’, ‘flexible’, ‘lean’, and

‘just-in-time’ modes of production. Generally, though, most agree that with the decline of industrial manufacturing – with much of it being displaced or relocated overseas where the labor supply is cheaper – the U.S. is increasingly a service-based society, defined by both the knowledge work of the ‘creative class’ as well as the low-wage work carried out by the working poor.⁷³

Accordingly, over the past several decades sociologists and economists have noted several significant trends in our service-based economy, including an increasing bifurcation of the labor market (Piore and Sabel 1984; Piore 1970), corporate downsizing (Baumol, Blinder, and Wolff 2003; Harrison and Bluestone 1988), a general decline in unions (Lichtenstein 2003; Clawson and Clawson 1999; Western 1995; Moody 1988), and an increasing shift towards part-time and contingent labor forces (Barker and Christensen 1998; Belous 1989). Fraser (2001) and Sennett (1998), for example, have noted American firms’ increasing reluctance to employ experienced and full-time employees, while journalists-cum-scholars Barbara Ehrenreich (2001) and David Shipler (2004) have illuminated the growing poverty and struggles among those employed in low-wage service work.

While there is not yet an established literature on self-service technology, existing literature on the role of technology in the workplace does indicate that organizations may use it to reduce their dependence upon and need for skilled and full-time labor (Rifkin 2004; Aronowitz and DiFazio 1994; Braverman [1974] 1998). Yet, others contend that it is not the technology itself that determines outcomes but how it is directed and utilized by organizations. Accordingly, Noble (1997) and Richardson (1996) note that new

⁷³ The term ‘creative class’ was used by Richard Florida in his book (2002) *Rise of the Creative Class* to describe knowledge workers and intellectuals whose ideas and innovations are a key driving force of post-industrial economic growth.

technology may be used by management to erode or undermine existing sources of employee power and leverage in the workplace. Thus, Denier and the unions' fears are not without merit, as service workers in the current U.S. economy increasingly find themselves in both a vulnerable and tenuous position.

Conflicting Views on Effects of Technology

While there is considerable debate as to why supermarkets and other retailers are adopting self-checkouts, a similar degree of controversy surrounds the alleged economic effects of self-checkouts, reflecting a much deeper and long-standing debate in the social sciences.

As Autor, Levy, and Murmane (2003) note, sociologists and economists tend to offer conflicting views on the role and effect of technology in the workplace. Sociologists note that historically, technology has been used to displace human labor, pointing to shifts in the composition of the workforce such as that illustrated earlier (see Tables 1 and 2). New technology automates forms of labor that are either eliminated outright or reduced in need and quantity. What happens to the resultant labor is debated; some, picturing a sort of technological utopia, envision labor as being 'freed up' for other activities or forms of work, while others see it as being merely added to the 'reserve army of labor' (Marx [1867] 1977). Yet, according to Autor et al. (2003), most sociologists tend to focus on the negative consequences associated with the use of technology such as 'alienation' (Erikson 1986; Mottaz 1981; Shepard 1977; Marcson 1970; Blauner 1964), 'deskilling' (Rogers 1999; Burris 1998; Diprete 1988; Attewell 1987; Penn and Scattergood 1985), and 'control' (Kraft 1999; Sewell 1998; Edwards 1979; Friedman 1977).

Economists, on the other hand, tend to characterize technology as a positive and productive force in economic life, noting that advances in technology tend to increase economic growth, productivity in labor, and overall efficiency (Stiroh 2002; van Ark, Kuipers, and Kuper 2000). The typical introductory economics text in college classrooms often paints a rosy picture of technology; at worst, technological innovation is messy and disruptive, such as in Schumpeter's ([1942] 1962) notion of 'creative destruction'. Unemployment resulting from new technology is described in terms of skills 'mismatch' (Pissarides 2000; Goldberg, Highfill and McAsey 1998) or 'structural unemployment' (Weiler 2001; Vivarelli 1995), benign and abstract characterizations that make those unemployed seem less like victims of cruel market forces and more like odd-shaped pieces in a large economic puzzle. Economists also note that adopting new technology does not necessarily result in deskilling nor increased unemployment (Autor et al. 2003; Hunter et al. 2001; Goldberg, Highfill and McAsey 1998). In short, Autor, Levy and Murmane (2003) contend that when it comes to technology and the economy, sociologists tend to focus on the potentially negative impacts of technology on work (e.g., 'deskilling'), while economists typically emphasize its positive aspects (e.g., 'upskilling').

Although this portrayal of disciplinary differences regarding the effects of technology on work may be somewhat of an overgeneralization, it helps to frame and simplify what is still a much-contested issue within academic research: how does technology affect work and employment? Moreover, it locates the present concern with self-checkouts within a larger established body of research concerning the relationship between technology, work, and employment. In short, by examining how self-checkouts affect

work and employment in the supermarket industry, we stand to gain some insight regarding their economic effects on work and employment in other industries.

The restructuring of work, as well as the use of new technology, also reflects a series of strategies used by businesses to address a perennial problem faced by capitalist enterprises – how to remain productive and profitable in a competitive global economy. Below, I address the work of sociologist Nona Glazer (1993) and Italian political philosopher Antonio Negri (1989), whose work suggests capitalism may be increasingly relying upon the work of consumers to further reduce the costs of labor.

Work-Transfer, Decommodification, and the Socialization of Work

Nona Glazer's (1993) work on the 'work-transfer' process and the 'decommodification of labor' suggests that one of the ways businesses may solve this problem is by fundamentally altering the labor process to include previously unused persons such as consumers and their labor power. In other words, while businesses may struggle to find ways of making service workers productive, they may find alternative sources of value in consumer's labor, which once appropriated, can be rendered productive:

“Service labor can be a source of value, but one from which employers have more difficulty realizing gains compared to labor in manufacturing. Managers can try to solve the problem of the lower productivity of service workers by using the work transfer or self-service.” (Glazer 1993:25)

‘Work-transfer’ involves replacing paid labor with unpaid labor, transferring work previously performed by paid employees to unpaid persons such as consumers or family members. In doing so, businesses reduce necessary labor costs. By getting the consumer to “labor in” (Ritzer 1999), service industries stand to dramatically reduce labor costs and boost profits and productivity. Though the use of automated teller machines (ATM’s) and other forms of nonhuman technology, consumers increasingly take over work previously performed by paid employees, leaving businesses free to decide how to make use – or disuse – of such labor.

Thus, the work-transfer model implies that work is being transferred from paid workers who are part of the formal marketplace economy to unpaid workers whose activities are typically viewed as part of the domestic sphere of social life in order to reduce labor and labor-related costs. The result is what Glazer (1993) refers to as the ‘decommodification of labor’:

“Labor is decommodified, in part, when employers cease buying the labor power of service workers or buy less of it and from fewer workers. But the need for the service labor does not disappear, and so the work remains. Employers force a new division of labor though the work transfer, redistributing tasks between paid service workers and customers... in the work transfer, the labor process is reorganized to depend on what has been called “self-service” or “self-care”.”
(p.6)

In a process similar to offshoring or outsourcing, the decommodification of labor describes the relocation of necessary labor from the formal marketplace to the informal – and unpaid – domestic sphere. This relocation of work, however, is less geographic than

it is *social*; work is not relocated to a physical space per se, but rather a social space or sphere. By getting consumers and family members to take over more the work in shopping and health care, businesses shed labor and labor-related costs. Additionally, by transferring more work to the domestic sphere, businesses are able to draw upon a large and previously untapped source of labor.

This notion of businesses drawing upon an ever-increasing pool or supply of labor is further addressed by Antonio Negri (1989) and Nick Dyer-Witheford (1999). They argue that as capital exhausts the supply of available sources of labor and value, it increasingly looks to new sources, including shoppers and consumers. Under industrialism, Negri argues, capitalist enterprises largely relied upon what he refers to as the ‘mass worker’; stated simply, mass-production economies required mass labor, or an aggregated body of workers whose labor provided a large, albeit limited, source of value. While various technologies and tools enhanced capital’s ability to extract value from this worker and type of work, this too was discrete and finite in its limits. Even though the increasing participation of women in the labor force, as well as globalization and its effect in opening cheaper foreign labor markets, expanded the available supply of labor, these too eventually imposed limits on capital’s ability to employ labor, and therefore, create and accumulate surplus-value.

The next transition in capitalism, according to Negri, is the shift towards not mass but *socialized* labor, in which value is created and extracted from a wider variety and type of worker. Capital socializes labor to escape the problems imposed by a formal labor market; by finding alternative sources and forms of value, capital expands its ability to draw upon the productive labor of a variety of workers. Thus, businesses seek to extract

labor not just from production workers, but from persons of all types and in a multitude of settings and locations. “Work,” says Negri (1989:89), “abandons the factory in order to find in the social a place adequate to the functions of concentrating productive activity and transforming it into value.” Accordingly, the locations and sources of value become unhinged from the factory and mass worker and – via new technology such as information technology (IT) and the Internet– become socialized to include a wider variety of people, forms of work, and value:

“In the era of the professional worker, capital concentrates itself in the factory. In the era of the mass worker, the factory is made the center around which society revolves. But in the epoch of the socialized worker, the factory is, with the indispensable aid of information technologies, disseminated into society, deterritorializing, dispersing, and decentralizing its operations to constitute what some autonomists term the “diffuse factory” or the “factory without walls” (Dyer-Witford 1999:80)

Thus, like Glazer (1993), Negri (1989) and Dyer-Witford (1999) argue that consumers play an increasingly important role in the U.S. service economy not just as consumers, but as workers. By disembodying the source of value from work performed in factories, capital expands not only its potential labor supply, but also its source of value. The result is dissolution of boundaries, in which consumers become workers, blurring distinctions which once were clear:

“One of the revolutionary aspects of this shift towards socialized labor is the blurring of waged and nonwaged time. The activities of people not just as workers but as students, consumers, shoppers, and television viewers are now directly integrated into the production process. During

the era of the mass worker, the consumption of commodities and the reproduction of labor had been organized as spheres of activity adjunct to, yet distinct from, production. Now these borders fray.”

(Dyer-Witheford 1999:80)

In sum, the work of Glazer, Negri, and Dyer-Witheford suggests that we look not to just workers but also to consumers and other groups in exploring how capitalist enterprises in the “new economy” create and accumulate value. As work is ‘socialized’ or ‘decommodified’ outside the formal workplace, we must examine how new groups are incorporated into the capitalist labor process and the role they play in the creation of value and the reduction of wage labor and labor-related costs.

Consumption and Consumer Culture

A third related body of literature concerns the role of consumers and ‘consumer culture’ (Zukin and Maguire 2004; Goodman and Cohen 2003; Slater 1997). This literature offers conflicting views of the relationship between businesses and consumers, as well as the role and meaning of consumption.

One segment of the literature involves critiques of consumer culture and the ‘culture industry’ that is characterized as controlling and manipulative. Consumer culture is depicted not as liberating but as constraining, alienating, and pacifying. Subverted by ‘false needs’ (Slater 1997; Baudrillard [1970] 1998; Marcuse ([1964] 1991) promulgated through an exploitative ‘culture industry’ (Adorno and Horkheimer 1979), these critics describe a consumer culture in which the consumer is but an instrument, manipulated by the marketing and advertising industries (Ewen 1988; [1976] 2001; Packard 1957).

Through advertisements and commercials, as well as the use of in-store displays (Williams 1989) and other ‘spectacles’ (Debord 1967), consumers are tricked and seduced into having false needs that can only be met through consumption. Others note the way in which certain commercial settings are structured in ways to manipulate customers, directing them to certain areas or places (Underhill 1999) or obscuring the passage of time (Ritzer 1999). Casinos, for example, are widely known for their conspicuous absence of clocks, in part, to ensure customers stay occupied and do not leave simply for time’s sake, while cruise ships have become commercialized, with cruise lines selling sales space to businesses eager to access a captive audience (ibid.).

In short, consumer culture alienates consumers by administering ‘false needs’ that promise happiness and fulfillment yet which provide neither. Consumer culture, in this regard, is a ‘false promise’ which acts as both a form of exploitation and social control. Consumers are viewed and treated as objects to be controlled, manipulated, and exploited.

Yet, other scholars argue that consumer culture and consumption can be liberating and empowering, allowing the individual to express their identity and ‘consumer sovereignty’ over the market (Slater 1997; Persky 1993; Gintis; 1972; Rothenberg 1968).⁷⁴ This literature emphasizes the role and importance of fashion (Lipovetsky 2002), status (Riesman [1964] 2001; Veblen [1899] 1994), and identity (Giddens 1991; Douglas 1979), as well as the purported power of the consumer, who symbolically ‘votes’ with their pocketbook. Rather than being controlled and exploited, consumers are viewed as conscientious and deliberate beings, as subjects rather than objects who can think and do

⁷⁴ As Persky (1993) notes, the term ‘consumer sovereignty’ is frequently attributed to the work of William Hutt (1940; [1936] 1990), though similar notions can also be found in works by Hayek (1935) and Ropke (1935).

what they please. Lasn's (2000) work on 'culture jamming' highlights the ways in which consumers can co-opt and subvert commercials and advertisements as well as commercial settings. Consumers can also engage in consumption politically by selectively boycotting certain goods or services or refusing to shop at certain stores (Klein, Smith, and John 2002; Frank and Weiland 1997).

The introduction of self-checkouts, therefore, poses an important series of questions regarding consumers and consumption. To begin with, it raises questions regarding the sovereignty of the consumer; are self-checkouts being introduced to meet consumer demands, or do they simply reflect a new 'means of consumption' designed to "control and exploit the consumer" (Ritzer 1999:57)? Precisely whose 'needs' are being met?

A second important question centers on authenticity and the extent to which self-checkouts reflect genuine and real savings in time. Self-checkouts are claimed to be faster and more convenient – but are they? As Goodman and Cohen (2003) note, "[a]dvertising constantly sells [us] the idea that there is a product to solve each of life's problems...[yet], this promise is constantly broken" (p.40). Are self-checkouts *really* faster and more convenient, or are these more "false solutions to real and never-satisfied problems" that include waiting in line at the checkout counter (Meadows 1992:216)?

The Rise of Self-Service

One of the ways in which work is being increasingly 'socialized' or 'decommodified', I argue, is through the use of 'self-service'. Like the work-transfer, self-service can be defined as the substitution of paid labor with unpaid labor in the capitalist labor process. At the supermarket, outside the bank, in the airport, and on the

phone, American consumers are increasingly doing more and more of the work previously performed by paid employees, filling in forms, scanning items, bagging their own groceries, and sorting through automated menus.

The advantages of self-service to businesses are clear. Self-service allows businesses to ‘transfer’ work to consumers. The result is a novel twist on the contemporary trend of outsourcing, whereby work is increasingly being outsourced – or more appropriately, ‘nearsourced’ – to consumers. As consumers ‘labor in’, businesses may be able to shift waged labor ‘out’, shedding workers and reducing labor-related costs such as health care that have plagued American businesses in recent years.

The consequences for consumers and workers in the industries affected, however, are less clear. Will the socialization of consumers’ labor outmode the need for stable workforces? How will decommodifying work previously performed by waged workers affect the employment structure of service-based businesses? Will the decommodification trend result in the ‘end of work’ scenario described Rifkin (1999), or will it produce a new, dynamic labor process in which transient consumers work alongside more stable, employed workforces? In short, how will self-service change the nature and meaning of work in the modern U.S. service industry?

Similarly, what will consumers think of such changes and how will they react to new ways of providing services that require them to do more of the work? Unlike workers, consumers have some degree of influence over markets; after all, businesses in the service industry rely upon consumers to buy their goods and services. Thus, the introduction and expansion of self-service may depend to some extent upon how it is viewed and received by consumers. The very term ‘socialization’ suggests that the self-

service shift may not only rely upon an economic appropriation of consumers' labor, but an ideological one as well. In other words, the degree to which consumers embrace and support this new way of providing goods and service may depend, in large part, not just upon their labor but the way in which they view and consent to such labor. How does capital socialize consumers to 'labor in' and how do consumers view this new form of service? What benefits, if any, do consumers receive in this process, and how do they view this transition towards self-service in the service industry?

In this dissertation, I propose that self-service is one of the ways by which businesses are expanding their source of labor while reducing labor costs. Focusing on a particular form of self-service (the self-checkout) within a particular industry (the grocery and supermarket industry), I argue that self-service is being used by businesses to reduce their need for and dependence upon paid labor while maintaining overall productivity and efficiency in the labor process. By decommodifying the work of cashiers and clerks and socializing the work to shoppers, grocery stores and supermarkets save costs associated with labor by appropriating the labor and value of consumers.

What is unclear, however, is how the shift towards self-service will affect those employed in the grocery industry, as well as the nature of and need for their employment. Will the introduction of self-checkouts reduce the demand and need for labor in the grocery industry, or will it simply transform the type of work required? How will it affect the jobs that remain, and how will workers view such changes?

Equally unclear is how consumers will respond to this shift, and what role, if any, they will play in the decision to adopt such new ways of doing business. Will consumers embrace the new technology, or will they cling to the 'old' ways of doing business? How

do they view the implementation of self-checkouts in grocery stores and how may their views affect the further expansion of self-service in the grocery industry?

Research Questions

In sum, the public media and press (Chapter 1), as well as the academic literature and research (Chapter 2) lead us towards a number of distinct questions concerning self-checkouts. One major question concerns the impetus towards adopting this new technology.

Question 1: Why are retail businesses adopting self-checkouts?

Both self-scan manufacturers and retailers cite labor shortages, yet the supermarket industry is characterized by high turnover and the labor market appears to have no shortage of low and unskilled labor (U.S. Bureau of Labor Statistics 2008; Pease and Martin 1997). Additionally, while businesses argue that self-checkouts are not being used cut labor costs, it remains one of the key selling points presented by manufacturers in their product brochures and advertisements. And although consumer demand is cited as a major factor, the public seems to have mixed views regarding self-checkouts, with some wondering if it is in fact businesses, not consumers, pushing the trend.

A second question centers on how self-checkouts will affect employment and the workplace. Do self-checkouts cut costs by eliminating retail jobs such as cashier? Or are they being used to 'redeploy' rather than replace labor, as Home Depot's experiment suggests? Similarly, does the automated technology of self-checkouts erode the quality of

work, or does it result in some sort of ‘upskilling’, with workers learning and acquiring new skills?

Question 2: How do self-checkouts affect work and employment in the retail industry?

A third question concerns the use of self-checkouts by consumers, as well as their attitudes and feelings regarding this technology. Manufacturers suggest that self-checkouts give customers greater convenience, privacy, and independence in the shopping experience, yet critics suggest they reflect businesses – and not consumers’ – needs and exploit consumers by asking them to ‘do-it-yourself’, with businesses pocketing the difference in labor costs. How do customers feel about the ‘do-it-yourself’ aspect of self-checkout? Do they prefer them over traditional forms of checkout, and if so, why? And do self-checkouts deliver on their claims of faster checkout and shorter lines?

Question 3: What do customers think of self-checkouts? Do self-checkouts deliver on what they promise to customers?

Each of these questions, in turn, lead to testable hypotheses that can be empirically examined, studied, and disproved.⁷⁵ For example, are self-checkouts a response to customer demand, or not? If there is little evidence to support this claim, then one must

⁷⁵ Traditionally, the scientific method does not allow one to prove hypotheses or theories. Instead, falsifiability (or refutability) – the ability to disprove a given idea or theory – is used to test and evaluate hypotheses and theories. For more on falsifiability and the scientific method, see Popper ([1934] 1959).

concede that the impetus lies elsewhere. Similarly, is there evidence that self-checkout have a negative impact on work? Has their adoption coincided with a decline in retail employment or a shift in the percentage of full-time workers or those receiving benefits? And do self-checkouts deliver what manufacturers and retailers claim, promising shorter lines and faster checkout?

I see this research as fertile ground to further explore the debate on the role and effect of technology in the workplace, as well as the contemporary role of consumers in the modern marketplace. Moreover, this work may further some understanding of how new forms of technology will require us to examine fundamental relationships of work under capitalism.

Chapter 3: Data and Methods

Why Study Grocery Stores?

While self-checkouts are being introduced in a variety of settings and locations, I chose to study their effects in a particular supermarket chain ('SuperFood') in a metropolitan region located in the Northeast.⁷⁶ Though arguably a convenience sample, I believe that there are several aspects that make it a suitable sample for study.

First, self-checkouts are likely to have their strongest effects on work and employment in grocery stores because that is where the majority of cashiers – the occupation most likely to be affected by self-checkouts – are employed. According to the U.S. Bureau of Labor Statistics, grocery stores employ more cashiers than any other industry. In 2007, grocery stores employed 839,810 cashiers, nearly as many as the next two highest industries combined (see Table 3).⁷⁷ Therefore, while retail stores such as Kmart and Home Depot may be adopting self-checkouts in increasing numbers, the effects of self-checkouts on the cashier occupation are likely to be most pronounced in the grocery industry where their concentration is highest.

Second, grocery stores and supermarkets are among the largest employers in the area, meaning any effect from self-checkouts would be likely have a significant impact on the local economy. According to a state government website, in 2007, SuperFood was the fourth largest private employer in the state.⁷⁸ Thus, potential effects of self-service –

⁷⁶ Specific names and references to the supermarket chain studied, as well as the metropolitan region and state, have been redacted in order to protect participants' anonymity.

⁷⁷ According to the U.S. Bureau of Labor Statistics (2008), in 2007 general merchandise stores – such as Best Buy and Office Max – employed approximately 343,210 cashiers, while department stores such as Macy's and JCPenny employed 239,190 cashiers. After grocery stores, gasoline stations are the largest employer of cashiers, employing approximately 546,440 cashiers in 2007.

⁷⁸ See note 76.

including job restructuring, layoffs, and unemployment – are likely to affect a significant number of persons employed in the local supermarket industry.

Third, grocery stores in this area have a relatively stronger economic impetus to automate or reduce their cashier-related labor costs when compared to other regions. Grocery stores, I argue, provide a ‘strong case’ for automation, especially in the aforementioned area, where the average wages for cashiers are significantly higher than the national average (see Table 4).

Additionally, as in California, grocery stores in this region have faced strong pressure from labor unions, which have gone on strike in recent years to protect employee wages and health benefits. Representing approximately 18,000 grocery workers in the region and 70,000 in California, the 2003 strike by the United Food and Commercial Workers’ (UFCW) union rocked the nation’s grocery industry.⁷⁹ While the two sides eventually came to an agreement, the economic costs were devastating. Newspaper reports claim that the strikes cost businesses \$2 billion, with profit margins still below pre-strike levels.⁸⁰ The aftermath of the strikes led to the sale of Albertsons and the indictment of Ralphs, a chain owned by parent company and grocery industry giant Kroger, on federal charges related to labor law violations including the hiring of workers under false names.⁸¹

In short, the recent strikes exposed the grocery industry’s dependence upon union labor, and cost stores billions of dollars. Paying relatively higher costs for cashiers’ wages and facing mounting pressure from unions, grocery stores in this region, I argue,

⁷⁹ Ramstack, Tom. 2004. “Grocery chains brace for strike.” *Washington Times*, March 27; Greenhouse, Steven. 2004. “Labor Raises Pressure on California Supermarkets.” *New York Times*, February 10, 2004.

⁸⁰ *New York Times*. 2005. “Grocery Chain Indicted in Labor Case.” December 13; Hiltzik, Michael. “Ralphs in a Mess of Its Own Making.” *Los Angeles Times*. December 22, 2005.

⁸¹ *Ibid.*

have a clear economic incentive to adopt self-checkouts in order to defray significantly higher labor-related costs and dependence upon union employees.

Finally, and perhaps most importantly, Americans are most likely to encounter self-checkouts at the grocery store, more than anywhere else. Shopping at grocery stores, for most of us, is a weekly or bi-weekly occurrence. According to the Food Marketing Institute (FMI), shoppers make an average of 2.2 visits to the grocery store each week.⁸² Similarly, results from a 2002 poll conducted for the Grocery Manufacturers of America indicate that grocery shopping is a “fairly regular activity” that most do at least once a week; forty one percent of respondents indicated they went grocery shopping once a week, while twenty seven percent reported shopping at stores two to three times a week.⁸³ Thus, we are more likely – and more often – finding ourselves in supermarkets and grocery stores. As stores adopt self-checkouts in growing numbers, it is likely that it will be increasingly difficult to avoid them in the supermarkets and grocery stores we frequent in our neighborhoods and cities. Like it or not, for many of us, self-checkouts are quickly becoming part of the retail landscape.

More generally, though, the grocery industry provides an excellent case study in which to examine the increasing trend towards self-service. Grocery stores have only recently begun to adopt self-checkouts, and therefore provide a unique opportunity to examine the adoption of self-service technology and its immediate effects on employees and consumers. Other service industries such as banks and gas stations have already largely assimilated self-service technology, suggesting that their effect and presence in consumers’ minds are likely diminished or at least taken for granted. ATM’s and pay-at-

⁸² Food Marketing Institute. 2005. “American Grocery Shoppers Seek Quality, Value, and Convenience from Multiple Retail Formats, According to FMI’s Trends 2005.” May 1.

⁸³ Grocery Manufacturers of America. 2002. “Branded: American Attitudes toward “The Brand”.” p.3.

pump systems are ubiquitous, common features we now take for granted when we go to the bank or stop to purchase gasoline for our cars. Self-checkouts at grocery stores, however, are a relatively new phenomenon, and one which has emerged in only the last couple of years. Thus, the adoption of self-checkouts by supermarkets provides us with a quasi-naturalistic experiment by which one may examine how technological changes affect work, employment, and consumer experiences in the burgeoning U.S. service economy.

Research Methodology

The study was carried out using a multi-method approach, including the use of secondary data, nonparticipant observation, and semi-structured interviews.⁸⁴ This approach has the distinct advantage of allowing the researcher to ‘triangulate’ or approach specific questions through the use of different research methods.⁸⁵ Comparing information regarding the use and implementation of self-checkouts from multiple sources of information provides a more complete, holistic, and comparable picture of the effects and use of self-checkouts in the supermarket industry.

Nonparticipant observation was used to gain first-hand knowledge and experience in the use of self-checkouts. Additionally, the author spent a significant amount of time over a period of several months observing the behavior of shoppers and employees in the store environment.

⁸⁴ Semi-structured interviews are also commonly referred to as ‘focused’, ‘unstructured’, or ‘in-depth’ interviews. For more on focused or semi-structured interviewing, see p. 87-89 in Esterberg (2002) and p. 291-298 in Babbie (2001).

⁸⁵ For more on triangulation in social research, see pgs. 36-37 in Esterberg (2002), pg. 113 in Babbie (2001), Emerson (ed.) (2001), pgs. 46-47 in Denzin and Lincoln (eds.) and pgs. 204-205 in Frankfort-Nachimas and Nachimas (1996).

Secondary data sources include occupational and industry data from the U.S. Bureau of Labor Statistics (BLS), as well as trade (e.g., *IHL Consulting Group*, *SelfServiceWorld*), newspaper (e.g. *New York Times*, *Washington Post*), and industry publications (e.g., *Food Marketing Institute*, *The Progressive Grocer*, *Supermarket News*).

Sampling and Data Collection

The sample for this study was drawn from seven local stores of a regional supermarket chain ('SuperFood') in the Northeast region of the United States. A subsidiary of a conglomerate which owns and operates a number of supermarket chains in the U.S., SuperFood employs approximately thirty thousand people in two hundred stores and controls a significant market share of the region's retail food industry.

Individual stores were selected across two counties ('Meadowview' and 'New London') bordering a major U.S. metropolitan city and include much of the city's outlying suburbs and residential neighborhoods. Although roughly similar in population size, the counties differ somewhat in terms of demographic characteristics (see Table 5).

Similarly, although the sampled stores selected shared certain common features (e.g., delicatessen, fresh produce, self-checkout lanes), they varied in size (i.e., square feet, number of staff, number of checkout lanes) and age (e.g., brand new, refurbished, etc.), and served different communities and neighborhoods. The Parkview store, for example, was roughly a third of the size of the Expressway Plaza location but was a completely brand new installation located in a semi-urban setting where retail space is significantly more expensive. Aside from the older, more affluent residents of Parkview, it also draws

a number of white-collar workers during lunch and rush hour. The Expressway Plaza, on the other hand, is an established store located in a large suburban shopping center.

Adjacent to a shopping mall and located roughly a mile from a large state university, it draws a comparatively younger and less affluent crowd consisting of local residents and college students. The Century Village store is located next to a large retirement community and serves a predominantly older clientele. These differences were noted by managers and employees in interviews, and, in some instances, influenced how stores presented and placed self-checkouts. In total, seven total stores were included in the sample.

While neither a statistically representative nor random sample, efforts were made to introduce variation and to control for potentially confounding variables such as store location, neighborhood demographics, day of week and time of day (See Tables 6 and 7). Interviews and in-store observations were carried out on different days of the week and at different times of the day, taking care to include mornings and afternoons as well as peak rush hour and evening hours.

Periods spent interviewing customers were alternated with periods spent observing transactions at the checkout lanes. Most stores provide benches or similar seating near the exit which provided an excellent view of the checkout lanes. Taking note of the time, I would then spend approximately the next hour observing checkout transactions and staffing – counting the number of cashier lanes open, the number of customers using self-checkout to complete their transactions, and the frequency with which customers required assistance using the self-checkouts. These field notes were used to help assess how stores

actually staffed the checkout lanes in practice and how often customers encountered problems using self-checkout.

A similar effort was made to include demographic variation into the sample by sampling subjects varying in age, sex, and race/ethnicity. For example, although research indicates that shopping is predominantly performed by the female head of household, efforts were made to include male shoppers as well as couples (See Table 8).

Accordingly, I undertook efforts to interview solitary shoppers as well as married couples, families, and single parents with children, as well as persons varying in age and ethnicity (for demographic characteristics of customers sampled, see Table 9). Therefore, although the sample is neither statistically representative nor random, deliberate efforts were made to construct a sample that included considerable variation and which took into account potentially confounding factors.

Subjects and Procedures

The subjects for this study consist of mainly three general social groups or categories: 1) *employers* (and/or *managers*), 2) *employees*, and 3) *consumers*. Why these three groups? In his study of innovation in supermarkets, Walsh (1995) notes that the adoption of technology in the workplace is not simply an economic issue but a *social* and *political* issue as well:

“Technological change is more than simply the advance of science or management’s desires to wrest knowledge and control away from the workers. Innovations upset the established social relations within an organization and between the organization and other organizations in its network. Technological change is thus not just a scientific process or an economic process. Rather

it is both a social process and a political one...in that the different groups affected by the change have vested interests in the outcome and will be variously able to influence that outcome.”

(Walsh 1995:156-57)

In other words, technological innovations in the workplace have implications for other groups that extend beyond the economic sphere; they also involve social changes in the relations of production. In the case of self-checkouts, this means that not only workers but consumers stand to be affected as well. Therefore, it is critically important to examine not only employers and workers, but also consumers, who ostensibly have their own independent interests at stake.

The first group, *employers* (and/or *managers*), was sampled to address questions concerning the economic causes and consequences of adopting such technologies, with specific attention to productivity, market growth, and employment. Store managers were interviewed on-site, and conversations were recorded when permitted.⁸⁶ Interviews with store managers were typically pre-arranged, following an initial contact and exchange of information, and frequently occurred in offices located in the rear or above the main floor. Although I attempted to interview managers separately, on several occasions interviews were held together in a group setting due to the participants’ prerogative. Store managers also frequently served as a contact point, introducing the author to other potential candidates for interview such as assistant managers, front end managers, and customer service managers. At the conclusion of interviews with store managers, I typically asked for permission to interview customers at the given location and access to interview store employees.

⁸⁶ All but one manager allowed our conversations to be recorded; in the case where recording was not permitted, the author took detailed notes.

The second group, *employees*, consists of cashiers and other employees who work alongside or supervise the self-service technologies. These persons were asked to provide their opinion of the new technology and how it has affected their job duties or employment. Employees were interviewed on the store floor, often in the course of working; in some instances, I was able to speak with employees while on a break, sitting on a bench at the end of the checkout lanes or sitting outside the store. On two occasions I was granted access to an employee break room for the purpose of interviewing employees. In some cases, managers referred me to specific employees or made certain employees available, while in other cases, I solicited employees' participation directly.

The third group, *consumers*, consists of customers who frequently encounter self-checkout lanes at the grocery store. Consumers were asked for their opinions and experiences regarding the introduction of self-checkout lanes in grocery stores, as well as their preferences for and experiences with such technologies. Customers were interviewed in-store; the typical procedure for interviewing involved approaching a customer, soliciting their participation, and then asking a number of questions. In some cases, I followed customers as they shopped in order to facilitate the interview process, though in most cases customers simply answered my questions while we stood in the aisle or in the checkout line. On a few occasions, customers approached me after the interview to give additional comments regarding their shopping experience or to provide additional information.

The total sample included seven store managers, eight assistant managers (including customer service and front end managers), seven employees, and fifty-seven customers. In addition, I interviewed the president of the local labor union which represents the

workers in the stores sampled, who offered additional information and comments from organized labor's point of view. Sample questions for each respective group are provided in Appendix A ('Sample semi-structured questionnaire items').

Chapter 4: Why Adopt Self-Checkouts?

“Innovation is the specific instrument of entrepreneurship...the act that endows resources with a new capacity to create wealth.”

- Peter F. Drucker, *Innovation and Entrepreneurship* (1985)

“Innovation is the whim of an elite before it becomes a need of the public.”

- Ludwig von Mises, *Human Action: A Treatise on Economics* (1949)

Introduction

Why are grocery stores adopting self-checkouts? In a nutshell, it depends upon who you ask. Over the past two years, I examined newspaper and magazine articles, trade journals, corporate press releases, product brochures, and industry whitepapers in an attempt to ascertain why stores adopted self-checkouts. I contacted industry experts, such as Greg Buzek at IHL, and spoke with labor representatives, including the president of the local labor union which represents local supermarket employees. I visited numerous local stores and spoke with customers, queried cashiers, and interviewed store managers in their small, cramped offices overlooking the shop floor. This, I thought, would give me the most complete and thorough understanding as to why stores have increasingly turned to self-service.

In place of a single reason, I found a plurality of reasons ascribed to the adoption of self-checkouts, including reduced labor costs, faster checkout, shorter lines, reduced theft, increased productivity, greater options, and customer demand. As I sought to understand why stores were adopting this new technology, I encountered multiple perspectives from different groups that present the shift towards self-service as a contested issue, with each group offering overlapping – and often conflicting – explanations.

Below, I describe the reasons given by each of these groups, as well as how I interpreted such remarks. In keeping with the ethnographic tradition of representing one's subjects through their own language and respective terminology, whenever possible I have included direct quotes from interviews or statements quoted in publications.

What the Manufacturers Say

When I began to explore the reason stores were adopting self-checkouts, I determined that the best place to start would be with the companies that manufacture them. After all, I thought, they must have had to come up with a reason to convince stores to purchase them in the first place.

Fueled in part by a series of recent acquisitions and mergers, two vendors – IBM and NCR – effectively control the lion's share of the self-checkout market (see Chapter 2 for more detail).⁸⁷ Accordingly, I focused my analysis upon these two corporations and how they promote, market, and advertise their product to food retailers like SuperFood.

According to Tracy Flynn, vice president for NCR's Retail Product and Solution Marketing, two factors are driving the increasing use of self-checkouts in retail stores: improved customer service and labor shortages.⁸⁸ Challenging allegations that technology such as self-scans will eliminate jobs, NCR offers critics a 'reality check', implying concerns about job loss are more hype than fact. Instead, they argue, self-checkouts meet a growing consumer demand for convenience by reducing lines and speeding up the checkout process.⁸⁹

⁸⁷ *Kiosk Magazine*.

⁸⁸ NCR Corporation. 2005. "Reality Check on Self-Checkout."

⁸⁹ *Ibid.*

More specifically, NCR and IBM each assert that self-service is being driven by customer demand. Depicting self-service as an increasingly taken-for-granted expectation held by customers, manufacturers such as IBM frame self-checkouts as contemporary ‘must-haves’ for retailers:

“Consumers are embracing self-service technology more than ever before. In fact, they are coming to expect it. From airport kiosks and pay-at-the-pump gas stations to self checkout lanes in do-it-yourself, grocery and warehouse stores, shoppers are consistently opting to control their own transactions.”

- IBM, ‘IBM Self Checkout Solutions: Innovating the Customer Experience’, p.2⁹⁰

“Customers demand convenience and want to get in and out of the store quickly. NCR FastLane delivers by speeding up the check-out process. Shorter queues, greater privacy, greater control, and more choice make for happier customers and, ultimately, more loyal customers.”

- NCR Corporation, ‘NCR FastLane’⁹¹

“The self-service revolution is real: consumers demand it, businesses depend on it. Whether we are banking, shopping, traveling or interacting with a healthcare provider, more of us look for, and expect, self-service as an ‘essential convenience’ that improves our overall experience.”

- Bill Nuti, NCR Corporation Chairman and CEO⁹²

Research sponsored by NCR and IBM corroborates these characterizations of self-service and self-checkout technology. A 2003 study by Interactive Data Corporation (IDC) of over six thousand consumers from North America, Europe, Japan, and Australia

⁹⁰ International Business Machines Corporation (IBM). 2007. “IBM Self Checkout Solutions: Innovating the Customer Experience,” p.2.

⁹¹ NCR Corporation. 2008. “NCR FastLane.”

⁹² NCR Corporation. 2008. “North American Consumers Demand More Self-Service Options.”

found that thirty-five percent of 18-34 year olds indicated they would be more likely to shop at a store that offers self-checkouts than at a store that does not. A more recent study carried out in 2008 found similar trends, including the following:⁹³

- Eighty-six percent of consumers are more likely to do business with companies that offer self-service.
- Sixty-six percent of the survey respondents say the availability of self-service technologies creates a more positive perception of the [stores'] brand.
- Fifty-six percent of respondents say their likelihood to use self-service has increased over the past year.
- For retail transactions, ninety-seven percent surveyed would use a combination of self-service channels to handle a transaction or service.

By playing on both retailers fears' of competition and their desire to allure an ever-increasing number of customers, companies such as IBM and NCR cleverly market their products as 'solutions' – IBM's sales brochure is titled 'IBM Retail Store Solutions' – implying that retailers have a 'problem'. This is a classic and effective sales technique which has been well-documented by scholars such as Glassner (2000), Ewen ([1976] 2001), and Packard (1960).

⁹³ NCR Corporation. 2008. "The Self-Service Revolution Is Real: NCR's 2008 Self-Service Consumer Survey Results for North America."

Equally important, manufacturers claim self-checkouts will lower costs by reducing shrink and labor-related costs. 'Shrink' is an industry term used to describe product loss, intentional and otherwise. Citing research by the Food Marketing Institute (FMI), IBM suggests that one of the major sources of theft in retailing is in part associated with staff, particularly cashiers. Once again, IBM sells its product as a 'solution' by emphasizing a problem', in this case presented in an "executive brief" published on their product's webpage:

"Of the total shrink measured in the FMI study, 40 percent was attributed to employee actions, including 24.8 percent linked to cashier dishonesty... One major source of employee-caused shrink is "sweethearting", a catchall term that describes methods cashiers might use to charge shoppers (often friends or family members) less than the actual cost of their items....[E]xamples of sweethearting include cashiers bagging up items without ringing them up, using overrides and voids to remove charges from the total sale, entering a stock keeping unit (SKU) number for a lower-priced item but placing a higher priced item in the bag, and ignoring items in the bottom of the basket... Therefore, removing the cashier from the checkout equation and implementing self checkout lanes has considerable potential to reduce shrink..."⁹⁴

According to FMI, shrink cost retailers 2 percent of sales in 2005, and 1.7 percent in 2006. To help give a sense of the magnitude of this cost, consider that in 2007 supermarket sales were \$535.4 billion dollars; a modest one percent loss would equate to a loss of approximately \$5.4 billion dollars. Accordingly, even if self-checkouts brought about only fractional improvements in reducing shrink, the savings would still be considerable.

⁹⁴ International Business Machines Corporation (IBM). 2008. "Shrink and self checkout: trends, technology and tips," p.5.

The savings from a reduction in theft fits within the context of what is a larger selling point – cost reduction. Evoking the euphemistic yet ever-important ‘bottom line’, self-checkout manufacturers market their products as cost-cutting devices that help reduce a business’ operating costs and expenses:

“[R]etailers have taken notice – not only because of the consumer demand for engaging self-service options, but also because these technologies can produce valuable advantages for a business’s bottom line.”⁹⁵

*“Consider this example: a retailer’s estimated \$1 cost to check out a \$100 order. Because one store associate can staff four or more checkout lanes, 75 percent or more of that cost can be returned to the bottom line for each self checkout transaction.”*⁹⁶

Carefully avoiding terms such as ‘automation’ or ‘job loss’, self-checkout manufacturers extol the potential savings offered through their product in labor costs. As NCR notes, “self-checkout...allows stores to cut labor costs, which account for more than ninety percent of the costs associated with running the front end of a retail store.”⁹⁷ One supplier estimated that the four-station, one-attendant configuration would require approximately one hundred and fifty fewer labor hours a week compared to the regular checkouts.⁹⁸ In other words, by replacing four conventional staff-operated checkout lanes and cashiers with automated self-checkouts and a single attendant to assist customers, businesses could save roughly one hundred and fifty labor hours. “This means that the

⁹⁵ International Business Machines Corporation (IBM). 2007. “IBM Checkout Environment for Consumer-Service Software,” p.2.

⁹⁶ International Business Machines Corporation (IBM). 2008. “Shrink and self checkout: trends, technology and tips,” p.4.

⁹⁷ NCR Corporation, “Reality Check on Self-Checkout.”

⁹⁸ Lake.

systems can pay for themselves in about nine months,” says the company.⁹⁹ According to NCR, each ‘FastLane’ self-checkout lane – which costs between \$20,000 and \$30,000 – pays for itself in twelve to eighteen months.¹⁰⁰ Statements such as these imply that it would be cheaper – if not more profitable and efficient – in the long run to replace cashiers and clerks with self-checkouts since they pay for their costs in a relatively short time.

Lower costs, better service. These two points are used to effectively sell the technology to businesses who desire to reduce costs while maintaining customer satisfaction and overall quality of service. Like a form of Freudian wish fulfillment, they promise businesses lower costs and happier customers – the ultimate dream for any business. Additionally, they offer prospective buyers statistics from case studies and survey research conducted by retail analysts that give the veneer of scientific credibility to their claims. By referring to their product brochures in ‘datasheets’ (as IBM does) and incorporating statistics culled from research by retail analysts, self-checkout manufacturers package their products as not simply persuasive sales pitches but calculated ‘solutions’ to fundamental economic problems of costs and sales.

What is perplexing, however, is the seeming contradiction inherent in their marketing and advertisements. If self-checkouts do not eliminate the need for cashiers, how is it that they save labor costs? For example, if four machines allow stores to replace four cashiers with one, where are the other three cashiers going? Particularly noteworthy is the degree to which the suppliers couch the savings of labor displacement in abstract language, using

⁹⁹ Ibid.

¹⁰⁰ Ibid.

innocuous phrases such as “improved labor utilization”.¹⁰¹ For example, IBM notes that “for each transaction and item scanned through self-checkout, retailers can save the labor that would have been needed to handle those items.”¹⁰²

What are they saving it for? One cannot save labor as one might capital; it cannot be invested or compounded by interest. Rather, savings in labor typically arise from increases in productivity or efficiency. One way to do this is to intensify the labor process – have workers work faster or adopt technology that speeds up the labor process. Another is to replace labor outright with technology via automation. While new technology may be more expensive in the short term, in the long run it eliminates the need for a constant source of labor. This is what the suppliers seem to suggest when they note how quickly these machines pay for themselves. If they were not really automating out labor, what would the savings in labor be?

Yet again, the suppliers couch the sensitive issue of automation and labor displacement in innocuous, vague terms such as “greater flexibility” and “operational efficiency”. For example, NCR asserts that their FastLane product “enables retailers to better meet customer service needs throughout the store by redeploying labor from the front-end to other areas within the retail environment.”¹⁰³ If retailers ‘redeploy labor’, how is it that they would save labor costs? Wouldn’t this simply be displacing the cost in labor from one site – the checkout lane – to another (e.g., assisting customers in the aisles, stocking shelves, etc.)? To truly save labor costs, self-checkout lanes would have to either allow businesses to eliminate necessary labor outright or allow it to be substituted with cheaper or more efficient labor.

¹⁰¹ IBM, “IBM Checkout Environment for Consumer-Service Software,” p.3.

¹⁰² Ibid.

¹⁰³ NCR Corporation. “NCR FastLane.”

Using the example given above, it would seem to be a case of both. By replacing four cashiers and checkout lanes with four self-checkouts and one attendant, stores would be displacing the costs associated with three cashiers. In turn, cashiers who become attendants would now be required to intensify their work effort by managing four lanes at once instead of one. However, this all depends upon how stores actually utilize the technology. As Richardson (1996) contends, “computers don’t kill jobs, people do”; the managerial policies put in place by organizations concerning the use and role of technology, rather than the technology itself, determines the effect technology has on work and employment. Therefore, it is important to understand how store management views self-checkouts and their role in the retail setting.

What Managers Say

While manufacturers such as IBM and NCR claim that the adoption of self-checkouts is being driven – at least partially – by customer demand, the author’s conversations with managers suggest otherwise, and indicate that in many cases, self-checkout was not adopted for customers but in spite of them. In fact, nearly every one of the fifteen managers interviewed indicated that there was at least some initial resistance to self-checkouts from customers, if not outright refusal to use the new technology.

Specifically, the demand for and acceptance of self-checkouts appeared to vary according to two factors: whether or not they were being added to an existing store (versus part of an entirely new store), and the dominant demographics of the store’s clientele. Adding self-checkouts to an existing store, or to a store with a markedly older clientele, appeared to coincide with a greater degree of resistance from customers as

perceived by managers. Store managers suggested that self-checkouts were more readily accepted in new stores, where they were viewed as part and parcel of the new installation, while the addition of self-checkouts to older, pre-existing stores elicited resistance from customers uneasy with change.

Author: [D]o you think the way customers have responded has something to do with whether a store opened with them in there versus a change in the store?

Rick (Store Manager): Definitely. Definitely. The last store I was at was in Muddy Branch and they put them in that store. So that stores had been there, what, sixteen years? So that's the toughest buy there. A store that was built with 'em like this one? A lot of times customers will consider it something new, something added to the industry. But a store that's established, and suddenly you put three or four of those bonksters in there – robots as the customers refer to them – it's a tough sell to them. They're not used to that.

Author: So it's sort of a reactionary stance to change?

Rick: Definitely. They're used to their regular cashier they see every other day or whatever and can chit chat with them. They actually get offended.

Author: Was it something about the self-checkouts themselves that upset the customers or frustrated them? Or was it just the change?

Rachel (Front End Manager): It was. You know, change is like burning books sometimes..

Barry (Store Manager): The older clientele, they don't like the machines. They don't like the self-checkouts. In my last store – I was in Annapolis when they were installed – the backlash was horrendous. After two months I was like 'this isn't even worth it'. The phone calls, the letters, the call ups to the main office...

This resistance from customers was frequently qualified by statements that contextualized resistance to a specific store or neighborhood, implying that the negative reaction was due to particular local factors rather than an overall industry-wide shared sentiment. For example, the Expressway Plaza store – located less than a mile from a state university – installed six rather than the customary four self-checkouts due to the perceived demand and acceptance from younger customers:

Author: Approximately when, if you can remember, did your store begin to introduce self-checkout lines?

Barry (Store Manager): Well, I can speak from a broad perspective. In 2002, I believe this store was one of the first to get self-checkouts and this store has more self-checkouts than anyone else in the chain.

Author: Really?

Barry: We have six of 'em. Most stores have four. All the other stores have four. They put six in here because of the strong university base. We figured more of a young, technology friendly and they would adapt to it more readily. And they have. They have. Almost fifty percent of my items go through self-checkout in this store.

Author: Almost fifty percent?

Barry: Of the items that get checked out go through self-checkout.

Author: Wow. I was told that [stores] try to keep the percentage of transactions through self-checkout at a fixed level – does SuperFood do the same thing?

Barry: That's interesting. When we first rolled out, they wanted to get twenty five percent of their customers served. The organization underwent some leadership changes and we merged with Colonial Market Foods, and the Colonial Market Foods group felt that we were putting too many people through self-checkout, then the perception of that and customer service was being lost, 'cause people were using more machines.

Author: Is it still twenty-five percent here?

Barry: At this store here, it's almost fifty. And they know why. They know why, 'cause there's six machines and people have bought into them.

Author: So because of the relative demand for the self-checkouts-

Barry: I can't do anything about it. I can't stop people from going through short of closing them down!

In other instances, self-checkouts had to be removed from existing stores, and in one case, not installed as originally planned due to anticipated resistance from the community. The store in question had taken out advertisements in local newspapers that included a description of the store offering self-checkouts. However, because of the neighborhood demographics – the neighborhood is often described as older and more

affluent than adjacent neighborhoods – the store decided not to install the self-checkouts in order to avoid irritating what was eagerly hoped to be a dependable customer base. The exchange below with the front end manager implies that this is only a temporary adjustment, however, and that self-checkouts will soon be back to satisfy a more general demand from the public:

Author: Now when I talked to Barry, he said a lot of the shoppers here – you definitely get an older crowd at certain times of the day – and I noticed that this store doesn't have self-scan, right?

Karen (Front End Manager): Mmhm.

Author: Was that [decision] made from the beginning when the store opened?

Karen: From my understanding, when the store opened it was supposed to have self-checkout. Now what happened, I can't tell you. But I do believe we will get 'em. I think it's coming to this store. Because you have a lot of customers requesting it.

Author: Mmhm.

Karen: And it was in the brochure, it was in our paper – 'self-checkout'. And I wasn't aware of it until a customer brought me the paper and said, 'well, it says right here you have self-checkout.' And we don't.

Author: [Because] they were worried there was going to be some resistance in the community?

Karen: Mmhm.

Author: So they nixed it.

Karen: Mmhm.

Author: But you think they're gonna' bring it back?

Karen: Oh, I think so. I think it's coming. I think it's gonna' be popular. Because a lot of the customers – that's what they want, that's what they were expecting because that's what they saw in their brochure.

In short, the decision to adopt self-checkouts was not being driven by customer demand. In fact, it was often being instituted in spite of it.

Accordingly, stores actively educated customers and staffed self-checkout lanes assiduously in an attempt to gain acceptance from the public and brook criticism. Two general strategies were used to accomplish this transition. First, stores aggressively staffed self-checkouts to assist customers and allay concerns that self-checkouts were replacing cashiers and checkout staff:

Author: So when you first opened the store here with the self-checkouts, was there anything specific that either of you did to transition shoppers into using self-checkout lanes?

Ezra (Assistant Manager): Just probably overkill with cashiers, having enough cashiers up there making sure that if [customers] had any questions they were right there to assist them. A lot of people, I think, were just very uneasy or were afraid of it, [or] didn't know how to work it.

Barry (Store Manager): The first and loudest complaint I got at the store I was in when they installed them was that, 'We like our cashiers. You're taking their hours away. You're cuttin' their hours'. And that was easy to address 'cause we added hours.

Author: Interesting.

Barry: We added hours. I can't remember if I added them myself or if it was my district manager but we added hours to the front end of our store down in Annapolis. So I was able to combat that because a lot of the cashiers through their talking to their favorite customers they got that impression maybe that they'd cut an hour or two...But I do know that I added hours 'cause I wanted to make sure that we didn't have that perception. And the last thing I want to do is have one less cashier and four machines down there to foster that idea 'cause that's not what we want it to do.

Second, by framing self-checkouts as a choice or 'option' rather than a requirement, managers soft-pedaled the technology as an added service or alternative rather than a replacement or substitute for the traditional cashier-operated checkout lane, subtly reinforcing the perception of customers' autonomy and independence and reassuring existing customers that they were not going to be "force fed" self-checkouts:

Author: So when stores introduce these new self-checkouts, is there anything that managers or the store itself does to transition shoppers into using them?

Rick (Store Manager): We look at it as an option. Like I say, any customer that would complain about them, we always say it's an option it's not mandatory that you go there. And a lot of them- like I say, in this store- and I can only figure because this store was open, well, I've probably had maybe three complaints in the year plus that I've been here. But a store that's established already

and they add them to it...the complaints are pretty extensive. But usually if you approach them with 'it's an option and we're not pushing them on you', most of 'em will buy into that and agree with you explain.

Sam (Store Manager): At no time has SuperFood, in this store – I can't speak for other stores – have we ever told a customer the only option is self-checkout.

Author: Mmhm.

Sam: We do not force feed that. We will not take a position of that's the primary service that we have in the store. That's an option.

Author: Mmhm.

Sam: Because I want to emphasize in this whole conversation, again, it was never a primary- it wasn't the primary service. And I think that's how we approached it. So it never was really a big issue with our customers and it's never been a big issue at the store level. You have pockets of customers who really don't like it. I mean, you probably have small pockets of customers who do not like 'em and they- Again, they have their option. We don't force feed it. I'll give you an example. Our store, we have 'em as you come into the store. The first five terminals are self-checkout, and then you go down-

Author: Right by the exit.

Sam: We almost tore- We almost took them out of here because we didn't like - corporate didn't like - how they were placed. We almost took them out of there, took 'em out of the store, and we

almost placed them all the way down by the terminal twenty-one [at the far end of the checkout area]. So twenty-one, twenty, nineteen, eighteen, seventeen–

Author: Have ‘em at the end.

Sam: The end. Because we felt like they were really in the wrong location. Because of our thoughts as a corporation, we don’t want our customers to perceive that they’re being force fed through those terminals.

When asked whether self-checkouts would reduce stores’ need for labor or the number of employees, managers readily disputed such claims, asserting that they had the same or higher staffing levels since the self-checkouts were added:

Carl (Store Manager): [I]f you look at it there’s been virtually no change in the number of staffers you have working on the front end. I still have the same number of cashiers that we had prior to the machines, so it hasn’t taken any jobs.

Author: So, this whole “taking jobs” thing is largely a myth?

Carl: Yeah. I haven’t seen that. The hours and everything else have stayed about the same, so it hasn’t really affected that.

Author: So is this jobs thing a red herring?

Rick (Store Manager): The two stores I've been in it's status quo. It hasn't eliminated anything. I mean, I can't speak for other stores if they try to save that way. But I certainly don't. I can't afford to 'cause I need all the people I can get. I would literally hire twenty cashiers tomorrow if I could. I'll hire as many people as I can come through the door. So...I haven't eliminated anything. I think when it first came out there was a lot of worry – like I said earlier – that jobs were going to be cut. But that's, I mean that's just not the case. That hasn't happened in my situation with my two stores that have had it, 'cause, like I say, I could hire everyday for the next three weeks and not have enough people. I don't know what other stores do, but I haven't seen it happen at SuperFood. And I know it was a fear. But haven't seen it happen here in my store, and I haven't heard about it at other SuperFoods, I don't know whether you have. But there was definitely a fear with the local [union]. But that's everything too. Every time you mention a change, it's always 'is it gonna eliminate jobs?', so I guess that's always a fear in people's minds. We got more to worry about the competition than we have to worry about self-checkouts. We got a Harris Teeter, we got Wal-Mart, we got Wegman's- That's what we better worry about. Putting a few self-checkouts next door – I don't know if that's going to eliminate too many jobs, but competition will eliminate jobs faster than anything 'cause they'll take our business.

In fact, all but three of the managers I interviewed – roughly eighty percent - claimed that self-checkouts would not result in fewer jobs for cashiers.

Yet when asked how self-checkouts helped their businesses, most managers cited an overall reduction in labor-related costs. In other words, while managers as a group disagreed with the notion that self-checkouts would eliminate jobs, they also emphasized its main advantage as being a labor-saving device – a rather peculiar contradiction.

Author: So, from a business perspective, how do these self-checkouts help the business? What do they do for the company?

Ezra (Assistant Manager): We'll be able to take one person and... let's say for instance they're making \$6.60 as a cashier, be able to have four lanes open and with a little assistance and... with a little assistance you're able to take care of four customers at one time instead of having four cashiers here at the rate of \$6.60, where you're paying out... so I guess you'd say it's substituting the people with the machines, but making sure you have somebody there that can really assist them and it's not so much of a heartache to have, and instead it's something new and fun to try.

Author: So you mentioned before these self-checkouts help the business by reducing labor costs.

Barry (Store Manager): If you look at the big picture, sure, it's gonna do that eventually. The rollout period I didn't reduce labor because I didn't want to. I wanted to make sure that the perception was, that I could negate that perception. Ultimately, there's occasions when you love to have those self-checkouts. If you remember back in 2003, Valentines' Day, we had a blizzard. I had four cashiers that never left the store that week. You know what I mean? So when no one could get to work, I had four cashiers on hand the whole time. Now that's a big plus. Same thing here, except we've got six of 'em. As long as you have one person to manage them, you've got six cashiers. Now, you know, and over time – I can say I've got fifty odd customers going through there.

Author: Wow.

Barry: And if I had to checkout those items with humans, that would add a third or a quarter additional payroll on top of that to get it checked out. So yeah, over time it saves a lot of labor.

To be fair, it is possible that adopting self-checkouts could simultaneously reduce the need for labor while not eliminating any jobs. This could be done by reducing the number

of full-time positions and increasing the use of part-time employment – what UFCW spokesperson Greg Denier refers to as the “downward restructuring” of retail work. For example, assume a store relies on a staff of fifty employees to operate the checkout lanes, thirty five of which are part-time employees and fifteen of which are full-time employees. By adopting self-checkouts, stores could conceivably elect to replace full-time staff with part-time staff, with the self-checkouts making up the difference. Rather than eliminating *jobs*, self-checkouts could be used to eliminate *hours*, allowing stores to shift towards greater use of part-time staff.

According to Barry, this was the agreement SuperFood had made with the local labor union. Stores would not cut hours nor would they terminate full-time employees; rather, the high turnover rate would be allowed to effect natural attrition among employees, permitting stores to gradually implement a transformation of their employment structure.

Barry: I dealt with the staff when they put the machines down. I was at one store’s reaction was either indifference or ‘hey - am I gonna’ get my hours cut?’ I get a veteran part-timer working thirty five hours a week – they’re making a living on that. And then here these four machines come along and then am I gonna’ get twenty five hours a week? So it’s a real concern. What we did – I should have mentioned this earlier – I introduced more hours, but at that point I let natural attrition take care making it balance out. ‘Cause people left and we wouldn’t replace them. For whatever reason. Whether they’re students and they get a real job, or another job, or that they got another job or got terminated for some reason we might not replace ‘em. Because now we got four self-checkouts. That’s how the labor thing comes to happen. We ain’t gonna just reduce the cashiers out ‘cause first of all they have a union. And the union got involved making sure this wasn’t a wholesale cut to their earning potential.

C: That’s my last question – what has been the union’s response to this?

J: Just that don't let us see a wholesale chopping of hours.

C: Was there— Is there an explicit agreement between the union and the stores?

J: No. Back when the self-checks went in- SuperFood's relationship with the union's always been pretty good and there's not a whole lot of animosity. The founder of the company was very much into continuity and not disrupting our customers. Strikes will do that, ok? So when the self-checkouts came in, they said 'hey, we got some concerns'. I'm sure they had a lot of meetings and the word – I believe this is and we can always come back – we were told, you know, 'Don't cut your hours'. Just, you'll get your labor savings through natural attrition. When you lose a cashier you might not be so quick to replace them. That way, when you do overall cut- reduce the hours. They're bringing in line with what you need now, each individual cashier might not be, won't be affected by it. Joe down here, you know, who's getting twenty hours doesn't work here anymore. So those twenty hours are gone but Bill here getting thirty five hours, he's still getting his thirty five. So that twenty hours was eliminated but it didn't hurt anybody.

C: So you didn't have to fire people or lay people off?

J: Exactly.

C: But it affected your rehiring practices?

J: Yes. We've slowed down in hiring until we're about where we needed. Until we're down to the level we need to, yeah. Because the budget's changed. You know, the next budget for the quarter after the machines went in, it's gonna be a little less. But if you manage your attrition and hiring it's not gonna hurt you. It won't hurt your staff. They're empowered.

Karen, in particular, was candid about how she thought self-checkouts were helping shape the employment structure of the supermarket industry. Working part-time as a cashier while she was enrolled in college, upon graduation Karen began to work full-time, eventually working her way up to a management position. In addition to herself, two of her adult children are employed by SuperFood, one whom works as a cashier. Yet, while Karen openly acknowledged her appreciation of self-checkouts as a customer, she was less than enthusiastic when it came to describing their effect on employees.

Karen: Like I said, I think it's a good thing but for a cashier it's not because it's taking their jobs. You know, because you only need one person to work two or three machines, you know? If you have three of these self-checkouts, you only have one cashier – that's two cashiers that's not working. So that's taking their jobs, most definitely.

Author: Now, when you say 'taking their jobs', does that mean they're somewhere else working in the store or that there's less need for [staff]?

Karen: No, their hours.

Author: Is this something that cashiers talk about?

Karen: Of course! I have two children that work at SuperFood as well, and my stepdaughter, she's a cashier at that SuperFood. Her hours was cut drastically when they put those machines in.

Drastically. Where she went to workin' like five days a week, they cut her down to two.

Several managers viewed self-checkouts in quasi-evolutionary terms, depicting self-checkouts as a step or progression forward in the overall evolution of the retail industry.

Automated self-checkouts were not entirely new, they argued, but rather combined existing technologies such as UPC bar code scanning, conveyor belts, electronic scales, and other point-of-sale (POS) technology in a new innovative form that was more cost-effective in terms of labor. Evoking a ‘survival of the fittest’ view of the industry, self-checkouts represented what one manager referred to as the “future of retailing”:

Sam (Store Manager): It started with the scanning, the self-scanners. Because years ago, you had – what was it? NCR?

Robert (Assistant Manager): NCR registers where everything had to be key punched. Not even key punched. Every item had to be priced.

Sam: Yeah. So that transformation in the business started. You had that. You had the existing method. And then we went over to the bar code – the UPC code – and the scanner and right then and there – even back then – it was a thought that ‘oh, well we’re gonna’ go to scanner. We don’t have to price stuff. We don’t have to price it any longer. All we have to do is put it on the shelf’. So it started really with that thought and then technology enabled us to go a step, to go steps further to presently the self-checkout.

Peter (Store Manager): [E]ventually you’re gonna’ see a store with nothing but all self-checkouts. Because it’s gonna’ be cost-effective. You know? And in any business you’re looking for cost-effective ways to run your business. And that’s one of ‘em.

Again and again, managers disputed the possibility that self-checkouts eliminated jobs, citing either level or increased staffing levels or of a perceived labor shortage and

staffing problem. Managers repeatedly mentioned difficulty in hiring and retaining employees, citing either the overall turnover that characterizes the retail industry or nearby businesses that offer more attractive wages and employment.

Union Cynicism

According to the labor unions, the addition of self-checkouts is not being driven by businesses' commitment to better customer service, but by a desire to further cut labor costs and increase corporate profits and earnings. Simply put, self-checkouts are being used to cut labor costs. "What it really is is service without the people or the cost of the people," says Rob Blackwell of the AFL-CIO, "It's done for the sake of the bottom line."¹⁰⁴

Labor organizations view the self-service trend as part of the 'jobless recovery' of the U.S. economy in which productivity and profits are increased by cutting staff and using technology such as self-checkouts to displace labor costs or offload work onto consumers.

At the national level, the United Food and Commercial Workers (UFCW) union, which represents more than one million workers in the U.S. retail food industry, asserts self-checkouts are being used to reduce overall labor costs by reducing employee hours and the number of full-time jobs available.¹⁰⁵ Rather than eliminating labor outright, the union claims self-checkouts are eroding worker benefits and wages by decreasing businesses' needs for full-time labor. The result, the union claims, is that retail jobs are

¹⁰⁴ Joyner.

¹⁰⁵ United Food and Commercial Workers (UFCW). n.d. "Self-Scanners Impact Workforce."

being “restructured downwards” and that self-checkouts are being used to facilitate this economic restructuring:

“The future is that they’ll be fewer and fewer jobs that come with adequate hours because of displacing jobs with self-checkout. You’re not looking at the current worker being displaced or losing health benefits. What you’re looking at is what the structure of the workforce looks like in the future: decreased hours, decreased benefits eligibility. You might have had ten full time jobs before, now you have 15 part-time jobs.”¹⁰⁶

- Greg Denier, UFCW Spokesperson

Like its parent organization at the national level, the local United Food and Commercial Workers union shares a certain skepticism regarding the adoption of self-checkouts. “It’s all to eliminate labor hours and increase profits. That’s what it’s all for,” says Bill Reynolds, president of the local UFCW union, “Basically we don’t like [it] because it costs jobs.” According to Bill, however, technology has always been used by business to reduce labor costs. In his view, what is really driving the use of self-checkouts are rising health care costs and the increasing competition from low-cost competitors such as Wal-Mart.

Author: Do you think that the industry is using this technology to sort of leverage that transition? Towards a part-time heavy workforce?

Bill (union president): Well, they were doing that anyway. I don’t think the technology has much to do with that. That’s the way they wanna’ operate. They wanna’ turn it into, you know, Wal-

¹⁰⁶ Adler.

Mart, a Wal-Mart industry where you got all low paid workers and you don't give 'em health insurance. That's where the industry is trying to go. This is a race to the bottom.

As companies like Wal-Mart gain larger and larger shares of the retail food market, companies such as SuperFood, Bill argues, are forced to consider adopting self-checkouts, even if it clashes with a long-standing company culture centered on customer service.¹⁰⁷ According to Bill, it is not self-service as a philosophy that is shaping the outlook of management, but rather what self-service can do to lower operating expenses and labor costs:

Bill (Union president): First of all, all grocery companies don't believe in self-checkout. Some believe in it a little bit, some believe in it a little more. It just depends on what the management of the company is trying to sell to the public. They try to make the argument that self-checkouts help customers. It's not. It's to reduce payroll.

Author: But store managers say that it's not taking jobs, nobody's losing hours, that-

Bill: That's [expletive]. It's all a lie. And that's not just my opinion, because I have the officials tell me how many jobs it saves when you put in a self-scanner.

Author: They do?

Bill: Sure!

¹⁰⁷ Callahan, Patricia and Ann Zimmerman. 2003. "Wal-Mart, After Remaking Discount Retailing, Now Nation's Largest Grocery Chain: Grocery Chains Fighting Wal-Mart For Market Share." *Wall Street Journal*, May 31.

Author: Really?

Bill: Yeah. They researched it. That's why they do it. I forget what period of time they said but they pay for themselves in two, three years.

Author: That quickly?

Bill: Yeah, the payback on 'em is fast. So, yeah, that's all the company line.

The major shortcoming of the union's position is the relative paucity of evidence to support such claims. Although unions allege that self-checkouts will eliminate (or at least erode) jobs, they offer little proof to back up such allegations; none of the union websites published documents or findings from independent research corroborating their claims. Therefore, one has to be careful in evaluating the merit of their claims. This issue specifically – the evidence concerning the effect of self-checkouts on jobs and employment – is addressed more fully in the next chapter.

Cashiers

In many cases, cashiers were too busy to speak with me, which in itself is perhaps worth noting. Observing cashiers and checkout clerks at work, I found that their work schedule follows a boom-bust pattern, similar to other service jobs (e.g., food service, etc.). That is to say, during certain periods of time – for example, during mid-day, the after-work rush hour – cashiers were visibly much busier ringing up purchases, assisting customers, and bagging groceries. In several cases, cashiers were simply too busy to

speak with me. For example, in one instance I had been waiting at the end of the self-checkout area – which includes four self-checkout lanes – to speak with a checkout clerk who had agreed to participate in my study, only to have to break off the interview after a few minutes because he was completely occupied rushing from machine to machine helping customers complete their purchases. In other instances, cashiers may have felt pressured to decline; despite protestations to the contrary, several declined openly stating that they did not want to risk their employment by participating.

Most, however, declined for a variety of reasons, ranging from a lack of interest to downright hostility. I offered to buy participants a snack or coffee as an incentive only to be put-off. After numerous failed attempts, I asked an employee with whom I had previously spoken why so many of her co-workers were declining to participate. Was it my approach?, I asked. Was the topic too sensitive? Did I need to more fully explain the guarantee of anonymity? Were they afraid of losing their jobs if they participated? According to her, the fault lie not with my research methodology but with my naïve understanding of how my research fit in relation to most cashiers' work routines:

“[A] lot of us spend all day dealing with people so that when we're on break or we're not working we don't wanna' deal with nobody. We just wanna' sit down and chill out. And a lot of people just don't wanna be here, so anything that keeps 'em here – like helping you with your interviews – they aren't going to wanna' do if they don't have to. It's nothing personal, they just got other stuff to do. A lot of people have other jobs or have to be somewhere, take care of their kids. So don't take it personal. But that's probably why you're having such a hard time”

- Karen, front end manager

Each of these reasons is noteworthy for the potential insights they may offer on work intensity and perceptions of job security in the retail industry, but the key is the relative degree to which cashiers were difficult to successfully interview and reluctant to participate. That being said, those cashiers who elected to participate were forthcoming and candid in their responses, and allowed me to sit and watch them work or interact with customers.

The End of the (Checkout) Line?

Regrettably, I was unable to gain a sufficient sample of opinions from cashiers and clerks to the question of why stores are adopting self-checkouts (see section above). However, I did solicit their opinion regarding how they perceived self-checkouts relative to their own current employment and specifically asked them whether they thought they would reduce or eliminate jobs in the store.

Overall, cashiers did not view self-checkouts as a threat to their employment. In fact, their responses seemed to suggest that, at least for the present time, their employment is necessary, if not indispensable. One reason is that self-checkouts are still a relatively new phenomena in the retail sector. The technology still has flaws and limitations and customers frequently require assistance to complete a transaction with self-checkout. One cashier, Susan, estimated that she needed to help approximately eighty percent of the customers that used self-checkout, while another put it closer to ninety percent. During the hour I spent talking with Susan and observing her and the self-checkout lanes, she had to assist nearly every single customer; one particular customer required help on three separate occasions during a single sales transaction. On a separate occasion, in a different

store, I had to repeatedly break off my conversation with a clerk manning the self-checkout lanes so he could assist a customer. After several minutes, he asked if we could end the interview simply because he was overwhelmed running from lane to lane assisting customers who were encountering problems with the self-checkout. These instances underscore the simple fact that stores still need people in the checkout lanes, a point acknowledged by Susan and other checkout staff.

Likewise, cashiers cited the need to have the self-checkout lanes monitored in order to deter theft, or ‘shrink’. “You gotta’ have someone standing there to make sure people don’t just walk off [with the merchandise]”, said Leonard, a fifty-one year old cashier. Ismail, a twenty-two year old who has worked in the same store since he was fifteen, noted “[t]he only problem is you have to keep an eye on self-checkout. Sometimes people don’t pay.” While self-checkouts have built-in features designed to prevent theft, they remain susceptible to a variety of methods used by both casual and professional thieves, meaning that checkout clerks and cashiers are also increasingly taking on the role of security guard, monitoring the checkout lanes for suspicious activity and theft.

Additionally, as a few cashiers noted, some customers’ refusal to use the technology means that cashiers are in many cases still indispensable in a business that purports to sell not just a product but service. As long as some customers continue to prefer using human-operated cashiers, stores will have to employ cashiers to meet their customers’ expectations.

However, several employees held mixed views regarding self-checkouts. Although they did not appear to feel the machines represented an immediate threat to their employment, they still expressed a degree of doubt and uncertainty regarding their actual

effect on employment. This sentiment is captured in the following exchanges I had with a number of cashiers and checkout clerks:

Author: Do you have any concerns about self-checkouts eliminating cashiers' jobs?

Celeste: No.

Author: No? Why not?

Celeste: Because they still need somebody to watch 'em.

Author: So you think even if they wanted to get rid of all the cashiers, they would still need them to stand there and watch and help people and-

Celeste: They probably wouldn't need as many [emphasis], but they'd need some though.

Author: Do you think self-checkouts will reduce the number of jobs here at SuperFood?

Susan: Yes and no. There still has to be someone with a brain to just- The end here gets full so someone has to empty it. But they do, I guess, take away some of the cashiers.

Author: Do you think self-checkouts will reduce the number of jobs here at SuperFood?

Erin: No. They still need someone down there to run 'em. It may reduce some [jobs], but not all [of them]. And a lot of people in this store won't use 'em.

Like the managers, cashiers appear to harbor differing, if not contradictory, views on the relationship between self-checkouts and jobs. On the one hand, self-checkouts are dismissed as an immediate threat to cashiers' jobs; the technology is still prone to errors, susceptible to theft, and most customers still require assistance or refuse to use them outright. The simple fact that cashiers continue to work despite the adoption of self-checkouts leads allows to believe they are not a threat to their employment ("*hey – I'm still working here, right?*").

Yet there is also a belief that self-checkouts may in fact reduce jobs. The comments made by Susan, Celeste, and Erin above suggest that while cashiers' work may not be completely automated by self-checkouts, there will likely be some reduction in necessary labor. For others, such as Leonard, self-checkouts constitute a growing threat to hours that are already seen as difficult to come by:

Leonard: First thing I think of when I see those [self-checkouts] is less jobs for people.

Author: Do you yourself worry that your hours could be reduced, you could lose your job-

Leonard: I'm almost sure they probably would, you know, 'cause they're cuttin' back on hours as it is, as it stands right now, so.

Author: Is this something cashiers talk about? That the self-scans are gonna' keep coming and grow in number?

Leonard: We don't talk about it that often here, because we haven't heard anything about them coming here, so, you know. But, you know, soon as you bring it up, a little eyebrow gets raised around, you know. When they comin', they say it's gonna' cut back on hours...

In sum, cashiers, like managers, hold conflicting views on self-checkouts. For some, the simple fact that they were still working implied that self-checkouts were not a serious threat to cashiers, or at least their employment. The role of cashier might be reduced, but there would still be a need for people to help customers, bag groceries, run checks and deter theft. Granted, the technology might automate tasks such as scanning items or making change, but until they automated – or displaced – all of the tasks performed by cashiers and checkout clerks, there would still be a need for checkout staff. Yet most acknowledged that there would eventually be some job loss attributable to self-checkouts, whether it be hours, positions, or the actual number of staff.

Customers: ‘A Sign of the Times’

When asked why stores such as SuperFood were adopting self-checkouts, customers offered a variety of reasons. However, a majority of respondents cited a single reason in their response to the question posed by the author, suggesting that there is, to some extent, a prevailing public opinion (see Table 10). Described as “cost effective” by one shopper, nearly two thirds of shoppers interviewed – sixty-seven percent – described automated self-checkout lanes as an attempt by stores cut costs. Simply put, a majority of sampled respondents viewed the introduction of self-checkouts as way for stores to save money. Even more revealing, perhaps, is that eighty-four percent of those who cited cutting costs as a reason made explicit references to fewer employees and staff, directly associating the new technology with a reduction in staff and employment.

“Less manpower. Less employees you have to pay.”

– 57 year old female retail clerk

“Probably to cut costs of workers. So they can use fewer workers.”

– 61 year old male

“It’s cheaper. They don’t have to pay the people who do the checkout.”

– 50 year old stay-at-home mother

“Get rid of the cashiers and checkout people. They won’t have to pay’ em if we do it for ‘em.

That’s what I think. I think a lot of people think that.”

– 70 year old retired male customer

“If they can get customers to do more of the work, checking out our own groceries, they won’t need as many cashiers, right? They’re not paying those people who use self-checkout, do they? Well, there you go!”

– 73 year old retired male customer

In short, most of the customers interviewed considered automated self-checkouts as part and parcel of the larger economic trend of corporate ‘belt-tightening’, alongside other cost-cutting methods such as outsourcing, automation, and downsizing. Merging two widely recognized forms of labor-displacing technology – the computer and the assembly line – results indicate that self-checkouts are perceived by most customers to be the latest iteration of the age-old business strategy of cost-cutting.

However, not all of the shoppers I interviewed felt this way; aside from cost reduction, customers also cited convenience, added choice, customer preference, and novelty as

factors, among others. Numerous customers described self-checkouts as an added convenience, providing customers with an alternative to the express lane. According to one female shopper, “[it’s] for the people on their way home who just want to pick up a couple of things.” This view was shared by several other respondents, who viewed the addition of self-checkouts as an added convenience designed to reduce time spent in line, especially for those purchasing only one or two items.

“So people with a few items can get in and out, [and] don’t have to wait in line.”

– 20 year old male customer

“Keep people from waiting in line. So if you’re only getting one or two things you can get in and out.”

– 29 year old female customer

“I think they’re for people getting a few items, you know? Like the express lane but maybe even fewer. I don’t think it would make sense for them to try to go through there with a whole cart full of items, although maybe some people do.”

– 37 year old female customer

Another reason cited was customer preference, suggesting that self-checkouts were being added to meet a general demand or expectation from the public. Mirroring the claims made by manufacturers, some customers expressed a preference for shopping at stores that offered self-checkout lanes, while others described it as a basic, taken-for-granted necessity. “Certain people want to do it,” said a twenty-seven year old female shopper, “I know people who want them when they go shopping.” Others described it as

being more driven by a particular type of shopper, such as the computer-savvy tech crowd. “Some people seem to like ‘em, so I suppose they’re for some people” said a seventy-five year old customer, implying self-checkouts were designed to meet a certain target group or demographic.

A few shoppers cited the “novelty factor”, characterizing self-checkouts as gimmicks or spectacles designed to attract consumers. “They think people like the novelty factor,” said a twenty-five year old male, suggesting self-checkouts are part of a marketing or advertising strategy designed to attract customers. Another shopper simply noted that “[new] technology is always fun to play with”.

This description of the novelty of self-checkouts ties in to the established literature on the role of the ‘spectacle’ in consumption and consumer culture, in which businesses seek to find ever newer ways of attracting, enchanting, and seducing a bored and alienated consumer base (Ritzer 2001; Debord [1967] 1994). As existing forms of capitalism become routine, dull, and commonplace, spectacles represent one way in which businesses can create enthusiasm and attract customers. While self-checkouts are perhaps not nearly as spectacular as, say, the Bellagio casino in Las Vegas, they do offer a novel way of conducting retail transactions. To some consumers, it may be that self-checkouts represent a new, exciting way of doing business that parallels new contemporary forms of communication (e.g., email, cell phones) and entertainment (e.g., computer video games)

Indeed, several customers characterized self-checkouts as simply a “sign of the times”, reflecting a societal shift and general preference towards computer-based technology. “I guess people want to do more things with computers, you know?” says a fifty-eight year old married nurse. “[T]hey have things like this at Home Depot, the movie theater –

they're everywhere." Confronted with automated services at the airport, retailers, hardware store, and movie theaters, customers such as these may view the adoption of self-checkouts as merely part of a larger trend towards computerization and the expansion of information technology. Likewise, as banking, work, and communication become increasingly computer-mediated activities, customers may come to expect similar social arrangements in their leisure activities.

Lastly, we have the nearly twenty percent of sampled participants who responded 'I don't know'. In survey research, one of the major problems researchers face is the category of *nonresponse*, or those respondents who refuse to answer or participate in a survey.¹⁰⁸ However, a response of 'I don't know' is not the same as a non-response; indeed, it is in fact a very specific type of response indicating the absence of an opinion or viewpoint.

In this study, only eight participants did not provide a response when queried regarding why stores were adopting self-checkouts. In fact, most, if not all, of these non-responses reflected occasions when the participant did not have time to respond or in which the interview had ended abruptly or prematurely. In some cases, respondents interviewed in the checkout line had completed their transaction and simply wished to depart the store and go on their way; in others, the classic cues of averted eyes, shifting

¹⁰⁸ For more on nonresponse and the effect of response rate on estimates, see Keeter, Scott et al. 2006. "Gauging the Impact of Growing Nonresponse on Estimates from a National RDD Telephone Survey." *Public Opinion Quarterly*. 70:759-779; Daniel, Wayne W. 1975. "Nonresponse in sociological surveys: A review of some methods for handling the problem," *Sociological Methods and Research*, 3:291-307. The journal *Public Opinion Quarterly* recently published an entire issue devoted to the issue of nonresponse in survey research (*Public Opinion Quarterly*, 2006, 70:637-809).

stance, and closing statements (‘*Ok, well...*’) indicated that I had exhausted their goodwill and that they were impatient to end the interaction.¹⁰⁹

Precisely why these respondents did not offer a response is speculative at best; it may have simply never occurred to them to question their appearance. What it does indicate, however, is the absence of a certainty on behalf of customers. Used as an indication of certainty or awareness, we may interpret those who responded ‘I don’t know’ as reflecting a significant degree of uncertainty or obliviousness among the shopping public.

Overall, however, a majority of the shoppers I interviewed perceived the adoption of self-checkouts as being driven by stores’ desire to cut costs. While it is worth noting that there were numerous other reasons attributed to the addition of self-checkouts, it should be pointed out that my interviews suggest a predominant and prevailing sentiment. Additionally, most of the customers perceived self-checkouts not to be merely more cost-effective and efficient, but also connected it to a process of technology-based labor displacement, claiming that self-checkouts would replace cashiers and reduce stores’ need for staff. Whether or not this is actually true is a separate issue – which I address in the following chapter – but regardless of its veracity it is worth noting how prevalent this belief was among those shoppers I interviewed.

Summary

The first and perhaps most obvious finding is that in place of a single reason, manufacturers, managers, cashiers and customers offered a variety of explanations and

¹⁰⁹ For more on verbal and nonverbal cues to closing conversations, see Clark, Herbert H. 1985. “Chapter 18: Language Use and Language Users.” Pp. 179-229 in G.Lindzey and Elliot A. (eds.), *The Handbook of Social Psychology*, New York: Harper and Row; Goffman, Erving. 1963. *Behavior in Public Places: Notes on the Social Organization of Gatherings*. Glencoe: The Free Press.

accounts to explain why supermarkets are adopting self-checkouts. Indeed, when asked why stores are adopting self-checkouts, the various stakeholders involved offered different – and occasionally conflicting – reasons.

Second, as one might expect, the reasons offered by each group to explain stores' adoption of self-checkouts reflects, to varying degrees, the major economic concerns and investments of the given group. Manufacturers, for example, trumpet market demand and 'bottom line' savings – a two pronged sales pitch designed to seduce supermarket chains and retailers. Similarly, managers largely confined their discussion of self-checkouts to those areas in which they themselves are most focally concerned: sales, theft, and staffing. And, as one might expect, the labor union and workers cited reasons involving employment and labor costs, underscoring their economic stake and interest in employment. In short, each group, to some extent, offered reasons for the adoption of self-checkouts that reflected its own relative economic position and interests.

Thirdly, the reasons offered by each group tended to conflict with those of the other groups, and in some cases, called into question the very veracity of such claims. For example, while the manufacturers of self-checkouts cited research indicating a strong market demand from customers for self-checkouts in retail stores, numerous store managers described how self-checkouts were introduced in several stores in spite of customers, and in some cases, removed due to negative customer response. Likewise, while managers and manufacturers downplayed or outright rejected the notion of self-checkouts reducing the number of jobs or labor needed, the union and at least one cashier cited the loss of jobs and working hours as a likely result, if not a driving impetus. Even *within* the group of managers interviewed, there was considerable disagreement as to

whether self-checkouts were being adopted to cut labor costs. Some managers, such as Sam and Rick, emphasized externalities such as the labor market and underemployment, while others such as Peter described the reduction of payroll costs as a driving factor. In short, there was not just a plurality of reasons offered by the groups examined, but a plurality of conflicting and competing views – what symbolic interactionists would characterize as a struggle to ‘define the situation’ (McHugh 1968).

Recent research by Alecia Cast (2003) bears discussion on this issue. Cast’s (2003) research on power and the ability to define the situation finds that the person or party with greater power tends to be more successful in defining the situation. In respect to the adoption of self-checkouts, this would imply that whichever group or coalition is more powerful may be able to successfully ‘define the situation’ – in this case, the reason for the adoption of self-checkouts – and establish a degree of legitimacy that supersedes other claims. I revisit this issue in the concluding chapter when addressing the future of self-checkouts and their role in retail businesses.

Ultimately, I would argue, the decision to develop and adopt self-checkouts lay with the manufacturers who designed and developed them and the stores which purchased and implemented them. True, customers’ perceptions and attitudes may have played a role in the development and adoption of this new technology, but they neither created them nor placed them into actual stores. In this respect, self-checkouts were wholly the making of the manufacturers and supermarket chains such as SuperFood.

Indeed, the findings of this research indicate that in several cases, self-checkouts were adopted not *because of* customers but *in spite of* customers. Far from the customer demand and expectation described in IBM and NCR’s sales brochures, managers gave

anecdotal accounts of customer hostility and resistance to the addition of self-checkouts. Moreover, the language used underscored the degree to which the adoption of self-checkouts was a manufactured effort more closely resembling a sales pitch or advertisement than a capitulation to customer demand. Customers were described as “buying into” or having “bought into” the concept of self-checkout, implying that it was something sold to customers.

Chapter 5: The Effect of Self-Checkouts on Work and Employment

“Don't automate, obliterate.”

- Michael Hammer, co-author of *Reengineering the Corporation* (1993)
and proponent of business process reengineering.

“But lo! Men have become the tools of their tools.”

- Henry David Thoreau, *Walden* (1854).

Introduction

In the previous chapter (*‘Why Adopt Self-Checkouts?’*), I explored *why* supermarkets are adopting self-checkouts, examining the claims and reasons offered by self-checkout manufacturers, retailers, store managers, checkout staff and customers. This chapter examines *how* self-checkouts affect labor and employment in supermarkets and evaluates debated allegations concerning their economic effects on work.

As the previous chapter indicates, there is considerable debate as to why supermarkets and other retailers are adopting self-checkouts. A similar degree of controversy surrounds the alleged economic effects of self-checkouts. Indeed, perhaps the most hotly debated issue concerning self-checkouts centers on how they will affect jobs and employment in the supermarket industry.

This question also reflects a much larger debate within the social sciences regarding the relationship between technology and work. As Autor, et al. (2003) note, sociologists and economists characteristically tend to offer different views on the role and use of technology in the workplace.

Sociologists tend to point out that historically, technology has been used to displace, if not replace, human labor, and typically focus on negative consequences associated with the use of technology such as worker ‘alienation’ (Erikson 1986; Mottaz 1981; Shepard

1977; Blauner 1964), ‘deskilling’ (Rogers 1999; Burris 1998; Diprete 1988; Attewell 1987; Penn and Scattergood 1985; Wood 1982; Braverman [1974] 1998), and ‘control’ (Kraft 1999; Sewell 1998; Edwards 1979).

Economists, on the other hand, tend to characterize technology as a positive and productive force in economic life, noting that advances in technology increase economic growth, labor productivity, and efficiency (Stiroh 2002; van Ark, Kuipers, and Kuper, 2000). Moreover, economists note that adopting new technology does not necessarily result in deskilling (Autor, et al. 2003; Hunter, et al. 2001) nor increased unemployment (Goldberg, et al. 1998; Christie, et al. 1990; Jaffe and Froomkin 1968). In short, when it comes to assessing the effects of technology in the workplace, sociologists tend to focus on the potentially negative impacts (e.g., ‘deskilling’), while economists typically emphasize its more positive aspects (e.g., ‘upskilling’).

Although this portrayal of disciplinary differences regarding the effects of technology on work may be somewhat of an overgeneralization, it helps to simplify and frame what is essentially a still much-contested issue within academic research: *how does technology affect work and employment?* Moreover, it locates the present concern with self-checkouts within a larger body of research concerning the relationship between technology, work, and employment. Put simply, by examining how self-checkouts affect work and employment in the supermarket industry, we stand to gain some insight regarding their economic effects on work and employment in other industries.

Key Questions

The adoption and expansion of self-checkouts within the retail industry, and the grocery and supermarket industry in particular, provides fertile ground for revisiting this ongoing debate regarding the effects of technology in the workplace. Below, I address three key questions rooted in both the academic literature as well as the print media concerning the relationship between self-checkouts and employment.

The first question centers on the issue of *employment* (*'Redeployment or Unemployment?'*), addressing whether self-checkouts affect employment patterns and levels in grocery stores and supermarkets. Do self-checkouts eliminate jobs? Research on technology and automation suggests that there are limits to which one can fully eliminate the need for and dependence upon labor (Hirschhorn 1997; Shaiken et al. 1997), yet scholars note that forms of technology such as machinery, computers, and robotics have in fact displaced or eliminated the need for certain types of labor (Rifkin 2004; Bix 2000; Aronowitz and DiFazio 1994; Hartmann, Kraut, and Tilly 1986; Hacker 1979 Bureau of Labor Statistics 1977). Therefore, there is some uncertainty as to how self-checkouts may affect stores' need for labor and to what extent self-checkouts may automate or displace labor.

A second question concerns the issue of *skill* (*'Reskilling or Deskilling?'*) and the degree to which self-checkouts may be contributing to deskilling, reskilling, and/or technology-based skill bias. 'Deskilling' generally involves the elimination or reduction of skilled labor either through the technology or social organization, fragmenting work into tasks that can be performed by semi-skilled or non-skilled workers, a process that critics claim is driven by businesses' desires to reduce labor costs. Examples include the

use of machinery in automobile production (Rubenstein 2001), temporary workers in clerical work (Rogers 1999), and the use of technology in the insurance industry (Appelbaum). In contrast, ‘reskilling’ – also referred to as ‘upskilling’ or ‘skill upgrading’ – describes a process in which the introduction of new technology or work practices results in a net increase or acquisition of new skills. Occupying a sort of middle ground between these two conflicting views is the ‘mixed effects position’, in which technology eliminates or erodes the need for certain skills while increasing the need for others. The use of high-tech machinery, for example, may eliminate the need for certain low-skilled work, while simultaneously requiring new skills to operate and maintain such equipment (Milkman and Pullman 1991). ‘Skill bias’ – often described in terms of a ‘job-skills mismatch’ in sociology (Morris and Western 1999) – is a term frequently used by economists to describe how technological changes in the workplace result in a greater demand for white-collar or high-skilled labor relative to low-skilled and/or blue-collar or manual labor. A critical question, therefore, is how the introduction of self-checkouts affects stores’ needs for labor and the types of skills required. Do self-checkouts increase demands for more skilled employees (i.e., skill bias) or erode them (i.e., deskilling)? How do they shape the skills required by stores?

A third question concerns the extent to which self-checkouts are being used to erode *job quality* and facilitate *workplace restructuring* (*‘Downward Restructuring of Work?’*). As noted in the previous chapter, organized labor groups (e.g., AFL-CIO, UFCW) allege that self-checkouts are being used to facilitate a transition towards a part-time workforce in order to reduce labor-related costs such as health care, benefits, and pensions. Accordingly, there is a question as to how the adoption of self-checkouts has coincided or

contributed to a reduction in full-time workers and their associated benefits. Recent research on the service industry indicates that businesses such as hospitals and hotels have undergone significant restructuring in order to cut costs and confront rising health care costs (Appelbaum, Bernhardt, and Murmane 2003). With the supermarket industry also facing rising labor-related costs, are self-checkouts being used to effect a similar restructuring? Similarly, has the adoption of self-checkouts coincided with a reduction in working hours of cashiers or a shift in the distribution of full and part-time cashiers? And how has their introduction coincided with the receipt of health care by employees?

Below, I address these three key questions regarding the effects of self-checkouts using what is best described as a ‘multi-method’ or ‘mixed methods’ approach, drawing upon employment statistics as well as published documents, interview transcripts, and non-participant observation. When possible, I have included interview excerpts to highlight dominant themes, as well as tables and figures to illustrate relevant trends.

The Employment Paradox

If self-checkouts are in fact being used to replace or reduce the number of checkout staff, one would expect to observe a significant decrease in employment in the supermarket industry. At the national level, employment statistics indicate that there was indeed a drop in employment in grocery stores and supermarkets that roughly coincided with the introduction of self-checkouts throughout much of the industry (See Figure 1). This would, at first glance, appear to provide some support to the claim that self-checkouts adversely affect employment in grocery stores and supermarkets.

However, while there were significant declines in employment in the period 2000-2004, these could be attributed to the impact of a national economic recession – spurred by the ‘dot com’ collapse in 2001 – that occurred in the early years of the millennium, and appears similar to the downturn in employment in 1991 and 1992.¹¹⁰ Noting similar drops in employment in the years 1991-1992 and 2000-2004, one could argue that it was not the introduction of self-checkouts that caused the decrease but rather an economic recession and an associated decrease in the need for labor in the industry.

Furthermore, if self-checkouts were being used to reduce the need for labor, why did employment in the industry *increase* since 2005? If self-checkouts were being used to cut labor costs, one would expect to see a persistent downward, rather than upward, trend in supermarkets’ employment. This is simply not the case. In fact, when compared to the retail industry as a whole, employment in supermarkets and grocery stores has been relatively flat and stable (see Figure 2)

Moving from national to state-level employment, one can see that employment in the supermarket industry appears to be steadily increasing, rather than decreasing, further casting doubt on the notion that self-checkouts coincide with decreasing employment (see Figure 3). The adoption of self-checkouts by local chains such as SuperFood simply did not coincide with an observable decrease in employment at the state level. Although there are some observable periods of decreasing employment – note the years 1990-1993 and 2001-2002 – these, too, correspond to periods of national economic recession.

Another observation concerns labor costs. In the previous chapter, I noted that a majority of the customers I interviewed believed self-checkouts were being introduced to cut costs. When I asked customers to specify which costs were being cut, most cited

¹¹⁰ Henderson, Nell. 2004. "Economists Say Recession Started in 2000". *Washington Post*, January 22.

labor. This was echoed in the public by workers and organized labor and was even highlighted as a key selling point by self-checkout manufacturers themselves.

Yet, employment statistics indicate that labor costs in the supermarket industry continue to rise. Despite the introduction of self-checkouts into grocery stores and supermarkets, unit labor costs have continued to rise (see Figure 4).¹¹¹ To paraphrase Nobel-prize winning economist Robert Solow, the savings in labor costs associated with self-checkouts appear to be everywhere except in the statistics.¹¹²

In sum, employment statistics provide little evidence to support the claim that stores are using self-checkouts to reduce or eliminate employment. In fact, they appear to indicate the opposite; supermarkets, and the retail sector more generally, appear to be experiencing a relative *growth* in employment and employment associated costs. This is perhaps noteworthy in itself, but in this case it casts a considerable degree of doubt upon the notion that self-checkouts are adversely affecting employment in the supermarket industry.

Yet *why* self-checkouts are not adversely affecting employment, however, is something that cannot be gleaned directly from such statistics. This is where qualitative data – interviews, nonparticipant observation, and the use of secondary data sources – is most useful in addressing why such an effect has not occurred. Interviews with store managers, as well as statements from industry experts and analysts, reveal that there are several factors which collectively influence how self-checkouts are used, and which in turn, limit their impact on employment levels. These factors include chronic turnover and

¹¹¹ 'Unit labor costs' are calculated by dividing hourly labor costs per hour by productivity or real output.

¹¹² Referred to as the "productivity paradox" by economists, Solow (1987) noted, "You can see the computer age everywhere but in the productivity statistics," highlighting a discrepancy between investment in computer and information technology and economic growth and productivity. For more details see Solow, Robert. 1987. "We Had Better Watch Out." *New York Review of Books*, July 12.

labor shortages, concerns regarding theft and loss, bureaucratic controls, maintenance, and perhaps most importantly, specific labor contract provisions regarding the use of technology in the workplace. Below, I address each of these factors, highlighting how they influence the use of self-checkouts and their effect upon employment in supermarkets.

‘Now Hiring’: Chronic Turnover & Labor Shortages

First, managers claimed stores were looking to add rather than subtract labor and claimed to be in a near constant state of hiring due to a high degree of turnover. Far from replacing or eliminating employees, managers struggled to cope with chronic turnover and keeping staff positions filled. This difficulty in retaining staff, managers felt, was compounded by competitors in the low-wage labor market such as Wal-Mart and McDonald’s, who could offer higher wages or benefits such as free meals:

Peter (store manager): It’s easy to hire somebody. It’s just retention. It’s a little difficult nowadays. More so than what it used to be. And a lot of that is the startin’ wage. Our union contract is basically six-sixty [\$6.60] an hour. So it’s tough to get somebody on board for six-sixty an hour when they can go to Burger King, McDonalds, and make nine, ten dollars an hour. And get a free meal out of it.

Barry (store manager): The incentive to stay is not quite as strong as it used to be. Some of your ten, fifteen, twenty year staffers here- the incentive to stay back then was the salary and benefits – which they still have – but today, when they need six years to get benefits, \$6.60 an hour, I’m hiring kids. I can hire a sixteen year old cashier. And they’re here- We used to track turnover numbers pretty closely but not anymore. I’d see fifty percent of people with less than five years

experience going. So it's a constant hiring process. Constantly pulling applications out of our job enrollment system, interviewing, hiring.

Competing for low-wage workers with retailers and fast food restaurants, managers claimed they were struggling to fill a variety positions that went unfilled for weeks, sometimes months:

Author: [H]ave you had any problems recently in filling positions?

Rick (store manager): Oh yeah, it's tough. All along. Heck, we have a list. We just had a job fair yesterday. My customer service manager arranged [it] herself here and had it and she hired like fifteen people.

Author: Are they particular positions or just all over?

Rick: Cashiers and the service departments are the ones we try to fill first. Service deli, service bakery, cashiers, seafood. They seem to be the toughest.

Author: So is this jobs thing a red herring?

Rick: It hasn't eliminated anything. I mean, I can't speak for other stores if they try to save that way. But I certainly don't. I can't afford to 'cause I need all the people I can get. I would literally hire twenty cashiers tomorrow if I could.

Incredulous as this may sound, Rick responded by explaining that he needed more personnel to cope with the scheduling demands of his staff, many of whom were high school students:

Rick: [It's] for flexibility reasons, giving people their requests. And around here you get a lot of young kids. They want football games off, they want dances off, they want track and field off. So, we try to work with them as much as we can. [We] always tell them their school's first.

Later, when interviewing Rachel, I mentioned the job fair and the numerous openings in an attempt to understand why the store was looking to fill what appeared to me to be a rather large number of openings:

Author: So, the recent job fair you guys had – it sounds like you had tons and tons of interviews?

Rachel: I think I had twenty one interviews yesterday.

Author: What positions is this store [looking] for?

Rachel: I had thirty available. Six of 'em were pharmacy techs. And I think eight to ten were cashiers. And there's seafood, produce, flower shop, baker, bakery, bake-off- All of 'em.

Author: Has turnover been a real problem at the store? I mean, I get the sense that's a problem with every store.

Rachel: Yeah. Well, actually, I'm getting ready to send in a proposal to have the wage increased here. Since the union wage starts out at \$6.60 an hour and it's difficult with the mall. We've lost a lot of people – high school kids – to the mall.

Author: That's what Rick said. They make that calculation of 'I can make this at the mall or I can make this here'.

Rachel: Right. I think when I started SuperFood, I think, um... 'Cause I started when I was in college. So I think I started out making more money than what we're hiring at. And that was fifteen years ago [laughs].

Struggling to compete with the starting wages offered by the local mall and other retailers, Rick and Rachel found it difficult to hire and retain staff – a problem I heard from most of the other managers I spoke with. Indeed, one of the major problems managers faced was staffing – finding people who were willing to work for relatively low-wages and, after perhaps eighteen months, health care coverage.¹¹³

Part of the reason appears to be the relatively low starting wages. As Rachel pointed out, the increases in wages haven't kept pace with increases in the cost of living, meaning that for long-term employees such as herself, wages actually appear to have grown very little. When Rachel began working for SuperFood fifteen years ago, the federal minimum wage was \$4.25; although it has since increased to \$6.60, when adjusted for inflation, it is more or less the same in terms of buying power.¹¹⁴ Therefore, even though starting wages have increased since she first began working for SuperFood, the actual purchasing value of the wages has stagnated¹¹⁵. Compounding this problem is the fact that supermarkets such as SuperFood are competing for low-wage workers against retail stores such as

¹¹³ Labor contract provisions state that new employees are only eligible for employer-based health-care coverage after a specific time period, which ranges from twelve to thirty months, depending upon work status (i.e., full vs. part-time) and classification.

¹¹⁴ The federal minimum wage in 1992 was \$4.25; as of 2008, it is set at \$6.60. Adjustments for inflation were calculated using the Bureau of Labor Statistics' (BLS) CPI Inflation Calculator, available online at <http://data.bls.gov/cgi-bin/cpicalc.pl>.

¹¹⁵ This is not unique to the supermarket industry, as wages have stagnated across various industries since the 1970's. For more on the stagnation of wages, see p.49-54 in Levy 1998 and p.109-190 in Mishel, Lawrence, Jared Bernstein, and Sylvia Allegretto. 2006. *The State of Working America, 2006/2007*. New York: ILR/Cornell University Press.

Target and WalMart that can offer higher wages. Moreover, under the new labor agreement, part-time employees only become eligible for employer-based health insurance coverage after a minimum period of eighteen months.

Demographics play a role as well. According to the Bureau of Labor Statistics, high turnover and short job tenure are endemic to the supermarket industry.¹¹⁶ This is due, in part, to the age distribution of the industry's workforce; in 2006, roughly a third of all jobs in grocery stores were held by workers in the 16-24 age group.¹¹⁷ As a result, managers such as Rick frequently find themselves having to balance younger employees' academic and extracurricular activities with store scheduling needs.

The end result is an industry plagued by relatively high turnover and short job tenure, making staffing a persistent problem for store managers. This may explain why managers such as Rick find it hard to believe that self-checkouts are eliminating jobs. "We are [currently] facing tighter labor markets with [fewer] cashiers available to cover stores hours," said Doug Miller, director of store systems for Food Lion, Inc.¹¹⁸

Rather than pushing cashiers out of the way, manufacturers such as NCR argue that self-checkouts are being driven, at least in part, by labor shortages.¹¹⁹ According to Greg Buzek, president of retail consulting firm IHL, self-checkouts are unfairly criticized for performing jobs that otherwise go unfilled:

"Self checkout has typically gotten a bad rap. People have looked at it and said, 'Oh they're just trying to cut jobs with self checkout.' Actually it's quite the opposite and evidence of that is when

¹¹⁶ U.S. Bureau of Labor Statistics. 2008. "Grocery Stores." *Career Guide to Industries, 2008-2009 Edition*.

¹¹⁷ Ibid.

¹¹⁸ NCR Corporation, "Reality Check on Self-Checkout."

¹¹⁹ Ibid.

is the last time you went into a supermarket and saw all 16 lanes setup and ready to take customers? They're simply aren't enough people to take those jobs.”¹²⁰

In other words, self-checkouts are not pushing people out of jobs but filling in gaps and shortfalls in staffing.

Managers who oversaw staffing and scheduling also claimed they had not observed any changes in employment patterns following the addition of self-checkouts. Managers familiar with scheduling such as Rachel and Carl noted that staffing levels had remained more or less unchanged since self-checkouts were introduced, implying they had little to no appreciable effect on employment patterns:

Author: One of the other things I've been looking at is this whole jobs issue. And when self-scans first came out – in places like Home Depot, places like the supermarket – everyone said, ‘This is gonna’ take away people’s jobs, this is gonna’ cut back on hours-

Rachel (Customer Service Manager): We heard that a lot when they first came to SuperFood. I was running the front end when they first came to Century Village. And I used the same amount of hours that were scheduled or even more.

As I found from managers, there simply wasn't proof that self-checkouts were adversely affecting employment. If self-checkouts were getting rid of jobs, they argued, why are we continuing to hire new workers? Moreover, managers who oversaw scheduling and staffing on the front end claimed the number of hours had remained

¹²⁰ *Marketplace*. 2006. “Surprises in the self-checkout lane.” *American Public Media*, September 27.

relatively stable since self-checkouts were introduced, implying that there had been no significant changes to employment.

Instead, managers viewed the concern over jobs as being more based in rumor than fact, attributing the source of such rumors to the cashiers, the labor union, and a generalized aversion to change in the workplace:

Author: And did this- this misperception came from the customers themselves?

Rachel: Yes. And I'm sure maybe some of the employees. You know, change is like burning books sometimes.

Rick (store manager): I think when it first came out there was a lot of worry – like I said earlier – that jobs were going to be cut. Shop stewards spreading the whatever you want to call it, paraphernalia or paperwork or whatever, sayin' jobs are gonna' be eliminated. But that's, I mean that's just not the case. That hasn't happened in my situation with my two stores that have had it, 'cause, like I say, I could hire everyday for the next three weeks and not have enough people. I don't know what other stores do, but I haven't seen it happen at SuperFood. And I know it was a fear. But haven't seen it happen here in my store, and I haven't heard about it at other SuperFoods, I don't know whether you have. But there was definitely a fear with the local 400 people. But that's everything too. Every time you mention a change, it's always 'is it gonna' eliminate jobs?', so I guess that's always a fear in people's minds.

'Walking Off With the Store': Shrink, Theft, and Walkoffs

A second key factor concerns theft, or what is popularly referred to within the industry as 'shrink'. Although most self-checkout lanes have some element of theft-prevention technology integrated within the product, they still require a degree of external

monitoring in order to deter and minimize theft. Therefore, even if self-checkouts eliminate or displace the need for certain types of labor (e.g., scanning items), they still require other forms of labor (e.g., monitoring, maintenance) to ensure that they are not manipulated or abused by customers.

As Carl points out in the excerpt below, despite existing security features, self-checkouts have certain 'holes' or gaps in their ability to detect and identify misuse and theft, underscoring the continued need for staffing:

Carl: The machine's not able to identify exactly what you're purchasing. You could have a customer put five pounds of shrimp on there and weight it as bananas. You know, all you gotta' do is key in the code for bananas, and it's gonna' be seventy-nine cents a pound opposed to ten ninety-nine a pound. And that's why you want to keep one person operating four machines to sort of deter that sort of thing from happening. You'll have people that'll just move things around the machine itself. Won't even scan it. One way that it works good is it identifies a lot of items by weight, and so, for instance, a soda, you buy a soda and you take a drink out of it and scan it and put it on the belt, it'll reject it. It'll send it back because the weight is now different. So it'll catch some items like that. But there's a lot of dishonesty with the self-scan....For instance, you buy a hundred pound box of crab legs, or let's say, what is it, thirty pound box? So a thirty pound box of crab legs, that, on sale for five dollars – you're talking about a hundred and fifty dollars. Well, the machines up front aren't able to take anything for over ninety-nine dollars. So, what the seafood department has to do is break this up into probably four or five tickets, so you'll have four tickets at twenty five dollars each. Well, the customer will come up with this box of crab legs, with four tickets on it for twenty five dollars, and if you're not watching most likely they'll scan only one ticket for twenty five dollars and send it down the belt. So you just lost seventy five dollars. So what you've gotta' do in cases like that, you gotta' make sure the seafood department – anytime you get a large order, let us know what it is so we can either escort it to the register or catch them up front to make sure that it's rung up properly.

Author: That is incredible.

Carl: There's a lot of ways of beating the system. There's a lot of holes. For instance, if you take a salad bar and you have salad – what's salad, 3.99 a pound? [It's] about 3.99 a pound, and it has to be weighed, and then you take the hot foods bar over there where it's 5.99 a pound, well what a lot of people will do is take a hot foods product and put it on and weigh as a salad bar. So they're saving a couple bucks a pound. And there's no way of identifying or catching them unless someone's standing there watching it. So what they are working on doing is on the different containers in the service deli, they wanna' put a UPC label on the bottom of the containers that as soon as you hit the scale it will identify it as a hot food item, and then it'll just automatically weigh it. Or a salad bar they're gonna' put a UPC label on salad bar containers so that you can't beat that. So, they're working on different things – they're still trying to perfect it – but it's got some holes in it.

Another example of theft involves 'walkoffs', or people who scan and bag their groceries but then leave without paying.

Peter: [Y]ou have what we call 'walkoffs'. Where if that one person is not on top of it a hundred percent of the time, somebody can easily just walk off without paying it. And that's where you end up with shrink and you lose your sales, you lose your dollars.

Carl: [Y]ou get a lot of 'walkoffs', people that will walk off. You're busy or someone's tied up with something else – they'll finish the transaction, be bagged up, throw everything in the cart and walk out, and then the bell will ding a couple of seconds later that the transaction hasn't been finished. In the meantime, they're going – they're out the door.

Barry: We have walkoffs. They'll ring everything up, run it through the machine, bag it up and walk out. That's why one of the functions of the pay station cashier is to monitor the self-checkouts... But we have walkoffs. Some of them are actually walking off with the groceries. Some of them are walkoffs 'cause they get frustrated by the technology and they just walk out and leave the food behind. And some of them are just dishonest.

Walkoffs are a social category which includes not only shoppers who willfully misuse self-checkouts, but also customers who absentmindedly forget to scan items placed beneath the shopping cart, inadvertently departing the store with unpaid goods.

Barry: [T]hey could enter a wrong code or I've seen people try to sneak through with stuff on the bottom of their cart. Again, sometimes it's legit stuff. It's not- That's the same thing when you go through a human cashier and you know that used to be one of our rules. 'B-O-B' is what we used to say to our cashiers and that means 'bottom of basket'. Same as anything, it's as honest as the people dealing with it. You see people trying to get you. But you also see people trying to switch meat labels, change packaging throughout the store, so it's nothing new. Theft in this industry – the shrink and the theft – is ridiculously high. Part of it's in the store, part of it's out. Customers. Yeah, it's a challenge, it's a challenge watching that, that part of it. That's why we try to keep it manned a hundred percent of the time. They'll see it's being watched and they'll get fidgety and back off, do the right thing usually. But there's always the few dishonest ones... It's a lot of the honor system going through there.

In place of the 'honor system', self-checkout manufacturers such as IBM stress that businesses using their product follow 'best practices' to prevent theft and loss.¹²¹ These best practices, as described by IBM, include staffing self-checkout lanes as well as the

¹²¹ IBM, "Shrink and self checkout: trends, technology and tips," p.5.

use of close-circuit television monitoring, each of which requires the use of additional labor.

Yet, theft through self-checkout continues to be a relatively common – and arguably costly – occurrence.¹²² Regrettably, I was unable to obtain company records or data to calculate a precise amount of loss attributed to transactions occurring involving self-checkouts. However, several managers indicated to me that there was a great deal of loss – intentional and otherwise – occurring through self-checkouts. “There’s a lot of theft on the self-scans,” Rachel informed me, “A huge amount”. Similarly, when asked how much merchandise the store lost through the self-checkout lanes, Carl replied “well, I’d say we lost a lot”.

A cursory search on the Internet provides countless cases of shoplifting using self-checkouts in addition to numerous postings and articles related to theft using self-checkouts, suggesting that shoplifting and theft using self-checkouts is indeed quite common. One of the more spectacular cases of theft I uncovered in my research involves a woman who reportedly stole more than ten thousand dollars worth of merchandise using the self-checkout lanes at Wal-Mart.¹²³ Other examples include a man who attempted to purchase 42-inch Sanyo Plasma TV after switching the original price tag of \$984 with one for only \$4.88 and a woman who was banned from Wal-Mart for life after bagging more than \$300 worth of stole merchandise in a self-checkout lane.¹²⁴ Examples such as these highlight stores’ continued reliance upon human labor, albeit if only to monitor and deter theft, ensuring customers do not ‘walk off’ with the store.

¹²² For more details and statistics on theft, see p.65-66.

¹²³ McWhirter, Sheri. 2007. “Woman accused of retail fraud.” *Traverse City Record Eagle*, January 6.

¹²⁴ Associated Press. 2007. “Man Pays \$4.88 for Plasma TV at Wal-Mart.” June 29; *Orlando News*. 2007. “Woman Banned For Life From Wal-Mart.” July 25.

‘The Personal Touch’: Customer Service and Satisfaction

Although they may occasionally – perhaps inadvertently – walk off with unpaid merchandise, customers also limit the extent to which self-checkouts can be used to replace labor in a second manner, namely customer service and satisfaction. Walkoffs and other shoppers frustrated or unwilling to use self-checkouts may simply opt to shop at another store. Indeed, as Nardelli learned at Home Depot, replacing cashiers with self-checkouts may save labor costs but at the price of perceived customer service and satisfaction. Therefore, stores and managers that use self-checkouts to replace or reduce staff run the risk of losing loyal shoppers who prefer the traditional human-operated cashier checkout lane and the ‘personal touch’ of human service:

Barry (store manager): [P]eople are fairly loyal to their grocery store. Nowadays you might have two or three favorite grocery stores because you’re cherry picking the ads, whichever you want to do. But I’ve found here – every store I’ve been in – you have a very loyal, committed base. And if you have a veteran staff, they know those people and they care about them. That’s where some of the motivation is [to shop at this store].

Carl (store manager): [T]hey want the personal touch, they don’t want a machine taking care of their business.

Robert (assistant manager): They get to know that customer, that cashier. You know there’s that- A self-checkout person’s not gonna’ recognize “Hey Chris, how’re you doin’?” It doesn’t have that personal touch. And I think that’s what made SuperFood successful.

Indeed, managers such as Sam were well aware of the risks associated with substituting staff with self-checkouts and how their use may impact customers' perceptions of customer service:

Author: So even if a store hypothetically wanted to have lots of self-checkouts, reduce employees, it would really be counterproductive because—

Sam: I'll take it a step further. I think if any company – whether it's SuperFood, Safeway, or Whole Foods – took the approach of eliminating cashiers- We are only as good as our employees dealing with the customers. As a customer coming into my store, how many different employees do you encounter? And it only takes one, maybe two, bad experiences for that customer to be turned off to that store. We'd be shooting ourselves in the foot if we don't offer more cashiers than self-checkouts to give them a choice.

This has not gone unnoticed by those in the retail industry, which has taken an active role in examining the effect of self-checkouts on customer service. Citing a case study of SUPERVALU/Albertsons supermarkets' adoption of self-checkouts, a retail trade journal noted that customer complaints dropped after stores began to place trained staff at self-checkout terminals to assist customers.¹²⁵ The message was clear: staff self-checkouts to help customers or risk driving them into the welcoming arms of your competitor. "It's all about the customer experience and to ensure the customer has a good one," said Vicki Van Alstine, manager of self-checkout and mobile shopping for SUPERVALU/Albertsons.¹²⁶ "Retailers improve their odds of success with self-checkout when they train attendants properly and staff the self-checkout areas appropriately," said Kathy

¹²⁵ Wollenhaupt, Gary. 2007. "Personnel Matters." *Selfserviceworld*, July.

¹²⁶ Ibid.

Dawidowicz, product marketing manager for NCR's FastLane products, "If a shopper has a problem and nobody pays attention, then that shopper has a bad self-service experience. But if the shopper has a positive experience, the likelihood of trying the technology again improves greatly."¹²⁷

In the previous chapter, I described two ways in which managers addressed public concerns regarding the quality of customer service. One method – highlighted by Sam – involved presenting self-checkouts to customers as an 'option', while a second method – described by Barry – involved aggressively staffing the self-checkout lanes in order to dispel fears that the machines would replace staff.

A third method of ensuring customer service came from the corporate level, which actively imposed limits on the number of customers they wanted going through self-checkouts in their stores. As a result, stores were limited in using self-checkouts not only externally – by customers and their willingness to use the technology – but also internally, by bureaucratic rules limiting their use. As the managers explained to me, each store had a specific threshold or limit for the percentage of sales the company wanted going through self-checkouts.

Rick: [A] red flag will go up if you have too much of a percent using self-checkout in your store. Actually, they send out an email with a chart of your percentages.

Author: Is it fixed at seventeen percent or does it vary store to store?

Rick: It varies. Thirty would be the max I believe that they want – not want, would want to see, I would say. Some stores have anywhere from I guess, [from the] charts I've seen... you say

¹²⁷ Ibid.

seventeen - I don't know if you seen that number or if someone told you that – I guess I've seen anywhere from twenty to thirty percent. And if it gets above thirty – like I say, it's a red flag and they say that's too much, you don't have enough cashiers open along with self-checkout.

Author: And that's to maintain quality of customer service?

Rick: Exactly.

In part, this was done to ensure that stores were adequately staffed. However, as Carl points out, it was also done to maintain a degree of personal service and face-to-face interaction that companies view as integral to providing quality customer service:

Carl: "They're trying to keep the percentage down around seventeen, eighteen percent. Going through there [i.e., self-checkout lanes]. They don't want any more than seventeen percent of your business really going through the self-scans. So the company itself doesn't want to use them more than that. I mean, that tells you there they still want customers taken care of, they still want the staffers to be able to, you know, have personal communication. So, if you start using more than seventeen percent, that's a sign that someone's not staffing enough hours on the front end. And they will address that."

As Carl notes, some customers still want and expect to be served by human beings in face-to-face interactions. Part of the perceived 'quality' of the service, part of the reason for shopping at that store rather than another, is not the price but the personal interaction with another person. In some cases, such as Barry's, customers may over time develop a rapport with specific employees, establishing a motivation for returning on subsequent visits. Others may simply prefer a human interaction over one that is computer-mediated.

Therefore, even if stores could conceivably replace staff with machines, they hesitate to do so and as noted above, invoke formal rules and processes to limit their use in order to continue to provide customers with human service

‘Dealing With Jams’: Troubleshooting and Maintenance

Yet another reason why self-checkouts may not be adversely affecting employment is that they appear to be unable to operate effectively independent of human staff. As managers and cashiers explained to me, self-checkouts are susceptible to a variety of issues and problems requiring human intervention. Paper for printed receipts has to be replenished, items that fail to scan have to be manually entered, unwanted purchases need to be voided, and items need to be bagged to prevent the belt from stopping – any of which can bring the transaction to a complete stop:

Author: Why do you need to staff the self-checkout lanes?

Barry: [For] dealing with customer issues, dealing with jams, dealing with things the customer [does] [T]he machine will stop at certain points for certain reasons. If they have too much on the belt, at the end of the thing where they’ll bag it’ll stop. And all you gotta’ do is clear the area and it start scanning. It’ll start working again. You have items that might not scan that are called ‘not-on-files’, or NOF’s, and you can get them entered in there so that it learns the item. You would do that. There’s other reasons why the machine will stop, and you’d wave your card at it and fix whatever it is. Void items off – maybe they changed their mind, they don’t want something so you’d go over with your card and you pull up that screen, void that item out, take it out of that assisted note and away the customer goes on, keeps going on.

Therefore, stores assign staff to the self-checkout lanes not only to monitor their use and put forward a friendly face but also to assist customers and troubleshoot when problems arise.

And problems do in fact arise. A 2006 study by retail analysts IHL found that customers needed assistance one out of every three times they used self-checkout lanes.¹²⁸ My research findings, however, suggest the rate may be much higher.

To examine how often staff were needed to intervene or assist customers using self-checkouts, I positioned myself at the end of the checkout lanes to observe how frequently staff intervened in customer transactions or were asked for assistance. Sometimes, I kept a running tally, noting how many customers had gone through the self-checkout lanes and how many encountered problems or required assistance. For example, during a late afternoon period of approximately one hour, I observed seventeen customer transactions using the self-checkout lanes. Of the seventeen, nine – or approximately half – required assistance. While my observations were perhaps neither representative nor systematic, they did indicate that many – if not most – customers required some sort of assistance using the self-checkout lanes.

On other occasions, I followed around staff members assigned to the self-checkout lanes in order to observe the sorts of problems and issues they faced. At Century Village, I met Sarah, who worked part-time at the store both as a cashier and assisting customers as a customer service clerk. On that particular day, she was assigned to the self-checkout lanes to help assist customers and troubleshoot problems. During the time I spent following Sarah, she had to assist nearly every single customer who went through the

¹²⁸ Sheldon, Jerry and Greg Buzek. 2006. *2006 North American Self-Checkout Systems*. IHL Consulting Group.

self-checkout; one particular customer required assistance on three separate occasions. “There still has to be someone with a brain,” she explained as she bagged up customers’ groceries, “The end here gets full so someone has to empty it”. Sarah estimated that she needed to help ninety percent of the customers using self-checkouts.

At Travelers’ Gate, I met Henry, who also helps customers in the self-checkout lanes. Unlike Sarah, who laughed as she moved from machine to machine helping customers, Henry was so busy helping customers in the self-checkout lanes that we never managed to complete our initial interview. Like Charlie Chaplin trying to keep up with the assembly line in ‘Modern Times’, Henry struggled to keep up with the pace of customers who required assistance. I later spoke with one of his co-workers, Ismail, during a break, as we sat on the bench at the end of the checkout lanes. I described what I had seen with Henry and asked him if it was uncommon or unusual based on his own experience. He replied that it was not unusual at all. “[I have to help] almost every person,” Ismail told me, “About eight times out of ten.”

Admittedly, these examples are anecdotal at best and are hardly representative of the experiences of cashiers throughout the industry. Yet, they reveal the simple fact that self-checkouts are hardly self-sufficient and require some degree of human involvement.

Oftentimes, the problems I observed were the result of human errors; perhaps someone forgot to enter a UPC code correctly or inadvertently scanned a single item twice. Occasionally, though, the machines themselves are the source of the problem and require maintenance.

Author Have there been any problems with using the self-checkouts?

Rick: Maintenance. We have a company that gives us maintenance, basically twenty-four hours, twenty-four seven. When they first came out, obviously with the new technology there was problems. Since I've been in this store, probably maybe one time where one went down for a weekend and it was a problem getting a part but otherwise, just the technology and learning them would be the biggest challenge. And that was basically when they first came out with them. Recently, I don't think I've had a self-checkout maintenance problem in the last...probably three or four months now. But when they first got here there were a few, and that was partly I would say their fault and ours because the twenty-four seven window wasn't there. But the new twenty-four seven service – it's been much smoother. It's an outside maintenance company that takes care of them.

Rachel: [S]elf-scan has a lot of maintenance. We probably have one self-scan down a day. There's a lot of maintenance on it. It's the coins or the bill acceptor or the bill dispenser... There's a lot- There's a great contact with [a maintenance service company]. And they're available to us twenty four seven. And then we also have to wait on the parts. And then the parts come and then they come in and we can't find the parts. Sometimes it can be a hassle.

C: So you almost come to bank on one machine needing to be serviced or maintained?

Rachel: Mhmm.

C: All the time?

Rachel: Or at least powered down and rebooted back up.

Although the estimated rate of problems requiring maintenance varied, all of the managers I spoke with indicated that there was some sort of service agreement in place to provide replacements parts and on-site repair.

Reliability and the need for assistance, therefore, limit the extent to which self-checkouts can be used to effectively displace labor in the checkout aisle. Indeed, self-checkouts are hardly independent and require a good deal of human labor to function successfully. They require supervision and oversight by employees in assisting customers and troubleshooting problems, and occasionally “freeze up” or experience mechanical failures requiring repair and maintenance. Part of this reflects the embedded nature of self-checkouts. They operate software linked to store inventories and supply chains and depend upon the customer to perform certain tasks; errors or mistakes from any of these factors is enough to create a problem. Mislabeled products, faulty codes, or simple human error on the customer’s part are enough to bring any transaction to a halt.

More generally, though, it reflects what most researchers have come to acknowledge regarding computers. Although computers may effectively automate certain tasks or jobs, they are hardly independent workers in themselves and require a considerable degree of support and maintenance (Hirschhorn 1997; Shaiken et al. 1997). Therefore, while computer-driven systems like self-checkouts may reduce or eliminate the need for certain jobs in the front end of stores, they introduce a need for other types of work and tasks in the back end.

‘The Fine Print’: Collective Bargaining Agreements

A fifth factor concerning the effect of self-checkouts on employment is the collective bargaining agreement between the chain and the local labor union. Explicit language within the current labor contract prohibits stores from using technology to eliminate employees. The labor agreement covering the employees at the stores I studied specifically states (under Article 2 ‘Management Authority’):

2.2 “In the event that the Employer contemplates the introduction of major technological changes affecting...work within the Grocery Department, advance notice of such changes will be given to the Union. If requested to do so, the Employer will meet with the Union to discuss the implementation of such changes before putting such changes into effect.”

2.3 “Should the Employer intend to substitute electronic checkout systems for existing equipment in any store, the Employer agrees to notify the Union in advance and to provide the Union a list of all employees regularly assigned to the store on the effective date of the utilization of said systems. Said employees shall not be removed from the Employer’s payroll as a result of the installation of such a system. Employees may continue to be transferred, assigned to other work, or laid off in accordance with the seniority provisions of this Agreement provided the layoff is for reasons other than the installation of such a system.”¹²⁹

As the document indicates, SuperFood simply could not substitute employees with self-checkouts; such actions were outright prohibited. Moreover, it was required to meet with the union to discuss the potential changes involved with the introduction of the new technology if requested. In addition, any future layoffs could not be attributed to the

¹²⁹ Excerpts from the UFCW local union and SuperFood collective bargaining agreement. The collective bargaining agreement between the local union and SuperFood’s main regional competitor was virtually identical in respect to the statements regarding the use of technology and its effect on employment.

introduction of the new technology; stores would have to wait for existing employees to retire, quit, or voluntarily leave for another job.

In the short term, provisions such as these are likely to limit the effect of self-checkouts on employment. However, as Barry pointed in the previous chapter, self-checkouts may affect employment in the long term as stores like SuperFood modify hiring practices to bring labor needs into line. Workers lost through “natural attrition” (i.e., turnover) may simply not be replaced as stores restructure their hiring practices in order to fit their labor needs. Therefore, the effect of self-checkouts on employment levels may be delayed, as the effects occur at a slow and gradual pace rather than having a sharp and immediate effect. This particular dimension is worth noting and is addressed in further detail at the conclusion of the chapter.

Deskilling or Reskilling?

A second major question regarding the effect of self-checkouts on work concerns the issue of *skill*. As noted earlier in the chapter, research literature on the relationship between technological innovation and skill can be generally categorized into a number of competing perspectives or positions, including the ‘deskilling thesis’, the ‘skill-upgrading thesis’, and the ‘mixed effects position’ (Hodson and Sullivan 2002).

Generally speaking, the ‘deskilling thesis’ presents a negative view in which new technology is used to fragment and erode the need for skilled labor, breaking up jobs into cheaper, less skilled tasks that can be performed by low or non-skilled labor, ostensibly in order to reduce businesses’ labor costs. Examples include the use of automated machinery in automobile production (Rubenstein 2001), temporary workers in clerical

work (Rogers 1999), and computers in the insurance industry (Appelbaum 1987). The ‘skill-upgrading thesis’, on the other hand, describes a process in which the introduction of new technology or work practices results in a net increase or acquisition of new skills (i.e., ‘reskilling’). However, a potential side-effect of skill-upgrading is that it may result in ‘skill bias’, in which technological changes in the workplace result in a greater demand for white-collar or high-skilled labor relative to low-skilled and/or blue-collar or manual labor. Occupying a sort of middle ground between these conflicting views is the ‘mixed effects position’, in which technology eliminates or erodes the need for certain skills while increasing the need for others.

Therefore, the question is how the introduction and use of self-checkouts affects stores’ need and demand for certain types of skills. Do self-checkouts increase demands for more skilled employees or erode them? How do self-checkouts affect stores’ need and demand for certain types of skills? Below, I address the training and skills stores require as well as how the use of self-checkouts has affected stores’ needs for certain types of skills.

‘It’s Not Rocket Science’: Skills and Entry-level Jobs in Supermarkets

Grocery stores provide many people with their first employment; indeed, nearly all of the managers I spoke with started out their adult working careers in grocery stores as stock clerks and cashiers. According to the U.S. Department of Labor, grocery stores account for nearly a quarter of all youth employment, second in employment only to restaurants and eating establishments (see Table 11).

As a result, entry-level positions such as stock clerk and cashier have minimal skill requirements. In part, this reflects the characteristics of the labor market; the skills required for these jobs have to be relatively simple and easy to learn because many of them will be filled by new workers, many of whom have never had any previous employment or work experience. Moreover, given the relatively high rate of turnover, grocery stores cannot afford lengthy training periods for new employees filling vacated positions.

Accordingly, entry-level occupations such as cashier require few skills or qualification; most of the skills and knowledge required are learned on-the-job. Typically, this begins by observing or working alongside a more experienced employee, though SuperFood now also uses computer-aided simulations and programs.

Barry: [motions to computer terminal nearby] This thing here is your CBT, your 'cashier-based training' or 'computer-based training' for cashiers. Your cashier's keyboard there and they sit here, it all opens up and they do simulated cashiering, take tests on it-

Author: Cool.

J: So one session with that, then you throw 'em down there to bag for an hour or two so they get kind of comfortable with the feel and the pace and dealing with customers. And then you have that cashier and that new person switch places and they cashier, they scan while the experienced cashier bags for them. And then the second day we go 'here's your number, you're on number ten.'

Author: So it allows them to kind of prepare for it before the 'real thing'-

Barry: It ain't rocket science. It's not rocket science. We can train somebody in ten minutes. Just the nuts and bolts? We could do that in ten minutes.

Author: Wow. It's much shorter than I imagined.

Barry: It used to be- when I got hired, I was just taking a temporary job when I was in college, friend of a friend, said I needed to do something for the summer. And I went to a class over here, in Greenbelt. And then that Monday, I reported to store training school in White Oak, and there were four or five of us and we had a trainer and we were all at the end of a checkout, by ourselves on training mode, and we worked eight hours that day. Came back Tuesday and worked eight hours there again, you know, and eventually graduated Tuesday afternoons to live customers, and then on Wednesday you were off and Thursday you went to your regular store, your assigned store and started. Three days of intense training. Now, we hire 'em, throw 'em on this thing for two or three hours, bring 'em back next day, let 'em back for an hour or two then switch places, check some customers out.

As Barry indicates, training for cashiers has become compressed and is now often aided with the use of computers. While his training lasted for several days and occurred at a special training facility, new recruits in his store may now begin work in the checkout lane within hours of being hired, following a brief stint of training on a computer simulation. Although this speeds up the rate at which new hires can be put to work, it may also, as Barry notes, come at a cost in overlooking more subtle – yet equally valued – worker characteristics such as perceived friendliness and demeanor, or what are referred to as 'soft skills' (Tilly and Moss 1996):

Barry: [I]t's not much of a training service. And there's a problem with the customer service issue. Your customer expects a certain amount of service at SuperFood and he might not always get it. We try to screen the applicants carefully but sometimes you get some people who slip through the cracks and get in here and they're not very nice.

Therefore, while computers have assisted stores in speeding up the training process, they may be less effective in developing the skills managers see as integral to the company's overall success.

'There's Not a Whole Lot': Learning to Operate Self-Checkout Lanes

Given this background on the training and skills of cashiers, I proceeded to ask managers how they introduced workers to the self-checkouts, and in particular, the training and skills required to operate them. Theoretically speaking, the introduction of new computer-automated systems conceivably entails a significant reorganization of work and ostensibly requires additional training for workers to operate and manage them. Indeed, in stores that did not previously have self-checkout lanes, the arrival of the new machines typically coincided with a special training seminar to help employees and managers learn how to operate the new technology:

Carl: [W]e had people from the company come in and we worked with them for a couple of hours and just showed them all the, uh, well, these machines, everybody, whoever runs these machines has to have a scan card that gives them the ability to do different things, you know – weights, cancels-

Ezra: Reprint a receipt.

Carl: Yeah, reprint a receipt. A lot of the functions that the customer can't do. So that's why we keep it manned, and these people would go up and use their scan card to control these different machines. So this was something new to them, so you had to be trained to do that.

Recent literature on automation and the computerization of the workplace suggests that such changes can result in increased skill demands and requirements for labor (Autor, Levy, and Murmane 2003). Yet the actual training to operate and manage the self-checkouts was described to me as being 'easy', 'minimal', and 'simple', undercutting the notion that the technology genuinely required a significant increase in worker skills or qualifications:

Author: How much training did it take to transition staff from working with regular cashiers to manning these stations and helping customers with these stations?

Peter: If you know how to run a register, then running the self-checkouts is very easy.

Author: Like a couple hours?

Peter: Maybe an hour. At that.

Author: Maybe an hour.

Peter: Yeah. 'Cause it basically walks you through. Everything is right on screen. Ok, you're scanning – scanning is the same, ok? And any produce item, bakery item, or any item that has to be weighed has an icon on the screen. All you do is touch it with your hand and it automatically weighs it up.

Author: So there's no different skill or training that people need to really use this new technology?

Peter: I mean, there's minimal. There's not a whole lot.

Barry: It's very simple...[W]e'll give 'em a couple of hours training, though I could figure it out without much instruction. It doesn't take- it's not very difficult. Very simple machines.

Author: So you could train most cashiers in a day?

Barry: I could have you out manning the pay station in about an hour.

Author: [laughs]

Barry: Ok?

Author: Wow. So this doesn't require intensive training?

Barry: It's not rocket science.

Author: [laughs]

Barry: As a matter of fact, it'd have to be not rocket science because in this day and age, what with the level of the workforce we have.

A Glass Half Empty or a Glass Half Full?

Given statements such as those above, it is hard to imagine that the introduction of self-checkout lanes will result in any significant or meaningful upgrading of skills. The brevity and simplicity of the training suggest that while self-checkouts may require some additional training for cashiers and other front end employees, such training is arguably minimal and cursory at best. As Barry says, “[i]t’s not rocket science”. Yet, it is equally difficult to describe the end result as a process of deskilling given that the occupation most likely to be affected – cashier – was already unskilled and frequently performed by staff with little to no previous work experience.

However, when examining the effect of self-checkouts as one in a *series* of innovations in the retail food industry there is perhaps more merit to such a claim. When considering the effect of self-checkouts in relation to similar innovations in retail such as universal product codes, computerized cash registers, and electronic scanning, one can certainly argue that numerous routine tasks have been automated. Supermarkets no longer require product labeling and electronic scanners and computerized cash registers simplify the checkout process. Self-checkouts are simply automating some of the routine tasks that remain, such as scanning and weighing product items, calculating prices, and collecting payment. However, a number of routine tasks still remain; bagging, for example, has not been automated and still must be performed by the customer or an employee. Moreover, self-checkouts do not eliminate the “soft skills” desired by employers in assisting and helping customers.

One effect self-checkouts may have is to increase the importance of such skills. As Autor, Levy, and Murmane (2002) point out, computer-based technology is amenable to automating routine tasks that rely on procedural or ‘rules-based’ logic. However,

computers are less effective in performing non-routine tasks. Accordingly, self-checkouts may further reduce the need for certain routine tasks previously performed by cashiers, leaving behind the non-routine tasks such as greeting and assisting customers, highlighting the significance of employees' 'soft skills'.

Whether or not this is a positive outcome for employees, though, is debatable. Research on work in the service industry indicates that non-routine work can be stressful and unpleasant (Hochschild 1983). A study of the encounters between cashiers and customers found that both parties may experience a degree of strain resulting from competing claims over who is in control over the encounter (Rafaeli 1989). Self-checkout lanes may further problematize this relationship, as they require a varying degree of involvement by each party. Customers are now expected to perform some of the tasks previously performed by cashiers, while some cashiers are now assigned to troubleshoot and assist customers. Although the basic roles of customer and employee are unchanged, self-checkout realign the roles and shift expectations about what is required and expected from each.

Moreover, self-checkout lanes increase stores' dependency upon certain types of labor, some of which may be skilled. First and foremost, they require the participation of customers who must perform certain tasks to complete their transactions. This is indeed noteworthy; self-checkouts arguably require customers to perform a role similar to that of cashiers but which is uncompensated and transient. Much like flexible 'just-in-time' production systems, self-checkouts rely on timely labor that is quickly displaced. Yet, to operate successfully, self-checkouts also require constant supervision and maintenance. As noted earlier, stores have contractual arrangements with service companies and

require the skilled work of computer technicians and mechanics to repair and maintain the machines. Although this labor is subcontracted to businesses outside the store, it nevertheless involves the need for skilled labor and adds to the type of labor needed by stores. Therefore, as grocery stores such as SuperFood become increasingly computerized, they will increasingly need and rely upon certain types of skilled labor to operate and maintain such equipment.

Following deskilling and reskilling, we come to the issue of ‘skill-bias’ – do self-checkouts reduce stores’ demand and need for low or unskilled labor while increasing the demand for skilled labor? Yes and no. Self-checkouts themselves do in fact eliminate the need for many of the tasks typically performed by cashiers by automating them outright or displacing them to be performed by the customers themselves. Additionally, they create a need for skilled labor to repair and maintain them, increasing stores’ need for skilled labor. Yet, as I illustrated above, self-checkouts are hardly independent; they require supervision and maintenance, and still require employees to help customers bag their groceries. Moreover, the fact that stores are constrained in their use of self-checkouts limits their effect on the demand for unskilled labor. Both internal (e.g., quality controls, staffing requirements) and external controls (e.g., labor contract provisions) limit the extent to which self-checkouts can reduce or displace the demand and need for unskilled labor. These factors mitigate any potential skill bias and limit the degree to which self-checkouts may increase skill requirements.

This leaves us with the ‘mixed-effects position’, in which some skill requirements are increased while others are reduced. Without skilled technicians to fix and repair the machines, stores would not be able to manage breakdowns and other temporary

problems. Additionally, self-checkouts require periodic maintenance; parts need to be routinely checked and replaced and faulty software reprogrammed. Both of these involve some greater degree of reliance on skilled technical labor. At the other end, self-checkouts reduce the need for certain routine and unskilled tasks. Some of these are automated by the machine itself (e.g., weighing items, calculating payments), while others are displaced to the customer (e.g., scanning items, bagging). Therefore, it appears that while self-checkouts may reduce or eliminate the need for certain types of labor (i.e., routine, unskilled), they may also increase stores' need for others (e.g., technical, skilled).

Summary

It is difficult to gauge the effect of self-checkout lanes on stores' need and demand for certain types of skills on skills precisely because of the social and economic barriers limiting their effect upon employment. SuperFood's limited use of self-checkouts, as well as their continued desire to provide human-operated cashiers and checkout lanes, limits the extent to which self-checkouts can affect stores' demand and need for skilled labor. As long as stores limit the use of self-checkout to a few lanes, there will be little appreciable effect on skills.

Granted, stores will require some skilled labor to repair and maintain the machines. However, the fact that such skills are subcontracted out (i.e., outsourced) to external firms suggests that they are not highly valued nor needed on a regular basis. Indeed, it is not as if stores using self-checkouts have now created a number of skilled jobs in the store.

For those employees who do work with the self-checkouts, however, there may be some noticeable effect upon the nature of their work. Although the training to use and operate the self-checkouts was described to me as being relatively brief and simple, their operation and use subtly changes the role of the cashier. Replacing routine with unpredictability, employees assisting customers in the self-checkout lanes are required to help customers deal with problems that occur unexpectedly and unpredictably. Instead of controlling or directing the transaction, cashiers take on a supportive or secondary role in helping customers; if so desired (and assuming there are no problems), customers using self-checkouts can complete their transaction completely independent of any interaction with cashiers. This represents a major shift in power in the customer-cashier relationship described by Rafaeli (1989).

Additionally, although they still perform some routine physical tasks, such as bagging, much of the routine work is displaced, either automated by the technology itself or displaced to the customer. Employees, therefore, are left to manage more of the non-routine aspects of retail sales, such as helping customers and monitoring transactions. As was previously noted in the section dealing with theft and 'walkoffs', self-checkouts require oversight to prevent theft and abuse. This translates into a demand for greater vigilance on the part of the staff who may take on more of a supervisory role overseeing customers.

It is in this aspect that the effect of self-checkouts on skills is noteworthy. Without eliminating nor enlarging skills, self-checkouts require employees assigned to them to adopt a more supervisory role in overseeing their use. As customers take on more of the tasks performed by cashiers, cashiers in turn take on more of the tasks typically

performed by managers in assisting customers, troubleshooting, and providing customer service.

This involves not just a formal change in the labor process, but also entails a subtle change in the social relations of the supermarket, whereby customers using self-checkouts become – albeit temporarily – willing workers who may occasionally need or require the assistance of cashiers. In turn, cashiers may take on a more passive role, watching customers from a distance, occasionally intervening to assist them or help bag groceries. Further research should consider how this shifting of roles and tasks shapes the social relations of workers in such settings, as well as how customers and cashiers perceive one another as co-participants in the formal labor process.

Job Quality

A third issue regarding the introduction of self-checkouts concerns their role in restructuring the workplace and reducing labor costs in the retail food industry. As stores like SuperFood increasingly shift towards a two-tier wage structure in order to compete with non-union, low-cost retailers such as WalMart and Target, labor unions and employees fear a ‘race to the bottom’, in which businesses progressively cut wages and benefits in an attempt to lower operating costs and undercut competitors. What is less clear, though, is the role self-checkout play in this process of work restructuring, and the extent to which they are a causal factor.

Recent History: Lessons From a Labor Strike

In order to fully understand the changes occurring in stores like SuperFood, as well as the driving forces, it helps to examine recent events in the retail food industry. In 2003-2004, Southern California experienced the longest labor stoppage in U.S. supermarket history when union employees at three major chains went on strike for a record one hundred and thirty-eight days, affecting over eight hundred stores and costing the chains an estimated two billion dollars in lost sales revenue.¹³⁰ Much of the dispute centered on employee health care costs, which the chains claimed made it difficult to compete with non-union, low-cost merchandise stores such as WalMart and Target. Chains claimed they were being squeezed out by stores like WalMart which were able to undercut local wage prices because they were non-union. The unions, however, saw this as a “race to the bottom”, in which stores would progressively reduce wages and benefits in an attempt to lower operating costs and undercut competitors.

The settlement that ended the strike resulted in a two-tier system that gave new hires lower wages and fewer benefits, while preserving existing employees’ health care benefits. New hires would receive lower base wages – up to \$2.80 less per hour than existing workers – and top pay would be would be \$15.10 an hour, down from \$17.90. Additionally, new hires would have to work longer in order to qualify for employer-based health care coverage and would have to pay an average of \$450 a year in health premiums.

In return, existing employees received affordable health care coverage requiring no weekly premiums for the first two years, a wage payment increase of approximately \$500

¹³⁰ Leduff, Charlie and Steven Greenhouse. 2004. “Grocery Workers Relieved, if Not Happy, at Strike's End.” *New York Times*, February 28; Peltz, James F. and Melinda Fulmer. 2004. “Stores, Workers Still Feel Sting of Supermarket Labor Fight.” *New York Times*, December 15.

in the first and third years of the contract, and employer contributions of nearly \$190 billion to a combined pension fund for current and new workers.

Two-Tiered Wage Structures and ‘A Race to the Bottom’

Given the recent labor strikes in California, I wanted to understand how SuperFood had reorganized its labor structure and the workplace without experiencing major work stoppages. Aside from a truck drivers’ strike in 1997, SuperFood had a relatively good relationship with the local labor union and had not experienced a work stoppage in recent years. Nevertheless, SuperFood had already moved towards a two-tiered wage structure in order to control labor costs.

Author: A few years ago there was the strike, and- How, if anything, has that whole process changed the industry? Is there a shift towards a different type of workforce?

Peter (store manager): Well, there was the- Are you referring to the truck strike? The truckers’ strike?

Author: Yes, and the strikes in California-

Peter: Ok. Cause we haven’t had a food workers’ strike recently. We had a truck strike back in the 90’s.

Author: Ok.

Peter: But, you know, you’re always gonna’ have negotiation. You’re always gonna’ have the possibility of alleging going on a strike if you don’t get what you want.

Author: Mmhm.

Peter: It's just part of the bargaining process. Is the union gonna' get everything they want when they go to the table? No. Is the company gonna' get everything they want? No. That's all part of the bargaining process.

Peter: Back in '83 is when they went to a two-tiered system. 1983 is when they started a two-tiered system. And they've since gotten away from that. But they're trying to bring it more together now.

Author: Mmhm.

Peter: Over these last couple contracts. Because they could see the big discrepancy with somebody standing there – let's say makin' fifteen, eighteen dollars and hour – and someone making six dollars an hour. You know? The person makin' six dollars an hour goes 'I'm not gonna' work as hard as they work'. You know? They're not getting paid as much.

As Peter notes above, in the bargaining process each side is compelled to make certain concessions in order to reach an agreement. Two-tiered wage structures such as the one described above are becoming an increasingly common form of union concession, allowing existing workers to retain benefits at the cost to new employees, and is occurring in other service industries such as As Cappelli and Sherer (1990) note, “[t]hese plans may have gained acceptance more easily in unions than some other concessions because they cost current workers nothing, and current workers are the ones who ratify contract concessions” (p.226). Such systems allow employers to shed labor costs while protecting current employees’ wages and benefits. The cost of these systems is essentially passed on to future workers who receive lower wages and fewer benefits, resulting in disputes regarding pay equity¹³¹.

¹³¹ For more on pay equity and two-tiered wage structures, see Cappelli, Peter and Peter D. Sherer. 1990. “Assessing Worker Attitudes under a Two-Tier Wage Plan.” *Industrial and Labor Relations Review*, 43:225-244; Martin, James E. and Melanie M. Peterson. 1987. “Two-Tier Wage Structures: Implications for Equity Theory.” *The Academy of Management Journal*, 30:297-315.

Yet, costs rather than technological innovation appear to be the main driving force of workplace restructuring. Facing rising labor costs, supermarket chains such as SuperFood find it increasingly hard to compete with non-union, low-price retailers like WalMart:

Author: So you think that the industry is using this technology to sort of leverage that transition? Towards a part-time heavy workforce?

Bill (union president): Well, they were doing that anyway. I don't think the technology has much to do with that. That's the way they wanna operate. They wanna turn it into, you know, Wal-Mart, a Wal-Mart industry where you got all low paid workers and you don't give 'em health insurance. That's where the industry is trying to go. And, so, there's always a big fight about that when we bargain contracts.

Author: Hmm.

Bill: This is a race to the bottom. Wal-Mart- In the old days, in the old old days, thirty three percent of the people in the country used to be in a union. In some union. Now, only twelve percent are, including the public sector folks. So, when people bargained up thirty years ago, when all these contracts got settled, then everybody's wages moved up. And everyone's benefits moved up. Even the non-union guys. 'Cause there was enough pull and enough competition for workers that they had to. Or their workers would leave and go to work somewhere else. Now it's the opposite. The opposite is make everybody part-time so you don't have to pay- The theory is you shouldn't have to give part-time people health care. Our people have it but a lot of other people like at Wal-Mart don't have it. And other retailers don't have it. So, their deal is to get as many part-time people as you can, say 'look, it's not their primary job' and not give 'em health care or pensions and all those sorts of things. 'Cause, you know, they're "part-timers".

Bill: A lot of this centers around union competition. WalMart's now the biggest grocer in the United States. So, there are WalMarts being built in California although the UFCW has programs all over the United States to block their, to block them from being able to build. In cities and different places. And so do other groups. But their whole thing is they pay, you know, sixteen, seventeen dollars an hour and their health care costs eight hundred bucks a month or whatever. And WalMart comes and sits here. They pay seven bucks an hour. People don't have health care. They lower their prices. You go down the tubes. You can't compete with them. So, this is driven two ways. It's driven because of the WalMart effect and it's driven because of health care costs, which are out of control...[T]hose are the two big drivers in the grocery industry. WalMart and health care.

In short, self-checkouts were not driving workplace restructuring; such changes were being driven by health care costs and the aggressive emergence of non-union competitors such as WalMart. Moreover, in SuperFood's case, these changes had already occurred prior to the arrival of self-checkouts. Each of these facts suggests that market forces, rather than technological innovation, is the reason for workplace restructuring.

The Downward Restructuring of Work?

Within this context of workplace restructuring, critics fear self-checkouts will be used to facilitate a 'downward restructuring' of work, allowing stores to replace full-time jobs that pay benefits with a part-time workforce assisted by customers. Even if self-checkouts were not the driving force behind workplace restructuring, union officials such as Greg Denier perceived them as part of the 'lean and mean' workplace of the future:

“The future is that they’ll be fewer and fewer jobs that come with adequate hours because of displacing jobs with self-checkout... What you’re looking at is what the structure of the workforce looks like in the future: decreased hours, decreased benefits eligibility. You might have had ten full time jobs before, now you have fifteen part-time jobs.”¹³²

As Denier puts it, retail jobs are being “restructured downwards”, and suggests that self-checkouts may be used to facilitate this economic restructuring. Such fears are not completely unfounded; according to a report by CNN, Home Depot – the second largest employer in American retail, second only to Wal-Mart – is proposing to shift more employees from full-time to part-time status, implying self-checkouts may allow businesses to move towards smaller, leaner workforces associated with the popularized ‘just-in-time’ and ‘lean production’ business models.¹³³

Are self-checkouts helping employers like SuperFood replace ‘good’ full-time jobs that offer benefits with lesser jobs that offer fewer hours and benefits? Drawing upon Kalleberg, Reskin, and Hudson’s (2000) conceptualization of ‘good’ and ‘bad’ jobs, I examined how the introduction of self-checkouts in stores such as SuperFood coincided with changes in the number of hours worked per week, the number of full and part-time jobs, and the percentage of workers covered by union or employee-based health care.

Employment statistics indicate that the average hours worked by employees declined significantly in the period during which stores began adopting self-checkouts. From 2003 to 2008, the average hours worked per week fell by approximately three hours, from an average of 32.3 hours per week in 2003 to an average of 29.2 hours per week in 2008 (see Figure 5). At first glance, this would appear to indicate at least a correlational

¹³² Adler.

¹³³ *CNN.com*.

relationship; as self-checkouts began to be introduced in chains nationwide, the occupation most likely to be affected experienced a significant decline in average weekly hours worked. Replacing full-time positions with part-time positions could explain the reduction in hours.

Indeed, the stores I studied were largely run by a part-time workforce, with as many as eighty percent of employees working part-time (see Table 12). Stores depended upon a core cadre of more senior, experienced full-time staff to lead and manage what was in most cases a predominantly part-time workforce. Managers typically relied upon more senior staff to operate and manage the various departments (e.g., seafood, non-perishables, bakery, deli, etc.) and help newly hired cashiers in the checkout lanes. At Barry's store, for example, out of the forty cashiers employed, only eight were full-time employees, underscoring the prevailing number of part-time workers.

However, the trend over the past decade has been towards a converging, rather than diverging, workforce as the percentage of full and part-time cashiers working in grocery stores has tended to hover near fifty percent (see Figure 6). Moreover, the number of full-time positions appears to have significantly increased. Since 1992, the percentage of employees working forty hours or more per week increased from 43.8% to 58.6%, while the percentage of cashiers reporting regularly working forty or more hours per week has increased from 23.5% to 37.6% (see Figure 7).¹³⁴

Additionally, the number of employees receiving employer or union-based health care coverage appears to have remained fairly steady. Although the percentage of cashiers receiving health care coverage has declined over the past decade (see Figure 8), the

¹³⁴ Due to low sample counts, comparisons at the state and metropolitan statistical area (MSA) are neither reliable nor accurate and were therefore not included.

overall percentage of employees receiving health care coverage has remained nearly constant (see Figure 9).

Summary

Workplace restructuring, and more specifically, the shift towards a two-tiered wage structure, appears to be a growing trend in the U.S. economy. No longer confined to the manufacturing and industrial sector, hospitals, hotels, other sectors of the service industry have undergone or are facing major structural changes in wage structures as employers struggle to cope with rising health care costs.

In the case of supermarkets, this pressure appears to be further exasperated by the expansion of low-cost merchandise retailers such as Target and WalMart into the retail food industry. Previously dominated by supermarket chains and grocery stores, WalMart – best known for low prices and its anti-union labor policies – is fast becoming the largest food retailer in the U.S. A quick glance at sales figures reveals the growing gap between tradition supermarket chains such as SuperFood and burgeoning low-cost retailers like Walmart. In 2008, Wal-Mart led the retail food industry with 405 billion in sales. The second largest food retailer, Kroger, reported approximately 77.2 billion in sales, while GlobalFoods, Inc., the parent holding company of SuperFood, as well as the Northeast chain Colonial Market Foods, reported sales of 21.8 billion.¹³⁵ Indeed, for all intensive purposes, WalMart is the proverbial eight-hundred pound gorilla in the retail food industry.

¹³⁵ *Supermarket News*. 2009. “Supermarket News’ Top 75 Retailers for 2009.”

Yet, there seems little empirical evidence to support the claim that self-checkouts are driving a ‘downward restructuring; of work, replacing ‘good’ jobs with ‘bad’ jobs. In fact, the percentage of full-time workers in the supermarket industry appears to be increasing, as is the percent regularly working forty or more hours per week. Cashiers – the occupation ostensibly most likely to be affected by self-checkouts – is still predominantly a part-time occupation, yet the percentage of those working forty or more hours has *increased* rather than decreased since the introduction of self-checkout lanes in stores. And health care coverage – the cost of which is said to be at the center of recent labor disputes and one of the contributing causes of workplace restructuring in the retail food industry – has more or less remained constant.

Whether or not “good” jobs remain in the retail food industry, however, may ultimately depend upon costs rather than technological innovations. As WalMart and other non-union, low-cost retailers expand their retail food operations, supermarket chains such as SuperFood will face increasing pressure to lower labor costs in what is described as a ‘race to the bottom’. Previous agreements with the local labor unions suggests that there is a degree of understanding between employers and employees. As Peter explained, SuperFood was able to transition to a two-tiered wage system without a major labor dispute or work stoppage – a rather ideal outcome considering what recently occurred in southern California. However, the prospect of losing health care coverage and lowering wages may prove too much for employees; after conceding to a two-tier wage structure, the union has little left to concede. Currently, the union and SuperFood are negotiating the renewal of the existing labor contract; a key point of contention, once

again, are health care costs and wages, with the prospect of a labor strike looming in the background.

Chapter 6: Impact of Self-Checkouts on Customers

'De Klant is Koning' ('The Customer is King')

- Popular business aphorism frequently attributed to the economist William Hutt (1899-1988)

'Le Roi est mort, vive le Roi!' ('The King is dead. Long live the King!')

- First declared upon the coronation of Charles VII, refers to the transfer of sovereignty which occurs instantaneously upon the moment of death of the previous monarch.

Introduction

The question of how self-checkouts may affect customers and contemporary shopping reflects a deeper tension within the social sciences regarding the role of the consumer and consumption in general. As noted in Chapter 2 ('Literature Review'), the social sciences have traditionally harbored conflicting views of the consumer, reflecting different theoretical traditions and perspectives.

At one end of the debate are critiques of the 'culture industry' (Adorno and Horkheimer 1979) and 'McDonaldization' (Ritzer 2002; 1996), highlighting the alleged tendencies of capitalism towards commodification and rationalization, respectively. Consumers are treated as *objects*, controlled and manipulated by advertisements (Ewen 1988; [1976] 2001), product placement (Underhill 1999), 'spectacles' (Debord 1967), and other aspects of the 'means of consumption' (Ritzer 1999).¹³⁶

At the other end of the spectrum is the notion of 'consumer sovereignty' which emphasizes consumers' power and autonomy; consumers can decide when, where, and

¹³⁶ I borrow these conflicting characterizations of consumers as 'objects' and 'subjects' from Slater (1997:101-103).

how to shop and what to purchase, if at all.¹³⁷ Similarly, consumers may engage in consumption politically, challenging the ‘politics of consumption’ (Wiedenhof 2004; Cohen 2003) through organizations such as the American Federation of Labor (AFL) and the National Consumers’ League (NCL) or boycotts against specific products or producers (Goodman and Cohen 2003:129-139; Klein, Smith, and John 2002; Frank and Weiland 1997). This strain emphasizes consumers as *subjects* – conscientious, critical, and active beings who are active participants in consumer culture, using consumer goods to establish and communicate class (Bourdieu [1979] 1984), status (Veblen [1899] 1994; Riesman [1961] 2001), and identity (Giddens 1991; Douglas 1979).

The introduction of self-checkouts in supermarkets such as SuperFood, therefore, poses an important series of questions regarding consumers and consumption. To begin with, it raises questions regarding the sovereignty of the consumer; are self-checkouts being introduced to meet consumer demands, or do they simply reflect a new ‘means of consumption’ designed to control and exploit the consumer Ritzer (1999:57)? Precisely whose needs are being met?

A second question centers on authenticity and the extent to which self-checkouts reflect genuine and real savings in time. Self-checkouts are claimed to be faster and more convenient – but *are* they? As Goodman and Cohen (2003) note, “[a]dvertising constantly sells [us] the idea that there is a product to solve each of life’s problems...[yet], this promise is constantly broken” (p.40). Are self-checkouts *really*

¹³⁷ For more on consumer sovereignty, see Slater (1997), Persky (1993), Rothenberg (1968), and Gintis (1972). As Persky (1993) notes, the term ‘consumer sovereignty’ is frequently attributed to the work of William Hutt (1940; [1936] 1990), though similar notions can also be found in works by Hayek (1935) and Ropke (1935).

faster and more convenient, or are these “false solutions to real and never-satisfied problems” that include waiting in line at the checkout counter (Meadows 1992: 216)?

Self-Service and Supermarkets

Historically, supermarkets and grocery stores have increasingly adopted a self-service orientation. In the early days of retailing, customers simply walked up to a counter and provided a store clerk with a list of items desired for purchase. Prior to introduction of food processing and packaging, this required a considerable amount of labor; items had to be cut and weighed or counted and everything had to be wrapped by hand. The entire process was labor-intensive and took a considerable amount of time, limiting the number of customers that could be served. Additionally, some stores provided a delivery service; for a nominal fee, stores would deliver individual orders to customers' homes.

The invention of various technologies and methods, over time, revolutionized the retail food industry. Ushered in by Piggly Wiggly in 1926, the self-service model changed the retail food industry by individually pricing products and adding checkout stands. Other innovations in packaging and food processing, as well as the use of refrigeration, meant products could be visibly displayed to customers; grocery carts allowed customers to collect their own items, freeing up clerks to perform other tasks such as stocking shelves and constructing product displays. Instead of delivering goods to customers' homes, stores constructed parking lots, carrying items to customers' cars or allowing customers to carry their purchases themselves.

As a result, over time, customers came to take on an increasingly significant role in retail food sales. Replacing the role of the store clerk, customers collected the items,

transported them throughout the store, and placed them on the checkout stand for the cashier to ring up and total; with the advent of the UPC and electronic scanner, cashiers simply scanned items as they moved across the conveyor belt. With self-checkout, customers are now taking over the role of cashier, scanning and weighing items, printing receipts, and bagging groceries.

As consumers now weigh the decision of whether or not to scan their own groceries, it may be no surprise that some fail to see this as a profound change. After all, many of the changes and innovations described above happened over a number of decades as a series of slow but gradual developments. As a result, each generation experienced a form of shopping that older generations viewed as new or different but which to the current generation seemed normal, if not natural. Like the automated teller machine (ATM), self-checkouts may become one of those taken-for-granted aspects of the American lifestyle, replacing the teller and other historical artifacts.

Consumer Sovereignty?

As noted in Chapter 4 ('Why Adopt Self-Checkouts?'), there is considerable debate surrounding the introduction of self-checkouts. On one side of the issue are the manufacturers and chains who assert that the introduction of self-checkouts is being driven by a demand from consumers. From their perspective, they are simply meeting a market demand, fulfilling consumers' wish for faster checkout and shorter lines. For example, note the repetitive use of the term 'demand' in the self-checkout product brochures from IBM and NCR:

“[S]atisfying consumer demand for a more convenient, faster checkout experience.”¹³⁸

“Shoppers are demanding improved product availability, immediate access to product comparisons, knowledgeable employees and speedy self-checkout.”¹³⁹

“Customers demand convenience and want to get in and out of the store quickly. NCR FastLane delivers by speeding up the check-out process”¹⁴⁰

At the other end of the commodity chain are the consumers themselves, many of whom remain skeptical regarding the adoption of this new technology. Indeed, far from viewing themselves as the direct beneficiary of this new technology, my findings – described in further detail in Chapter 4 (‘Why Adopt Self-Checkouts?’) – indicate that most customers perceive self-checkouts as simply the latest form of cost-cutting, analogous to other contemporary trends in slashing labor costs such as outsourcing, computerization, and downsizing.

In between these two groups are the managers who supervise the individual stores and the labor unions which represent the workers who operate them. As intermediaries, each of these groups is keenly aware of the various interests and pressures involved from each end. The union is keenly aware of the financial costs imposed by labor, while managers struggle to reconcile costs with customer satisfaction. Yet, despite their seemingly opposing interests – managers representing capital, the union representing labor – both

¹³⁸ IBM, “IBM Checkout Environment for Consumer-Service Software,” p.3.

¹³⁹ Ibid.

¹⁴⁰ NCR Corporation, “NCR FastLane,” p.1.

recognize and cite the consumer as the deciding factor in determining the fate of self-checkouts in the retail food industry:

“It’s up to the public. The public’s gonna’ drive a lot of technology and they do now. If they accept the technology, and the technology saves money and increases productivity for a company, then that’s what they’re gonna’ do.”

- Bill (Union President)

These sentiments are echoed by retail analysts and market researchers. As Bill Greer, spokesperson for the Food Marketing Institute (FMI) puts it, “[t]he industry is based on the customers’ desires and needs.”¹⁴¹ Even market analysts such as IHL have shifted their focus towards consumers (and away from manufacturers):

“[W]e decided to change our research from a vendor focused report to that of consumer acceptance since ultimately the success or the failure of any customer-touching technology will depend upon the consumer...”¹⁴²

The government appears to agree as well, as the Bureau of Labor Statistics notes, “[t]he growing use of self-checkout machines at grocery stores... will depend largely on the public’s acceptance of automated checkouts.”¹⁴³ Thus, whether or not stores increasingly turn to self-checkouts as a way of doing business would seem to depend largely upon the public’s acceptance and willingness to embrace the new technology.

¹⁴¹ Busack, Michael A. 2006. “Check it out – or Not: Mixed bag of opinions about serve-yourself aisles.” *The Eagle-Tribune*, November 28.

¹⁴² Sheldon and Buzek, “2006 North American Self-Checkout Systems,” p.9.

¹⁴³ U.S. Bureau of Labor Statistics. 2007. “Grocery Stores.” *Career Guide to Industries, 2006-2007 Edition*.

Comments such as these suggest that consumers are, if not sovereign, a determining and decisive factor concerning the shift towards self-service and the use of self-checkouts. In turn, this implies that self-checkouts reflect an accommodation on the part of businesses towards meeting and fulfilling customers' needs and desires, underscoring the very notion of consumer sovereignty in which the 'customer is king' and the producer merely a 'servant'.¹⁴⁴ But do customers *really* want self-checkouts?

What Customers Want

In fact, most customers I interviewed preferred the regular, human-operated cashier (see Table 13). Over fifty percent of customers surveyed claimed that they preferred the cashier-operated checkout over self-scan; if the categories reflecting no preference or a preference based on contingencies are removed, this increases to nearly seventy percent.

This finding mirrors a similar rate observed in a joint marketing study conducted by KPMG and Indiana University, which found that approximately fifty-five percent of respondents indicated that cashier checkout and bagging was a "must have" shopping feature.¹⁴⁵ The same study also found that nearly one in four respondents indicated they would prefer *not* to have self-checkouts.

What in-store shopping features did customers cite most frequently as 'must haves'? The top items for checkout were a cash payment option, printed receipt, and the ability to pay by credit card, followed by the option to pay by check and debit card. This would

¹⁴⁴ As Persky (1993:183-84) notes, the notion of 'consumer sovereignty' is frequently attributed to the economist William Hutt, though Hutt (1940) himself stated, "I am not sure whether I coined the term myself. Marketing literature contains phrases like 'the customer is always right,' and I am told that a proverbial expression in High Dutch is 'De klant is koning' (the customer is king)" (p.66).

¹⁴⁵ Burke, Raymond R. 2000. "Creating the Ideal Shopping Experience," *Chain Store Age*, December:1-25. Special report co-sponsored by Indiana University's Center for Retailing and KPMG.

seem to suggest that customers still value basic amenities over new high-tech gadgets and features. “Consumers tell us they are not interested in technology for its own sake,” says Raymond Burke, E.W. Kelley professor of business administration at Indiana University. “People want the basics...and are only interested in technology to the extent that it makes shopping faster, easier, and more economical.”¹⁴⁶

Market research also suggests that some customers will even select one store over another simply because it offers self-checkout. According to a 2004 study, nearly thirty-five percent of customers aged 18-34 indicated that they would be more likely to shop at a store that offers self-checkout than one that does not.¹⁴⁷ When I asked if the availability of self-checkouts influenced where they decide to shop, only three customers indicated that it did, yet of these three, only *one* responded that it positively influenced their decision. The other two respondents actually preferred to shop at stores that did *not* offer self-checkouts:

Author: Do you typically shop here?

Customer: No, I usually shop at Safeway.

Author: And may I ask why?

Customer: I prefer to shop there because they don't have self-checkouts.

Author: Does the availability of self-checkout influence where you decide to shop?

Customer: Yes – the more there are, the less we go!

¹⁴⁶ Office of Communications and Marketing, Indiana University. 2000. “Consumers interested in technology, but retailers still must deliver on basic elements of the shopping experience.” November 20.

¹⁴⁷ Matthews, Kelly A. and Meredith Whalen. 2004. “Self-Checkout Systems: Creating Value Across the Retail Store.” IDC white paper.

In short, there is little empirical evidence to support the notion that a majority of customers genuinely want and seek retail environments with self-checkouts. Although self-checkouts are ‘must have’ for a particular segment of the shopping public, my results suggest that this is indeed only a segment of the public, and perhaps a small one at that.

Steering Customers Towards Self-Service

As I pointed out in Chapter 4 (‘Why Adopt Self-Checkouts?’), managers assiduously characterized self-checkout as a ‘choice’ or ‘option’. Asserting that “we’re not pushing them”, managers emphasized that using self-checkout was “not mandatory” and that customers would not have self-service “force fed” to them (see p.67-69).

Yet, market research indicates that a store’s layout is in fact quite deliberate, often for the express purpose of exposing or presenting customers to certain products or displays. Paco Underhill’s (1999) description of the ‘science of shopping’ highlights, among other things, the structural aspects of stores and how the store layout relates to consumer psychology and behavior. Product placement, signage, and the overall layout of a store, he argues, can make the difference between a customer making a purchase or not. By examining consumer behavior, he argues, stores can realign their retail environment to maximize encountering certain products and increase sales.

Indeed, retail marketing research indicates that this is precisely what stores like SuperFood are trying to do. Self-checkouts are being purposefully and deliberately located in certain areas of the store in order to promote and increase their use. Under a section titled ‘Driving Usage Through Customer Education’, a 2004 study on self-checkouts noted the various methods stores were using to increase their use. These

included not only advertisements, store incentives, and announcements, but also self-checkout placement:

“Retailers are also strategically positioning self-checkout lanes to maximize transaction volume. One grocery retailer notes, “We install self-checkout lanes in the fresh [produce] aisle because that’s where customer typically end.” Additionally, retailers are steering traffic through self-checkout by utilizing the announcement system and cashiers at traditional lanes to introduce self-checkout as an option...”¹⁴⁸

The same report also notes that in some cases, “retailers have modified their lane staffing plans to drive usage at the self-checkout.”¹⁴⁹ In other words, customers are not only physically directed towards their use by design, but are also prodded and cajoled through the use of various media and communications, as “[e]xternal communications can lead to increased usage.”¹⁵⁰

Customers, however, did not always perceive self-checkouts as an ‘option’. As the experience at Century Village illustrates, elderly customers protested when they felt they were being deliberately steered towards the self-checkout lanes.

Peter (store manager): [W]hen they were first installed, we had ‘em installed down [in lanes] one through four. Currently, they’re at the opposite end, ten through fourteen. And one of the reasons why I had to have them moved is because, you know, most of my customers are senior. They wanna’ to take the easiest route to get to the door. They want to do less walking. So a lot of the complaints I got was I’m makin’ ‘em walk further down the line to get to a cashier and then walk

¹⁴⁸ Ibid., p.10

¹⁴⁹ Ibid., p.9.

¹⁵⁰ Ibid., p.10

further to have to get to the door. So that was one of the reasons. Plus, I moved it down to give them an option. So if you wanna' use it, you can walk down there and use it. If not, then I got cashiers one through ten.”

Ultimately, the self-checkout lanes at Century Village were relocated from the area closest to the exit to the opposite side furthest from the exit. However, in every other store I visited, the self-checkout lanes were the closest checkout lanes to the exit. While customers might not have been coerced or forced into using self-checkout, they were arguably being placed in strategic locations to maximize usage.

In some cases, managers volunteered that they themselves were unhappy with their placement; Sam, for example, claimed to have nearly had them removed because of how he thought they might be received by customers:

Sam(store manager): We almost tore- We almost took them out of here because we didn't like- Corporate didn't like how they were placed.

Author: Hmm.

Sam: And I don't know who made that decision. We almost took them out of there, took em out of the store, and we almost placed them all the way down by the terminal 21. So 21, 20, 19, 18, 17-

Author: Have em at the end.

Sam: -because we felt like they were really in the wrong location. Because of our thoughts as a corporation. We don't want our customers to perceive that they're being force fed through those terminals.

When I visited the local union president, I told him what I had observed. I asked why he thought supermarkets were introducing self-checkouts and what, if anything, they were doing to get customers to use them:

Bill (union president): They try to make the argument that self-checkouts help customers. It's not. It's to reduce payroll. You can't show me a customer who'd rather go through self-checkout if there were enough cashiers. The problem you have is they under schedule cashiers, don't open the lanes, and there's self-checkouts. So they force people into the self-checkouts. And they'll deny that, but that's what they do. I'll have managers come up if the lines are long and say 'there's four self-checkouts right there'.

As Bill notes, when there are only a handful of checkout lanes open, self-checkout may indeed seem like the only option, especially when the alternative is waiting in a long line at a handful of open lanes. My field notes indicate that even during peak hours, some stores only had a handful of lanes open, sometimes as few four in a store that has nearly twenty lanes. Under these circumstances, self-checkout may feel like the only option for customers, who must decide between waiting in line and the 'option' to do-it-yourself.

In sum, even though customers appear to prefer cashier checkout, stores are using a variety of means to try to get customers into the self-checkout lane. While managers may that it is simply an option, it is clear that stores are making an effort to promote their use. The simple placement of self-checkouts is an indication of this effort. Placed near the doors, customers facing long lines may indeed see self-checkouts as the only exit.

Problems in the Checkout Lane

Why did customers prefer cashier checkout over self-scan? One reason customers frequently cited were problems with the self-checkout. These included not only computer glitches and malfunctioning equipment, but also human-based errors that delayed or halted the transaction entirely. “It backed up and wouldn’t let me scan,” said a female shopper, describing her recent experience in the self-checkout lane, “There’s no codes on produce. There’s way too many problems.” Aside from having difficulty identifying and entering produce items, customers also frequently described having trouble scanning items and coupons. Sometimes the problems were attributed to human error; as one customer put it, “I always end up messing it up”.

More often, however, the problems were attributed to the technology and the failure to correctly scan and items. “We tried it,” a customer noted to a reporter, “but it was just not as helpful as you would think it would be. The computer just screws up and yells at you the whole time. I would rather just wait in line.”¹⁵¹ Indeed, reported noted that some customers frustrated by problems with self-checkout simply choose to walk away, leaving the store and their items behind:

“The technology has flaws. If customer errors bring the machine to a halt, an attendant has to intervene. If beer or cigarettes show up, the process shuts down until an attendant checks identification. And if, for some reason, no attendant is near, self-checkout can slide into chaos. I have seen it, and there’s nothing pretty about four deserted machines, futilely repeating the same commands in English and Spanish to customers who have abandoned their carts and headed for the parking lot.”¹⁵²

¹⁵¹ Busack.

¹⁵² Grimes.

During the time I spent in stores talking with customers, I heard similar anecdotes of computer errors and conveyor belt backups. “Things don’t scan properly. They won’t take the coupons,” stated a middle-aged female customer, to which another shopper replied “There’s always something that doesn’t scan”. An exchange with a middle-aged female customer highlighted this sense of fatalism and exasperation:

Author: Do you think self-checkouts are more convenient than regular checkout lanes?

Customer: When they perfect them.

Author: You mean in the future?

Customer: Yes. Well, maybe. Who knows...

Oddly enough, the same customer approached me later when exiting the store, catching me in the parking lot at my car as I was taking notes on my visit to the store. She claimed she had used the self-checkout because of me and our exchange, and reported encountering numerous problems:

“[S]ome of the items wouldn’t scan, it wouldn’t take my [credit] card – they had to have someone come over twice to help me! That’s why there’s no lines [at the self-checkout] and people are waitin’ in line for the regular [checkout lane].”

Performance Anxiety

Waiting – or more specifically, a fear of making other customers wait – was also cited by several respondents. “I’m not a fan of making other people wait,” reported one shopper, while another confessed “[I’m] afraid it will get hung up. I don’t want to make people wait”. Customers were afraid that their own errors and mistakes would result in a longer wait – and perhaps nasty stares – from other customers. Given that self-checkout is promoted with characterizations of ‘faster checkout’ and ‘shorter lines’, one might expect self-scanners to be more relaxed and happy than their brethren waiting in line for the cashier. Yet, as one journalist observed, the expectation for speedy checkout and shorter lines means “the line with no cashier has the most impatient people”.¹⁵³

“Pressure? You don't know pressure until you're in the self-checkout line at the grocery store and your cauliflower doesn't scan and freezes the computer and there's a line of shoppers shifting from foot to foot, heaving deep sighs and giving you the evil eye because, obviously, you are keeping them from attending to a matter of life and death, such as catching the "Sopranos" episode they forgot to TiVo.”¹⁵⁴

William Grimes, a journalist for the New York Times newspaper, captured this sense of ‘performance anxiety’ describing his own experience in the self-checkout lane:

“I dreaded the thought of standing before the machine, bewildered, as fellow-shoppers cursed. As it turned out, I did all of the cursing myself. While the machine barked commands, accusing me of moving my items in some unauthorized way, I scanned and rescanned frantically, trying to

¹⁵³ Gemperlein, Joyce. 2006. “Self-Checkout? Just You Wait.” *The Washington Post*. June 18.

¹⁵⁴ Ibid.

appease it. After paying by credit card and snatching, I found that I had paid three times for one box of screws. To undo the damage, I would have to rejoin the line I had abandoned in the first place. I left in a sweat, desperate for a drink...¹⁵⁵

Frustrated with his initial experience, the author decided to make a second attempt when the store was less crowded and the pressure less intense:

“Like MacArthur, I vowed to return. I picked an hour when the store was virtually empty, cutting down on performance anxiety. I scanned. I paid. I left.”

Allusions to Caesar aside, although shoppers may improve their scanning skills with subsequent trips to the self-checkout lane, they may simply opt to sidestep the self-checkout lane in order to avoid a potentially awkward or embarrassing situation. Below is an exchange I had with a middle-age customer highlighting why some shoppers may avoid using self-checkouts:

Author: Why do you use the self-checkout?

Customer: [laughs] I've never used it!

Author: Why?

Customer: I'm intimidated. I feel like I'm going to jam it. Everyone's behind, waiting.

Author: Did you have problems?

Customer: It works fine, I've never had any problems. One day I'll be brave enough! [laughs]

¹⁵⁵ Grimes.

Yet, in the same conversation she revealed that this avoidance was limited to the self-checkouts in supermarkets, confessing to having used the self-checkout at a retail hardware store:

Author: Have you always felt this way about self-checkouts?

Customer: Only in supermarkets. I've used them at Home Depot.

Author: Really? Why?

Customer: The lines were so long I got tired of waiting. I said to myself, 'you can do this!'

Like the reporter described earlier, she was proud of having conquered her fears, yet it is hard to overlook the role fear and anxiety played in the transaction. When customers make errors bringing the process to a halt, it may be perceived as an embarrassment or inadequacy, requiring intervention. Indeed, a market study found that over half of the respondents indicated that the one thing they disliked most about self-checkouts involved transactions that are halted in midstream and require employee intervention.¹⁵⁶ If self-checkouts connote a 'do-it-yourself' ethos, halted transactions that require employee assistance may connote perceptions of helplessness and inadequacy.

Because self-checkouts are framed in terms of speed and reduced lines, it creates a generalized expectation using these terms as guiding principle. Therefore, customers expect a fast checkout in the self-scan lane, and when it is their turn, imagine how their performance is being evaluated by others – a sort of 'looking-glass self' in the self-

¹⁵⁶ Sheldon and Buzek. "2006 North American Self-Checkout Systems," p.7.

checkout lane, in which imagined perceptions and judgments of the self elicit feelings of pride or shame.

The Value (and Cost) of Social Interaction

While some customers elected to go the traditional route in order to bypass potential discomfort, others commented on the social interaction lost in ‘do-it-yourself’ ethos of the self-checkout lane. “[I] hate self-scan, hate it,” said one customer. When I asked her why she replied, “‘cause I like talking to people”. Additionally, as managers pointed out, some customers come to enjoy and expect interacting with cashiers.

Barry (Store Manager): I think people are fairly loyal to their grocery store. Nowadays, you might have two or three favorite grocery stores because you’re cherry picking the ads... But I’ve found here, every store I’ve been in, you have a very loyal, committed base and if you have a veteran staff they know those people and they care about them. That’s where some of the motivation is [for shopping at a particular store].

Author: So some people come for that one-on-one interaction with a specific cashier or number of cashiers?

Barry: Exactly. Yeah. There’s a handful of SuperFood groupies out there. Every store’s got ‘em.

Groupies or not, Barry’s comment highlights the value certain customers place upon routine interactions with cashiers in the supermarket. “We know them – they’re friendly and it’s a good social experience,” said a customer in describing her preference for cashiers over self-scan.

Regardless of the potential convenience or savings in time, some customers appear to be ambivalent about eliminating social interaction in yet another sphere of economic life:

"I'm not a fan of machines taking over people's work. I don't know. It eliminates social interaction. I remember thinking about pay at the pump and ATMs and shopping on the Internet and how they're all eliminating social interaction – you know, interacting with other people. And I'm not saying it's bad, but it is changing how we do things."

- Female customer, age 27

The comment above highlights the increasingly electronic and automated nature of today's economy, in which consumers can manage their bank accounts and transfer funds online, deduct cash from their account at an ATM, buy a plane or movie ticket on the Internet, and check-in at the airport all without interacting with a single human being.

Yet, while some customers bemoan the loss of social interaction, others appear to prefer self-checkout for precisely that reason. According to Robbie Blinkoff, principal anthropologist and managing partner of Context-Based Research Group in Baltimore, it isn't because of a diminished value on social interaction. "Younger people have discovered which situations are face-to-face-worthy and which are not. For them, a grocery store transaction does not qualify," states Blinkoff.¹⁵⁷ In the language of sociologists Emile Durkheim ([1912] 1995) and Erving Goffman (1967), comments such as these would seem to suggest that face-to-face interaction – the very exchange of 'face' itself – may increasingly be understood not only be 'sacred' but scarce. Face-to-face

¹⁵⁷ Gemperlein.

interactions and the face itself becomes something to be conserved and cherished, not to be wasted or spent on such ‘profane’ and mundane encounters as the checkout lane.

Nevertheless, these findings raise an important question: is there a greater preference for self-checkout among younger shoppers? My survey results indicate that respondents who preferred self-checkout were in fact, on average, younger than those who those favoring the face-to-face interaction of the cashiers’ lane; those who preferred self-checkouts averaged 32.7 years of age compared to the average of 52.6 years among those preferring the cashiers’ lane.¹⁵⁸ These results corroborate IHL executive Greg Buzek’s findings on age-based differences in regards to preferences at the checkout lane. According to Buzek’s research, twenty-one percent of 19-35 year olds polled indicated that they use the self-checkouts because they just don’t want to deal with people. Only fourteen percent of 36-55 year olds opt for self-checkout, while ninety-five percent of those above that age group prefer human interaction with cashier lane.¹⁵⁹

Assuming these findings reflect a real difference, why do younger shoppers prefer self-checkouts? One oft-cited reason is that today’s tech-savvy younger generations are simply a product of their environment, having grown up immersed in a world filled with iPods, laptops, and cell phones:

Michelle (Store Manager): “It’s for the [younger] generation,”

Peter (Store Manager): “Some customers, I guess, accept technology. You know computers and everything out there. They enjoy using it.”

¹⁵⁸ More detailed comparisons between age categories were not included due to low sampling counts. Because, in some cases, there were only a few respondents in a given age category, the resultant rates cannot be viewed as reliable nor accurate estimates of the population.

¹⁵⁹ Figures reproduced from those cited in Gemperlein.

Buzek notes a strong correlation between those who regularly use self-checkouts in stores and those who use it in other places, such as the airport or at the bank. “Basically, the more you are accustomed to interfacing with a computer, the more you like it,” he says.¹⁶⁰ A recent marketing study highlighted this relationship, finding that consumers who had used self-service kiosks at airports were significantly more likely to report liking self-checkout.¹⁶¹

A well-supported principle in social psychology is that proximity and frequency of interaction breeds liking (McPherson et al. 2001; Bornstein 1989; Zajonc 1968). This pattern extends to objects as well as people, implying that customers may like automated means of conducting transactions simply because they are familiar and encountered frequently in everyday life. As younger generations grow up in an economic landscape that is increasingly automated, they may in turn come to desire and expect automated exchanges such as self-checkout.

Generational differences aside, there may also be some who opt for self-checkout simply due to fatigue from spending all day working with people. When interviewing managers, I asked them not only about their views on the technology as managers but also their own personal views as customers. Although their responses varied, Barry’s stood out, and highlights potentially another, perhaps more subtle, reason:

Author: When you yourself shop, which do you prefer – the cashier lane or self-checkout?

Barry: I prefer the self-checkouts.

¹⁶⁰ Gemperlein.

¹⁶¹ Sheldon and Buzek. “2006 North American Self-Checkout Systems,” p.6.

Author: You prefer the self-checkouts.

Barry: I don't wanna' talk to a cashier. I don't want to have to do small talk. You do it all day long. I don't even shop in my own store anymore. When it's time to go home I go.

In an increasingly service-based economy, those who engage in what Hochschild (1983) terms “emotion work” may seek respite in the solitude of the self-checkout lane. For people like Barry, who spend eight or more hours a day working with people, the absence of social interaction may in fact make self-checkout *more* alluring rather than less.

Challenges to Sovereignty: Who is in Control?

Customers who preferred to use self-checkout cited another factor as well – *control*. Newspaper articles suggested that some shoppers enjoyed the sense of control, setting the pace and checking item prices. “I feel like I’m in control of my own time,” told a shopper to a reporter, while another noted “[y]ou can go at your own pace.”¹⁶² Even self-scan manufacturers note the importance of control, claiming that their product is “giving someone the power to do what they want to do.”¹⁶³

In the course of my own interviews, one female customer confessed that she preferred self-checkout because she was a ‘control freak’. “I just prefer it. I’m a control freak. I like doing it myself, bagging things the way I want. I’m a control freak. I don’t like how they

¹⁶² Adler.

¹⁶³ Cetawayo, Ameerah. 2006. “Companies tackle self-scan market, Pan-Osten, Hitcents.com take on megabusineses to stake claim on industry.” *The Bowling Green Daily News*, July 7.

bag [items] in the regular lane,” she said. Customers using self-checkout can bag their groceries however they please, which may appeal to shoppers who sort bags at home or want their items packed a certain way. For example, shoppers may elect to have certain items placed in bags designated for the pantry, while those walking home may want double or triple bagging of their purchases to protect and ensure they arrive home intact.

Other shoppers prefer self-checkout because it allows them to check product prices. Instead of the awkwardness of peering over the cashiers’ shoulder to see the products being ringed up on the register, customers can scan and check each individual item’s price. Michelle, who manages the store at Travelers’ Gate, expressed her surprise at her elderly clientele’s response. Based on what had previously happened at Century Village, Michelle had expected to find resistance among older shoppers. Yet, she found that many of her older patrons embraced the technology, in part, she said, because it allows them to check the price of items.

Indeed, self-checkout may appeal to some customers because it provides a sense of control and autonomy. Dr. Kathleen Kirby, a licensed psychologist and part-time professor at the University of Louisville, suggests that part of the attraction and popularity in self-checkouts may be due to the perception of their offering more control to the consumers.¹⁶⁴ Social psychologists, for example, note the positive association between control, mastery, and self-esteem, highlighting the notion that people like feeling in control and will avoid situations in which they are not (Turner and Rozell 1994; Gecas 1989). Researchers also note the association of self-control with indicators of well-being, and suggest perceptions of self-control may promote better health outcomes (Pudrovskaya et al. 2005; Pearlin and Pioli 2003; Mirowsky 1995). Accordingly, self-checkouts may

¹⁶⁴ Trask.

offer shoppers what they perceive to be a less stressful and more empowering means of purchasing weekly goods at the grocery store. Rather than depending upon cashiers and checkout clerks to confirm product prices and ensure proper bagging, customers may elect to ‘do-it-yourself’, ensuring the outcome is tailored to their specifications.

Yet customers are far from being completely autonomous, independent participants. On countless occasions, I witnessed what appeared to be a re-enactment of the film *Modern Times*, in which Charlie Chaplin, playing a factory worker, struggles to keep up with the pace of the assembly line (a skit re-enacted years later by Lucille Ball on the sitcom ‘I Love Lucy’). The underlying notion being depicted is that under industrial production processes – and the assembly line, in particular – it is the machine, not the worker, is setting the pace. There is also the implication of some loss of control, or perhaps even power; indeed, when factories began using large machinery and assembly lines, some employees responded by sabotaging the machines that threatened to usurp their power on the shopfloor.

Here, the issue is not with production but consumption, yet arguably the same underlying dynamics apply. Like industrial production, we have a scenario in which new technology is being introduced to the workplace. And, as has been documented in industrial work (Burawoy 1979), those affected by the new technology may choose to express their displeasure or frustration via acts of sabotage or resistance (Tucker 1993). Indeed, one of the major criticisms of the labor process perspective has been its focus on control and management structures (Knights and Willmott 1990; Bray and Littler 1988). Adopting a dialectical approach towards understanding workplace relations, this theoretical perspective has been criticized for being overly structural, placing too much

emphasis upon the constraining and coercive aspects of technology and management and too little upon the agency and consciousness of individual workers (Jaros 2001). As a result, labor process scholars have increasingly shifted their focus towards understanding how and why workers resist the encroachment of management and technology as well as the role of worker consciousness (Knights 1990; Willmott 1990).

Applying this shifting focus from the sphere of production to consumption implies shifting a focus from structures of control, coercion, and manipulation towards one that also incorporates and acknowledges the agency and consciousness of consumers. In practice, this means focusing not simply on advertising, ‘spectacles’, marketing, and the ‘means of consumption’ but also the *consumer* and how consumers confront and negotiate such structures.

Additionally, consumers are different from workers in important ways. Employees are constrained by the underlying basis of their relationship to the business. Working for someone else, be it a person or a corporation, involves abdicating a degree of authority and submitting ones’ labor in exchange for wages or salary. Consumers are not bound by similar constraints; they are not formally employed by the business from which they are purchasing goods or services. In fact, it is this absence of formal subordination in the market that led economists such as Hutt to comment that ‘the customer is king’. Customers can choose when and where to buy, and whether to buy at all. And in the American economy, there are often a multitude of different businesses from which to choose.

In the case of self-checkouts, consumers can and do resist. As managers noted, some customers frustrated by self-checkout may simply walk away (i.e., ‘walkoffs’).

Customers are under no obligation to use self-checkout, nor are they required to continue to use it once a transaction has begun. Thus, consumers may aspire to remain sovereign and resist submitting to new business practices and procedures such as self-checkout. As managers highlighted, self-checkout in SuperFood stores is presented to the customer as an ‘option’, not a mandate. And, in certain cases stores may yield to customer pressure, such as those which removed, reduced, or relocated self-checkouts in response to complaints.

But in order to successfully complete a transaction using self-checkout requires some accommodation on the part of customers, who must follow prompts correctly in order to complete their transactions. Control, in this case, is a two-way street; businesses may encroach upon customers by asking them to ‘do-it-yourself’, but ultimately depend upon customers’ willful submission. And consumers who consent to using self-checkouts may ultimately have to reconcile the notion that they are no longer in control of the transaction but are merely participants, following prompts and pushing buttons.

Therefore, in terms of consumer sovereignty, this means that the customer or ‘king’ seeking speedy and convenient checkout in the self-scan lane may be asked to abdicate the throne, albeit temporarily, and yield authority to the machine. Upon completing the transaction, the monarch may resume his rightful place, forgetting he ever submitted himself to anyone, let alone a machine, and leave the store a free and sovereign consumer once again.

Faster Checkout?: The False Promise of Self-Checkout

The single greatest reason customers gave for choosing self-checkout was *speed*, corroborating previous results found in market research studies. “They’re quicker. It’s fast. No lines,” noted one customer, while another commented, “it’s faster than waiting in line.” Even some of the managers I interviewed expressed their preference for self-checkout in terms of speed:

Author: Let’s get back to you as a shopper. You say you love it – why?

Karen: Love it.

Author: Why do you love it?

Karen: It’s so convenient, you’re in and you’re out. I love it.

Author: You think it’s faster than going through the regular checkout?

Karen: Yes. Mmhm. I was in a SuperFood last week as a matter of fact and a lot of the customers were in cashier lanes because they were afraid to try this new system. I ran straight to it. And I just love it. I was in and out and they were still in these long lines.

Indeed, much of the appeal of self-checkout appears to be in its promise of faster checkout and shorter lines. To understand the appeal of these claims, one must understand the degree to which American consumers dislike waiting in line. A survey of shoppers on the cusp of the holiday shopping season found that nearly sixty percent cited long checkout lines as the number one complaint of the holiday shopping season.¹⁶⁵

Self-checkout promises customers relief from long lines. NCR’s product brochure claims FastLane “delivers by speeding up the check-out process”, while IBM’s asserts

¹⁶⁵ *CRM Today*. 2004. “’Tis the Season for Self Checkout, Improved Customer Service, and Intelligent Shopping Tools.” December 8.

their self-scan product “[p]rovide[s] a faster checkout experience for consumers.”¹⁶⁶ How do they do it? “Adding self checkout lanes means adding more open lanes, which helps to shorten lines and provide a faster checkout experience for the consumer,” notes IBM, while NCR adds that “retailers report up to a 40 % reduction in average queue time.”¹⁶⁷

Faster checkout, shorter lines. But is it true? Home Depot seems to think so. “The self-checkout has reduced length of lines by a third and the time spent in lines by a third,” said John Simley, spokesperson for Home Depot. “We estimate that 30 percent of all sales are made through self-checkout at stores equipped with them.”¹⁶⁸ Barry Scher, spokesperson for Giant Food, Inc. agrees. “They enable customers to get out of the store quicker,” he says.¹⁶⁹

Reports from journalists, however, suggest otherwise. One reporter examining the self-checkout trend at a store in New York City reported “cart-to-cart” traffic in the self-checkout lanes, while another simply concluded that “the machines are not any faster than human checkers.”¹⁷⁰ Why? According to some shoppers, there are simply too many product codes and variations in items. “I suppose if a person has a very few items, the scanner may be a fast option. However, on produce it is impossible. There are so many kinds of onions, potatoes and fruits with different prices. You have to know the name of each kind, which takes up too much time and effort to do,” told a shopper to a reporter.¹⁷¹

My interviews with customers found similar complaints regarding products without labels, especially produce. “If they all had UPC’s, it’d be boom, boom, boom!” noted a

¹⁶⁶ NCR “NCR FastLane,” p.1.; “IBM Checkout Environment for Consumer Service Software,” p.3.

¹⁶⁷ IBM, “IBM Checkout Environment for Consumer-Service Software,” p.3; NCR, “NCR FastLane,” p.1.

¹⁶⁸ Bhatnagar.

¹⁶⁹ Gemperlein.

¹⁷⁰ Bhatnagar; Berestein.

¹⁷¹ Artunian.

customer. Instead, purchasing products without UPC labels requires customers to search through electronic code books, matching pictures and names of produce to the items in question and then weighing it on the electronic scale. This not only adds to the checkout time, but can also lead to frustration and confusion as customers sort through produce codes or struggle to determine the precise type of produce in question.

Indeed, my field notes indicated numerous cases in which customers fumbled and fiddled with items, searching for bar codes and struggling to enter produce items. In fact, more often than not cashiers and checkout clerks were required to assist customers using self-checkout. At Century Village, Sarah reported having to assist nearly ninety percent of the customers, while at Travelers' Gate I couldn't even complete my initial interview with Henry because he was frantically trying to keep up with the pace of customers requiring assistance.

Analysts also cite what some may feel is a misunderstanding in self-checkout etiquette. According to Michael Banks, partner and owner of Select Marketing LLC, “[t]he #1 way to speed up checkouts,” he wrote, “is to slap shoppers upside the head and remind them of where they are”:¹⁷²

"Are you going to write a check? Then have it pre-written (except for the amount) and have your pen in hand to fill in the remaining information. You've got plenty of time to do this as you wait for other idiots to check out. Are you going to pay in cash? Then have it in your freakin' hand. Are you going to use plastic? Then be familiar with how it works: Swipe it according to directions. . . . Speaking of purses, don't take forever to reload all the crap you've

¹⁷² Gemperlein.

removed from your purse during your transaction. Think of the people behind you, and toss it into your purse for later reorganization."¹⁷³

While some of this critique entails a societal redefinition of checkout etiquette, it also implies a subtle, albeit significant, reorienting of shoppers' habits and behaviors in order to streamline sales transactions via self-checkout. Rather than catering to the customer, comments such as those above imply that customers ought to in fact cater to the checkout process – in this case, a computerized checkout machine – reflecting back to the previously discussed issue of 'control'.

There are also numerous doubts regarding the purported speed of self-checkout, illustrated in experiments and tests conducted by the media. As *New York Times* reporter William Grimes learned, the speed of self-checkout may in fact be illusory:

"The entire process may go more quickly, but the scanning itself does not, as I found when I went mano a mano against an experienced Stop & Shop cashier. We each scanned the same 10 items. My opponent not only scanned and bagged in 20 seconds but also managed to slip in a greeting, "Welcome to Stop & Shop." It took me one minute and 15 seconds, without bagging."¹⁷⁴

A similar study by the magazine *Good Housekeeping* yielded similar results. Testing new high-tech methods of completing everyday tasks against older, established methods, the magazine found that in many cases, the new high-tech methods in fact took longer. For example, they compared how long it took to purchase movie tickets at a box office to the amount of time it took to order them online. They found that the average time it took

¹⁷³ Ibid.

¹⁷⁴ Grimes.

the tester to get the ticket from the box office was two minutes and forty seconds; the average time it took online was five minutes and twenty-four seconds. How did self-checkouts measure up to regular checkout? Tests found the average time to complete a purchase using self-checkout was five minutes and thirty-three seconds – faster than the average time of six minutes and fifty-five seconds it took testers using the regular checkout. This would appear to suggest that self-checkouts are in fact faster than the tradition checkout lane. However, they noted that if there are an equal number of people waiting in line at each lane, the regular checkout lane is actually faster.¹⁷⁵

The reason the regular lane may be faster reflects the underlying economic traits of the various actors involved, and highlights a key factor – skill. Although customers may be eager to scan their own items, oftentimes they struggle to locate hard to find produce codes or distinguish the difference between various types of apples. After his second-place finish, Grimes noted, “[i]n my defense, let it be noted that the cashier knew all the produce codes by heart. I had to use the picture dictionary on the touch screen, which, in truth, is lots of fun, but burns precious seconds”.¹⁷⁶ The IHL Consulting Group found similar results to the *Good Housekeeping* experiment in their study, noting “the actual transaction process is faster with staffed checkout because of the experience of the checker and the avoidance of delays from the security feature of the self-checkout devices.”¹⁷⁷

Although much of what cashiers do is considered to be unskilled work, there is a considerable degree of knowledge concerning products codes and their locations on various items and products. And with countless hours of experience under their belts,

¹⁷⁵ *ABC News*. 2004. “Shaving Off Minutes.” April 26.

¹⁷⁶ Grimes.

¹⁷⁷ United Food and Commercial Workers.

cashiers can perfect the technique of scanning even those hard-to-scan items. In other words, shoppers are economic amateurs and dilettantes, eager to take the reins from cashiers, yet do so with considerably less skill and precision. There is hope for aspiring shoppers-cum-cashiers, however; Grimes notes that with practice, as well as a bit of expert advice, shoppers may eventually catch up to the cashiers:

“By this time, my scanning technique was under control. Mike Vittorio, a technical specialist at Stop & Shop, analyzed my motion and offered one criticism, which I pass along to rookies. Do not go into contortions trying to make the bar code face the beam underneath the glass plate. A mirror set at right angles to the glass picks up the bar code if you pass the item naturally, in an upright position.”¹⁷⁸

In fact, most of the customers I interviewed stated that they thought the regular lane – *not* the self-checkout – was faster (see Table 14). When asked why they thought the regular lane was faster, customers gave reasons that highlighted differences in skills and experience between cashiers and customers:

Author: Why do you think the regular lane is faster than self-checkout?

Customer: They’re faster because they know all the barcodes and stuff.

Author: Why do you think the regular lane is faster than self-checkout?

Customer: They’re professionals at what they do. They can probably do it at a faster pace than someone like me.

¹⁷⁸ Ibid.

Author: Do you think self-checkout is faster?

Customer: No, 'cause people mess up and then you have to wait!

Author: Do you think self-checkout is faster?

Customer: No, because I make mistakes or do something I'm not supposed to [do] and the machine stops.

Those who responded “it depends” frequently cited a number of contingent factors, including the number of items and the length of the line, but also the skill and experience of the user:

Yeah. Well, if you know what you're doing

It depends on who's doing it. I'm really slow but I bet some people [can] do it faster than the cashiers.”

It all depends on the person in front of you

They can be. It depends on how much you have and whether you know what you're doing, how the machine works. If you get stuck behind someone who doesn't know what they're doing it can be really slow. But if they know what they're doing it can be pretty quick.

The sentiment that “it all depends on the person in front of you” was echoed by managers as well, whose comments underscore the contingent factors of skill and experience:

Author: So do you think they're [i.e., self-checkouts] faster than going through the regular checkout?

Barry: They can be. They can be. I hate waiting in line behind some people, some customers because they don't know, they're not- they don't have any experience.

Author: So whether or not they're faster depends on-

Barry: It's all the operator. Whoever's using it. Whoever's using it. And I have the uncanny ability to get behind the worst customers in the world. I picked the wrong one. I picked the one where the guy can't get the system to work.

Because many customers have little or no experience in retail sales, it may perhaps come as no surprise that they fail to see self-checkout as a faster alternative to the cashiers' lane. Yet, among managers, who are experienced in retail, there was an expressed sense that for them self-checkout was in fact a faster alternative to waiting in line.

Rachel: I find myself, when I have to shop, I [use self-checkout].

Author: So when you shop you pick to do it. Why do you pick to do it?

Rachel: Because, I- [laughs] Because I'm probably a lot faster.

Rick: You know, I go through there in no time. But when you get the ones that don't know the produce codes and you get the kid to come over and help them with it – then it will slow things up.

In sum, whether or not self-checkouts are a faster alternative to the regular checkout lane depends upon a number of factors. Individual factors include the number of items,

the type of items (produce vs. nonperishables), and the overall experience and skill of the person operating it. But there are external factors as well, such as the length of lines and the aforementioned characteristics of the shoppers ahead in line. Additionally, this assumes that there are no computer malfunctions or glitches in the operation of the machines. As noted in the previous chapter, self-checkouts require considerable maintenance and are prone to occasional malfunctions and errors.

Yet, in an experimental head-to-head competition, in which these factors were controlled, self-checkouts failed to beat the regular cashiers. This would seem to suggest that self-checkouts are in fact not faster than the regular checkout lane. Even an executive of a company that manufactures self-checkouts acknowledged this fact, stating that “if you factor in the wait time and the number of items, self-checkout isn’t faster.”¹⁷⁹

So why do some shoppers believe self-checkouts are faster?

(Not) Keeping Time

Psychology suggests that it may simply be a cognitive error based in misperception and attention. Psychologists Anthony Chaston and Alan Kingstone (2004) recently published research which suggests that the more attention is involved in a particular task, the shorter the estimated amount of time to complete the task is given. According to Chaston, there are two types of time estimation; prospective estimation, which involves estimating the time required *before* completing a task, and retrospective estimation, which involves giving an estimate *after* the task has been completed. According to

¹⁷⁹ Artunian.

Chaston, we tend to be much better at prospective estimation than retrospective estimation:

"There's generally a big difference between prospective and retrospective time estimations. In our society, we're pretty good with prospective estimates. Most of us wear watches, and anyway, we're pretty good at keeping track of the time in our minds because we have to, for most of our regular daily lives."¹⁸⁰

Similarly, sociologists studying time diaries note discrepancies between what time people believe is spent doing certain activities and what time is actually spent. John Robinson and Geoffrey Godbey's (1997) research finds that people tend to mistakenly think they have less free time than ever, when in fact they have *more*. Only when we begin to keep an objective record of how we spend our time, they suggest, do we get accurate estimates.

In other words, human perception of time is subjective and prone to error; without close monitoring of a watch or other objective measure of time, it is easy to lose an accurate sense of how much time has in fact passed. Assuming most of us do not live in a Taylorized world of time-motion studies like the Gilbreth family or routinely keep time diaries, we likely have a biased and inaccurate sense of how much time we spend engaged in various activities, extending all the way to the checkout line. Because self-checkout makes customers an *active* participant – scanning, weighing, bagging – it masks the time that would otherwise have been spent passively waiting.

¹⁸⁰ Smith, Ryan. 2004. "Scientists prove time flies when you're busy." *Express News*, August 6.

The result, according to NCR executive Tracy Flynn, is that “people using the self-service line *feel* they are getting out of the store more quickly.”¹⁸¹ Whether or not they actually are is difficult to assess, in part, because few of us accurately measure how we spend our time in such activities.

Summary

This chapter began by posing two basic questions: why are self-checkouts being introduced, and do self-checkouts deliver on their promise of ‘faster’ checkout? Although the first question was raised in an earlier chapter, here the question is specifically directed at the relationship between businesses and consumers. At issue is the primacy and power of the consumer; are consumers the powerful force that businesses make them out to be, driving the self-checkout trend through demand? Or are they simply the recipients – or perhaps participants – in a new business strategy aimed at cutting costs?

While self-checkout manufacturers assert that the self-checkout trend is being driven by consumer demand, there is in fact little merit to their claim. Rather than self-checkouts, consumer research indicates most customers want simple amenities such as visible prices, printed receipts, and the ability to pay through cash, check, or credit. My own survey of customer attitudes found that given a choice, most customers still prefer the regular checkout lane to self-scan, highlighting the desire for basic store amenities and services over high-tech gadgetry and electronic devices. Although shoppers may use self-checkouts, they are not a ‘must have’ item nor do they influence

¹⁸¹ NCR, “Reality Check on Self-Checkout,” italics added by author.

customers' decisions of where to shop. In fact, some customers would prefer stores not have self-checkouts at all.

Claims that self-checkout is a faster alternative to the checkout line are also dubious. Experimental research, as well as anecdotal evidence, indicates that self-checkout is in fact *slower*, not faster, than the cashier-operated checkout lane. Why? Part of it involves skill and experience, factors which may seem quite peculiar given the fact that the cashier occupation is technically considered unskilled and subject to a high rate of turnover (i.e., involves little experience). Yet, skill and experience arguably play a critical role; knowing produce codes and hard-to-find bar codes can shave off seconds.

External factors play a role, too. To paraphrase what I was told, self-checkout is only as fast as the person in front of you. While we might treat the rate of speed for a given lane as being a function of the number and type of items as well as the length of line, in the self-checkout lane skill varies, too. The speed of an individual transaction depends not only on how many items they have or whether or not they have to key in and weigh produce; it also depends on how experienced they are and whether or not they are able to successfully negotiate the series of steps and sequences presented to them. Other external factors play a role, too: long lines, customers with lots of items, and simple computer error or mechanical malfunction will add to the time to checkout. If they want to save time, most customers would be better off waiting in the checkout line rather than trying to 'do-it-yourself'.

Beneath these questions lie deeper issues regarding consumer sovereignty and market solutions to everyday problems. Are consumers sovereign? In the case of self-checkouts, consumers, customers would appear to have some degree of influence and power. After

all, customers can ultimately refuse to use them and can elect to shop elsewhere as a means of expressing their refusal. Self-checkouts were in fact removed from several stores due to the severity of criticism from customers. Although some might argue that this in turn simply reflects' managements influence – that the chain, and not the customers, actually dictates the trend – it is hard to claim such without noting the pressure and influence of customers.

But, customers are not all-powerful. Ultimately, customers do not control the retail environment itself. As Underhill (1999) notes, it is up to individual store managers to ascertain how best to organize a store in order to attract customers and maximize sales. Customers may abuse, manipulate, or avoid self-checkouts, but ultimately it is up to the store and its parent company to decide when, where, and how many self-checkouts to install. Accordingly, I find it best to characterize consumption, like production, as a 'contested terrain', in which consumers and producers struggle to define and control the consumption process (Edwards 1979).

A second key issue addressed in this chapter is whether or not self-checkouts actually deliver on what they promise to consumers. Self-checkouts promise consumers faster checkout, yet findings indicate they often take as long, if not longer, as the regular cashier. In part, this is due to customers' lack of skill and technical experience, but there are external constraints over which consumers have little control, including the number of items and relative skill and experience of the customers in front of them as well as possible computer malfunction. Those customers who do manage to get through faster do so because of their superior scanning technique and experience; essentially, they reflect a successful socialization process aimed at turning customers into trained checkout

cashiers, customers, who as managers put, have “bought into” self-service and what it requires of them as customers.

Like other consumer products, self-checkout appears to offer a ‘false solution’ to a very real – albeit mundane – problem faced by consumers. Critics of consumer culture assert that part of the problem lies in the nature of the goods produced and the system producing them; in order to maintain consumption and profit, businesses must continually create ‘false needs’ and desires that can only be met through the consumption of goods and services (Slater 1997; Meadows 1992). In this case, self-checkouts are promoted as the solution to not just waiting in line but to customers’ needs and desires for control, choice, and speedy checkout.

Yet, market research clearly shows this is not what consumers actually want; most customers simply want basic amenities such as the ability to pay through various means and customer service in the form of friendly staff. Customers want technology as a means, not as an end in itself.

Nor are these promises fulfilled. In most cases, self-checkout is not any faster than the regular cashier lane. Likewise, one could argue that there is less control over the checkout process, as customers are required to consent to participate in a transaction in which they follow the commands and prompts of a machine.

Despite any deception or manipulation, it is worth examining precisely what each party gets from the exchange. In the case of self-checkouts, businesses appear to make out like bandits. Like the ‘just-in-time’ flexible production processes that characterize post-Fordist manufacturing, self-checkouts allow stores to obtain only the requisite labor and only at the requisite time, eliminating the cost and expenses associated with slack

periods and idle labor.¹⁸² Not only is this labor timely, it is also essentially *free*. With self-checkout, stores get customers to perform certain tasks for free that would otherwise require stores to pay employees wages. Quite convenient for stores, indeed.

What do consumers get? Instead of feeling condemned or restricted to the checkout line, consumers now have a choice of where and how to spend their time during checkout. They can stand idle waiting in line browsing magazines and candy bars or they can opt to ‘do-it-yourself’ in the self-checkout aisle. Regardless of the choices, simply having a choice may be of value to customers, especially those accustomed to a range of options. Self-checkout also offers customers a sense of speed and control. Whether or not they actually do is, for businesses, largely irrelevant; what matters is the *perception*. As the ‘Thomas theorem’ asserts, when people perceive things to be true or real, they become such in their consequences. In the case of self-checkouts, this means that even if self-checkouts are neither faster nor provide more control, the perception that they do may lead customers to use them.¹⁸³ Lastly, self-checkout offers a refuge those who dislike dealing with cashiers or feel exhausted by the niceties of face-to-face interaction. In a society in which people are increasingly closing themselves off from one another, both at the macro level (e.g., residential segregation) as well as the micro level (e.g., iPod earphones), self-checkouts allow shoppers to eliminate social interaction from the experience of shopping.

In sum, although consumers are perhaps far from sovereign in respect to the use of self-checkouts, many consumers do not necessarily feel exploited or ‘ripped off’. In part,

¹⁸² For more on flexible production, just-in-time manufacturing, and post-industrial systems of work, see Alcaly (2003), Castells (2000), and Harvey (1990).

¹⁸³ The ‘Thomas theorem’ refers to W.I Thomas’s observation that when people define situations as real, they become real in their consequences (Thomas and Thomas 1928; see also Merton 1995).

this reflects the way in which labor is decommodified through the rhetoric describing self-checkout as a ‘choice’ or ‘option’; consumers, after all, are consenting to their use and have other alternatives to checkout. Moreover, although self-checkouts are in fact not any faster, certain aspects of self-checkouts obscure and minimize any sense of difference in speed.

Far from feeling exploited, shoppers described their feelings and preferences regarding self-checkouts in ways that highlight the significance of a number of aspects of the consumption process. First, some consumers value autonomy and choice; the ability to ‘do-it-yourself’ is valued by certain customers and perhaps bears a market value unto itself. Similarly, the option to choose self-checkout presents customers with a choice. Whether or not this ‘choice’ reflects a true diversity of options is debatable, yet the appearance of having a choice may give shoppers the sense that they have some control and power over the checkout process. Second, even if self-checkouts are not actually faster or empowering, it highlights a basic principle of social psychology concerning the power of perception. As W.I. Thomas (1928) observed, perceptions of reality influence human behavior and therefore have a direct effect and consequence. Self-checkouts may not in fact be faster, but the feeling – the perception – that they are faster is perhaps sufficient to elicit and endorse their use. In short, self-checkouts may not deliver on all of their promises, but they do deliver things of value to customers, even if they are more rooted in perception than fact.

Chapter 7: Conclusion

“As technology advances, it reverses the characteristics of every situation again and again. The age of automation is going to be the age of “do it yourself”.”

- Marshall McLuhan, communications theorist and author of *Understanding Media* (1964).

“We're changing the world with technology.”

- Bill Gates, American entrepreneur and founder of Microsoft.

Why Adopt Self-Checkouts?

As Chapter 4 (‘Why Adopt Self-Checkouts?’) illustrates, the reason for stores adopting self-checkout is characterized by debate rather than consensus. Specifically, the ways in which the various stakeholders involved characterize and frame the introduction of self-checkouts reflects their underlying economic interests and motivations. Manufacturers, for example, are essentially making a sales pitch, exhorting to chains such as SuperFood the various economic benefits reaped through the use of their product. Similarly, managers largely confined their views on self-checkouts to those areas in which they themselves are most centrally involved and invested: sales, theft, and staffing. In turn, the labor union and workers cited reasons involving employment and labor costs, highlighting their economic stake and interest in employment. Accordingly, the overall picture is one in which each group is struggling to define the situation in terms that underscore their legitimacy and interests.

This lack of consensus regarding the issue is in itself noteworthy. It suggests that there is still room for parties to maneuver, to frame the adoption of self-checkouts in various ways that call into question the motives of the other parties. For example, NCR published a paper titled ‘Reality Check on Self-Checkout’, claiming to separate the hype from fact;

implicit in its title is the contention that there are false or misinformed views regarding self-checkouts.¹⁸⁴

Yet, my results clearly indicate that most consumers regard self-checkouts as simply a new twist on an age-old effort by businesses to cut costs. In other words, while there may still be considerable debate, my findings suggest there is a coalescing view in the public that the shift towards self-service in the retail food industry has nothing to do with them or their needs and everything to do with stores' goals of cutting costs.

Ultimately, there has to be some question as to the relative degree of agency each group has in regard to the introduction of this new technology. Ultimately, I argue, it is the stores themselves that decide; after all, they control the structure and layout of their store and determine what services and/or amenities they will offer. True, they may feel pressured to meet customers' demands, but they also have to operate within the budget of a business, weighing potential costs against future gains. Similarly, manufacturers may seduce both manufacturers and the general public with promises of faster checkout or lower labor costs, but ultimately it is up to the parties to decide. And in business, although the customer may always be right, the customer does not necessarily sit on the board of directors nor design the layout and features of a particular store.

The Employment Paradox

A second major question posed concerned the effect of self-checkouts on the nature of work and employment in the retail food industry. Critics – especially the labor union and

¹⁸⁴ NCR, "Reality Check on Self Checkout."

its representatives – alleged that self-checkouts were being used to put people out of work and erode hard-fought wages and benefits.

Yet, my findings found little to support such allegations, though perhaps for reasons that have little to do with self-checkouts themselves. First, employment statistics indicate that rather than decline, supermarkets, and the retail sector more generally, appear to be experiencing a relative *growth* in employment and employment associated costs. Indeed, to paraphrase Nobel prize winning economist Robert Solow, the economic effects of self-checkouts appear to be everywhere except in the statistics.

Yet statistics only explain *what* the employment patterns in fact are; they offer little explanation as to *why* such trends are occurring. My interviews with managers, as well as workers and their union, helps to explain why this is. According to managers, stores wanted to hire *more* labor not less; struggling to cope with constant turnover and a tight low-wage labor market, managers argued that if anything, self-checkouts were helping them to cope with staffing shortfalls and turnover.

Second, managers argued that even if they could reduce some demand for labor by using self-checkouts, they still needed someone there to monitor the machines. In part, this reflects the problems associated with introducing any new technology into a retail environment; stores need to help transition customers into using new products and methods of shopping.

Yet, even once customers adjust to self-checkouts, managers argued they still needed to staff them simply to curb customer theft and abuse. Although self-checkouts have a number of anti-theft devices, they are still prone to manipulation and abuse. Accordingly,

managers stressed having to staff the self-checkout lanes if only to prevent ‘walkoffs’ and other forms of ‘shrink’.

Additionally, managers noted that the use of self-checkouts was limited and constrained by internal controls. Issues from the company set limits for each store as to how many customers they wanted going through self-checkout. The reason for these internal benchmarks was to ensure that most customers still experienced a face-to-face interaction with staff. Equating human interaction with quality of service, stores limited the use of self-checkout in order to project a public perception of human customer service.

Moreover, according to managers, self-checkouts were far from perfect; malfunctioning machines and the need for regular maintenance meant stores could not always depend upon their use. Therefore, while managers often extolled the virtues of having a semi-permanent employee, there also seemed to be a parallel redundancy in having human staff.

Most importantly, though, was the labor agreement in place that formally restricted the use of technology. The labor contract specifically prohibited using technology to eliminate jobs or displace current employees. This meant that even if it could reduce stores dependence upon paid labor through the use of self-checkout, the labor contract kept it from doing so in practice by protecting jobs and current employees.

In short, a number of economic and social barriers preclude self-checkouts from having an adverse effect on employment patterns. The potential for theft, the desire to offer human customer service, the problems and maintenance required by self-checkouts,

the internal limits imposed by the chain, and the collective bargaining agreement – all of these factors mitigate and limit any potential adverse effect on employment.

Deskilling or Reskilling?

A different, albeit related, question regarding the effect of self-checkouts on work concerns the issue of *skill*. Specifically, does the use of self-checkouts erode workers' skills (i.e., 'deskilling') or would there be some sort of upgrading of skill requirements resulting from the use of such new technology (i.e., 'reskilling' or 'skill upgrading')?

It is hard to assert any notion of deskilling, given that the occupation affected – cashier – is already considered to be unskilled. Most of what needs to be known is learned on the job, and the limited extent of training – as little as a day or two – suggests that the occupation is indeed limited in skill requirements; as one manager put it, 'this ain't rocket science'. Moreover, those trained to use the self-checkouts require very minimal additional training, again calling in to question the actual degree of skill and experience required. Yet, self-checkout do in fact appear to automate – or more precisely, displace via automation – many of the tasks and skills typically performed by cashiers. This would seem to suggest that self-checkouts may reduce firms' needs for certain types of skills.

However, it is difficult to gauge the effect of self-checkout lanes on stores' need and demand for certain types of skills on skills because of the social and economic barriers limiting their effect upon employment. The problem in ascertaining effects on skill demands is further obscured by the manner in which self-checkouts are limited in their

use. As long as stores limit the use of self-checkout to a handful of lanes, there will likely be little appreciable effect on skills.

Among those cashiers who work with self-checkout, however, there may be some positive effect upon skills. Although most of what cashiers do is routine and repetitive, they do have interactions with customers that require less clearly defined skills. Because much of what cashiers do is displaced to customers by self-checkouts via automation, cashiers still perform an important role. As my research clearly shows, cashiers are often called upon to help customers in the checkout process and troubleshoot problems. Therefore, while many of the routine skills may be displaced by self-checkouts, those who oversee and assist customers in their use may enjoy a greater emphasis in interacting with people, developing the 'soft skills' frequently associated with other forms of non-manual service work.

The 'Downward Restructuring' of Work?

A third major question concerning self-checkouts centers on their role within a larger context of economic restructuring. In recent decades, American businesses have faced a series of pressures to restructure employment practices in order to control labor costs. In particular, businesses have recently struggled to cope with rising health care costs. As of this writing, several American automotive manufacturers are facing bankruptcy despite receiving significant federal aid, in part, because of labor-related costs.

Yet, this problem is not confined to the automotive industry nor the industrial sector of the economy. In 2003-2004, a major work stoppage in the retail food industry centered on

a disagreement between the union and several companies concerning employee health care and benefits.

Accordingly, critics such as the United Food and Commercial Workers (UFCW) union allege that self-checkouts are being used to effect a ‘downward restructuring’ of work, as stores replace full time employees entitled to health care and benefits with part-time employees who receive either little or none. This parallels a continuing concern among sociologists about the nature of employment and the extent to which the U.S. economy offers ‘good’ and ‘bad’ jobs. ‘Good’ jobs describe those that offer health care and benefits, as well as standard and full-time work schedules. ‘Bad’ jobs offer substantially less in wages and benefits, and are frequently limited to part-time and nonstandard work schedules.

So are self-checkouts being used to effect a ‘downward restructuring’ of work in the retail food industry? My findings suggest not, though perhaps for quite different reasons which will be further explained below. At the national level, the average hours worked by cashiers in supermarkets did significantly decline at the same time self-checkouts began to be widely adopted. This would appear to suggest perhaps some correlation between the introduction of self-checkouts and the decline in average working hours among cashiers. Similarly, the percentage of cashiers receiving health care coverage has declined over the past decade, again correlating with the introduction of self-checkouts.

However, there is little evidence that the industry is shifting towards greater use of a part-time workforce. Over the past decade, the overall trend has been towards a converging rather than diverging workforce as the percentage of full- and part-time cashiers working in grocery stores has tended to hover near fifty percent. In fact, the

percentage of full-time workers in the supermarket industry appears to be increasing, as is the percent regularly working forty or more hours per week. And health care coverage – the cost of which is said to be at the center of recent labor disputes and one of the key contributing factors driving workplace restructuring in the retail food industry – has more or less remained constant. Although the percentage of cashiers receiving health care coverage has declined over the past decade, the overall percentage of employees receiving health care coverage has remained nearly constant.

A ‘Race to the Bottom’

Clearly, the retail food industry is in the midst of a major process of economic restructuring. Recent labor agreements have put in place a two tiered wage structure comparable to that found in other industries and occupations such as manufacturing, nursing, and the airline industry. In effect, these protect existing employees’ wage levels and benefits at the cost of conceding lower wages and reduced benefits for future employees. Despite the slogan of ‘equal pay for equal work’, researchers assert such systems tend to erode union solidarity and lower the employment standards of work (Cappelli and Sherer 1990; Martin and Peterson 1987).

However, self-checkouts are unlikely a major factor in this trend, precisely for those reasons outlined earlier. In overall scope, they are, relatively speaking, too limited in number and use to effect a major transformation in employment patterns.

A more likely factor is the entrance of major retailers such as Wal-Mart, Costco, and Target into the retail food industry. Faced with non-union competitors such as these, companies like SuperFood will be pressured to re-examine employment practices and

overall business strategies. As of writing, Wal-Mart is currently the number one retail food chain in the United States, as well as the largest private employer. Because Wal-Mart is not unionized, its employees receive lower pay and fewer benefits; perhaps to the detriment of its employees, this gives Wal-Mart a competitive advantage. As the union president explained to me, SuperFood and other supermarket chains will be tempted to follow suit in what he describes as a 'race to the bottom', as each side progressively lowers wages and benefits in order to lower operating costs and expenses. Similar to a price war, this could lead to a sort of pyrrhic victory; one side may ultimately 'win', but at a cost to employees and consumers. With few or no competitors left, a relative monopoly may lead to workers to accept lower wages and customers higher prices.

What Customers (Don't) Want

Shifting from employees to customers, Chapter 6 examines the relative significance and effects of self-checkouts to consumers. First, while self-checkout manufacturers assert that the self-checkout trend is being driven by consumer demand, there is in fact little evidence to support their claim. Rather than self-checkouts, consumer research indicates most customers want simple amenities such as visible prices, printed receipts, and the ability to pay through cash, check, or credit.

My own survey of customer attitudes found that given a choice, most customers still prefer the regular checkout lane to self-scan, highlighting the desire for basic store amenities and services over high-tech gadgetry and electronic devices. Although shoppers may use self-checkouts, they are not a 'must have' item nor do they influence

customers' decisions of where to shop. In fact, as my research indicates, some customers would prefer stores not have self-checkouts at all.

'Do-it-Yourself': Shopping With the Lonely Crowd

Customers' preferences regarding self-checkout also reflect the social tendencies of the larger contemporary society in which they live. For some shoppers, self-checkout meets an insatiable desire for personal control and the provision of services specified in ways that suit their own personal needs. Some customers simply think they can do a better job than cashiers, evoking a sort of class-based snobbery; after all, they reason, if they're so smart or skilled, what are they doing bagging groceries for a living? Other customers simply like being able to check prices and bag their groceries the way they want to. For example, some customers separate dry goods from items for the refrigerator, while others designate certain bags for the pantry.

With the shift away from manufacturing, more and more people increasingly spend their days (and nights) working in the service sector as doctors, lawyers, teachers, and the like. Much of this work involves dealing not with objects but other people; similarly, much of it involves not physical work but what Hochschild (1983) terms 'emotion work' – managing impressions, conveying and receiving sentiments, and negotiating social interactions. Accordingly, as service workers feel fatigued and exhausted from facework and managing their workplace identity, self-checkouts offer refuge for emotionally drained. Instead of having to interact with another person – doing what they have done at work all day – they purchase their items and leave the store, all without so much as having to say 'hello'.

Self-checkout, however, may not appeal to certain segments of the public. Keenly – some might argue, pathologically – attuned to the attitudes and sentiments of others, those who are ‘other directed’ in nature may find self-checkout particularly distressing.¹⁸⁵ Aware of those waiting in line behind and imagining their judging stares, some may opt to avoid self-checkouts because of the anxiety it creates. In this light, the ‘do-it-yourself’ ethos may not necessarily reflect a stoic ethos of rugged individualism but a public scrutiny of one’s knowledge and mastery over a new method of transaction.

Perception is Everything: The ‘Thomas Theorem’ & the Illusion of Speed

Claims that self-checkout is a faster alternative to the checkout line are also dubious. Experimental research, as well as anecdotal evidence, indicates that self-checkout not in fact faster but *slower* than the cashier-operated checkout lane. Part of the reason for this involves factors of skill and experience, factors which may seem somewhat surprising given that the cashier occupation is typically considered an unskilled position with a high rate of turnover (i.e., little experience). Yet, skill and experience play a critical role; knowing produce codes and hard-to-find bar codes can shave off seconds.

External factors play a role, too. To paraphrase one of the customers I interviewed, self-checkout is only as fast as the person in front of you. Other external factors play a role, too: long lines, customers with lots of items, or a mechanical malfunction will each add to the time to checkout. If customers want to save time, most would be better off waiting in the checkout line rather than trying to ‘do-it-yourself’.

¹⁸⁵ For a description of the ‘other directed’ self, see Riesman ([1961] 2001).

But if self-checkout isn't faster, why does it seem faster? Because customers are busy. As recent cognitive psychology research illustrates, time seems to pass more slowly when we are occupied with a task. Ask us how long it will take beforehand and we will give an estimate. But ask us afterwards, and we'll give a less accurate estimate, suggesting that perhaps, in some cases, hindsight is in fact not twenty-twenty. Additionally, time use research suggests that Americans often misjudge how they spend their time; according to Robinson and Godbey (1999), most Americans feel they have even less time than ever despite the fact that most have more leisure time than ever before. Therefore, even though self-checkouts may actually take longer, shoppers may perceive them as faster because they are busy and rarely use a stopwatch.

Perception, in the case of self-checkouts, may actually be more important than fact. An oft-quoted concept in the social sciences concerns what is called the 'Thomas theorem', based upon the work of W.I Thomas (1928; see also Merton 1995). Essentially, it argues that objective reality is beside the point when it comes to governing human behavior; when people perceive things to be 'true' or 'real', they become as much in their consequences (psychologists often refer to this as a 'self-fulfilling prophecy'). Therefore, even though self-checkouts may not be objectively faster than regular checkout, the simple (mis)perception that they are may be all that is needed to elicit their use.

Consumer Sovereignty?

Are consumers still 'sovereign' when presented with self-checkouts? Perhaps. After all, according to self-checkout manufacturers such as NCR and IBM, consumers are the ones driving the self-service trend. Yet, as noted earlier, most of the customers I

interviewed preferred the traditional checkout to self-scan, mirroring market research that notes most customers want simple amenities and will not necessarily seek out new high-tech gadgetry simply because it is new or innovative.

As managers pointed out, self-checkouts are ‘not mandatory’; instead, they argue, customers should view them as a ‘choice’ or ‘option’, emphasizing that it is up to customers to decide. Again, this suggests that consumers are still sovereign. Customers can opt for self-scan or not; there is no cost or sanction for not doing so.

Moreover, as interviews with managers revealed, customers’ response had a significant impact on individual store’s when self-checkout was first introduced. In the case of Century Village, the backlash from customers was so strong that Peter was brought in, at least in part, to quell dissatisfaction and smooth over customer complaints. In that case, the predominantly elderly clientele was successful in pressuring SuperFood to move the self-checkout lanes from one end of the checkout area to the other – no small feat considering the cost to move the machines. And in some cases, customer dissatisfaction was sufficiently strong that stores buckled to customer pressure and removed the machines entirely.

Yet, despite customer complaints, most SuperFood stores retained their self-checkout lanes; indeed, the stores that removed or relocated them were a relatively small minority. Moreover, stores did subtle things to encourage their use such as positioning them nearest to store exits. Customer might have a choice, but stores do what they could to promote them and their use. As Bill recounts, customers waiting in line at the checkout may be told there are four self-checkout lanes open, a subtle reminder to customers that they only have themselves to blame if they elect to wait in line. Perhaps most telling of all,

however, is that new SuperFood stores come equipped with self-checkouts. They might as well be telling customers ‘get used to it’, as self-checkout lanes become part of the new retailing status quo.

Contributions to Literature & Future Research

Technology, Work, and Workplace Restructuring

This study makes a number of important contributions to several topics and areas of research. First, for research examining the effect of technology on work and workplace restructuring, this study illustrates how new technology in the retail sector is being used to address rising labor costs that cannot be reduced by downsizing or offshoring. Through the use of self-checkouts, supermarkets and other retail stores are ostensibly ‘nearsourcing’ labor, displacing labor from the front end of the store to the consumer. This represents a truly new frontier in terms of workplace restructuring; it illustrates that in some cases, consumers may be formally introduced into the labor process through the use of self-service technologies such as self-checkout. Additionally, it suggests that necessary labor may be successfully displaced to places much geographically and physically closer to businesses’ locations – in this case, directly to the consumer.

A key question for future research, therefore, is how to describe this seemingly contradictory role. Comparable to Wright’s (1982; 1978) notion of ‘contradictory class locations’, the participation of customers in the formal labor process blurs boundaries between employees and non-employees. Are consumers using self-checkout workers or consumers (or both)? How do the various parties involved view the participation of

customers? Are they expected to follow businesses' norms governing transactions, or do they behave in ways that reflect an independence of various methods of 'control'?

The Labor Process Perspective

These issues of 'control' and 'consent' also reflect the degree to which this research speaks to what have been traditionally central concerns within what is commonly referred to as the labor process (LP) perspective (Wardell et al. 1999; Thompson 1989; Burawoy 1979). Recent criticisms of this perspective center on what is alleged to be an over-emphasis on managerial and technological control, underemphasizing, if not ignoring, the relevance of workers' subjectivity (Jaros 2001; Knights and Willmott 1990; Bray and Littler 1988). This dissertation, I believe, further extends this critique by implying that labor process analyses might, under certain circumstances, also ought to consider the role of the consumer in the labor process. Given that self-checkout, and self-service more broadly, implies the participation of consumers within the labor process, future research might want to consider consumers subjectivity. How (if at all) do consumers view their role in the labor process? To what extent do consumers 'consent' to or 'resist' participation?

Another related significance of this research concerns what is referred to as the 'deskilling debate' (Wardell et al. 1999; Thompson 1989; Wood 1981). One of the unresolved issues within the LP perspective concerns the effect of technology on work, especially within the context of capitalist enterprises. This dissertation adds to the existing debate in two important ways. First, it describes how a specific technology (i.e., self-checkout lanes) within a specific industry (i.e., retail food) may result in deskilling,

adding to existing research examining the effect of particular technologies within specific industries such as automated teller machines (ATMs) and banking (Autor et al. 2002; Bernhardt et al. 2001), and computers and insurance work (Appelbaum 1987). Second, it adds to the existing debate on the overall outcomes and effect of technology on work. In the case of self-checkouts, it would appear that they have certain properties and capabilities that render cashier work unnecessary. However, a number of social and economic factors preclude self-checkouts from having any significantly negative impact on skills. In fact, my findings suggest that those employees who oversee self-checkouts may in fact benefit from a slight upskilling as a result; by eliminating the need for cashiers to engage in routine, repetitive work, workers overseeing self-checkouts are left to focus on the non-repetitive aspects of work, such as dealing with customers and troubleshooting technical problems. This, combined with the need for skilled technical labor for maintenance and the limited overall use of self-checkouts leads the author to characterize the results as reflecting the middle ground represented by the 'mixed effects' model described by Hodson and Sullivan (2002).

A key question, therefore, is what effect self-checkouts may have when such aforementioned social and economic barriers are removed? For example, if consumers were willing to fully embrace self-service, leading companies such as SuperFood to loosen restrictions on their use, might self-checkouts significantly affect firms' skill demands? Similarly, if subsequent labor agreements were not to include provisions specifically restricting the use of technology to eliminate jobs or positions, might we see a significant impact on the number and nature of jobs?

Post-Industrial Work and the ‘New Economy’

Shifting from the micro- to the macro-level, this dissertation also speaks to larger and broader changes in the economy regarding the temporal nature of production and employment. As described by Castells (2000) and Harvey (1990), as businesses shift towards leaner, more flexible systems amenable to changes in supply and demand, self-checkout appears to embody the ‘just-in-time’ flexible system of production. Rather than spending capital on idle workers who produce little or no value, self-checkout (at a sufficient scale and use) could conceivably reduce such costs, drawing upon consumers’ own labor to provide services at precisely the time when they are needed. As a result, some may want to consider self-checkouts as part of or reflecting aspects of the ‘new economy’ and current ongoing the application of computer technology.

Consumer Culture and the ‘New Means of Consumption’

Another contribution of this research concerns the growing literature on ‘consumer culture’ (Goodman and Cohen 2003; Slater 1997; Lury 1996; Featherstone 1991). To begin, I would argue that self-checkouts reflect what Ritzer refers to as the ‘new means of consumption’ Alongside casinos, cruise lines, theme parks, one-stop shopping megastores, and the Internet itself, self-checkouts reflect one of the new and many ways in which consumers acquire goods and services. As part of the broader ‘self-service’ trend, self-checkouts also represent a significant development in the transformation of modern retailing, mirroring similar self-service trends in the airline and movie entertainment industries.

According to Ritzer (1999), self-checkouts and other ‘means of consumption’ act in a way parallel to that of the means of production by shifting our focus from the control and exploitation of the worker to that of the *consumer*:

“[J]ust as the means of production are those entities that make it possible for the proletariat to produce commodities and to be controlled and exploited as workers, the means of consumption are defined as those things that make it possible for people to acquire goods and services and for the same people to be controlled and exploited as consumers.” (p.57)

Do self-checkouts ‘exploit’ and ‘control’ consumers? Whether or not they exploit consumers depends, of course, on how one defines exploitation. Consumers do not receive wages for the labor they provide in self-checkout, ostensibly saving businesses’ costs in wages. Indeed, as I noted in Chapter 4, most of the customers I interviewed saw self-checkouts as cost-saving devices. Yet, one could argue that consumers do in fact receive something of value, albeit other than wages. Instead of wages, consumers receive choice, convenience, and control, not to mention the debated savings in time that might otherwise be spent waiting in line. Whether or not this is objectively true, I note, may matter little to customers; it is the perception – the *feeling* – that it does.

As for ‘control’, I argue that this, too, depends upon one’s point of view. Objectively speaking, successful use of self-checkout does, to an extent, rely upon the customer consenting to performing a number of tasks as prescribed, following prompts and performing tasks in a manner that reflects the machine, and not the customer’s, method of conducting transactions. Yet, for some consumers, self-checkout offers a degree of

control not offered by conventional cashier checkout; customers can check prices, scan at their own pace, and bag items according to their own personal preferences.

Revisiting the issues raised earlier in regard to the labor process perspective, this leads to a broader question concerning how consumers view self-checkouts, and the self-service trend more broadly. Do consumers feel exploited by such methods of business? Do they feel more in control? Or do they feel ‘ripped off’, as critics suggest they ought to feel? And how do businesses frame the use of such devices in order to gain customer consent and acceptance? This dissertation suggests that businesses seduce and gain customers’ acceptance by framing the work transfer and the commodification of labor in terms of speed and convenience; by promoting self-checkouts as a faster alternative to checkout, businesses legitimize their use as a time-saving convenience for customers. Yet, my findings suggest that self-checkout is in fact neither faster nor more convenient than regular checkout, implying that such claims are misleading at best, if not outright dishonest.

Shortcomings and Limitations

Scope

One of the major limitations of this study is its *scope*. While the findings identify a number of factors currently limiting the use and expansion of self-checkouts in the retail food industry, it does not rule out their expansion in the long-term future. Indeed, the findings suggest that the future expansion and subsequent effect of self-checkouts on the retail food industry will be largely determined by three key factors, namely 1) future labor contract agreements and specific stipulations governing the use and effect of

technology on employment, 2) firm's willingness to loosen restrictions on the use of self-checkouts, and 3) the public's willingness and acceptance of self-checkouts. If one of more of these factors change, the effect of self-checkouts on employment and consumption may in fact change greatly. This is worth noting and merits continued attention.

Moreover, although I did not observe significant adverse effects on employment, this does not rule out latent or long-term effects. Self-checkouts may in fact have a significantly adverse effect on employment patterns. The turnover and 'natural attrition' endemic to the industry could mean that the economic effect of self-checkouts is more gradual rather than immediate, as wages are gradually reduced and fewer full-time workers hired. Comparable to what economists noted with the effect of computers on productivity, the effect of self-checkouts may prove to be more gradual and somewhat delayed rather than punctuated and immediate.¹⁸⁶

Sample

A second key limitation of this study concerns the *sample*. Although I did include national-level employment statistics on the retail food industry, a majority of the interview and observational data was based upon sample of a half-dozen stores of a regional chain. Therefore, one may want to exercise some caution in applying these results and findings to the overall industry.

Because of the potential confounding variables associated with local factors (e.g., neighborhood demographics, store location, etc.), I examined several different stores in

¹⁸⁶ For more on the effect of information technology and computers on productivity, see Solow (1987), Triplett (1999), and David (1990).

different locations in two neighboring counties. Although these localities bear certain similarities, there are key differences; one is significantly more affluent, and has a higher percentage of Hispanic and Asians residents, while the other is relatively lower in median income with a higher proportion of Black and African-American residents. This introduced more variation into the sample and reduced the potential bias due to specific demographic or geographic characteristics.

Ultimately, a compromise was struck between depth and breadth. On the one hand, I wanted to obtain a survey response to basic questions such as whether or not customers thought self-checkouts were faster or preferred self-checkout to the regular checkout lane. These were relatively straight-forward questions and elicited rather brief and limited responses. However, I also wanted to receive more in-depth responses, especially regarding the effects of self-checkouts on employment practices and the relationship between self-checkouts and labor costs. These involved lengthy explanations and exchanges and often required follow-up questions and clarification.

Access and participation also played a major factor in the overall shaping of the sample. In most cases, managers were gracious and willing to participate, as were employees and customers. However, in a few cases, managers refused to participate or refused to allow me to record our conversations. Likewise, some customers declined to participate (which is understandable given the context). Additionally, I was unable to gain access to executive-level employees in the SuperFood organization, who may have had special knowledge or information regarding the use and application of self-checkout lanes in their stores. This is regrettable, though perhaps to be expected.

Additionally, several sources of relevant data were unavailable due to budgetary constraints. There are a number of retail studies on self-checkouts marketed and directed at retailers and their parent companies. Although some of the authors of such reports were generous enough to share excerpts, most of the reports were priced at levels exceeding the authors' budget. Moreover, many were considered proprietary, meaning that the authors had little financial incentive to share their product for free considering that some of their work could in turn be published. However, in many cases certain details of the study were published in retail magazines and trade journals, allowing specific numbers and findings to be included in this study.

Yet, this study is comparable to similar studies on the effect of automated technologies such as ATM's in both sample size and scope, suggesting it is well within the acceptable boundaries of research (Autor et al. 2002; Bernhardt et al. 2001). Each of these two studies adopted a case method approach; one examined two banking firms (Bernhardt et al. 2001), while the other relied upon a single firm (Autor et al. 2002). Both interviewed employees and managers over a period of time and in a manner nearly identical to this study. Therefore, despite these limitations, the author feels these findings merit notice.

The Future of Self-Service

Self-Service and Supermarkets

Historically, supermarkets and grocery stores have increasingly adopted a self-service orientation. In the early days of retailing, customers simply walked up to a counter and provided a store clerk with a list of items desired for purchase. Prior to introduction of

food processing and packaging, this required a considerable amount of labor; items had to be cut and weighed or counted and everything had to be wrapped by hand. The entire process was labor-intensive and took a considerable amount of time, limiting the number of customers that could be served. Additionally, some stores provided a delivery service; for a nominal fee, stores would deliver individual orders to customers' homes.

The invention of various technologies and methods, over time, revolutionized the retail food industry. Ushered in by Piggly Wiggly in 1926, the self-service model changed the retail food industry by individually pricing products and adding checkout stands. Other innovations in packaging and food processing, as well as the use of refrigeration, meant products could be visibly displayed to customers; grocery carts allowed customers to collect their own items, freeing up clerks to perform other tasks such as stocking shelves and constructing product displays. Instead of delivering goods to customers' homes, stores constructed parking lots, carrying items to customers cars or allowing customers to carry their purchases themselves.

As a result, over time, customers came to take on an increasingly significant role in retail food sales. Replacing the role of the store clerk, customers collected the items, transported them throughout the store, and placed them on the checkout stand for the cashier to ring up and total; with the advent of the UPC and electronic scanner, cashiers simply scanned items as they moved across the conveyor belt. With self-checkout, customers are now taking over the role of cashier, scanning and weighing items, printing receipts, and bagging groceries.

As consumers now weigh the decision of whether or not to scan their own groceries, it may be no surprise that some fail to see this as a profound change. After all, many of the

changes and innovations described above happened over a number of decades as a series of slow but gradual developments. As a result, each generation experiences a form of shopping that older generations may view as new or different but which to the current generation seems normal, if not natural. Like the automated teller machine (ATM), cable television, and the Internet, self-checkouts may become one of those taken-for-granted aspects of the American lifestyle, as bank tellers and shopping malls quickly become historical artifacts.

‘The Customer is Always Right’

A long-standing cliché in business is the notion that the ‘customer is always right’. Although the precise origins of the expression are debated – some trace it to Marshall Field, while others attribute it to Gordon Selfridge, who had worked under Field for a period of time – the underlying notion of consumer sovereignty is clear. Yet, businesses had not always adopted a customer first approach. Until courts established laws regarding product liability and warranties, the dominant ethic of shopping was *caveat emptor*, or ‘buyer beware’.

Nowadays, the term describes the importance of customer satisfaction in a competitive market, in which businesses increasingly rely upon repeat sales and customer loyalty. And the retail food industry is incredibly competitive. Aside from major national chains such as Safeway, Kroger, and Whole Foods, as well as national retailers Wal-Mart and Target who have entered the retail food market, there are a number of smaller, regional chains, such as Wegman’s, Winn-Dixie, and A&P. The area alone includes nearly a dozen supermarket chains, highlighting the degree of competition. Moreover, the profit

margin in the retail food industry is incredibly small, often between one and two percent, underscoring the importance of repeat business and customer loyalty.

Therefore, it is easy to imagine why chains are so amenable and customer-friendly. In a tight, competitive market, with tiny profit margins, chains such as SuperFood must be customer-oriented not because they want to, but because they have to in order to stay in business. As a business, there isn't an untapped market; the only truly 'new' customers are those who otherwise shop elsewhere, meaning that individual chains are in constant competition to attract and retain the same customers.

Yet, the playing field isn't necessarily level, as arguably a handful of national and regional chains dominate local markets. In the area in which I studied, two chains – SuperFood and Safeway – effectively control the lion's share of the retail food market. There are other chains, such as Whole Foods, and Wegmans and Harris Teeter have recently opened stores in the area, leading some to wonder if they are in fact beachheads for a larger market entrance.

What Are Customers Willing to Take?

Therefore, although there are a number of competing chains, to the average customers it may not always feel as though there are many options. In some neighborhoods, residents without a car may be limited to shopping at one or two supermarkets; in some cases, they may be the same chain. And even if a person does have access to a car or public transportation, it may still not feel as though there are many choices. Illustrating basic economic principles of efficiency and transaction costs, most customers tend to shop at the store that is closest to their residence.

Accordingly, despite the number of potential options available, American customers may in fact feel that they are choosing between a somewhat narrow range of options. And this extends beyond retail food into different industries, products, service, and contexts. For example, when buying a computer, one might wonder, ‘should I buy a Microsoft pc or an Apple Mac?’ In soft drinks, the choice is often between Coke or Pepsi, though businesses may receive inducements that limit their offering to one major brand. When it comes to telecommunications, many of us must choose between a handful of cable and internet providers. The same applies to utilities; most Americans receive their electricity and water utilities through a single regional provider. Even outside of the marketplace, in the American political system, there are a range of options, yet most end up voting Republican or Democrat.

The airline industry offers an illustration of the problems faced in such circumstances. In the face of rising costs, the half dozen or so major airlines that dominate U.S. domestic air travel have gradually rolled back the number and types of amenities traditionally offered to customers. Items which were once complimentary such as snacks, drinks, and in-flight meals are now charged for a fee. Even baggage is now being charged a fee. Recently, several airlines introduced new standards that charge for bags above a certain weight or for the use of a second item of luggage.

In response, a popular television comedy program aired a sketch satirizing these escalating charges.¹⁸⁷ As a flight attendant narrated the various services and fees, customers were charged for the use of seat belts and safety instructions. When a customer purchased an in-flight snack, they received a single peanut on a napkin. As if that wasn’t absurd enough, even the oxygen in the emergency face masks came at a charge, as

¹⁸⁷ *MADtv*. 2007. “Keeping Our Passengers Safe in the Air.” Originally aired November 10, 2007.

panicked passengers struggling with their masks hastily reached for their wallets and pocketbooks only to be informed that the airline would only accept cash.

While clearly meant as satire, it speaks to a series of changes within the airline industry that have directly affected the consumer. Customers are now expected to pay for what have traditionally been viewed and regarded as complimentary perks and inducements. As a child, I can remember children receiving complimentary pins that resembled the wings on the pilot's uniform. Later, as an adult, I looked forward to the prospect of a free meal or in-flight movie. Now, many of these no longer exist or come at a premium.

All of this was being done by airlines in an effort to control operating costs and expenses. Yet these were not the only changes being introduced. At nearly the same time that airlines began to add charges and fees, they also began introducing self-service kiosks in airports that allowed customers to check-in and print their boarding pass. With only a carry-on, customers can now arrive, check-in, and walk to the boarding gate without having to deal with a single airline employee.

And, as is the case in retail food, some suspect this has less to do with convenience than cutting costs. When I spoke with Bill in his office, among other things we discussed the state of the economy. Bill felt he had a personal obligation to live his life in accordance with his personal principles and beliefs. I admire people like this, if only for their willingness to commit to an ideal or set of beliefs, unlike the rest of us who may pick and choose our principles when they fit the exigencies of our circumstances. For Bill, this meant that when he went shopping at the supermarket, he went to the regular checkout lane. When told by a manager that there were four self-checkout lanes open,

implying there was no need for him to wait in line, Bill replied that he was a ‘union man’ and asked the manager to open up more cashier lanes.

Regardless, as our conversation went on, Bill related an anecdote that underscores the potential impact of self-service technology and the degree to which customers may or may not have a real and significant impact:

Bill: The fact of the matter is that, I mean, look at technology in airlines. If the public accepts putting a card in and doing the stuff- I could tell you a story. I would never go to one of those [self-service kiosks], until about a year or two ago. I’d wait in line. And the lines get longer, and longer, and longer, and longer to talk to a person and have them do it. So, I finally got up to one of them and said, ‘Man, you wait in line this long?’ They said, ‘Go to a machine.’ And I said, ‘Man, I’m a union guy. I won’t use the machines. I want you guys to have jobs.’ He said, ‘It’s over. We’re done. So you waiting in line is not gonna’ help us anymore because the industry is going to basically all machines.’ Which they have. And there are still some, you know, people up at the ticket for stuff ‘cause you know you can’t deal with certain things on the machine. If they have a problem. He said, ‘Don’t worry about it. We’re finished.’

Author: He says it’s already settled?

Bill: Yeah.

Author: Because the public bought it?

Bill: Because the public’s bought into it. Exactly.

How much have customers 'bought into' self-service? According to Greg Buzek, retailers are reporting between fifteen to forty percent of all purchases being made at self-checkouts, while airlines estimate that close to eighty percent of customers are using the self-check in machines instead of the traditional check-in process.¹⁸⁸ As Buzek notes, "the biggest factor in the increase is that customers are getting more comfortable with the technology and are therefore much more willing to use it."¹⁸⁹ As customers become more accustomed to encountering and using self-service, they may increasingly be socialized to its use in place of traditional means and methods.

In Bill's encounter at the airport, he made an effort to act in a way that he thought would support the airline labor union only to be told it was too late, implying his efforts were wasted and that any notion of resisting change was futile. Is it 'too late'? Retail and marketing research does not paint a rosy picture for those opposed to the self-service movement. Among other things, a recent retail marketing study noted that "[f]ully 94% of the consumer population in our survey will use self-checkout, even if they don't necessarily like it."¹⁹⁰ Likewise, a similar study states that "due to the positive acceptance of self-checkout by consumers, many retailers are planning to expand the presence of self service in their stores," noting that "[i]n four of the six retailers plan to at least double their self-checkout installations."¹⁹¹

Even the union appears to have given up. When I asked Bill about the prospect of organizing consumers, he seemed doubtful about the potential efficacy of such a strategy:

¹⁸⁸ Schuman, Evan. 2006 "Self-Checkout System Spending Soars to \$475 Billion." *eWeek.com*, June 28.

¹⁸⁹ *Ibid.*

¹⁹⁰ Sheldon and Buzek, "2006 North American Self-Checkout Systems," p.7.

¹⁹¹ Matthews and Whalen, "Self-Checkout Systems: Creating Value Across the Retail Store" p.2.

Yeah, in the old days we used to. But the fact of the matter is it doesn't [work]. We did this with UPC [universal product] codes around thirty years ago. [W]hen they went to UPC, we actually did a campaign and campaigns were in different parts of the company to stop them from doing that. To have the customers say they don't want that. And they were successful in a few places, here and there.

Despite local successes, the overall strategy was a failure. The problem with self-checkout, according to Bill, is that even if the union was successful in halting their use in union-operated stores, they would still face pressure from non-union competitors, who would ultimately use their competitive advantage to undercut them:

Bill: The bottom line is that you can't stop technology. Because it becomes a competitive issue. If you stop technology in a union shop, and there are non-union competitors – which there are in all industries – or there are other union competitors that will use [automated technology], or there may be other union competitors in other countries that allow this technology, our guys can't compete. And you have to take a longer view of it. So you have to deal with transition issues. What good is their job if it lasts two years? And it goes away? Well, that's what's gonna' happen to them if there's no technology. Somebody else is gonna' have the technology. If they can make their money that way, they're gonna' lower prices. And then, well, they'll take more profits – it doesn't always translate into lower prices – but they'll lower their prices for awhile 'till they drive the other guy out of business because he can't lower his prices, cause of labor costs, and then they'll raise them again when he drops out.

In other words, even if workers could persuade their customers to fight the self-checkout movement, another chain would that uses self-checkout could initiate a price

war, forcing SuperFood to adopt competitive technology or face the prospect of market loss or even bankruptcy.

In short, not only are most consumers willing to use self-checkouts even if they don't like them, but businesses are already using such acceptance to justify significant expansion of self service. As of writing, companies that had previously disavowed self-checkouts – such as Safeway and Publix – now offer them in some of their stores, as do a number of other retailers such as Kmart, Target, Wal-Mart, and Home Depot. And this expansion is not limited to the retail sector: self-service kiosks are increasingly appearing in new markets and industries, including post offices, movie theaters, and even local libraries.¹⁹² Self-checkout is even gaining momentum in Europe. NCR has already introduced its product to a Turkish retail food chain and claims the European market is ripe for growth.¹⁹³ Self-service, it would appear, is not only a growing trend but is perhaps here to stay.

The Meaning of 'Service'

In sum, the introduction of self-checkouts in supermarkets, as well as the emergence and growth of their brethren in other industries, raises important questions about the nature of our economy as well as the role of the consumer. Indeed, it would seem that the notion that 'the customer is always right' is slowly being supplanted by a notion that customers can (and perhaps should) 'do-it-yourself', an idea that fits well alongside American virtues of rugged individualism and self-reliance.

¹⁹² Grant, David A. 2003. "Self-checkout saving money at local libraries." *King County Journal*, December 8.

¹⁹³ NCR Corporation. 2001. "Self-Checkout Gaining Momentum in Europe, Driven by Shopper Enthusiasm and Return on Investment."

For businesses, having already explored the benefits offered by offshoring, globalization, and the use of computers, self-service represent a new frontier, a new world of untapped labor ready and willing to be put to work. As globalization renders the economic world 'flat', businesses are increasingly seeking new ways to lower costs in order to gain a competitive advantage. Self-service and the nearsourcing of work to consumers may be precisely such an advantage.

For customers, it poses a question about what it means to be a consumer, as well as the broader meaning of 'service'. For some customers, self-service is seen as empowering and liberating, yet others may feel it as an unwanted and encroaching force in their daily lives. Whether or not self-checkouts and other forms of self-service offer better service is a difficult question to answer. "After all," as one customer explained to me, "it depends on how you define 'service'." Historically, for many Americans, service has meant having someone else perform a job for you. With self-service, service may come to mean something Americans choose to do for themselves.

Tables

Table 1. Changes in the U.S. workforce

Economic Period	Dominant Economic Sector
Agricultural Era (– 1900)	Primary (producing/harvesting raw materials)
Industrial Era (1900–1970)	Secondary (manufacturing)
Post-Industrial Era (1970–)	Tertiary (service work)

Source: Adapted from Macionis (2002).

Table 2. Changes in the U.S. labor force, by sector

Year	Percent of Labor Force		
	Farming	Industrial	Service
1850	80	10	10
1900	40	40	20
1950	10	45	45
2000	2	25	73

Source: Estimates based on data from the U.S. Census Bureau (2000) and U.S. Department of Labor (2000).

Table 3. Industries with the highest levels of cashier employment

Industry	Employment	Hourly mean wage	Annual mean wage
Grocery Stores	839,810	\$9.34	\$19,430
Gasoline Stations	546,440	\$8.19	\$17,020
Other General Merchandise Stores	343,210	\$8.87	\$18,460
Department Stores	239,190	\$8.41	\$17,480
Health and Personal Care Stores	233,630	\$9.08	\$18,880

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics, Occupational Employment and Wages, 41-2011 Cashiers, May 2007.

Table 4. Comparison of hourly and annual wages for cashiers employed in grocery stores

Geographic Area	Median Hourly Wage	Mean Hourly Wage	Mean Annual Wage
National (U.S.)	\$7.90	\$8.79	\$18,280
Metropolitan Statistical Area (MSA)	\$8.38	\$9.06	\$18,850

Source: U.S. Bureau of Labor Statistics, Occupational Employment and Wages, May 2007.

Table 5. Demographic characteristics of selected counties

	County	
	New London	Meadowview
Population	833,862	925,719
Race		
White	23%	61%
Nonwhite	77%	39%
Education		
High school graduate or higher	86%	91%
Bachelor's degree or higher	30%	57%
Income		
Median Household Income	\$68,410	\$89,284
Median Family Income	\$79,373	\$106,093

Source: U.S. Census Bureau, 2005-2007 American Community Survey.

Table 6. When consumers shop, by day of week

Day of Week	Percent of Consumers
Monday	12
Tuesday	12
Wednesday	11
Thursday	12
Friday	14
Saturday	18
Sunday	21
Total	100

Source: Key Industry Facts – Food Marketing Institute Information Service, May 2005.

Table 7. When consumers shop, by time of day

Time of Day	Percent of Consumers
Morning (8:00 AM – 12:00 PM)	39
Afternoon (12:00 PM – 5:00 PM)	38
Evening (5:00 PM – 9:00 PM)	19
Night (9:00 PM – 8:00AM)	4
Total	100

Source: Key Industry Facts – Food Marketing Institute Information Service, May 2005.

Table 8. Who shops, by household status

Status	Percent
Female Head of Household	69
Male Head of Household	19
Both	11
Other	1
Total	100

Source: Key Industry Facts – Food Marketing Institute Information Service, May 2005.

Table 9. Demographic characteristics of customers sampled

Demographic Characteristics	Percent of Customers Sampled
Age	
18-34	52.6
35-54	15.8
55+	31.6
Sex	
Female	66.7
Male	33.3
Race/Ethnicity	
White	73.7
Black	15.8
Hispanic/Latino	7.0
Asian	3.5
Other	0.0
Marital Status	
Single	29.8
Married	59.6
Divorced/Widowed/Other	10.5

Note: May not total to one hundred percent due to rounding

Table 10. Customers' response to question, 'Why are stores adopting self-checkouts?'

Response	Percent of Customers
Cut costs	65
Faster / More convenient	14
Provides choice	1
Customer preference	8
Don't know	18

Note: Percent totals may exceed one hundred percent due to customers providing more than one response.

Table 11. Industries that employ the largest share of employed youths age 15–17 years, by sex, school months 1996-98

Industry	Percent of Total Employed Youths	
	Male	Female
Eating and drinking places	31.3	32.6
Grocery stores	13.6	9.9
Miscellaneous entertainment and recreation services	4.5	5.7
Agricultural production, livestock	3.6	4.4
Construction	3.6	4.0
Department stores	3.1	3.6
Landscape and horticultural services	2.2	1.9
Newspaper publishing and printing	1.9	1.7
Agricultural production, crops	1.5	1.5
Gasoline service stations	1.3	1.4

Note: Figures based on youths working during school months, which are January to May and September to December.

Source: U.S. Department of Labor. (2000). *Report on the Youth Labor Force*, accessible online at www.bls.gov/opub/rylf/pdf/chapter4.pdf

Table 12. Distribution of full and part-time employees in stores sampled

Store Location	Number of Employees	Percent Full-Time	Percent Part-time
Expressway Plaza	160	20	80
Westland Square	160	20	80
Midtown Market	150	25	75
Century Village	150	30	70
South Heights Plaza	120	20	80
Parkview	80	25	75
Travelers' Gate	78	30	70

Note: Numbers are based on figures supplied to the author by store managers

Table 13. Customers' preferred method of checkout

Preference	Percent
Staff-operated checkout	51
Self-checkout	23
It depends...	23
...on the number of items	12
...on the length of the lines	11
No preference	4
Total	100

Note: Totals may exceed one hundred percent due to rounding

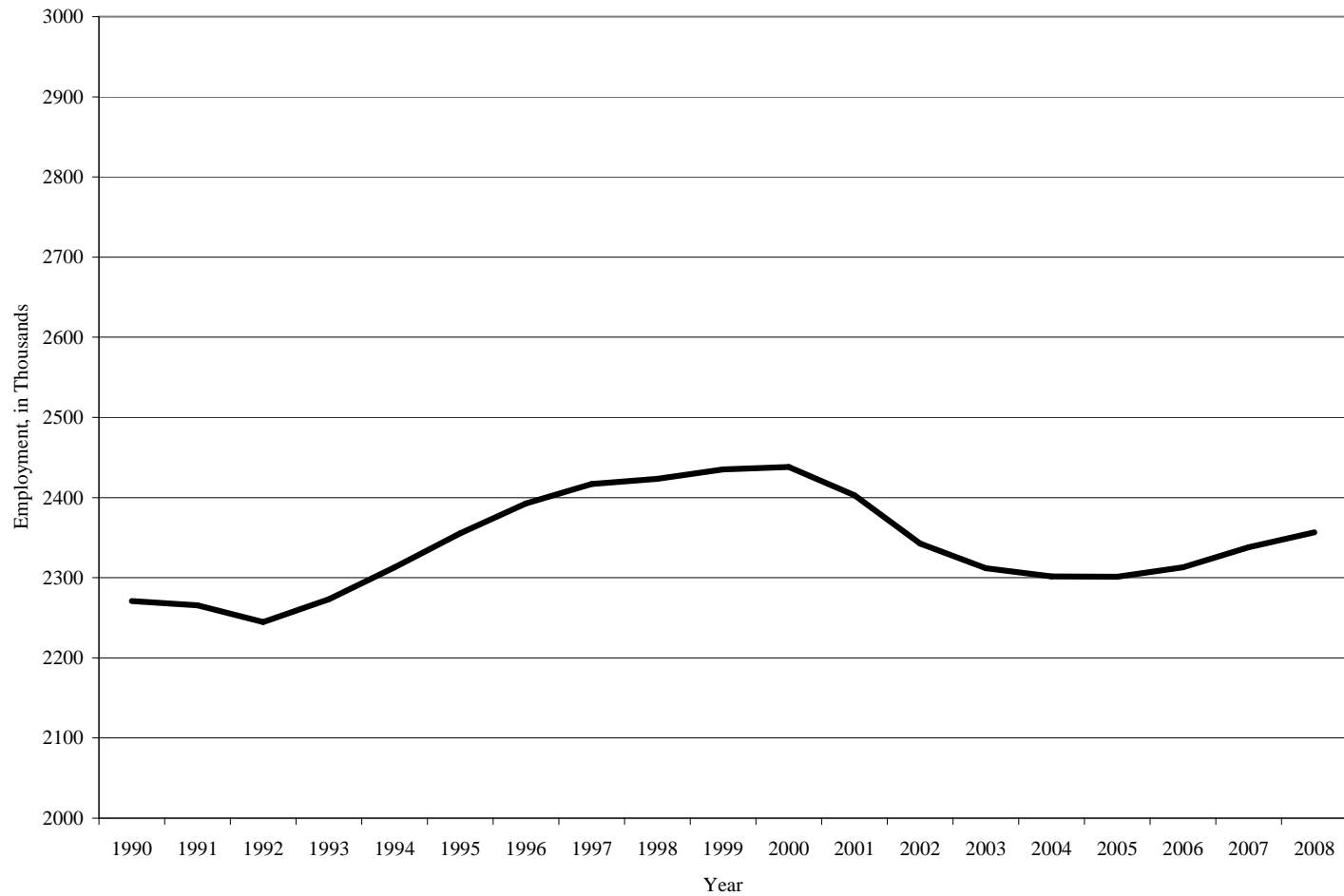
Table 14. Customers' response to question, 'Are self-checkouts faster?'

Response	Percent
Yes	21
No	37
It depends (e.g., on length of line, number of items, etc.)	28
Unsure / Don't Know	14
Total	100

Note: Totals may exceed one hundred percent due to rounding.

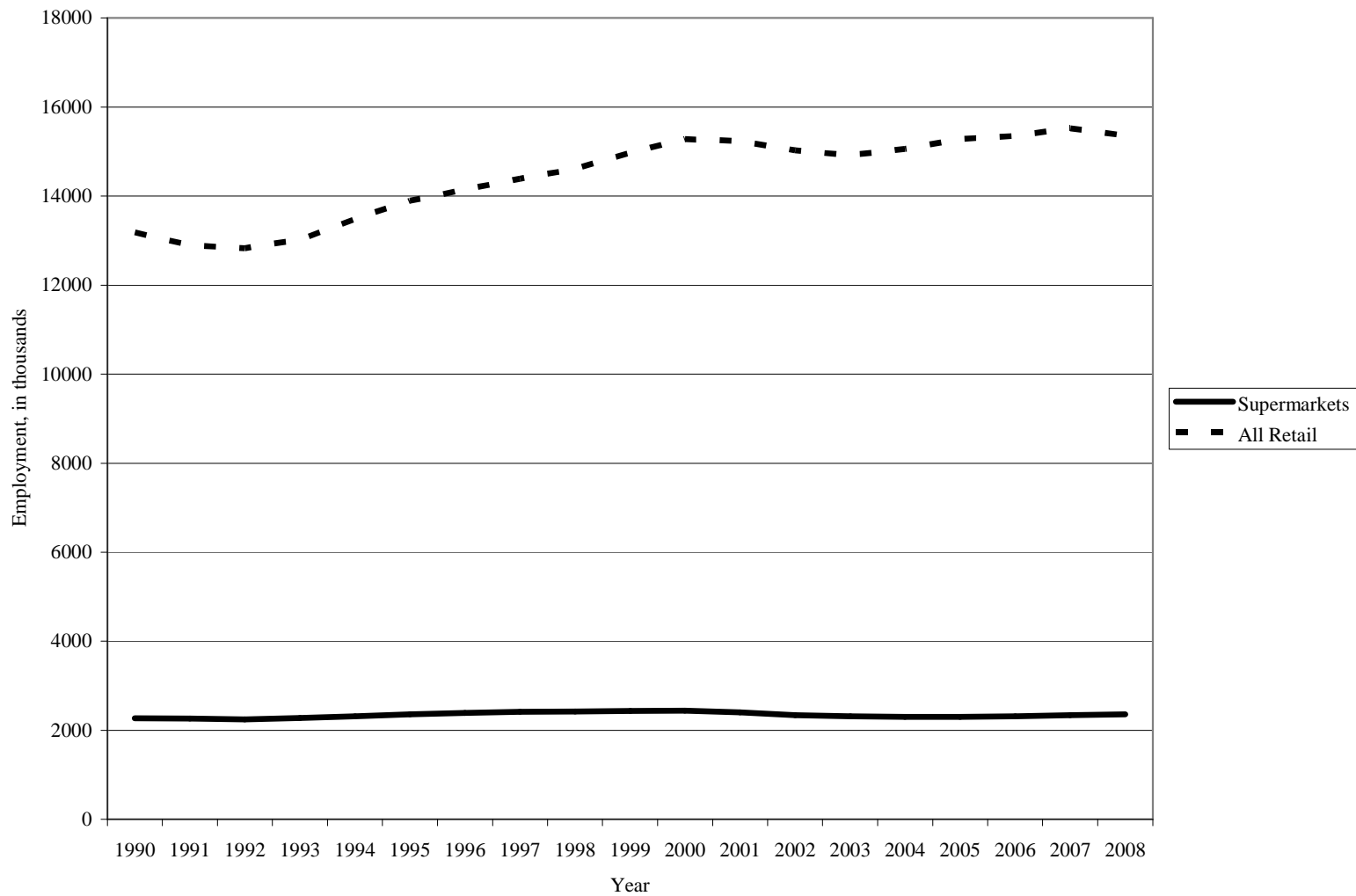
Figures

Figure 1. Annual employment in grocery stores, U.S. 1990-2008



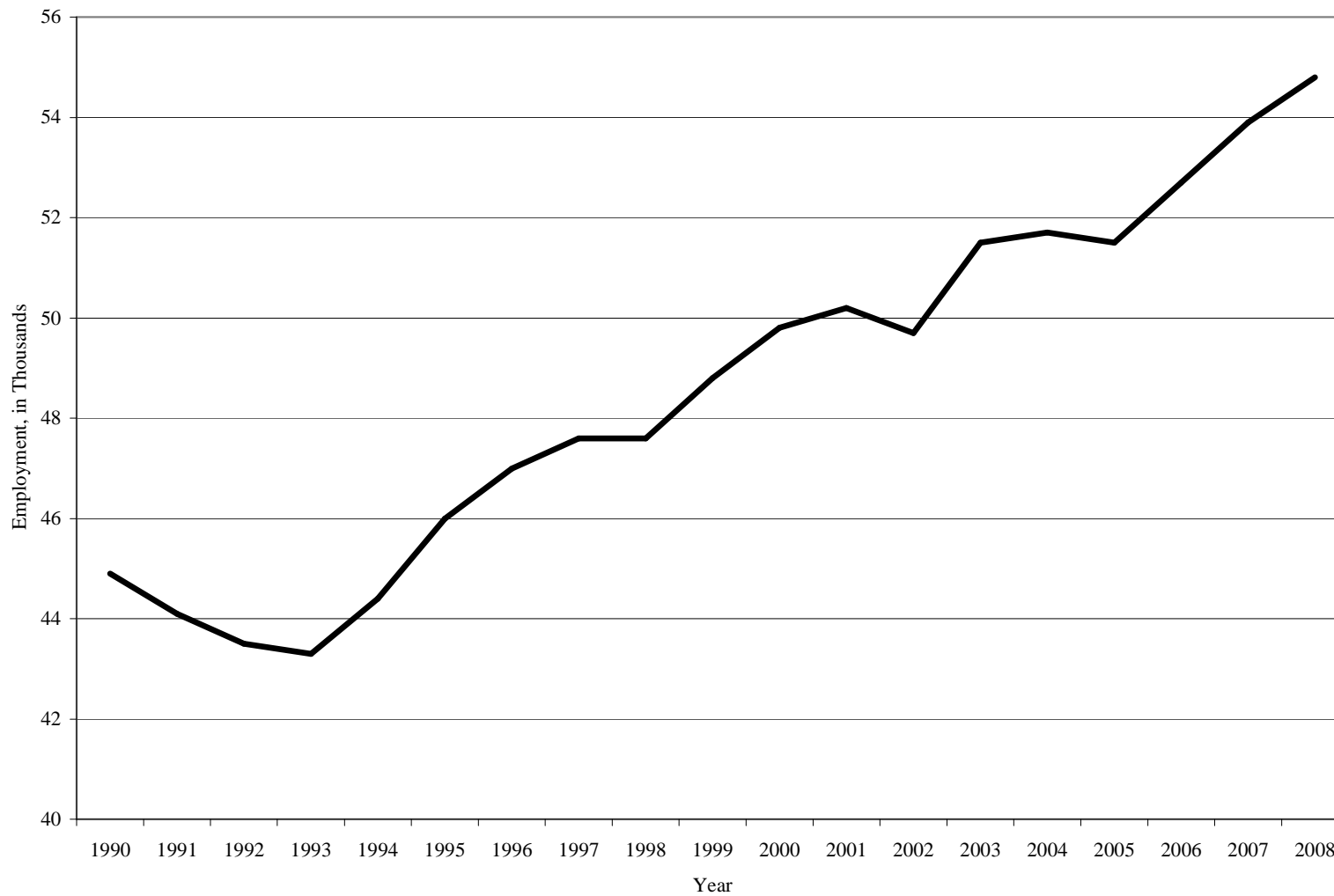
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics survey 1990-2008.

Figure 2. Annual employment in supermarkets and retail overall, U.S. 1990-2008



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics survey 1990-2008.

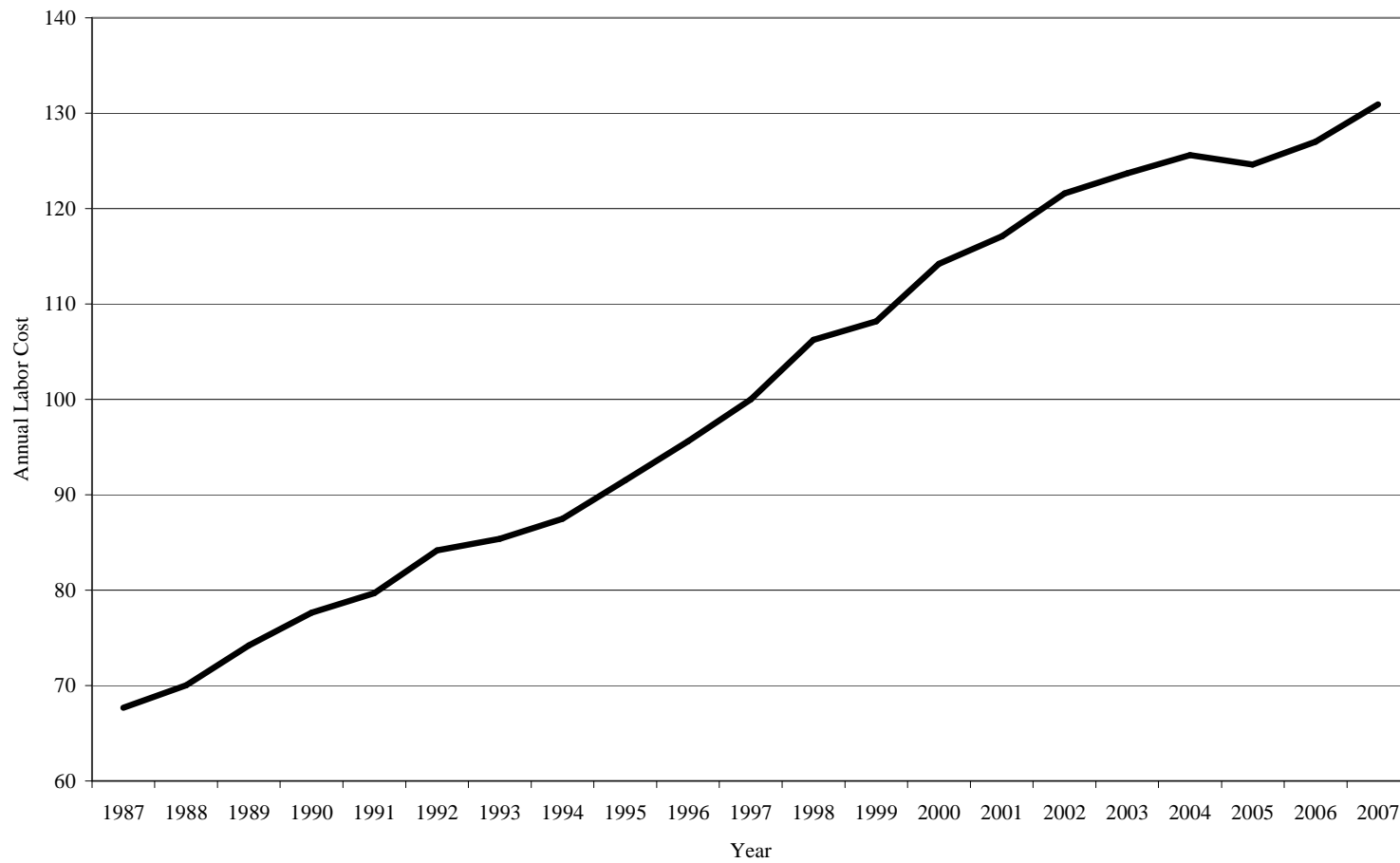
Figure 3. Annual employment in grocery stores, state 1990-2008



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics survey 1990-2008.

Figure 4. Unit labor costs for supermarkets and other grocery stores, 1987-2007

Figure 1.5: Unit Labor Costs for Supermarkets and other Grocery Stores, 1987-2007



Note: Does not include convenience stores. Unit labor costs are indexed to 1997 (i.e., 1997 = 100).
Source: U.S. Bureau of Labor Statistics.

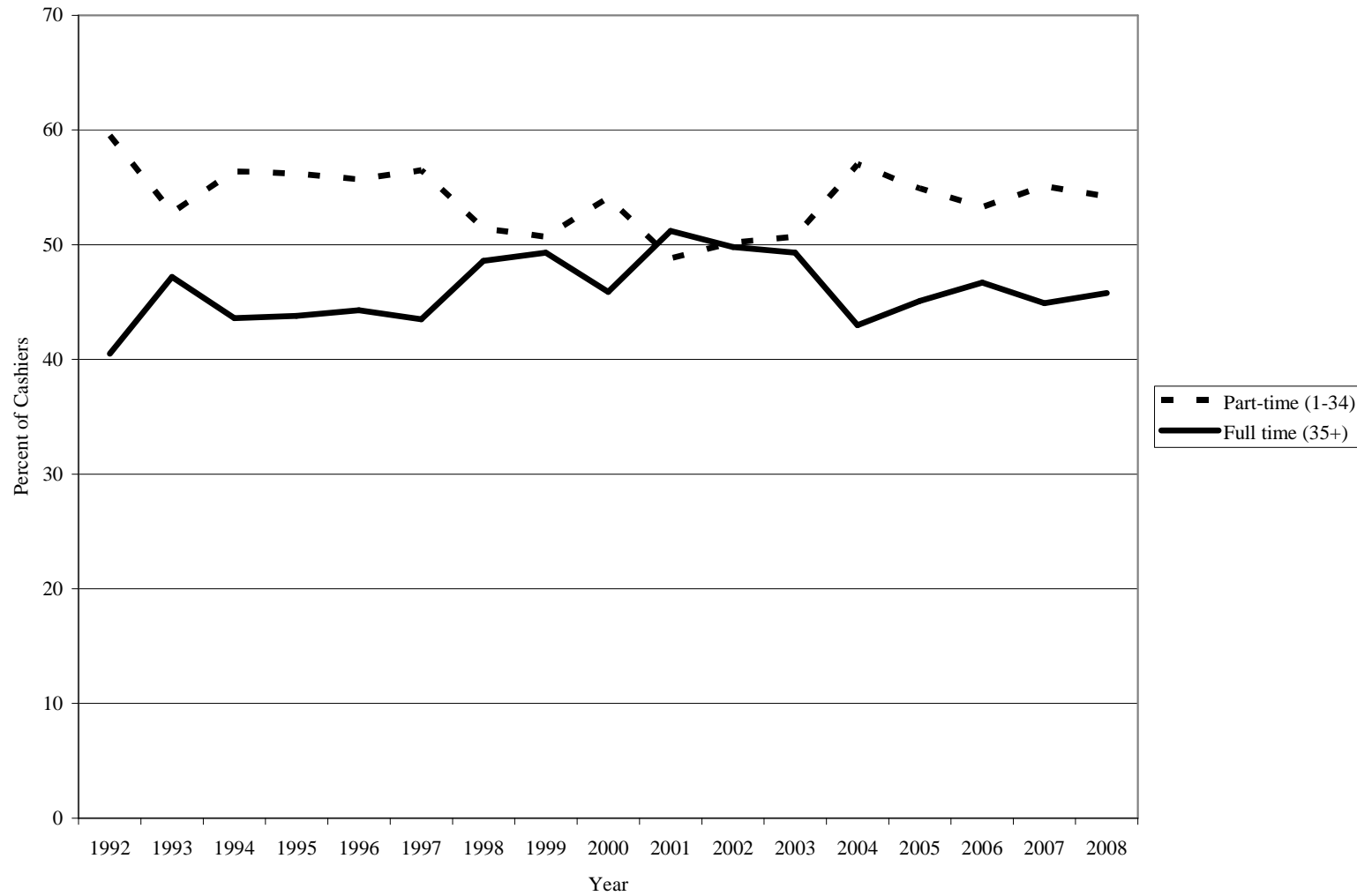
Figure 5. Annual average weekly hours, supermarkets and other grocery stores, U.S. 1990-2008



Note: Does not include convenience stores.

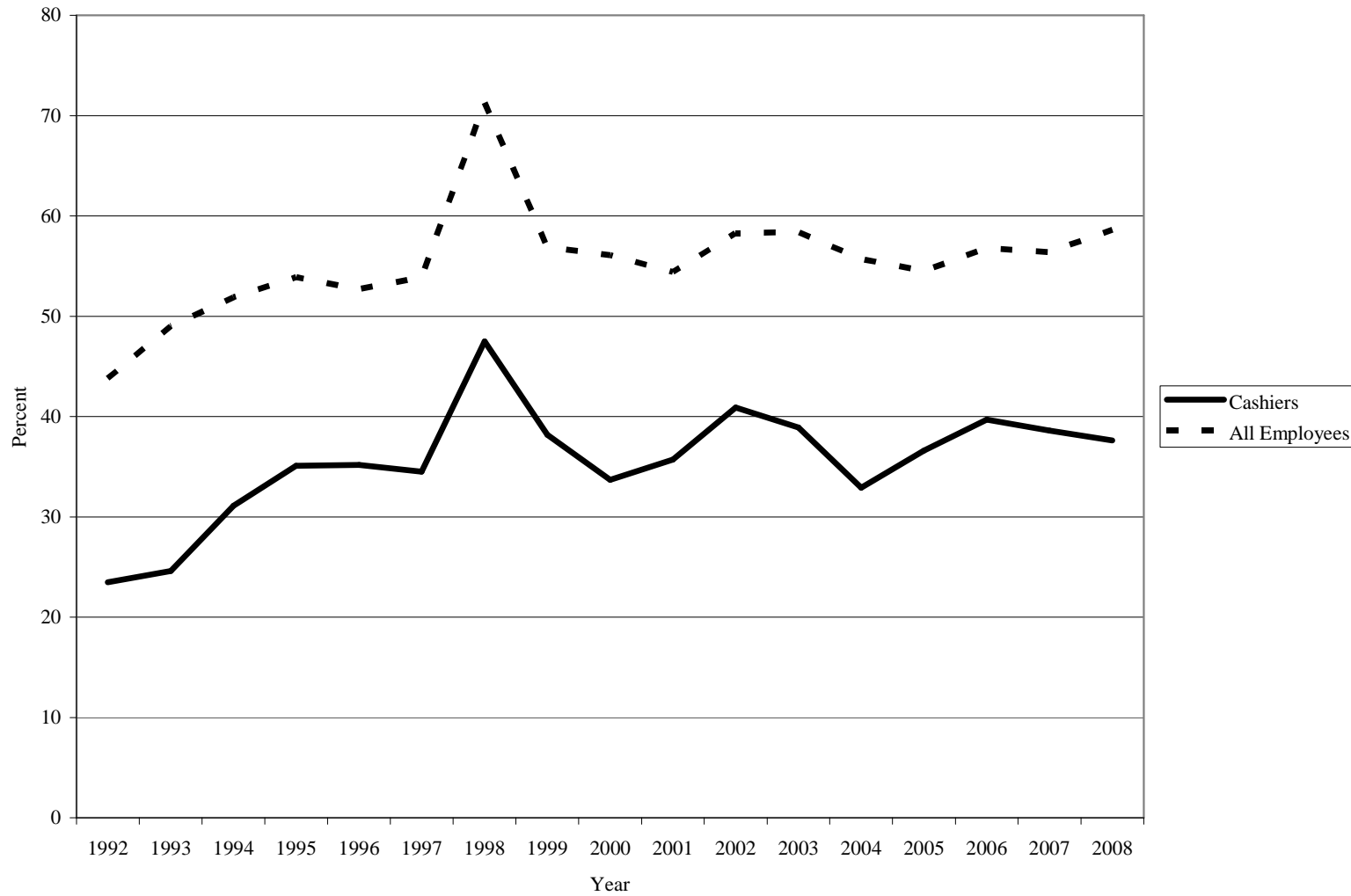
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics survey 1990-2008.

Figure 6. Work status of cashiers in the grocery store industry, U.S. 1992-2008



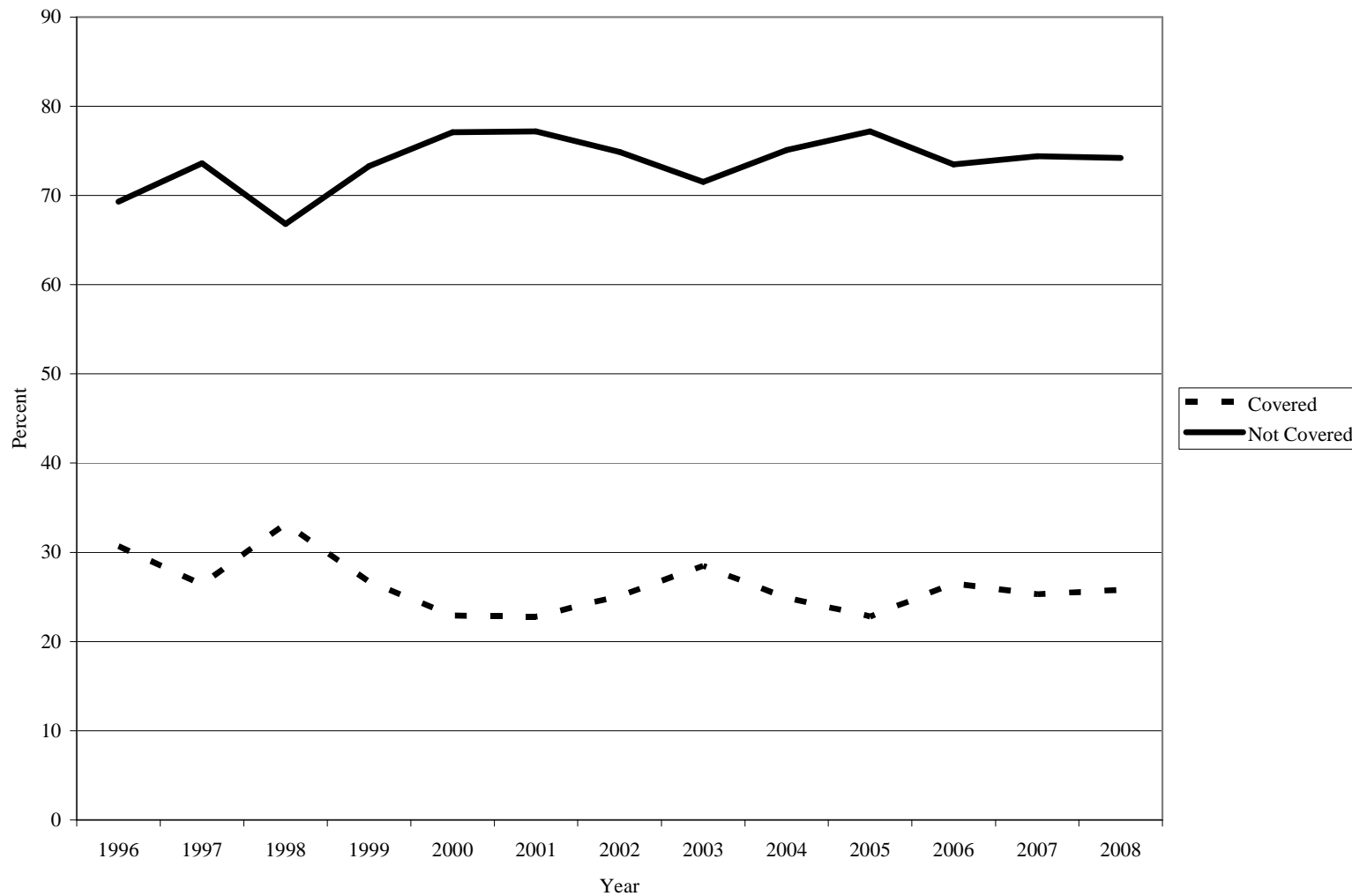
Source: U.S. Bureau of Labor Statistics, Current Population Survey, March Supplement, 1992-2008.

Figure 7. Percent of grocery store employees reporting working forty or more hours per week, U.S. 1992-2008



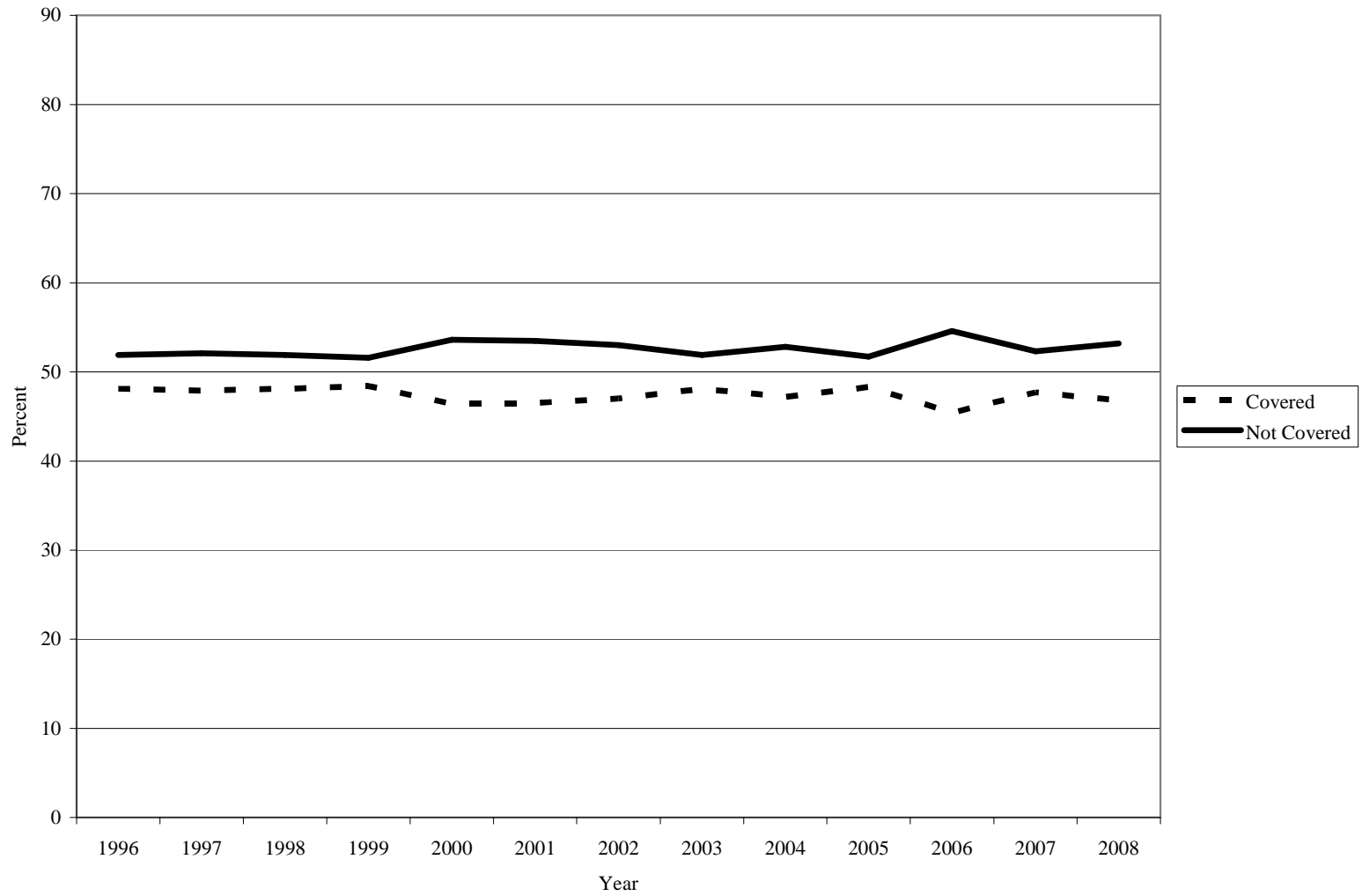
Source: U.S. Bureau of Labor Statistics, Current Population Survey, March Supplement, 1992-2008.

Figure 8. Percent of cashiers employed in grocery stores covered by health plan provided by employer or union, U.S. 1996-2008



Source: U.S. Bureau of Labor Statistics, Current Population Survey, March Supplement, 1996-2008.

Figure 9. Percent of all workers employed in grocery stores covered by health plan provided by employer or union, U.S. 1996-2008



Source: U.S. Bureau of Labor Statistics, Current Population Survey, March Supplement, 1996-2008.

Appendices

Appendix A. Sample semi-structured questionnaire items

For consumers:

1. What do you think of these new self-checkout lanes being used at (name of store) ?
2. If you have a choice between using a self-checkout lane and a person, which do you tend to prefer? Why?
3. Have you ever had any problems with a self-checkout lane at the (name of store) ?
(If yes, please describe)
4. As far as you can tell, do other customers seem to like these self-checkout lanes? Why?
(please describe reasons)

For employees:

1. What do you think of these new self-checkout lanes being used at (name of store) ?
2. Are the adoption of these new self-checkout lanes changing your job or the way you do your work? (If yes, please describe)
3. As far as you know, have any employees lost their jobs because of the self-checkout lanes?
4. As far as you know, how do most of the other employees here at (name of store) feel about these new self-checkout lanes?

For employers / managers:

1. Approximately when did your company begin to implement these new self-checkout lanes at (name of store) ?
2. Why did (name of store) decide to adopt these new self-checkout lanes? (describe reasons)
3. How did your company decide how many self-checkout lanes to adopt at this location?
4. How have *consumers* responded to the introduction of these new technologies?
5. How have *employees* responded to the introduction of these new technologies?
6. Will the introduction of these self-checkout lanes reduce the number of people you need to employ? Why?
7. Will the introducing these self-checkout lanes increase the need for or employment of specific persons or jobs? Which ones

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